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Few words from the Editors-in-Chief

This journal brings authentic experiences of our social workers, doctors and teachers working for the International Scientific Group of Applied Preventive Medicine I-GAP Vienna in Austria, where we have been preparing students for the social practise over a number of years. Our goal is to create an appropriate studying programme for social workers, a programme which would help them to fully develop their knowledge, skills and qualification. The quality level in social work studying programme is increasing along with the growing demand for social workers.

Students want to grasp both: theoretical knowledge and also the practical models used in social work. And it is our obligation to present and help students understand the theory of social work as well as showing them how to use these theoretical findings in evaluating the current social situation, setting the right goals and planning their projects. This is a multidimensional process including integration on many levels. Students must respect client's individuality, value the social work and ethics. They must be attentive to their client's problems and do their best in applying their theoretical knowledge into practice.

It is a challenge to deliver all this to our students. That is also why we have decided to start publishing our journal. We prefer to use the term 'clinical social work' rather than social work even though the second term mentioned is more common. There is some tension in the profession of a social worker coming from the incongruity about the aim of the actual social work practice. The question is whether its mission is a global change of society or an individual change within families. What we can agree on, is that our commitment is to help people reducing and solving the problems which result from their unfortunate social conditions. We believe that it is not only our professional but also ethical responsibility to provide therapeutic help to individual and families whose lives have been marked with serious social difficulties.

Finding answers and solutions to these problems should be a part of a free and independent discussion forum within this journal. We would like to encourage you – social workers, students, teachers and all who are interested, to express your opinions and ideas by publishing in our journal. Also, there is an individual category for students' projects. In the past few years there have been a lot of talks about the language suitable for use in the field of the social work. According to Freud, a client may be understood as a patient and a therapist is to be seen as a doctor. Terminology used to describe the relationship between the two also depends on theoretical approach. Different theories use different vocabulary as you can see also on the pages of our journal.

Specialization of clinical social work programmes provides a wide range of education. We are determined to pass our knowledge to the students and train their skills so they can one day become professionals in the field of social work. Lately, we have been witnessing some crisis in the development of theories and methods used in clinical social work. All the contributions in this journal are expressing efforts to improve the current state. This issue of CWS Journal brings articles about social work, psychology and other social sciences.

Michal Oláh
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CURRENT PALLIATIVE AND HOSPICE CARE IN SLOVAKIA

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ABSTRACT

Care for terminally ill and dying people in Slovakia still does not reach satisfactory standards in certain fundamental aspects. Palliative and hospice care is generally not affordable and ill people cannot afford the place, where they would like to end their lives. We still do not get necessary and true information about the diagnosis and the prognosis, palliative home care is not supported, and professional support for those, who would like to assist a dying person at home, is missing. In this context, we focus our attention in this contribution on the current situation of this issue in Slovakia and on the complex of palliative and hospice care as an aspect of the health and social system.

Key words:
Dying. Palliative care. Hospice care. Hospice.

Introduction

The process of ageing should be studied within European conditions in accordance with the economic globalisation and the uneven economic development with crisis caused fluctuations. The acknowledgement of the whole lifecycle also turns attention to the quality of social care and social services for the dying. In this area of care for the terminally ill and the dying, formal and informal, social and health care meet. Each person has the right to die with dignity, which is enshrined in the European Council's international treaties and in the Charter of fundamental rights of the European Union and it includes the provision of each person's individual needs, starting from the basic biological, through experience needs, ending with the spiritual needs.

The meaning of life and death belongs to the basic existential questions and people have been asking them since the very beginning. We understand life and especially death as something naturally present; however, how can we, as human beings, consider both of them as our most natural definitions? The contribution focuses on the topic of human mortality and the situation which almost each person is exposed to – the situation of dying.

The majority of authors from western civilisation, who are currently concerned with dying and death agree that death, dying and the associated suffering and pain are still being excluded from the public space of our society (Glaser&Strauss 1965, Littlewood 1993 etc.) To speak about death and dying is still considered a taboo topic, especially in „the western civilisation". Death is being excluded, considered a taboo and hold behind „ hospital doors". In the past, people perceived death as a natural and common part of life. The ill person was dying at home among the other family members. The situation nowadays is different, but the topic of dying and death is starting to get attention, people are looking for answers to questions: How to be dying? How not to suffer, so that the human dignity stays preserved, so that I will not be left alone, abandoned? We live in a world where questions like these scare all of us. But the way people perceive death has never been as poor as it is now.

Dying and death at present

In the past, dying was considered a "social act", which is almost not true anymore. Dying and death are being institutionalized. Less people die at home, more in various institutions. Although there are many institutions that help people in many emergency situations, the training of doctors and other participating people, to teach them how to help people in their most serious crisis just before death during terminal illnesses, has still not been revised.

People nowadays try to escape death, illness, suffering, disability, they do not want to hear about it, speak about it, and they close their eyes before reality until a terminal illness incompatible with life catches them. We watch the Dutch and Belgian model of euthanasia and for many of us, when suffering a serious illness, the solution "not to live" seems to be an objective way out. In medical terminology, the term dying is synonymous with the terminal condition. Haškovcová (2000) speaks about a broader context of dying, which can last longer than the terminal condition. Its beginning can be noticed in the moment when the illness enters the consciousness of a specific person and is most likely incompatible with life. The person´s quality of life will be determined by the course of the illness.

Modern man resists fear and pain caused by dying more than the idea of death. The philanthropic organization based in Singapore issued the first international "Quality of Death Index", which included 40 countries. In the part – public awareness of end of life care – Slovakia is not even among the first half of the countries (Economist Intelligence Unit, 2010).

Currently, there are two types of dying – the institutionalized type and the home type. The effort to enrich the analgesic therapy and to optimize the nursing care for dying people led to the establishment of modern hospitals, where the ill get professional help. This redeployment of the dying to hospitals creates a new type of care, the so called institutionalized type. Through the emergence of the institutionalized type, dying and death have become a bigger taboo, something, which "belongs behind hospital doors". This type of dying misses the necessary human contact, dying is not considered a social act anymore. The family comes for a visit and does not know how to act, what to say and thinks that it is the professional´s task to take care for the dying patient. Efforts exist to find a solution so that dying would be again considered a social act. (Bártlová, Matulay, 2009).

To be able to die at home. This, almost forgotten wish comes back to life. The wish of many long-term ill people to spend the last section of their lives in home environment can be accommodated by means of many offers.

Home care presupposes a certain level of family background that is often missing. This form of nursing is often too challenging for the family members. Nursing requires a lot of time, so that the nursing actions can be performed accordingly and without any rush. Then the ill person feels that their relative has enough time and wants to care only for them (Barden, Vogel, Wodraschka, 2002).

Currently it shows that respite care and respite services, which allow the caregiver to interrupt the care and offer them the opportunity to take part on different activities and interests, are very important for the relatives who care for a dying person (Šerfelová, 2011). Respite care forms a part of institutionalized palliative care. It is a stimulating change of environment which allows mutual support and cooperation of the people involved in the care for the patient. The aim is to eliminate the consequences of the psychosocial burden resulting from the care for the dying (2007 Hansonová, In Payneová, Seymourová, Ingletonová, 2008).

Approaches to care at the end of life

Currently, importance is placed on norms and standards that are necessary for health workers, social workers and also for all those who work in the environment of hospice and palliative care and can, through their decisions in the field of health care, influence the availability of palliative care for patients.

In relation to the dying or seriously ill person, we are based on the holistic model which understands the person as a bio-psycho-social-spiritual being. The holistic model is based on

the person´s ability to adapt herself/himself to changing conditions. It is based on the assumption that the human being is an open system that constantly has to respond to changes. The more so when the person is confronted with a serious illness incompatible in life. Hence the holistic approach is a philosophy which is applied in care for dying people. This care focuses on the patient´s family, their mutual relationships, needs and problems (Kutnohorská, 2009).

Palliative medicine has its roots in the hospice movement, which originated as a reaction to serious problems of the terminally ill and dying in the second half of 20th century. Thanks to substantial medical discoveries the course of many illnesses has changed and many patients´ hopes for complete recovery have increased. On the other hand, terminally ill and dying patients have, from the economic point of view, become a burden for hospitals and a trauma for doctors who wanted to be successful in the treatment.

In another sense, palliative care presents the most fundamental concept of care – care focused to meet the patient´s needs regardless his position, whether she/he is at home or in a an institution. Palliative care honours and protects life. Dying and death are regarded as a normal process; however, death is neither hastened nor delayed. It tries to preserve the maximum possible quality of life until death (European Association for Palliative Care, 1998).

Hospice care performed in a hospice is one of the forms of palliative care. It means to accompany the person in her/his terminal stage of life. No matter whether the hospice care is provided in a special inpatient facility, in home environment or elsewhere, in effect it is still a benefit to the whole society. To ensure this, the care has to be complex and all patient´s needs have to be met, application of the holistic approach.

Currently the provision of holistic services to the terminally ill in hospices in Slovakia is neither diagnostically nor legislatively determined. The main indication is the patient´s adverse health that requires symptom control of the progressive terminal illness in the end-stage. Hospices provide also respite forms of care.

We distinguish various forms of hospice care which can be divided into – hospice care in home environment (mobile hospice), ambulances for hospice care, stationary hospice care (hospice stationary) and inpatient hospice care.

Current state of palliative and hospice care in Slovakia

There are more than 5 million inhabitants in Slovakia. Life expectancy at birth in 2009 has reached in men 71,27 years and in women 78,74 years. In recent years there have not been any changes in the structure of mortality by cause of death in Slovakia (Report on the State of Health in Slovakia, 2011). The most common cause of death is diseases of the circulatory system. More than three quarters of deaths were caused by cardiovascular disorders (54, 8%) and malignant tumours (22,5%).

The number of newly reported malignant tumours in the Slovak population rises each year by more than 25 000. Almost 70% of all malignant tumours affect men and women aged over 60 years. Hence tumours present the second biggest cause of death not only in the Slovak population, but also in all EU countries and throughout the whole European region (Report on the State of Health in Slovakia, 2011).

The first department of palliative care was founded in the National Cancer Institute Bratislava, led by MUDr. Križanová in 1995. Until 2002, Slovakia was the only Central European country with no inpatient hospice facilities and only one palliative department. The first Slovak inpatient hospice – Hospic Matky Terezy in Bardejovská Nová Ves was opened in 2002.

Approval of the palliative medicine department concept including hospice care has significantly moved forward the topic of care for the seriously ill and the dying. A step in the positive direction came when; according to the decision of the Ministry of Health of the Slovak Republic in 2006, it became a part of the national health policy priorities (Smoleňová, 2008).

Hospice care is organized mostly in home environment (in 2010 to the extent of 82%), the rest is formed by hospice care in social welfare institutions and medical facilities for the long-term ill.

Chart Nr.1: Overview of inpatient hospices in Slovakia

Name of the hospice	Founded in	Number of beds
Hospic Milosrdných sestier – Trenčín	2005	14
Hospic Matky Terezy – Bardejov	2002	20
Hospic pod Vysokošpecializovaným odborným ústavom geriatrickým sv. Lukáša – Košice	2006	6
Hospic Trstice a služby sociálnej starostlivosti	2003	20
Hospic Hestia – Lučenec	2005	15
Hospic svätej Alžbety v Ľubici	2005	24
Hospic sv. Františka z Asisi – Palárikovo	2007	25
Hospic - Dom Božieho Milosrdenstva - Banská Bystrica	2008	16
Hospic – Dom pokoja a zmieru u Bernadetky - Nitra	2007	15
Hospic Harmónia - Slovenské nové mesto	2004	10

The provided services in hospices are funded from multiple sources – through the payment from health insurances, the patient´s or the family members‘ payment on average 15 €/day, through sponsorship from individuals and legal entities. Average costs for one day of nursing in a hospice range from 50€ to 60€, while payments from health insurances range from 40 to 55% of this amount of money. Losses arising in hospices are covered mainly by founders and sponsors and partially by clients, while the economic power of clients to pay extra for health and social care in hospices is different within different regions of Slovakia. Costs for care for the client of a hospice are voluntarily sacrificed sources for quality provision of this care (Veselovská, 2011).

Conclusion

The current state of palliative and hospice care in Slovakia is not sufficient and it does not respond to the patients' needs. To be able to meet the recommendations of the Charter of the Rights of the Dying, the recommendation of the Committee of Ministers for member countries about the organisation of palliative care and the EAPC recommendation (European Association for Palliative Care), it is necessary, through system and legislative changes, to reach changes of the current situation. This is an issue within which we are trying to answer questions concerning funding of palliative and hospice care, legislative questions, provision of required education etc.

The basis of quality palliative and hospice care is offering of various forms of palliative care that are connected and secure continuity of care and the patient´s opportunities to choose the place where they want to end their life. In Slovakia, the provision of health and social care for the dying are not connected, insufficient education of social workers in the issue of dying etc. To be truly included among developed countries, Slovakia has to provide care for the weakest, the most defenceless – the dying.

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THE PRINCIPLE OF JUSTICE TO THE PROCEEDINGS

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ABSTRACT

The theory of justice requires not only the formal considerations alone, but must also calculate the ideals of substantive justice. Thus, the formal principles of justice (formal equality, universality, reciprocity), as well as the ideals of justice (eg. solidarity, balance games tasks) act primarily as a critical arguments themselves are not to guide our actions, or be constituted legal-political programs. With this finding is in line before my claim that we are more able to know what is unjust, than to justify equitable solution. Analysis of justice is inherently critical analysis.

Key words:

A justice. Social justice. Proceeding. Universality.

Postulates of justice are always directed towards the entity capable of action. True, exit a formulation of which is not directly obvious that the requirements are directed to the holder of the procedure. We require, for example, fair wages and fair punishment. Obviously this is not meant as a requirement that, in fact, directed towards an object unable to act. The requirement of fair wages hopes that the company could also institutionalized forms of management and distribution, which would be allocated for the work carried out as fairly rewards. The requirement of fair punishment is reduced and the formulation means that the court has determined punishment fit the criteria of justice and a powerful state apparatus to implement it. Postulates of justice are fundamentally related to interpersonal relationships, t. j. principles of justice; they want to determine the behaviour of one person against others. Again, although we often use such formulations do not speak specifically about interpersonal behaviour, it is difficult to know the structure of its own principles of justice and prove that they relate to interpersonal relationships. He says, for example, often a person just or unjust, the just or unjust institutions. A righteous man is obviously one that, in relation to other people act fairly, equitable social institution is precisely when a fair relationship between the parties.

With the above - some indisputable - characters postulates of justice, that is directed against persons qualified to act and relate to interpersonal relations, are correlated in the two functions of the human being: (1) It is acting being, that their decisions can freely determine their behaviour and life form and (2) is a social creature.

Ethical-anthropological way of approaching the problem of justice, as it considers appropriate, is that we understand the postulates of justice in their role as determinants of the proceedings and the content of the principles of justice, explain their function in society. Conducts controlled understand information behaviour, attributed to the object, which according to their purposes may intervene in the process. The process of processing information in the decision to act and guidelines proceedings based on information about facts: on the situation, causal lines, know - how and practical - we can also say attitudinal - information. The core system consists of practical information purposes associated institution of the proceedings. Acting is in addition to evaluate the relative ability of alternative procedures. Analysis, aiming at providing a decision, respectively. programs of action that is governed by the purposes and subject preferences, called "reflection on the utility." For human action is typical that in addition to consideration of the utility to interfere with

even more determination moments: fixed intentions, autonomous standards heterogeneous ideas and ideals of justice.

The bulk of these determinants, which approach the consideration of utility, the shape function of human conduct with regard to community interests. In my opinion - and the biology and ethology the concept confirmed - that these moments of social determination of human action are already reflected in the slopes us as social creatures, not only products of culture and education, but on the contrary: culture and acquired forms of life are based on primary hereditary talents - for man, as with other organisms living in the communities. The conditio humana is characterized by the fact that while man is never without a well-researched biological tendencies - and therefore never value-free stance - but that the world (living) creatures, as we know, has a unique array of free space for creating forms of life of individuals and groups.

Not only is a single man living in the vacant spaces, but also institutions and communities can be created by different, t. j. their character is determined by hereditary program individuals who constitute the them, but they are only partially determined. This view is a significant difference between swarm bees anthill or herd of wild animals and human society.

Regulative and normative social ideals are always focused on social relationships. Autonomous moral norms determine individual human behaviour with regard to the role an individual plays against neighbour. Heterogeneous regulations of coordinating human coexistence.

What is the general ethical-anthropological reflection on the concept of the proceedings and the social nature of human existence theory of justice? Particularly this: (A) The principles and ideals of justice are partly biological and partly cultural components profound determination procedure. (B) The idea of justice, respectively. ideals of justice, although some profound way, and biologically, are widely formable. Where exactly is the line between irreversible and modifiable, it cannot easily find. The inheritance can be modified by cultural influences. (C) With regard to value systems, one is never a tabula rasa. The same applies to our fair spontaneous reactions and evaluations of human behaviour or institutions as fair or unfair. It is empirically provable psychosocial well that every human individual has a consciousness and develops ideas about justice. Social groups are a social justice values and ideas. (D) theory of justice can count on the existence of the so-called sense of justice, but has a clear role for him conceptually identify and cultivate their analyzes. Must ask for feelings of justice, rationalize and adapt their current conditio humana. Therefore deals with the problem of rational argumentation in matters of justice. (E) Justice is a moral issue and rights issue. The interplay of morality and law from an ethical and legal-philosophical point of view is essential because it is on one side of it, fairly autonomous action to create an entity with regard to the neighbor on the other forms of institutionalization of fair society. Both considerations of justice are complementary: they are not substantively equal. In addition, the analysis of moral justice to the questioning of a different perspective than the legal-political reasoning: moral - theoretical reflection is dominated by the question "How do I do?" A behavioral assessment of neighbors, there is only a secondary place, in terms of legal policy against the currently the primary institution for fair and equitable assessment of individual relationships in individual cases should be seen by the general social aspects.

If the postulates of justice interpreted as determinants of the proceedings, it is easy to understand this proposition: Issues of justice always act in addition to considerations of utility, the ideals of justice work together with analyzes of the utility regulatory and normative. Ideals of justice to exclude certain means and methods of procedure. Normative

regulations of form in the spirit of certain notions of justice are critically tested in terms of the ideals of justice. Response of the individual or company to determine the results of consideration of utility and justice. If I see correctly, as most theories of justice establishes the principles of justice as absolute requirements that are divorced from all other moments and conditioning procedures are strictly sentinel before all other determinants of action. Visibly separates himself from the issue of fairness and motivation of action institutions (Rawls, 1995). I, however, consider that an adequate conception of the ethical and legal - philosophical argumentation can be reached only if we take into account the dialectic interplay analysis ideals of justice and utility. Justice itself is not viewed by me regardless of the question of motivation.

If we use this analytical approach, the question arises, what is actually postulates of justice differ from the time of setting goals that emerge in considering the utility. Then the system does not coincide with the social purpose of the principles of justice? This question, in my opinion can not be easily answered. The boundary between the utility and legal-philosophical postulates on the one hand and the ideals of justice on the other hand is not about to set out very clearly. This relationship can be roughly explained as follows: The ideals of justice are concepts that are understood as benchmarks and limits utilitarian considerations, experience teaches that such an individual as well as the most diverse social groups actually have ideals of justice, which does not coincide with the utilitarian goals, and on the one hand, imply a limitation of available funds to achieve these objectives and on the other hand, as a considerations, which in addition to dedicated analysis evaluates designed solutions. The social setting of targets, economic and other practical objectives are the primary framework and institution-building activities. Creating community facilities and sets out policies to achieve the purposes of utility - not primarily because of righteousness, no way to achieve these objectives are also limited by the ideals of justice.

The theory of justice requires not only the formal considerations alone, but must also calculate the ideals of substantive justice. Thus, the formal principles of justice (formal equality, universality, reciprocity), as well as the ideals of justice (eg, solidarity, balance games tasks) act primarily as a critical arguments themselves are not to guide our actions, or be constituted legal-political programs. With this finding is in line before my claim that we are more able to know what is unjust, than to justify equitable solution. Analysis of justice is inherently critical analysis.

General terms of analysis of justice on the one hand, certain formal criteria, on the other hand, also postulate to ensure fair use of a normative order.
The formal principle of justice should be the same relevant conditions set the same legal consequences. Perelman defines justice as the principle of formal proceedings, under which the natures of the same category of being to be treated equally (Perelman, 1967). As can easily show that this principle is equivalent to the postulate that the juristic assessed according to general rules. In my above-mentioned formulation is contained in the relevant binding conditions some fashion the decisive moment, which means that the principle is substantively empty and bear with each ethical concept. Logic is not surprising, because he knows that the formal principle of principle can not provide any content gauges. It forces us is relevant conditions and the associated legal implications make explicit. This simplifies the assessment base and exposed to criticism. Neither Perelman´s formulation, this principle does not give any explanation of what content is fair, because the categories of substance, as well as legal consequences remain uncertain. The term category of substance, as used Perelman, there is no ontic givenness, but remains with the producer standards to determine the class. Again - that is to say the postulate of formal justice - it seems critical reflection on the nature of justice and their dependence on the assessment of attitudes.

The principle of reciprocity is a postulate of justice, which comes in various formulations. Prima facie, it seems to be explained as an inverse relationship equality: equality (or equal value) and return requires performance, equity mutual rights and obligations of stakeholders.

In this form it appears as a formal principle of justice. However, I have good reasons to doubt. As a formal principle would have to have universal validity. Not for any relationship between people, however, apply the reciprocity requirement. I think it only applies to those relations, which we refer to as "partner". The principle of reciprocity is therefore not a formal policy. Content-postulate of reciprocity is applied by the material the values of the decision or for the need, require the reciprocity, further, that the kind of equality must be specified: exactly the same work, same power output and return requires, equal willingness to help and so on. Equivalence of mutual performance is not strict equality, but - according to circumstances - the same highly differentiated values.

It seems appropriate not to consider the issue of reciprocity as a type of formal principles of justice, but as one of the problems of relations tasks. The partnership, however, apply the postulate of reciprocity in terms of equivalence to the tendency of mutual attitudes and performance partners. A big role in the theory of justice, ethical universality plays, respectively. Universality. If only requires universality of normative rules is equivalent to postulate the principle of formal justice. To understand the versatility and admit only the formal subsumption of any differentiation, then this postulate does not imply any restriction on the admissibility of the contents of normative rules: not therefore any assessment criterion of justice. Universality is often understood that the postulate of universality is understood as a requirement "makes no difference," or at least as a presumption of equality - perhaps sharing the same parts - when there is no reason for differentiation. Consider, however, that evaluation is necessary decisions, in which groups of people have relationships as equal pay, and which differentiated. Then actually growing from unrestricted universality of differentiation. A principle of universality is not absolute, but relative to differentiated conditions laid down by every normative order.

Hare at all considering how Universalisation of a constructive character a rule. In my opinion this is a rather difficult concept. It is inappropriate to bind the basic semantic setting - here a rule definition - the conditions that characterize the right to - be. In Hare´s concept is problematic, as is to be understood universalization of individual standards. For example. "You have to pay to Mr. N. 100 Euros. " How has this individual a rule universalism? "Anyone who is identical with you, to Mr. N. to pay 100 Euros, pseudo-universality. If, however, universalism other characterizing features of the recipient, so it may be entitled to time and sometimes undue universalization. "Anyone from Mr. N. borrowed € 100, is ... "-" Anyone who lives in this apartment has ... "assuming that both terms refer to one and the same person. Marker functions can be broadly the same fact, but strongly different. Not every feature indicating the results substantiated universalisation. Universality can pay as a criterion of justice only if we use the term in a manner that corresponds to Kantian formulation, ie if we ask, or may want to (want to, it is considered a good and fair), as applied to a universal rule. Assessment in terms of general considerations only a physical justification, when acceding to the substantive position of Kant expressed through want - can. The mere formal criterion is not universal, however, sufficient basis for judgments about justice. The analysis draws on the source material justice, their arguments? Some authors are involved in some way natural law. I think it can only lead to an apparent argument, because the principles of natural law would have to be objectified, that is, of course, can not succeed. But we actually believe in justice and the ideals of justice, which is available to every community and every person. (Talking about the existence of the same "feeling for justice.") Must recognize this fact and value relativist. As arguments about justice beliefs play analogous role as the so-called principles of natural law, but with the difference that act only as opinions that can and should be criticized.

Positivist in my opinion a very good chance to make a rational analysis and evaluation of justice, may be based on beliefs about fairness and their content may be the case. as well. support the anthropological research. In addition, it highlights the importance of political postulates of fair use rights, which in the context of the theory of justice is no minor point

value. The most important postulates of justice in terms of ethics and law: (A) must be based on the true findings of fact. Postulate is correct findings of fact, banal and obvious requirement. But who has abused the sight of their legal systems pseudo-process and who knows the problems of proving the fact of ethical and legal practice, he will accept this postulate as the basis of justice and will not underestimate its importance. (B) Implementation of the postulate. Ethical rules are not only legal basis for value judgments, they are also statements of the case: rational relationships for ethical and legal implications need to enforce in practice. (C) Postulates of procedural justice. Although the theory system-relative justice is very important to set postulates a process of justice. Their reasoning is based on our belief that an adequate organization's ethical and legal proceedings to maximize the probability to reach a fair decision. The principles of procedural justice, respectively. Our beliefs about the appropriate ethical and legal organizations, processes and impact of organizations on the likelihood of substantive justice decisions should be subjected to empirical verification, although it is not so easy, so it is rarely implemented. Communities do not rely solely on factual coexistence, but also to the fact that in some way come into structured forms that depend on the assessment and the expectations. Each individual or group in the community have a role, as determined by normative regulatory. The role is a complex of ideas and expectations arising from the roles and responsibilities, the demands and expectations of action and adaptation.

Roles are social realities in which we enter automatically or volitional acts. We have automatically nationals, members of the association or the spouse by a specific volitional act. Man creates his play roles in part to the relatively free choice, or may modify the types of institutionalized role in the development of their specific relationships. The existence of communities and the roles are always linked to issues of justice. Each role is bound up with specific responsibilities, expectations and ideals of justice. Plays a role as a social institution is subject to the assessment of justice. The role and its corresponding evaluation are determined by social function; cf. ethos doctor, judge, teacher, social worker, and labourer. Issues of justice are concentrated on the balance of power and return requires partner roles. When there is this balance? I think there is no single answer. In some cases the kind of equality, for example. if you two promise each other farmers to help each other at harvest. Sometimes there is no real equality of performance, but the same willingness to meet, for example. Willingness of siblings to help in an emergency. Often a kind of equivalence of inequalities in material performance and return requires such. The exchange or buying and selling. Assessment of equivalence is a relative value judgment is therefore dependent on the subjective attitudes, but with significant substantive restrictions. They can also give a good, reasonable argument for the evaluation and value judgment will depend on institutionalized practices, particularly in those cases where there is a relationship which may be institutionalized roles (eg, marriage, games, and different forms of economic cooperation).

Roles which constitute the agreement of the partners are governed by more or less firmly institutionalized types (cf. marriage, business or association). The criterion of justice in the individual case there is essentially institutionalized ethos or a match, which specifies a framework of institutions. The institutionalized forms can - according to the agreement or the situation - and make other than normal balance performance. It belongs to the conditio humana, the question of the balance task is always open to discussion as a problem of justice. The various communities are linked collective action, consisting either of that act together, or that the officer acting as a community, t. j. set acts on behalf of the community. You are required to act solely as an authority by the Community interest. Since his own interests are usually partly coincide with the interests of the Community and in part to deviate from them, there is a command official, track interests, not their personal interests. It's about the plight of the proceedings creating standards.

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YOUTH UNEMPLOYMENT AS A SOCIAL PROBLEM

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ABSTRACT

Young people after leaving school often in my life experienced by pocity social uncertainty (concern) of the future that require the immediate involvement of young people into work, which is for their personal identity ,,gateway“ to the world of adulthood (responsibility). Reducing the labor of young people is a huge loss to the social system of each country.

Key words:

Unemployment. Youth. Social work. Start clubs. Social assistance.

Introduction

Employment is one of life's irreplaceable position. It is an important condition for the existence of decent, he brings not only material benefits, but it also gives him a sense of fulfillment.

High unemployment has particularly adverse effect on the inclusion of young people into work, such a group is the young generation, therefore graduates. Loss of job or inability to find a job, a person can be reached at different stages of life. For the unemployed, it is crucial to keep him in work habits and create the need for work.

It is important to know in what conditions and options coming graduates. These conditions and options are often different, but generally can record similarities, which may, for example. that is currently the burden on the necessary measure of enforcement. It is expected that he will gradually be able to work with your application deal mostly alone.

Occupation (job) is for young people and a wide range of social relations through which they create a space for self-expression and self-confidence. The company operates through the creation of certain important values that are the result of work.

Graduates in the labor market are unemployed vulnerable group because of their lack of preparedness and lack of practical work habits. It is very necessary to increase the number of young people who are given the opportunity to apply their skills in first job. One has to constantly adapt to change, which brings life and times in which it exists. In the past we had with each person on the right job. On the one hand it was feeling kind of ,,social security”, on the other hand, this meant suppressing competition in human society.

The importance of work for each person's life is undeniable, as is its integral part. Work by nature stimulates the development of the individual. The work has a strong social character, is carried out in a specific socio-cultural environment, causing social consequences. For this reason, unemployment in our society adverse problem which inherently affects also some families. This relates to the central role of work and employment in our society in which we live. Job loss means the deprivation of basic needs that job and work directly or meet their satisfaction is closely linked to them. In many cases, the wrapping, ,,snow ball” with one problem causing another, for example. economic problem in humans can cause adverse health problems.

Young people faced with unemployment

Unemployment is a socio-economic phenomenon, coupled with the existence of the market, in particular the labor market. It represents the result of a parallel speech imbalances in the labor market, and the supply and demand for labor (Rievajova, Stanek, Krausova, 1997).

Juva (1994) states that youth is a stage of life in which there is significant biological, psychological and social changes. It is usually specific, like childhood. We can therefore say that youth is historically embodied social phenomenon of human society. Youth under the general social ideas is a special single phase life who needs a social space free. Youth and young generation can thus be defined as ,,a term referring to more or less vaguely defined age group or social category defined by specific biological, psychological and social characteristics", which fall into the secondary school and university.

Micheľ (2010, p. 90) draws that *,,occupation (job) is for young people is very important part of their personal identity and socialization. Everyone has the need to be a full member of society and create some goods and services. Occupation (job) is for young people and a wide range of social relations through which they create a space for self-expression and self-confidence. The company operates through the creation of certain important values that are the result of work."*

Jandourek (2001) draws the younger generation is attributed to ,,significant role of social organization characterized as a progressive development entity." And this generation as a social group in a few years will determine our future. But now the real part and can actively influence events in society.

High unemployment has a negative impact on the inclusion of young people into work (school leavers). Loss of job or inability to find employment, the man reached in various stages life. For unemployed young people is very important to keep him in work habits and create the need for work. The process of assigning young people into work and related problems are, among other things, a reflection of how the school was ready to enter the workforce.

For most barriers in the labor market that prevent graduates find jobs, are considered:

- inadequate education;
- lack of experience;
- lack of knowledge and experience working with PC;
- ignorance of foreign languages (http://www.prohuman.sk/social work/unemployment-young-people-graduates-ascurrent-socia-problom-society).

Young people are one of the most vulnerable groups in society who may be most affected by changes in modern society. Social discrimination and marginalization are not in Western European countries is nothing new and is increasingly becoming a part of their symptoms and life our company. Economic and social uncertainty leaves a growing number of young people whose lives are marked by the uncertainty of the future. The young people's social ties are of paramount importance bonds of friendship. Youth more emphasis on fashion apparel, which is indeed a natural and appropriate to their age, but it should not take precedence over the values of the inner qualities of the young man's personality. If thus demonstrating quite strong effort for the average youth material support to realizing the importance of values education and employment should be seen and those attitudes which are indicative of the unwillingness to engage the public affairs.

We can not underestimate the impact of information that can significantly affect the life of a young person, particularly his success in the labor market. Great importance is the role youth information centers, where the system of providing information and advisory services, account criteria anonymity to accepting a personal integrity of a young man. They place a young person's direct contact with the information in this age is for him the price of gold. When will mesh with appropriate counseling assistance can be a very effective tool for direct assistance (Rimoczyova, 1994).

Rievajova, Stanek, Krausova (1997) states that unemployment and length of unemployment is, inter alia, with work experience. At the end of each school year, the Council extended the unemployed graduates, because lack of experience quickly reduces their chances for employment in a competitive older more experienced workers.

Important advice for young people to find work

The important advice that can be given to young people to find work include:

- nobody owes you a job. If you want, you have to give it a look and - without compromise success in finding a job depends on the effort;
- second you have to be mentally and financially prepared for the job search takes longer than you think. Shortest periods ranges 2-18 weeks depending on various factors. Decide the type of work on what you like, where you live, your age and the state of the economy in the region;
- efforts until you find work. Perseverance is the key to success is to send your resume to the employer by e-mail, then a letter and a copy of his last, week by phone;
- if you know what type of work you are interested in, tell everyone you know what it is. You will also get another pair of eyes and ears that can find a job for you;
- forget what offers are in newspapers, on the web, etc. Find your kind of job, what you want most;
- if you want to speed up the process of job search, focus on a number of different organizations. Restrict ourselves to only two or three institutions will almost certainly mean failure;
- think of the possibility of adopting a different kind of work than that for which you have qualified (Bolles, 2004)

Principles of Social Work with unemployed

Social work builds on the knowledge of several social sciences (psychology, sociology, pedagogy) and applying scientific knowledge to practical work. It deals with the optimal functioning of social institutions designed to care, security and assistance to individuals, groups or communities. The term social work is used to describe methods of preventive, corrective, curative helping people. From the initial economic aid, realized in the 19th century, social work extends particular social component.
(http://www.socionet.sk/index.php?kat=009&opn=opn&tit=00029).

„The existence and development of human society is associated with various forms of social relations. Every form of community from the earliest times until today, creates a space for action to move relations in the community and also affect the functioning of the various forms of mutual assistance. Activities, actions that lead to the development of man, his way of life, to improve living conditions (unemployed young people), ... called social policy" (Hanobik, 2011).

Social assistance must take into account the specific situation of the unemployed. There must be a support resource. These are the resources offered by government organizations in the so-called. active employment policies: the employment offices, job clubs, counseling centers. Other resources offered by non-profit sector where to find opportunities for leisure time unemployed, etc.

Social work services in fulfilling this target group (the unemployed) two basic functions: they are vital for coping with the immediate consequences of unemployment: physical, psychological and social deprivation. Unemployment has a negative impact on the psyche, self-esteem, relationship with partner, and so on. Social work services are important to help the unemployed back into the labor market.

Complex social services should have at least the following elements:

- social work in areas - motivation socially excluded socially oriented in various projects and activities;
- basic counseling and follow-up in the public employment services: group (job clubs). Furthermore, information centers to eject from office work, for example. in community centers;
- preparation for employment - that focus on the labor market, training in social skills, etc.

Are very important information and counseling centers that have club character. Their mission is to help those looking for employment longer. A common feature of these people is unemployment and actively attempt to solve this problem. Programs such as job clubs aimed at obtaining and maintaining these skills, using effective job search techniques, resume and the ability to prepare a letter of motivation to learn how to act convincingly in admission interviews, a realistic view of their own position in the labor market, maintaining social ties, etc.

Starts clubs operate on the same principles, but are aimed at graduates unemployed and without experience. These clubs are currently also founded the nonprofit sektoru (Kodymova, Kolackova, 2005).

Conclusion

Graduates in the labor market are unemployed vulnerable group because of their lack of preparedness and lack of practical work habits. It is very necessary to increase the number of young people who are given the opportunity to apply their skills in first job.

The importance of work for each person's life is undeniable, as is its integral part. Work by nature stimulates the development of the individual. The work has a strong social character, is carried out in a specific socio-cultural environment, causing social consequences. For this reason, unemployment in our society adverse problem which inherently affects also some families. This relates to the central role of work and employment in our society in which we live. Job loss means the deprivation of basic needs that job and work directly or meet their satisfaction is closely linked to them.

In many cases, the recruitment of ,,snow ball" with one problem causing another, for example. economic problem in humans can cause adverse health problems. Unemployment is now a very serious problem. It has negative effects on the complex bio-psycho-social aspects of personality. This is often the interconnection of various health and economic problems that lead unemployed individuals to different feeling of resignation and despair. It is essential that young unemployed people give up and tried to deal with their situation immediately without undue prolongation of their unfavorable social situation. Young unemployed people must try to make sense of life through vigorous life ńtýlu, which in itself will contain an active and meaningful use of leisure time and full-scale implementation of activities that will contribute to the effective development of personality (self-esteem, self-fulfillment, a sense of dignity and recognition).

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VIDEO TRAINIG USE IN TEACHING COMMUNICATION SKILLS

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ABSTRACT

This report is focused on the meaning of the communication training and communication skills in present medical care. The request of professionally managed communication with a patient is a part of rating the quality of the medical care. The preparation of imbibing the communication skills among the upcoming doctors may be very important element at the beginning of their professional career. Suitable and effective methods of teaching have a massive effect on imbibing and deepening the trust among the doctor and the patient. Practical training by a role-playing method and the analysis of the videotaped situations i some of the most effective method of all communication teaching methods. It comes from the student's Leeds during the effective teaching process.

Keywords:

Communication. Communication skills. Soft-skills. Social interaction. Video-training.

Introduction

The social interaction is essential pillar and starting point in interpersonal contact. According to the dictionary of foreign words is given interaction as interaction between two or more agents. Social interaction is seen as a basic way of social behavior, perception, cognition and self-awareness, communication and interaction between at least two people. So it is always about people and their relationships to other people.

Communication is indispensable part of the mutual contact between people. It is an essential component of mutual communication. It´s complicated and multi-layered process. It is influenced by many factors among others for example by person´s individualism – his upbringing, education, experience, skills, etc. The ground of this is biopsychosocial trim man, indeed it is different by development, perception, hereditary predisposition, progress of communication skills, education in family and by the way in which is it realized. Currently, the concept of communication overused. Today, the word communication hides many concepts that are disappearing and suppress, there are much lower frequency of words chat, talk, debat, yarn, tell, share information, experiences and so on. Today two people simply communicate. (Linhartová, 2007)

Proper text

Communication in health care is a topic which is still in the foreground of the lay and professional public. The level of communication is a part of quality investigation in health service. Not for nothing there are some questions in research of patients´ satisfaction with nursing care in a facility dedicated to just the patient view on communication between other members of the nursing team, to inform the patient about the course of treatment, intelligibility of given information, adequately chosen language, etc. This interest in recent decades relates not line with the concept of the patient as a partner in the nursing and medical care and then for a change with accessibility to patient.

Between the basic concepts of communication, which significantly in nursing care come into the foreground, pertain understanding and understanding. These terms of communication and communication skills we rank among so-called soft skills. Soft skills relate how to work together, not what to do. WHAT to do concern professional level, HOW to co-operate concern a personal, human level. This level is influenced by many factor, such as how to get along, how we fell, how we think, what is our value system, our motives, rituals, needs, etc. Hard skills which include linguistic, logical-mathematical, usual spatial forms can be measured by test of intelligence quotient (IQ). In contrast, soft skills are skills involved in interpersonal relationships, but also how we are willing and able to work on ourselves and that we are looking for opportunities for personal growth. (Mühleisen, Oberhuber, 2008)

Our attitude towards soft skills can be divided into imaginary three areas

- The area of personal skills
- The area of social skills
- The area of methodological skills

In the area of personal competences include for example the following components: self-confidence, self-assurance, self-control, self-reflection, orientation to the goal and the result, willingness to change, to learn, to self-motivation. In the area of social skills include the following components: the ability to build relationships, contacts, the ability of integration and teamwork, empathy, ability to motivate, lead, resolves conflicts, tact and style. In the area of methodological competences there is for example ability to present and creatively solve tasks, rhetorical skills, the ability to persuade and discuss terms, ability to process information, visualize or ability to properly handle the time and realize that the day has only 24 hours.

The above areas and the emerging effort students up to personal development and growth led us to the idea of elaborating a subject communication training medical students. For communicative competence is as a dictionary of foreign words considered understanding verbal and nonverbal interaction, different types of verbal expressions and written and printed texts and records, images, usual used gestures, facial expressions, pantomime, sounds and other media, thinking about them, adequate response on them and their suitable and reasonable use for their own truthful and cultured expression and participation in social life and events. The skills we consider for those whom the doctor should rule in nursing care. Except the above mentioned communicative competencies is an integral part of medical professionalism as well as social and work competences. These build on previous and applied mainly in skills effectively, efficiently and politely cooperate in a group, adapt adequately to his position and role in the group, positively affect the quality of collaborative work, exercise effective work activity and creative efforts in their own business activities.

Communication in medicine is an area that, among many other aspects has a larger dimension than communication generally conceived. An important role is played by a change in health status of individuals with which communication takes place. Communication is the art of pass words so that the other person understood what we had to say to understand our purpose. It is necessary to state briefly and concisely communication scheme, according to which communication takes place. At the beginning of the intention, the intention of which speaker has. It pools the most appropriate communication channel, which would have made its intention to pass the information to be processed. After then the recipient receives the message. Differences in income information mentioned above. Recipient information according to their capabilities and gives the speaker receives feedback. This process is repeated several times during the communication. In short, described the transmission of information is a very simplified description of the process of challenging the perception and acceptance of the other individual. Of course, it's not just a form of verbal transmission of information, but is equally represented a form of nonverbal communication and paralinguistic

expressions of mutual communication. Given the breadth and importance of communication is very wide, we look for our purposes only verbal communication, specifically on drilling two most important communication skills, occurring mainly between doctor and patient.

The relationship between doctor and patient is in health, hence the nursing care, the basic relations. Medical profession is the only one with which he meets every man in your life, everyone becomes a patient. When our health is compromised and the current state of the deviation from normal, begins each of us to realize its importance and value. Perhaps for these reasons, we expect powerful and flawless healing, infallible and helpfulness filled with medical approach, which in moments of tension and uncertainty examine under a microscope. We expect the doctor's listening to our concerns, the ability to choose the correct and effective words, his verbal resonance next to the most effective methods of therapy. Just good communication skill of doctors consider for granted. Only a misunderstanding of all kinds makes us reflect on this "non-obviousness". Nothing is self-evident, it is necessary to cope with doctrinal part pertaining to the professional communication. (Haškovcová in Ptáček, 2011). At present, the doctor prepared during his studies mainly on the ability to heal, to know and to choose the right method of treatment, asses and analyze the test results and think logically about connectivity and related symptoms. At the expense of clinical skills is often suppressed perception of humans as individuals, which the doctor learns to join the practice. We ask ourselves whether this perception and acceptance of diversity of individuals should already be part of the professional preparation of individuals to track the medical profession. Due to the momentary representation of communication and teaching communication skills to medical school, we believe that this issue deserves more attention.

When teaching communication skills we start from the needs of the student in the teaching process, which is necessary for the successful acquisition of skills or qualifications. The basic needs of the learner include humans as Petty explanation. Why the above procedure is used to explain the student's understanding of the basis for further. If using procedures that do not understand, do you often feel insecure. The explanation we should be familiar with all relevant contexts topic. As stated Petty, "Learning without understanding is superficial." (Petty, 2008). As further stated, among other needs resulting from the student teaching process include the following example, activity, active, and repeat testing. In the demonstration, a student feels the need to know exactly what is expected of him, as it is best to do, how to use their skills or capacities correctly and on what occasion they can utilize. Most students considered practicing law and practical skills for the use of the most effective method of learning. Practicing skills in the educational process takes disproportionately more time than any other activity. This aspect of the didactic point of view in teaching communication skills to medical schools generally neglected. The need for "testing" is another need for a student who completes the efficiency of the acquired skills. Demonstrate ability or skill in a situation where it is close to a teacher, mentor, etc., is easier to manage than skill alone / and, under normal conditions. This last step to mastering the skills or competence in our case in a clinical setting is the most important. This step alone can assess the student in the practical part of their training. Can assess in communication with the patient, how is ready to handle unpredictable communication barriers and apply their acquired communication skills.

For the above reasons, we have focused in teaching elective course called "Communication, communication skills" on the effectiveness of using video methods in practice "active listening" and "transfer of information" for students in master's degree program of General Medicine at Charles University, 2nd LF. We chose elective course in the absence of a separate subject, dealing with communications and basic communication skills in the program above. The optional course we had the opportunity to examine and monitor the progress in the development of the above mentioned two communication skills of medical students. The most appropriate method of assessing progress in the development of communication skills, we

appeared to video situation, which detail captured each chapter of the observed situation. At the beginning of the course, students had the chance to review and understand the importance of these communication skills - active listening and communicating information on the example of a prepared interview "a doctor with the patient" in the model classroom. Role of the doctor and the patient were depicted by experienced students from higher years of medical school, who have demonstrated experience in managing the monitored communication skills. This interview was conducted in accordance with the predetermined scenario that both actors got ready in advance and who was consulted with the teacher.

Respondents who participated in teaching, following the example of seeing a sample prepared dialogue characteristic of them unknown diagnosis. The choice diagnosis was completely random, so assumed to provide sufficient time period to prepare the topic. Entering the student was quite clear - search and process all the information on the prevalence, incidence, symptoms, diagnosis, treatment and prognosis of the disease so that the student is able to transmit and explain to the patient, eventually family member. This element of unknown diagnosis has become very effective in the preparation of training because not only supported a separate preparation, but also the search context with already acquired knowledge and skills of the student. It encourages the student to increase their motivation to study. The patient's role was cast colleague from higher grades or completely unknown to the participating students who were previously familiar with the scenario of their role. During the course was created about 10 minutes of video communication situation of each individual. This video was repeatedly made at the end of the course, ie the end of the semester of the academic year, as the number of hours of teaching a one-semester elective course. Differences between the video recordings of communication skills at the beginning and at the end of the course each student were recorded in the pre-prepared forms. Evaluation was students themselves, who observed the performance of each individual - and fellow recording performed during or immediately after the output. Performance evaluation was carried out in two categories. The first category consisted communication skill "Active listening", which was divided into verbal labeled I / A subchapter encouragement, clarification, mirroring the content plane, mirroring feelings, summarizing and feedback and non-verbal part, labeled I / B, presented subheads maintain perspective , posture, gestures, facial expressions, touch & movement, distance. The second communication skill, "Communication" was also divided into two sections. Marked subchapter II / A included monitoring of brevity, conciseness, clarity, transparency, continuity of speech, choice of technical terms, working with voice and feedback. Marked subchapter II / B is concentrated on the page nonverbal communication skills. Contained the same circuit as the monitor I / B, but these symptoms are completely different in listening and speaking, so we dealt with them separately mentioned skills. Each subchapter student was rated on a scale from 1 - totally unsatisfactory to 5 - totally satisfactory. Gave rise to a clear table of partial results of each student before teaching communication skills and at the end of instruction, labeled Pre and Post.

A total of sixteen students participated in the study, each parameter of each sub-subchapters communication skills Pre and Post is always described sixteen values, once gained self-esteem and other fifteen students from other students. For the needs of all of the following hypothesis tests, we have always enjoyed a student sixteen sum of these values for each parameter communication, each student was then characterized in subchapter I / A, I / B II / B always six values in II / A eight values . (Select sum, average, or irrelevant, the average is always less than the sum of sixteen.) Collected data are quantitative in nature (it is always a range of 1-5). Despite their small variability (only values 1-5) was necessary to think about the possible presence of outliers (for example, if one student evaluated differently than the rest of colleagues). Selling the Dixon test here but it was just for a small range of values files practically applicable for low variability selections were also excluded outliers, but only the extreme (ie values away from the odd quartiles by more than three times the width Quartile).

All statistical calculations were held in StatSoft Statistica software environment, all hypothesis tests were performed at a significance level $\alpha = 0.05$.

Through the implementation of Shapir-Wilkov´s test the assumption of normality in the data for some parameters and subchapters communication skills untenable (even after excluding extreme values), so further consideration in the inductive statistics were derived predominantly by non-parametric tests. For non-Gaussian nature of some data also testified previously made selections descriptive statistics of each communication quality (sample mean, median, modus, standard deviation and variance, 1st and 3rd quartiles).

In the so-called inductive statistics here is primarily testing the hypotheses, it was first performed using the median test than anticipated, the "optimal" evaluation of communication quality students and their actual grades. Data were collected during a sample dialogue between experienced and instructed students of higher classes (see above) both from the evaluation of students, both from supervising qualified teachers. All students had been properly instructed and interview for the assessment of the model were a few randomly selected. If the median test rejected the null hypothesis of insignificance of the difference between the assessment of students and supervising teachers, it would be necessary to educate students on how to properly evaluate the quality of communication, and then the median test repeated.

Then there was a statistical analysis of the working hypothesis that there was a statistically significant change in the value of communication skills of students after graduation one-semester course, a significant difference between the card data Post and Pre. Given that our data have a hierarchical structure (the category of "active listening" and "transfer of information" composed of subchapters "verbal" and "nonverbal" and then those of the individual parameters), it was necessary to focus on a comparison of only one of their "Benches", as it is not suitable one and the same data repeatedly undergo modifications one statistical test (the statistical fishing, excessive effort to find significance at the expense of the rise alpha error). Suppose that it is appropriate to compare data in the greatest possible depth, which is still well interpretable - that at subchapters (there are four, always "verbal" and "nonverbal" in both categories). Data were within each subchapter add up. Overall, the data was compared to all students in all four tests of hypotheses, just because of abnormal distribution of the data and their pairing (each student evaluated Pre and Post), we always chose Wilcoxon´s paired test, which built two-alternative hypothesis of a significant change in the mean value of the data subchapter communication skills Post and Pre against the null hypothesis of insignificance of the change between moments Post and Pre. Provided that the time available data of the same character from the video situation, where students attend dialogues with real patients in a real hospital environment, using the Friedman test the hypotheses can remark that the Pre and Post data has already been processed once, to compare three sets of communication skills of students, before taking this course (Pre), after its completion (Post), and after graduating dialogs from the hospital environment.

Furthermore, we are under statistical scrutiny asked whether it is possible to divide the communication skills of students, capturing the values of the parameters of all four subchapters, respectively. changing these values between the Post and Pre moments to several groups (clusters of clusters), which are character communication skills with each other to some extent different, but to the contrary, students of each group were close to the values of communication skills. The purpose of such division is primarily a "profile" group of students according to their communication skills when representatives of each of the group will establish a focus group with which the components of the qualitative research conducted controlled dialogue. To create groups was performed multivariate method - cluster analysis. Since it was appropriate to provide several clusters (groups of students) that would be equivalent, we chose the cluster analysis and non-hierarchical clustering for quantitative nature of the data namely K-means method according to MacQueen. The number of clusters

has previously been estimated using tenfold cross validation. As a measure of distance between the values we choose the traditional Euclidean distance. Verification of meaningfulness created clusters, thus groups of students according to their communication skills, can be done by comparing the mean values of each parameter of all subchapters, when the value of the cluster will be similar to his students averages between clusters on the contrary, their values will vary somewhat. Each cluster is thus becoming a profile group that is possible through the mean values cluster communication parameters "accurately" describe as "talkative extroverts", "thoughtful introverts," etc., but it requires the researcher great imagination and understanding of the principle of cluster analysis. According to the total number of clusters - this should always be less than the number entering the elements that must be divided, here students - can be selected from each cluster to one or more students, the communication parameters are the averages of the closest cluster, and included in focus groups.

The qualitative part of the research is dominated by organized dialogue with the focus group on the topic. Although we have to build profile groups and thus to the formation of focus groups used a quantitative method, namely cluster analysis, it is our opinion that the qualitative character of subsequent research focus group not disturbed, students will only be elected to focus groups targeted, not random. On the contrary, in this approach, we see little innovation and efforts to establish a link between quantitative and qualitative phases of research.

Conclusion

Teaching communication skills to medical school can be very important source of communication reveal weaknesses of the individual, which may adversely affect the conduct and behavior in clinical practice. Uncertainty in communication with the patient may divert attention from the fundamental knowledge and inexperience in conducting interviews with patients may seem stressful not only for the patient but also for the student to clinical practice. Acquisition of communication skills through role-play and analysis of their video can be one of the ways to get rid of student uncertainty, anxiety and fear of direct contact with the patient. The selected method confirms its effectiveness and excellence especially in self-concept and self-learner. It helps students see themselves, their reactions, the quality of their vocabulary, but also read their nonverbal speech in a situation in which focus on the patient and his current condition. It is not easy to handle all the skills immediately, it requires a complete workout feedback that shows progress and eventual vice versa area that needs to be addressed. Acquiring knowledge and communication skills, good training, these skills allow any doctor constantly emphasizing individualized approach to patients, the medical profession elevate the art of its kind.

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THE STATE FAMILY POLICY OF THE SLOVAK REPUBLIC

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ABCTRACT

Through social policy takes state approach to define social situations. It is therefore necessary to focus on the seriousness of the problems determined, their impact and influence on individuals and families. Compliance of work life and family life among the priorities of family , which creates favorable conditions for the combination of family and success in the labor market.

Keywords: Child. Family. Family policy.

Family in Slovakia means for people a very important and stable value. In the life of every family is especially important change a birth and care of a dependent child of the family and increased spending on food, clothing and housing. As mentioned Rusnáková (2007), family to perform its functions it needs have created a framework legislative, economic, social and cultural conditions, and only then will be able to exercise its responsibility for themselves and for the future of its members. Provide the framework for families living conditions and give them the space to freely choose their own way of life and their own responsibility for the application of the role of the state family policy.

In June 1996, the Slovak government adopted the Concept of the state family policy of the Slovak Republik and the ongoing process of transformation of social security population policy , the policy of gradually replacing the family , pointing to the "social welfare"of the family as a whole. Since the Slovak Republic ranks among countries with "explicit family policy", which is the object of the family as a whole. (Macková, Barinková, In: Moderné trendy socialného zabezpečenia)

Updating the *state family policy Concept* of 2004 opted for the promotion of universal law, and also to highlight the merit principle in relation to no childcare but to participate in the labor market. The main objective is to support rather then "responsible" families become "working" families (tax bonus, parental benefits for the unemployed).Also in this area is reflected access to the notion of citizen activism. (Rusnáková, 2007)

State family policy updated in 2004 states that the basic social policy in general, the principles of personal responsibility, justice and solidarity. The effectiveness of family policy as well as other close family policy is subject to the rigorous application of its principles in formulating a practical application of the measures taken to implement it. Principles on the basis of which a family policy in the future to implement fundamentally different from those defined in the state family policy adopted by the government in 1996 and more then change the principles of their parcitular application.

A key principle of family policy is a *shared responsibility* of the family satisfying the needs its members. The rate of economic independence of the family is directly proportional to the degree of independence of civil family. State of variant tools offer solutions to life situations supports the freedom to choose its decision.

More progressive decentralization of state competencies , particularly in the area of services for municipal authorities reinforces the practical application of *the principle of subsidiarity* in family policy and responsibility of the entities at lower levels can be targeted

to meet the specific needs of families. In accordance with the Constitution at the central level for the implementation of state family policy remains the responsibility of the state.

Strengthening *the principle of targeting*, personalized support individuals tends to increase *the efficiency* and effectiveness of family policy tools and to prevent the same approach.

Respects the principle of solidarity guarantee the necessary level of participation in addressing adverse social situation of the individual. While the principles of the state family policy also interested in supporting *the principle of merit* which is based on direct contribution of the individual in society.

Identified family policy priorities for the next period, in particular to promote the harmonization of work and family life expect-sensitive application of the *principle of gender equality.*

The principle of equal access to parents, regardless of the legal form is based on avoidance of certain forms of family favoritism at the expense of other forms.

Family policy increaes demand close *coordination and harmonization of family policy*. The absence of a common approach for all those responsible for the creation of family policy and its implementation, expecially at a time of transformation processes can greatly weaken and impede efforts to support the family. Ensuring the protection of families with dependent children and other groups in the reform of social protection systems is one of the most pressing challenges related to the alleviation of poverty, which together identify the Slovak Republic and the European Union.

Achieving a *balance* between the family support at each stage of family life cycle means including the change of the traditional family policy orientation for young families and families at the time the care of dependent children. Any help family should offer an alternative choice of direct or indirect forms to support the family in its own how to deal with life situations.

The principle of flexibility at the same time implies the harmonization of aid instruments in order to use the tool from one system to another threatened sanction system.

Final intentions and plans for public action to require the family to monitor systematically and comprehensively analyze the socio-economic living conditions of families, demographic and behavioral aspects of value. Based on this knowledge, organizations may be responsible for the design and implementation of family policy measures designed to correct, amend or change the public support the family. *The principle of openness and accessibility* changes requires a systematic collection of data relevant to the assessment of the living conditions of families, especially in the field of legal protection of the family, socio-economic conditions of life in the education and health of its members.

Key strategic objectives of the state family policy under the State family concept are:

• achieving relative economic independence of families as the basic of their independence and the exercise of civil responsibilities and their own future choices,
• success of families in the implementation of their functions,
• social stability and quality of marital and parental relationship within the meaning of equality and common division of family roles,
• creation of optimal conditions for the self-reproduction of society
• adoption of such measures, which will enable consistent application of the principleof choice (compatibility) when choosing a parent for parental (work) role.

The above long-term strategic objectives should be implemented especially in five areas of substantive competence of the state, namely :

• legal protection of the family and its members,
• education of children an youth, preparing for marriage and parenthood,
• health of family members,
• domography and population policy,
• socio-economic and family security. (Rusnáková, 2007)

FAMILY ORIENTED SOCIAL SERVICES

The level of security for families with children determines a number of factors, sucha s historical traditions, economic and cultural sophistication of the country, the age structure of the population, religion, and other natural environment. Application of family policy as a set of measures to support families with dependent children is carried out combining various instruments, legal, economic, through targeted social programs and social services. (Mack, Bařinkova, In: Moderné trendy sociálneho zabezpečenia, 2008)

Historically, it is the oldest part of social work. The organized form of social services, we can no longer meet in the establishment of the first institution for handicapped individuals whose greatest development occured in the late 18th and early 19th century. In the United States began in the 80s of the 19the century formed "settlements – social services centres, Neighbourhood Houses – houses for social assistance in the neighborhood, whose task was to assist individuals and families in the immediate areas. Demand for social services and development in the early 20th century undoubtedly influenced first social encyclical Rerum Novarum, which the author was Pope Leo XIII. The growing concern for social services shows the layout of the International congress of social services , which took place in July 1928 in Paris, which was the first in the world focused on the social and health care, which includes four separate conferences were linked together organizationally and programmatically. Congress worked in the following sections: Organization and social services , Education for social services, Individual and family care, Social care and industry , Social care and public health, Self-help social service, first World War I, the economic crisis, extension tuberculosis and similar phenomena were for social work very prolific period. From their solutions depend not only the late of individuals and their families , but its extent influenced by the the situation in a particular country. In the period after the second World War II, continue this line of development of social services and also began to pay to new problems, sucha s hunger, disease in third world countries , the growth of crime, drug addiction, AIDSm and so on . (Čechová et al.,In: Tokarová et al., 2005).

As reported by Schavel and Zeman (In: Schavel et al., 2010), social service is a professional activity, service activity or other action or set of such activities for the prevention of unfavorable social situation, maintaining or restoring the conditions necessary to meet basic living needs of individual, crisis management of an individual and the family, and the prevention of social exclusion, physical persons and families.

During the historical development gradually from most natural forms of social services for which we may term care service, has developed a range of social services, which can be divided into classical and modern services. To traditional forms of social services include: inpatient care of patients, elderly and physically disabled people, homeless shelters, penitentiary and post – penitentiary care, nursing care, social counseling. The modern forms of social services include social as pension plans , home care (including nursing) services, intermedial, semi-constitutional forms of care, street worker – social survival. (Defended et al.In: Tokárová et. Al 2005).

Social services according to the type of rules are:

• social services to provide the necessary conditions to satisfy the basic living needs of the facilities , which are dormitory, shelter, halfway houses to low-threshold day center, emergency housing,

• social services to support families with children who are assistance with personal care for the child and support for reconciling work and family life, providing social services facilities in the temporary care of children, providing services to low-threshold day center for children and families,

• social services to deal with adverse social situations because of a severe disability, ill health or due to reaching retirement age, which is the provision of social services in facilities for individuals who need the assistance of another person and to individuals who reached the

retirement age care services, transportation service, guide service, interpretation service mediation, mediation of personal assistance, rental tools,

• social services using telecommunications Technologies, which are monitoring and alerting needs assistance, crisis assistance through telecommunications Technologies,

• support services, namely facilitating service, assistance with guardianship rights and responsibilities in the provision of social services of day center, in the integration center, in the dining room, in the laundry and personal care center.(Olah, Rohác, 2010).

Into social services are also issues of economic rationality and efficiency. Social services are important in terms of client activity, it helps him cope with extreme social situation in which he found himself and from the perspective of the state economically costly activity. When deciding on the number and the extent are applicable only in the state of humanistic-social criteria, as well as partial economic interest. Economic criteria often decide on the establishment or not establishment of some form of social services. The economic demands of service is a major issue so that the forms and types of social services that a state is obliged provide at its own expense, they are expressed normally in a particular state legislative norms. (Tokárová et al. 2000).

The aim of the organization is to ensure social services and social welfare protection, a certain level of quality of life for all citizens, which is reflected in the official social policy of the state. Exeeding this level represents an increase of clients dependent on social welfare state, social unrest, crime, increased morbidity, which ultimately leads to paralysis of the state as a political body , and hence to the threat of its citizens who need social services. When considering the establishment and providing any social services, is expected form the state that as a guarantor of the quality of life of all its citizens, it will just state who manages the services and will incur the cost of its operation. (Olah, Roháč, 2010).

MEASURES FOR YOUNG FAMILIES

Measures to protect the family in the Slovak Republic in its legislative form dominated mainly by the standards of family law, social security law, labour and tax law.

Preparation and implementation of specific measures to support families as the specialist is a complex problem which is multi –disciplinary in nature. There are many concepts that may interact also differ substantially. As mentioned above, measures to support families should have the character of isolated, one-off measures, but should create a comprehensive system connected internally and externally with other policies. It starts even discover that family support is not sufficient at present has no system of measures, but should be seen as a generating general living conditions. Measures in favor of families should be linked to the social situation. It is necessary to develop a concept that would promote family activity. Nowadays still is hoped that family support is the provision of "something". However, families must first create the conditions for the realization of area and its intentions. Measures to support families are diverse, mostly those measures: legislative-legal, socio-ecnomic, educational, health.

Legislative and legal measures designed to protect the family and its members, it is the whole system of family law and legislative changes related to the family and is solely the domain of the state. State legally protects and promote the stability of marriage and relatioships. The position of the state to the other forms of a relationship is determined by the needs of children and other dependents. State by legislative and institutionally guarantees the rights and needs of children, primaly children's right to parental care and family environment. When parental care is failing , various forms of alternative education provided by law and the law provides the obligation of adult children to their parents.

Socio-economic measures aimed at ensuring families from a substantive and achieve a standard of living and in addition to the state have the opportunity to work in this area . The basic responsibility of the state to families is to create conditions for the growth performance of the economy, providing jobs and promoting macroeconomic balance. The state guarantees

for the labor and socially weaker families direct social support to carry out tasks in various stages of the family cycle. It also helps to manage some of life's events, which impair the financial situation of families – a child coming into the family, the presence of only one breadwinner in the family, the presence of a disabled family member, and so on. State in these cases provides single or multiple contributions. The state in cooperation with other entities (especially municipalities) provides for the acquisition and maintenance of the apartment. In the case of social dependent families come to consideration other supportive measures. The state in cooperation with other entities providing assistance and support to families in crisis.

To supporting measures that contribute to the harmonization of employee work life with different needs and interests of its family life, can the employer considered acceptance rate of barries to employment for various family reason for some time affect the emploee to work. The legal framework of these barries at work represents only a minimum to prevent employers and be more accommodating and allow an employee time off to draw on a wider scale. (Thurzová, Bundová, 2009).

Educational measures are intended to raise the moral values, provide education, preparation for marriage and parenthood. The state along with other social entities create conditions for families improve their educational activity. In terms if effective education is working in partnership with families and other necessary institutions. In addition to basic education, the state is works with family and other subjects in the area of sex education, education of marriage and parenthood, the development of cultural , artistic, sporting and work activities.

Health measures concentrate on the protection of health. The state guarantees to everyone the right for health and life in all stages of life to the level of current scientific knowledge and economic opportunities. Resources and conditions for the provision of public health care is provided by state legislative, economic and administrative measures and international cooperation. The state supports the increase public awareness of health and prevention of possible types of addictions.

All kinds of measures are in the form of various direct and indirect impacts on the family. It is all about preparation and adoption of laws and standards, the ratification of international conventions, design programs, project coordination , fiscal measures, providing various benefits, contributions and support.

A substantial part of the system of social assistance to families with dependent children, which the state covers mainlythe cost of bringing up small and dependent children shall be done through the provision of state social benefits or by system of state social policy. This is one of the fundamental rights of social security systems, which is designed in accordance with the Constitution of the Slovak Republic.

Article 41 of the Slovak Constitution guarantees a woman during pregnancy special care to protect the employment and appropriate working conditions, then provides the rights of parents to care of children and their education and child's right to parental upbringing and care. This article also ensures the state help for parents taking care of the children.

The most important aim as stated in the Government Manifesto of the Slovak Republic (2010), today the Government considered creating conditions for improving the quality of life and standard living. The family policy will pay attention to and support the family during critical phases of its existence, especially after childbirth or line of work and family life, either direct subsidies or services for parents and promoting flexible form of work including support for nursing services. Since the attention of the Government to encourage the creation of new jobs through active labor market measures fail to meet about a quarter of existing grants and contributions is not used (other are abused) and fails to meet the goal of reducing their unemployed, so in the future proposed legislative changes that support motivate the unemployed to accept jobs by introducing a combination of work and benefits for the long-term unemployed (intermediate labor market). One of the objectives is already filled by the Government and to extend maternity leave and also extended maternity leave and increased maternity. Then removed legislative barriers to the implementation of employment while

receiving parental contribution. One of the objectives of the Government is to support the development of services for parents with children such as by promoting or supporting micro-playschools or support minders of intermediate labor market.

Conclusion

In the last years child care is one of the frequent topics of European and Slovak debate. The focus is mainly of the reconciliation of work and family responsibilities and to seek measures, but also to seek measure and tools how to improve the performance to parents in these two areas of life. There is more and more talk about the division of responsibility for care and upbringing of children between various organizations on security assistance not only from the state but also by employers and municipalities or not profit organizations.

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THE AIMS OF PUBLIC HEALTHCARE SYSTEM IN „HEALTH IN 21. TH CENTURY“ PROGRAM – HOW TO CREATE A HEALTHY LIFESTYLE

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ABSTRACT

Objective factors of the environment and also our subjective factors interact in shaping the lifestyle. Lifestyle is the behavior of an individual, which is based on the interaction of living conditions, personal characteristics, social factors and economic factors. It is necessary to monitor and raise health awareness. It is necessary to raise awareness about healthy and unhealthy lifestyle elements in all areas like eating habits, exercise habits, sports, sleep and hardening. Lifestyle is actually a model of behavior. Its positive elements should be automated.

Keywords
Lifestyle. Health awareness. Automation of positive elements of lifestyle.

Introduction

Environment in which we live, the water we drink and the air we breathe has a great impact on the quality of our life. Our own attitude and perspective on life have the decisive impact on it. Whether we consider our habits as correct, or at least we try to think a little about it, we can change anything. Every day we are burdened by work problems and constant stress that negatively affects our nervous system, which may lead to physical or mental pathological changes in our bodies. **Our eating habits often do not adapt to the needs of our bodies, but to needs of our work or of other obligations.** We avoid stairs and nature with apology of duties, knowing that we just do not want to. Many of us cannot or even do not want to voluntarily give up their tobacco, alcohol or even drug addiction. All of these bad habits shape our own lifestyle. **When we were kids, we were taught by our parents what is right.** We did however make our own decisions about what is best for us when our parents finished raising us. In order to learn what is healthy and what is not, what harms us or help us, there are various programs of organs of Public Health care of the Slovak Republic. And one of the tasks and goals of public health is to inform citizens of the Slovak Republic on how to prevent diseases by establishing of good habits. One of such programs is the National Health Promotion Programme, which deals with the issue of healthy lifestyle. "National Health Promotion Programme” as well as the concept of public health policy are governed by a policy based on the" Health for All" and "Health 21" - documents which were adopted by WHO at the 51th World Health Assembly in 1998." [1]

In our article we will give priority to the first goal of the National Health Promotion Programme - a healthy lifestyle.

"HEALTH 21" - health for all in the 21st century

Health Policy 21 for the WHO European Region has the following main elements:
1. Long-term plan:
● to achieve the full potential of health for all.
2. Main directions:
● to promote and protect human health livelong.
● to reduce the incidence of new cases of serious illnesses and injuries and to avoid suffering they cause.
3. Core values that form the ethical basis of HEALTH 21:
● health as a fundamental human right.
● equity in health and solidarity between and within all countries (among their people) in the implementation of measures to improve health.

● participation and responsibility of individuals, groups, institutions and communities for constitutional development of health.
Four main strategies to scientific, economic, social and political tools to ensure the sustainability of the implementation of Health 21were chosen:
● interagency collaboration to improve the determinants of health (physical and social environment, economy, culture, social situation, including the status of women in society) and evaluating of the impact of those actions to health,
● programs and investing in the development of health and health care controlled by achieved results in physiological functions of the body,
● integrated primary health care focused on family and community supported by sensitively responsive and flexible system of hospitals,
● health development process associated with the involvement of all relevant partners (family, school, workplaces, local communities and country) that supports common decision-making, implementation and evaluation of performance.

WHO Regional Office for Europe will assist in carrying out five main tasks:
1. act as "health conscience", defending the principle of "health as a fundamental human right" identifying and pointing to ongoing or emerging health problems
2. act as an information center on health and health development
3. promote and give visibility to health policy for everybody in the region and provide its periodic update
4. provide member states with the latest tools to ensure effective implementation of health policies, respectively its transformation into concrete measures and activities
5. work as a catalyst for activities by:
● providing of technical cooperation with Member States, WHO will strengthen the effect in each country
● taking the lead in initiatives to eradicate, eliminate and control diseases that are the greatest threat to human health, such as epidemics of transmittable diseases or pandemic diseases associated with smoking

● promoting and supporting of policy based on a JCC with many partners through networks of organizations or offices in the entire European region
● facilitating the coordination state of readiness to deal with health emergencies of a large number of people type such as disasters or catastrophes.
"Health 21 is a challenge for all 51 member states of the WHO to use the new health policy for the whole European region as inspiration for updating of their own health policies, respectively their objectives." / Health 21 - health for all in the 21st century. WHO - European office. Bratislava. National Center for Health Promotion 1999 /.
The objectives of global strategy for health for all

From objectives of the program "Health 21" implies the role of public health authorities of the Slovak Republic and of public Health as an element of prevention, protection and information channel.

"In ensuring tasks under each objective of the program is necessary to coordinate the various strategies of the World Health Organization and the decisions of the European Parliament and the Council. Equally important is coordination with the State health policy strategy." /Programs and Projects of Office of Public Health of the Slovak Republic for 2008 and thereafter. Bratislava, the PHA SR 2007/

"Updated NPPZ in 2005 was focused on selected determinants of health, and consists of 11 targets:

1. healthy lifestyle,
2. health care,
3. healthy nutrition,
4. alcohol, tobacco, drugs,
5. prevention of accidents,
6. healthy family,
7. healthy working conditions,
8. healthy living conditions
9. reduction of the incidence of infectious diseases,
10. reduction of the incidence of non-transferable diseases
11. physical activity. " [3]

The main objective of the National Health Promotion Programme is to support and develop public health for the purpose of continuous improvement of the health status of the population.

Part of the National Health Promotion Programme is ongoing communication with the public. That allows free access to understandable information that broad the range of knowledge and attitudes and behavior of citizens to their health. As communication channels to communicate with the citizens of the Slovak Republic are used all available means of mass media communication.

The objective of the "Health 21" - a healthy lifestyle

The role of public health is to achieve the first objective of the "Health 21", which talks about a healthy lifestyle and to create conditions for improving the quality of life of citizens.

Definition of target: Lifestyle is the behavior of an individual, which is based on the interaction of living conditions, personal characteristics, social factors and economic factors /JARVIS, 2008/.

Current state of the problem: A healthy lifestyle is one of the priorities of the program, which aims to educate people to health. The combination of health education and effective health promotion strategies can achieve the improvement of public health.

Health awareness of the population

Recent survey of health awareness and behavior of the population of the Slovak Republic confirmed that 78% of men and 72% of women rated their health as good, while with long-term illnesses suffer more women. The most frequent disease in elderly men and women is heart disease, followed by cancer; in the younger age group dominate allergies. 60% of respondents believe the possibility of effect on life by a way how they live and how they care about their health and 90% of respondents of all ages stated their convenience as the main cause of their unhealthy lifestyle.

Activities to meet this target

1. Increase the level of awareness of the population on selected determinants of health
2. Reduce inequalities in health
3. Promote lifelong learning of certain groups (risk groups) focused on a healthy lifestyle

Indicators for monitoring of issues:

- Monitoring the health awareness of the population
- Monitoring of selected determinants of health:
    - Eating habits
    - Exercise
    - Mental health
- Addiction on substances / Programs and Projects Office of Public Health of the Slovak Republic for 2007 and beyond. Bratislava, PHA SR 2006 /.

Preventive examination

Our health affects number of factors such as genetics, social environment, health, environment and especially our behavior. To keep ourselves healthy is not enough to eat, play sports, relax and correctly satisfy to all our needs. 30% share of health is determined by genetics and thus we should attend annual preventive check-ups with GP and Specialists. Neglected preventive inspections can escalate into various diseases that could be detected at an early stage and their effects can be reduced by treatment. If neglected they may be more complicated and severe with impact to physical and mental health, and may even lead to death.

Immunity – hardening

We us have some level of natural immunity and its real strength shows in critical or stressful situations or in bad weather. The immune system is very important for the proper functionality of our body and the interaction between organs and therefore we must take care of it and strengthen it. Good immunity protects us against disease-causing organisms, tumors and cancer. Prevention of these threats is the increased intake of vitamins, minerals and fiber, and also regular exercise, regular sleep, stress reduction and ultimately the hardening.

Hardening

Hardening can increase our body resistance and thus adjust body to adverse external influences. Therefore we should not sit back in overheated rooms but rather to move more in the fresh air. A great workout is alternating showers or regular sauna, which removes mental and physical fatigue and also helps to increase immunity.

Physical activity – sport

Other enhancer of immune system and of our overall health is physical activity. Sport can prevent various chronic diseases and cardiovascular diseases / HOLČÍK, 2009 /. Conversely its lack can contribute to obesity and to the development of diabetes. Physical activity also reduces the risk of cancer of lung, breast, colon or rectum. By jogging, dancing or skating in adolescent age we can provide higher bone density in adulthood thus we can slow the loss of bone mass and prevent osteoporosis. Movement is also an excellent "de-stressor" for either mentally or physically working, mothers or students. With regular exercise we improve quality of our sleep and eliminate feelings of anxiety or depression and we can cope with stress and gain peace of mind much easily / JARVIS, 2008 /.

We should move every day for at least twenty to thirty minutes. It does not matter how long, but how often we sport. The best sports include brisk walking, swimming and cycling because they do not burden the joints.

Sleep

Another indispensable element of our daily activities and biorhythm is sleeping thus regeneration of the body. To allow our body to gain new strength and to clean up all the daily experiences and ideas is essential to comply with the principles of proper sleep. Although we sleep much time of our life, we know little about how important it is, how it affects our body

functions and what is actually happening in your sleep. The first principle is to get enough sleep, which is somewhere between six and nine hours a day / KOMÁREK, PROVAZNÍK, 2011 /. Of course it also depends on the age, physical and mental fatigue and other factors, but the golden average is seven hours. A very important principle is the quality of sleep - when we go to bed, if we go to bed at all, if the light is on, if we are after a heavy meal or after a mentally challenging movie etc. Proper sleep should be regular, that is to fall asleep and wake up at the same hour of the day in order to create the habit to our body. Best sleep to regenerate is before midnight, around 22 and 23 clocks. Just before going to bed, we should not eat at all, especially food that burden organism. At least two hours before bedtime we should consume a lighter meal and 3 to 4 hours before heavy one. In order to allow our body to turn off we need dark, quiet and comfortable surface. Certainly we should avoid the consumption of alcohol, sugar, fatty foods, nervousness, also evening doses of drugs and contraceptives. Sleep is of course affected by the composition of diet, exercise or stress and reversely good sleep affects our performance and stress management.

Food and drinks

From one manufacturer we are told that "it" is healthy, the other says “that” is healthy, then we read an article where they write that it is harmful, and so we do not know what and how to eat. But there is still the rule that everything eaten moderately is healthy. Nowadays, food has become so publicized issue that we are often under stress and remorse that we ate something bad and it leads to further mistakes. People are becoming so dependent on "Healthy diet" so much that it becomes unhealthy. Whenever possible we have to choose the middle path. But which is the one when we are surrounded by so many views? When we are healthy and we do not need a special diet, we should eat to what we like, but moderately. Of course, we should restrict ourselves if we only like sweet, heavy and oily foods**.** We should eat in small portions at a designated time and in peace. Our meals should always include fresh vegetables, fruits, nuts and grains. Our nutrition should be balanced - it means approximately 60% of carbohydrates, 30% of fat and 10% of proteins. Very important is also the actual food preparation - food is the most valuable when the least exposed to heat treatment, preferably prepared only in steam. By hardening, movement, sleep, healthy nutrition and balanced diet we can affect our immune system, which deals with “intruders” and prevent diseases that shorten and degrade our life / KAPLAN, 1996 /.

Drinking regime

One of principles of a healthy lifestyle that is very often neglected is drinking. Also, as for other needs, consumption of fluid has its own meaning and guidance on how to do it correctly is to be followed. The need for fluids is of course individual and depends on various factors such as age, sex, weight, physical and psychological stress, a variety of diseases, climate, weather, etc. The average daily amount of liquid is somewhere from 1,5 liters to 2,5 liters. The most appropriate fluid is filtered water, various teas and natural moderately mineralized water. What we should avoid but are gaudy sodas, juices with added sugar and carbonated drinks / KELLER, MEIER, BERTOLI, 1993 /.

Conclusion

Lifestyle is a pattern of behavior that we build during our life. This is how we behave in given situations and circumstances. We alone can automate behavior that is beneficial to our health and for our lives. It is not impossible after all, we just should to seek opportunities to learn our own needs, listen to what our body is telling us and act in our own benefit. Public Health of the Slovak Republic makes sure that we were well informed about the principles of a healthy lifestyle and vice versa on the threats and risks that adversely affect our health. From a variety of sources of information on the web or in other media we learn everything necessary how to protect our health and how to take care of it / Jurkovičová, 2005 /. According to my own poll most of us are not satisfied with our own health and lifestyle and none of interviewed did not

really know what the healthy lifestyle mean. The most common reason why people do not live in healthy way is prioritizing of our duties before our health. They get into a vicious circle that initiate stress that interferes with sleep and eating habits, people are frustrated, irritated, without zest for life and relaxing is replaced frequently by relax with a glass and cigarette / SVAČINA, 2008. /. This is the most common model of respondent in my poll. People are well informed, they realize their mistakes and they want to be healthier and less threatened and want to do something for it. So then what's the problem? Do we lack commitment or motivation? The question is whether we are willing to sacrifice something for our goal, to give up something, to work for something, or will we lie to ourselves till the end of our days that we do not have the time and opportunity**.** Once you find a way out of "vicious circle" you find that you do not have to sacrifice anything and you only get the extra time, because we work in a smaller stress, with a taste and do so even more efficiently. Instead of spending time with gastroenterologist you will relax in a sauna and swimming with friends while you build up the immune system to protect you from another PN-ing / KLEINWÄCHTEROVÁ, BRÁZDOVÁ, 2001. /. You will look at the world with different eyes when you sleep like a wake, you find that you are more confident when you look good and you are loved when you do not snap at your loved ones. You just have to find a way which brought you into so called "vicious circle" and get out of it.

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ANOMYMOUS AND SECRET CHILDBIRTHS

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ABSTRACT
The issue of anonymous and secret childbirths has been analysed many times in history. Unfortunately, even contemporary women get into situation of unwanted or somehow complicated pregnancy. One of the solutions is anonymous or secret delivery. According to the current Legislation, women can either carry out anonymous delivery or they can put a newborn into a Baby box. Such situations are frequently very complex and can easily escalate into criminal offense. Prior to final approval of proposed legislation a wide consultation among professionals from different areas of gynaecology, medicine ethics and bioethics, psychology, theology, law and social services should take place.

Key words
Secret delivery. Anonymous delivery. Baby box. Female psychical state. Legislative.

Introduction

A woman who did not want to become pregnant is now trying to hide her pregnancy so badly that she delivers anonymously and fears the fact that the child will reveal her. She refuses the baby and can even resorts to worst and that is for example killing the newborn. But if she has a chance to cover her shame and staying undiscovered, with her impunity and hereby leave her child alive, she sure would choose this solution.
Why?
There are various reasons why a newborn child is being abandoned. Sometimes it happens due to the psychotic disease, personality defect or not very pleasant social and personal circumstances**.** It is absolutely admirable if a mother with no possibilities to take care of her child decides to give a chance to the baby by bringing him or her into the baby hatch. It really is not an easy decision to make for a woman.

We can not even imagine ourselves to face a situation where we would have to make this kind of decision. Many young people either underestimate or do not realize the consequences of their behaviour and in case of an unwanted pregnancy they have no idea of child's or their own future. If they have no qualified information about various possibilities how to solve the situation, or if they ignore these possibilities, they can endanger their own health as well as their new life. Very often, the only solution they come up to is an artificial abortion. That is the reason why it is good to be aware of various up to date alternative ways. What does „The Mandate for maternity" mean? It means that women choose motherhood rather retreat, than to entry into it. /Woollett, 1987 in: Nicolson, 1998/
But still, desire of most people remains the same; no more dead newborns.

Childbirth

The spontaneous delivery has three main periods and each has its characteristics and certain duration. **The first – Opening period** takes 6-7 hours an average, if it is a primipara, multipara needs 3 – 4 hours. The uterine muscles contract regularly, the intensity and frequention of contractions increases. **The second** period is called The **Expelling period** and it takes 5 – 10 minutes in case of multipara and more, 15 – 20 minutes, in case of primipara. During this period a newborn goes through the birthways and his or her move is supported by the womb contractions and by the abdominal muscles in the abdominal press. The

contractions are very strong. **The third period** is actually a delivery of placenta. /Kameníková, Kyasová, 2003/.
The fourth period takes 2 hours after the delivery, mother remains in the delivery room and in the care of nurses. In case the delivery went well and a newborn is in good condition too a child is left with her mother (Roztočil, 2008).

It is very difficult to deliver a child alone, without any help. In most cases, pregnant women make that decision if they have no information about the complications during the delivery. In order not to reveal the gravidity and an unwanted child, some women choose to risk their own lives.

Secret childbirth

A term „secret childbirth" refers to a delivery of a child at any qualified health facility which conceals personal data of both woman and a child upon mother's requirement. According to the Privacy and data protection laws and regulations laid down in the 2004 Act No. 576/2004 Coll. on Healthcare pregnant women can enter any hospital in Slovakia, register anonymously and request to give birth in secret. This is a safe way of ending an uninted pregnancy for both mother and a child who is immediately eligible for adoption. The data are sealed and stored in hospital depository. After delivery mother remains in secret. Details on birthing are not recorded in her medical documentation. Mother's name, surname, mother's date of birth and other information are not entered on the birth certificate of a child.

Anonymous childbirth is a delivery of a child anonymously and the mother is granted a great degree of protection of her identity and no personal data are tracked on being admitted to the medical facility. Therefore no further information tacking or archiving is needed.
Anonymous abandonment of a child is the act of legal abandonment of a newborn delivered out of medical facility (resque nest). Mother's identity is not reveled.
History – secret childbirth practices already appeared in 14th century b.c.. A first known case was Moses found by Pharao's daughter in a basket at the Nile river's brink. Moses grew up as an Egyptian prince. He was formed and mannered in the king's residence and later became a respectable adviser of pharao. Anonymous abandonment of a child was not considered to be a crime back in ancient Rome.
There is evidence of marble basins being placed at church doors to French teples to receive the newborn infants in 5th century. Xenodochium was the first institution to give asylum for abandoned children founded in 787 in Milan.
Children have an important place in many religions and in some of them it is even expressed in the commandments to take care of children's welfare, e.g. children are an important part of a family in Islamic religion. It is written in the Koran that killing of children is a serious sin. There was a secret department with a separate entrance in Zemska Maternity Hospital in Prague in 19th century. It served to the rich as a place to give birth to their unwanted children. Women secretly delivered their babies, and a sealed envelope with name of a mother was opened only in case of her death. In Olomouc Institute, rich women could deliver infants with a great degree of confidentiality. They walked around under cover or with masque and after paying 80.000 golden coins to the Institute they could leave their children there (Doležal,2001).

Project „The Safety Nest"

The first Safety Nest in Slovakia was opened in Derer's University Hospital in Bratislava in December 2004. The founder was a civil association „The Chance Civic Group".
It is very important to spread the information on the possibilities of abandoning an unwanted child anonymously among women going thru the crises.
Nowadays the safety-nests are in these towns across Slovakia: Petržalka, Nové Zámky, Nitra, Trnava, Ružomberok, Banská Bystrica, Košice, Dolný Kubín. Nonstop Helpline „Linka Hniezda záchrany [Safety Nest Line] – 0905 888 234 - is to help mothers in their critical situations. It happened once that a doctor helped a mother to give birth to her child over the phone. He also directed her to put a newborn infant into a safety nest in Nitra.

Psychology of the woman abandoning her baby

This is a very specific group of women going through the pregnancy and childbirth, but abandoning the babies anyway. Our society is convinced that only a women with lower social status can abandon their child, which really is the most frequent case, but there are also mothers already married with a very good social background doing this. The lower social status represents an unsatisfying circumstances and poor lifestyle (no good food, smoking, alcohol, drugs, sexual transmitting diseases), and last but not least the stress. Under the term of difficult social situation we understand a situation in which a women are physically and psychically abused. Women who lack emotional and social support as a result of their isolation and singleness, usually suffer from frustrations and depressions. They very often deliver their babies prematurely with lower weight. Among abused pregnant women the trauma initiating placental abruption occurs very often. Theses mothers tend to be very hateful and disapproving towards their children. They very often neglect a health care (Rastislavová, 2008). Pregnant women, who have already decided to abandon their children, often think of the basic question, what if they will not be able to separate themselves from a child. They worry a lot that their inner doubts could harm their children. They are afraid that their decision will chase them through their entire life and that they might want to look for a child or even want the child back. They are afraid of discrimination. It is much easier to hide pregnancy terminated by abortion than pregnancy terminated by childbirth. The future perspectives also play an important role because sometimes it does not include moderhood at all. Some women do it because they do not want a child conceived outside of marriage. These women often say they are absolutely not able to take care of their children. A mother who is abandoning her child, is frequently considered to be the worst mother in the world. If, therefore, a pregnant woman reveals an intention to legally abandon her child, she needs to be given a reliable information so she can really think of all possible alternatives and not to be left behind as a victim of a silence. It is always good to offer her qualified help and our understanding (Matějček, 1999).
Secret childbirth or anonymous abandonment could be an alternative for pregnant women or women in need who are not able to take care of their children after giving them birth. Being in a very difficult life situation, a woman often chooses abortion, abandonment of a child in poor life threatening conditions (trashes, strange places) or even a murder. /Martis, Breckwoldt, Pfleiderer, 1997/.

The most common reasons for abandoning children

Lack of education; drug addiction; financial problems; shame; fear from parents; illegal stay in a country; religious reasons, for example the Muslim women must not have coitus before wedding; raped mothers. **Number of reasons equals to number of abandoned children.**
Secret childbirth or anonymous abandonment is to motivate mothers to choose better option and to deliver a child in medical facility with appropriate health care. If a child is abandoned outside of designated places (e.g.police station, public space) it is considered to be a serious crime and the mother can be charged with 2 – 6 years imprisoned. /Random 1996/.

Reasons for and against

According to proposed legislation any woman could legally abandon her child in medical facility in which the infant was delivered, without the risk of being punished. Present proposed legislation of legislative changes in Slovak Republic, allows secret and anonymous childbirths as well as anonymous child abandonment but simultaneously carries a risky message that child abandonment is generally morally acceptable. The legislative changes should therefore support decreasing number of abortions, decreasing number of newborns being left behind in life threating circumstances and number of newborns murdered by their mothers. We wish that these legislative changes help to improve the overall situation but based on the international research and relevant outlook, we very much doubt proposed legislations and the ability to fulfill the purpose. Considering the important message hidden in proposed legislative changes final approval of the legislation should be accompanied by wide discussion of experts in gyneacology, obstetrics , medical ethics, bioethics, psychology, psychiatric, theology, social work and lawyer.

Important Details

Proposed legislative changes do lack the relevant evidence of decreasing number of abortions due to the availability of other alternatives such as secret childbirth or anonymous child abandonment. Current legislation in force allows women to undergo abortion up to the 12th week of their pregnancy due to the medical reasons or without reasons. Due to the serious medical reasons, mostly genetic disorders or life threatening situations, women can undergo abortion till the week 24 of their pregnancy. The abortion must be provided legally of course. However, proposed legislative changes on secret childbirth do not specify any time frame in which a woman needs to make the decision regarding her future delivery.
/Ponľuch a kol.: 1994/.
Studies carried out in the US and in Germany have proved that the possibility of secret childbirth and anonymous abandonment of a child has formed a new group of clients. These women seem to really enjoy new possibilities since they are not likely to undergo the abortion nor would they murder their newborns if it was not for the secret childbirth or anonymous child abandonment options. It is possible that these mothers would probably choose to put their children thru legal adoption process with all information available or they would just keep the child. According to the above mentioned studies carried out at the university in Hannover, baby hatches (babyklappen in German) and possibility of secret delivery have caused a remarkable growth of abandoned children. Secret delivery was adopted in Germany in the beginning of 2000 and study was performed in September/October of 2002. Number of abandoned children went up by 100 - 120 (minimally by 90). If these possibilities did not exist, those children would have stayed with their mothers or would be put up for legal adoption process /Fričová, 2004/. The similar conclusions were made by Governor of Hawai state, Mrs. Linda Lingle (in June 2003). According to her, the society should rather educate young people on prevention of unwanted pregnancies than to support legalization of anonymous abandonment. If an unplanned pregnancy occurs, society should offer young people guidance and support. But still recommendation to an Adoption Agency is much better way than pointing them to the possibility to abandon the child.

Situation in the Czech republic
There are currently five various legal ways of child abandonment in the Czech republic.
A woman can bring her baby and leave a newborn in Baby box or can deliver her child secretly or can put her child for adoption or can anonymously leave a child with The Found for Children in Need.

1**. Baby-box**

The founder of Baby-box in the Czech republic is Ludvik Hess. The baby box is safe place with the constant temperature of 37 ° C. The door can be opened only once and after closing it an automated alarm goes off so the carers can come to pick up the baby. A newborn is safe and cared after very well. A person who brought the child is free and without any additional attention. The first baby-box in Prague was installed in 2005, since that time boxes has grown to 50 and the number of safed children is 70. According to the legislation an abandoned baby is referred to as foundling and a mother who abandoned her child this way is legally free and will not be charged for her act since she has not threatened neither child's life nor health.

2. Secret childbirth

According to law laid down in the 2004 Act No. 422/2004 Coll women in Slovak republic were given new possibility of legal abandonment of a newborn. A woman can request to keep her identity in secret and give birth secretly. She has to meet the following criteria: she has to be a permanent resident of the Czech republic, she has to be single or divorced and that her former husband is not the father of the abandoned child. According to the law of register, it is allowed not to track mother's personal data into the birth certificate of a child. A father remains as unknown, therefore can be displayed on the child's birth certificate. Secret childbirth can be provided in any birthing facility (Hrabák, 2004).

3. Discreet childbirth

Discreet childbirth is a delivery of a baby in a hospital far from the mother's residence. The newborn is left in the hospital and given into the replacement care. The perinatal and early postnatal mother's care is provided identically like with any other childbirth, the documentation is also the same. In case of discreet childbirth anonymity of the mother is secured only by obligatory silence of the hospital employees. The child is entered into the birth register of his/her place of birth but newborn's birth certificate contains only written obligatory personal data of their parents.

4. The abandonment of a newborn at the neonatal department

Intention of a mother to give her child for adoption needs to be expressed upon entering the neonatal department. This application is written into the documentation. If the woman does not ask for secret childbirth, her initialles will be written into the documentation, birth certificate of a child, and register. After giving a birth and before leaving an obstetrical department a social worker discuss reasons leading her to abandon the child. If the mother still insists on adoption then it is necessary to signe the agreements not later than 6 days after delivery.

5. Anonymous abandoning for The Found for Children in Need

The Found for Children in Need has been offering their services of anonymous acceptance of newborns since 2001. Their service is accessible 24x7x365 anywhere in the Czech republic. It is also possible to arrange the acceptance of a child in need directly with the Prezident of the foundation. Such action can take place within an hour after a detailed arrangement. A child is considered to be foundling as well.(Janků, 2007).

Conclusion

There is one more dangerous aspect of secret and anonymous childbirth also obvious from the Slovak Constitution; a child care is referred to as to the right of parents but it is also their duty. All of the above mentioned and given suggestions and alternatives enables parents to get rid of their responsibilities very easily and make the state to take this responsibility over. It is well known that law influences morality of every society. If law allows you to act in a certain way people consider this action as being moral. Acceptance of these proposed legislations would be justifiable in case they would evidently prevent children from being murdered.

However, if the doubts still exist, society should not accept those legislations due to the protection of its morality. In contrary, each society should search for other and better solutions – for example the improvement of the system for mothers in need, improvement of the adoption process.
Let us not forget that these proposed changes in legislative also contains a great danger for our society; that an abandoned child will be morally accepted!

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ROLE OF THE CONTEMPORARY FATHER

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ABSTRACT

Real fatherhood requires personal engagement, a will to overcome oneself, a just male creative potential, as well as return to the real values, such as responsibility, courage, sacrifice, humbleness, tolerance, etc. However, a lot of men prefer career and the responsible fatherhood is thus shifted to the "unknown" times, yet to come. This study attempts to explain the role of the father in the contemporary society and also to point out perception of this role by the Church.

Key words

Father. Heavenly Father. Fatherhood. Spiritual Fatherhood.

Introduction

When analysing fatherhood in the 21st century we find out that the real contemporary fatherhood is in a deep crisis. This crisis is caused not only by the nature and behaviour of men themselves, but also by the crisis of marriage and family, which are the basis of each and every successful fatherhood. Although a number of men have gone astray when carrying out their fatherly roles, they have not lost a deep desire to have and bring up children. If we want to think about the contemporary fatherhood, and if we want to look for the solutions of this crisis, we should think back on what we were given from our parents, in order to be successful parents ourselves.

Being a father does no longer mean to have the ruling say in the family, with an unquestionable authority. Present-day fatherhood is more of a service to children. Let us talk about fatherhood not as a role or function, passed on from generation to generation, but rather as a vocation and profession.[1] Some are asking the following questions: "Is it not too much for one man? Responsibility at work, fulfilling of difficult work-related tasks, tough work discipline … plus fatherhood?" If we want to answer these questions, we have to clarify the term of fatherhood, and also to take a look at the interpretation of fatherhood by the Church.

1. The term of fatherhood

Fatherhood refers to the biological relationship of the father and his children, strictly speaking. However, its social and legal aspects are also relevant.[2] Along with the process of separation of private and public spheres during the process of industrialisation, men began to leave home for work and their family role began to be defined as purely of bread winners.[3] Since the end of the 19th century, the state began to intervene with the role of the father in the family, whose role was reduced to purely an economic one.[4]

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[1] Augustyn, J.: *Otcovstvo.* Bratislava : Vydavateľstvo Dobrá kniha, 2002, p. 328. (ISBN: 80-7141-382-8).
[2] Badinter, E.: *XY. Identita muža.* Bratislava : Aspekt, 1999.
[3] Bosý, D. – Brndiarová, A.: *Rozdielne očakávanie mužov a žien od úlohy otca v rodine.* Bratislava : man., 2001.
[4] Bunčák, M.: *Jednokariérové alebo dvojkariérové manželstvo?: Postoje k deľbe rôl v rodine.* In: Mozaika rodiny. Bratislava 2001.

Traditional model of fatherhood is defined as the opposite of the idealised idea of motherhood, with the fathers being defined as usually not present, distant, without a strong sensual engagement in the relationship to children, etc. Newer approaches to fatherhood stem from the belief that the presence of the father in the process of upbringing means an improvement the quality of life of children, but also of men/fathers.[5] An important factor of the relationship between parents takes place when they have divided the chores of formation of children evenly (with the emphasis of a common experiencing of everyday life). An important input in the creation of conditions for a "new fatherhood" could be in such an approach of the state, which would support and motivate men in their attitude to fatherhood.

2. Myths and reality of fatherhood

The future or new father has certain ideas of what constitutes being a father. These thoughts stem from his own experience with his own father, and from the thoughts and expectations of fathers. More and more fathers want to be a loving companion for their child, they want to spend more time with their child, create a stable relationship with the child and keep it that way. There are a number of definitions of "a good father". These are more myths than reality, each of them expressing part of the truth that they are hiding. Jana Hýrošová states the following five myths.[6]

Myth no. 1 – Only the feelings of future mothers are important

Remarkable physical changes of the wife – mother and the preparation for the birth could lead individuals to believing that the feelings of the mother are the only ones affecting the family. Caring for the physical and mental health of the wife, of course before and after the birth, is very important, but this is also the case with one's own feelings.
It is simple to talk about the exciting aspects of fatherhood for the future father. It is far more difficult – but evenly important – to talk about one's fear and worries: Will I not faint during the birth? Will there be complications? Will my relationship with my partner change after the birth? How to align fatherhood with career?
The wife should know these feelings of her husband. A lot of men conceal their worries concerning pregnancy and fatherhood, for they do not want to make it difficult for their wives. However, majority of women desire such conversations and they know that the changes brought about by pregnancy also relate to men – husbands. The way men manage to share their worries with their wives can bring the partners closer together. They can exchange their experience with other would-be fathers or they can read a good book about it. They should allow feelings of vulnerability and worries. If they believe to be strong men, they are to lose their contact with oneself. If they talk about their worries caused by pregnancy of their partners, they will deconstruct the myth that men only accompany women during their pregnancies.

Myth no. 2 – Infants do not need fathers

A strong bond between the wife – mother and the infant – which is created through breastfeeding – can lead to the question, whether the baby needs the father at all. Fathers should rest assured that they are needed. Fathers are an important in the life of their child and children feel comfortable in their company. In order for the father to create such bond with his child, he has to carry the child, swing him/her and talk to him/her. One has to wait until

[5] Phares, V.: *Conducting nonsexist research, prevention, and treatment with fathers and mothers: A Call for change.* In: Psychology of Women Quarterly 20, 1996, pp. 55–77.
[6] Hýroššová, J.: *Päť mýtov o otcovstve.* In: Časopis mladej rodiny : mama a ja. Bratislava : vydavateľstvo Orbis in, 2010, pp. 2-3.

the feeding is over and then capture the full attention of the child. When the father grabs the child after feeding, he will enable the mother to rest a little.
Mothers can be helped also with feeding, if they do not breastfeed. Fathers can care for their children also indirectly, by taking up the housework. If the mother does not have to spend time doing the housework, she can spend more time with her child. They should think that it will bring something to all members of the family.

Myth no. 3 – Fathers cannot handle young children

This is a massive lie, which discourages men from forming beautiful relationship with their children. Besides this, it creates a sense of fear in the mothers that men are unable to care for and protect their own children. Nowadays we know that fathers can become an important person for their children. Parenthood is a job that can be learnt by anyone, both mothers and fathers. If they spend time with their children, they tend to learn his/her needs very fast.

Myth no. 4 – Men who concentrate on their children fail at work

Men used to be often taught in the past that their self-esteem and respect come from their work. This means that men who prefer their families to their jobs are not successful professionally. However, presently we are experiencing major changes in the cultural norms. A majority of men believe it important to have children, which elevates the status of fathers. Some men sacrifice their careers for their time spent with the family, for here they see their fulfilment, and not because they are unable to be successful on the job market. More and more men believe that being a good father enriches their own life.

Myth no. 5 – Men want to behave the way their own father behaved in the past

The father will require a new experience when the son becomes father himself. At this stage, it is absolutely natural to think about one's own past, and whether one wants to be like one's father was. However, his father does not have to be his only role model. He should think of everyone, who has cared for him, including teachers, priests, colleagues, uncles, brother etc. He should create from all of these his own identity of the father. The American author, Dr Bruce Linton found during his research no evidence of the matching model of the father. Various cultures deal with this in various ways. In some African culture, "father" stands for a whole array of men, not a particular one. Fatherhood is a social construct, which adapts to the needs of each and every society. This is the way our fathers perceived fatherhood. For them "being a good father" meant having a roof over one's head, provide the family with food, shelter and upbringing. Our fathers did not spend as much time with their children as we want to spend with ours. However, they were performing duties they deemed best for satisfying its needs in the same way. Now we have to decide what is best for the contemporary family. Let us perceive fatherhood as a task, which we want to penetrate and the possibilities of which we want to research. Doing this, we can apply and incorporate the positive aspects of our own past.

On the basis of the aforementioned, Jana Hýroššová[7] recommends future fathers the following:

- Find the time for thinking about the way that "becoming a good father" relates to you. Share these feeling with your partner and other fathers.

[7] Hýroššová, J.: *Päť mýtov o otcovsve.* In: Časopis mladej rodiny : mama a ja. Bratislava : vydavateľstvo Orbis in, 2010, pp. 2-3.

- Carry, swing and talk to the newly-born baby from his/her birth.
- Learn to change the nappies, bath and feed the child. Be a part of everyday life of your baby.
- Think about the compromises in your career you are willing to make, in order to spend time with your child.
- Observe the things you like most about your own father, teachers, colleagues, friends and relatives, in order to create your own identity of the father. Everyone caring for you can become a good example.[8]

3. Fatherhood as perceived in the teaching of the Catholic Church

According to an old Piarist tradition, God is recognised in our turning to Him, in a loving relationship, and it is possible to experience Him in a personal encounter. In the contemporary society, which is losing the personal touch, which would provide this experience in the personal relations, beginning with the family, a number of people will ask the following question: Is it possible today to know God, who is revealed in His relationship to people? Some would object that God can be recognised in nature, in the creation. But also from the aspect of this ending period of history, which experienced the rule of the culture of technologically deviated creation, industrialised, information and urban culture, there is a number of generations, who have never experienced their authentic experience. It happens often today that people found the infinite goodness and tenderness of God, who is the first to come to them, only at the end of their dramatic and tragic journey, full of fraud and disappointments.

It is thanks to the fact that God is far from knowledge, or it is the nature of living as if God did not exist, an experience of a schizophrenic personality takes place. We are forced to constantly change our behaviour according to various circumstances, our life is controlled by a number of desires, everything becomes an illusive moment, and through sticking to one's own ego and concentrating on a given moment, which must be followed by another one, in order to overcome the most frequent enemy – boredom, stereotype and oblivion. Our memory is distant from God, who is Love, the Charitable God; our memory becomes a memory of a computer, which keeps to be erased, in order to be able to free itself. That is why it becomes our demon, it haunts us and we have to put in all our strengths and effort to silence it. In the era of mass media we must state that we live the era of information inflation about evil. In the ever narrower tunnel, in the culture characterized by closing up of oneself, in this chaos of subjectivism, in which the world becomes relative and not even the human life presents the highest value, we become the witnesses of nostalgia for old times, which seemed to have been buried for good a few years ago.[9]

Spiritual father and his inevitable traits

In this context, the Church wants to become a new force in the consciousness to preach Christ. The aim of this is to initiate new evangelisation, stemming from a powerful message. Without it, the new gospel will be unable to pursue its own mission in the de-Christianised Europe. The tradition perceives the *spiritual fatherhood as a gift of the Holy Spirit,* as an exceptional charisma (the East – the Elders, the West – Spiritual Leaders). In the

[8] Hýroššová, J.: *Päť mýtov o otcovsve.* In: Časopis mladej rodiny : mama a ja. Bratislava : vydavateľstvo Orbis in, 2010, pp. 2-3.
[9] Porov.: Rupnik, M. I.: *O duchovnom otcovstve*. Olomouc : C. Aletti, 2001.

light of Vatican II, it is the vocation of each and every Christian to become a spiritual father.[10] It is however not easy to find a good spiritual father. Marko Ivan Rupnik in his work on fatherhood claims that no Christian, undertaking spiritual accompanying, a father or a spiritual father, should lack the following characteristics[11]:

Spiritual father is a person full of the Holy Spirit: spiritual father is someone who, through the great force of the Holy Spirit gives birth to people for God. The aim of a real fatherhood is to give life.

Spiritual father is a person knowing the hearth: The Holy Spirit, who explores the depth of God and gives the life to the Holy Spirit, is someone who opens the human heart for the spiritual father.[12] There is nothing magical or strange about it. This heart diagnosis is nothing but an intuition of love for the person. Thanks to love we know other people in the right way and real way, not in the abstract way. The more we love the more we know the others.

Spiritual father is a person who differentiates: he is the teacher in the creation of encounters between human beings and God by doing good deeds, and by knowing both of them in their mutual getting nearer to one another. The accompanying force in this is the differentiation, affective and rational moderation.

Spiritual father is someone who teaches and applies tradition: he does not act for his own benefit, the less he boasts about his own charisma and he relies only on his own intuition. It is usually linked to a deep humbleness, study, reflection and a certain gift of being able to teach. When the spiritual father preaches, a number of friends of the distanced past are present in his words, who are made present as if they were his counterparts. The whole Church is embodied in the spiritual father. This is the major difference between the spiritual father and a *guru*.

Spiritual father is someone who serves God and the persons close to God. Spiritual father is not oriented to oneself, to his teaching or wit, but he is in the position of submission to God. He is someone who acts according to the will of God and is turned to those whom God wants to touch Himself.[13]

Spiritual father prays with others and for others. He accompanies people who have entrusted themselves to him through a permanent prayer, he is joined with them at heart; he prays with them, he invokes his blessings and the love of God onto them.

He can be called the spiritual father only by others. No one proclaims himself a spiritual father and no one promotes himself to be one. This person can be recognised by the worn off of his house's threshold and by the life of his spiritual sons.[14]

No one, who is called upon to be a spiritual father, should be afraid on the basis of perfectionism, and he should not become a moralist. It is important that although a spiritual father does not posses many of the above stated qualities, he should poses at least some of them, and that his future development takes place within the above notions

[10] Porov.: DOKUMENTY DRUHÉHO VATIKÁNSKEHO KONCILU. Citta del Vaticano : Acta Apostolicae Sedis et L´Osservatore Romano, 1963-1965. Slovak translation: KBS. Trnava : SSV, 2008.
[11] Cf.: Rupnik, M. I.: *O duchovnom otcovstve*. Olomouc : C. Aletti, 2001.
[12] KATECHIZMUS KATOLÍCKEJ CIRKVI. Citta del Vaticano : Libreria Editrice Vaticana, 1997. Slovak translation: KBS. Trnava : SSV, 1999, art. 239.
[13] KATECHIZMUS KATOLÍCKEJ CIRKVI. Citta del Vaticano : Libreria Editrice Vaticana, 1997. Slovak translation: KBS. Trnava : SSV, 1999, art. 270.
[14] KATECHIZMUS KATOLÍCKEJ CIRKVI. Citta del Vaticano : Libreria Editrice Vaticana, 1997. Slovak translation: KBS. Trnava : SSV, 1999, art. 2214.

The work of the spiritual father

A witness of charity. It is an evidence of the aspect of Jesus Christ. This point of view accompanies Peter the Apostle during the three years of their common wandering up to the court of the prince, where it struck him in all its depth. Spiritual father rules on sins, not the sinner, his face reflects the spirit of acceptance without tiredness or limits.

The middleman. It is impossible to capture all and collect everything that they have lost. He is turned to his Father himself, he attempts to give further to the upcoming person that he has contemplated. We shall become spiritual fathers to that effect to which we learn to perceive the world through the eyes of the Father.

Faithfulness as a relationship trial. Faithfulness is the fundament of interpersonal relations. The more mature and purer the love is, the more true it is. Once faithfulness has been lost, people cannot talk about love anymore. For the spiritual father has experienced the mercy of the Father, therefore he himself offers a true and merciful relationship to the person, he has been entrusted with.[15]

Entrust the life of others to God. Thanks to a permanent internal contemplation, and a permanent openness to the Holy Spirit, the spiritual father entrusts and gives to the Father everything that He can see, hear or learn. He points out to the internal connection between various pieces of experience, which fill one to another, provided that the stuff they are experiencing is open to God. And through the art of distinguishing, it helps the individual to decipher the speech, through which God talks to him, which is being uncovered in the life events for the word of God that has been dedicated to him. In this way, human beings through the spiritual father will be able to perceive their life as one accepted and embraced in an extremely warm welcome in the heart of God. Last but not least, it is not the spiritual father, whom he experiences in love that is not a judgmental one, but the Heavenly Father Himself, who is the only way of change and growth – realisation of a man, which will not be neither forced nor authoritarian and violent.[16]

Recovery of the mind. Contemporary human beings need to meet someone, who will accept them without asking them where they have been, what they have been up to, why they are so dirty, but quite on the contrary, he will give the human being courage through preparing of a similar feast that the father had prepared for the prodigal son, not mentioning his sins. The deepest knowledge of God is the knowledge through forgiveness. Spiritual father is the image of this mercy. In the same way, father of the family should be such image.[17]

Help the encounter of human beings and God. In the same way as the Son of God helped the people to know and love God, in the same way every father of the family, but especially the spiritual father in the parish family is obliged to help his children, his spiritual children to meet God.

Obstacles, which should be omitted by fathers and spiritual fathers

Spiritual father can never replace Jesus Christ. He cannot assume the role of the Holy Spirit, and lead the thinking of the man step by step. He cannot become the light, which would illuminate the one that has been entrusted to him. In the same way as the pathological dependence on him – this is a real block in the faith.

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[15] KATECHIZMUS KATOLÍCKEJ CIRKVI. Citta del Vaticano : Libreria Editrice Vaticana, 1997. Slovak translation: KBS. Trnava : SSV, 1999, art. 2367.
[16] KATECHIZMUS KATOLÍCKEJ CIRKVI. Citta del Vaticano : Libreria Editrice Vaticana, 1997. Slovak translation: KBS. Trnava : SSV, 1999, art. 2368.
[17] DOKUMENTY DRUHÉHO VATIKÁNSKEHO KONCILU. Citta del Vaticano : Acta Apostolicae Sedis et L´Osservatore Romano, 1963-1965. Slovak translation: KBS. Trnava : SSV, 2008, *Lumen gentium 35.*

A partial mistake is to be impressed by the person, who suffers and the will to deal with the person at the human and spiritual level.
Another mistake is when one is concentrated on something that the spiritual father is saying, not on God and His word.
The biggest mistake is to remain in the past through investigating the person and dealing with various cases.
"New evangelisation that Popes John Paul II and Benedict XVI are constantly imploring us to undertake, mainly rests upon accompanying of a human being struck by the experience of love."

Marko Ivan Rupnik also talks about some impulses and particular encounters: *during listening to prayer and* especially *not judging.* He highlights the spiritual fatherhood, which educates toward the Church, it orients us toward the community and it shapes us for the community. It helps us to accept the Church and live in it, which is the true rebirth of man.

4. Optimistic examples

The following life experience talks about a father – businessman, about whom a woman, colleague, businesswoman, speaks in the following way: "In the telephone call, the colleague of the father, a businessman, heard the following: … OK my dear, I shall come to pick you up. Do you have that badminton, right? … And what about school, etc. My heart was embraced by love, states further the colleague. These words expressed a colleague of mine, when he was talking on the phone to his school-age daughter. He is a father of four now. The youngest is 2 months old and the remaining three are of school-age. He is very busy, because of his business activities, for he is an entrepreneur and skipping work because of the family. These words, which he uttered, might seem normal and meaningless… but they were full of love and care. I felt very thankful for them and I was thanking him in spirit for his fatherhood.

I thought of my own children, who were brought up without such expressions, and I am not talking only about my own children. There is a number of children, who are not given love by one of the parents, usually the father. Also mothers are sometimes irresponsible and without feelings. A number of children grow up as orphans, although their natural parents exist. You are not going to find the expression of a happy child in their look. You will encounter fear; their eyes have a great depth, for they express a deep sadness. And so, when we perceive fatherly love, thankful eyes of children, who can turn their eyes anywhere, for they will meet the loving eyes of their father, I cannot but thank you my dear fathers. You, who dedicate yourself to your children with love, you, who have not impoverished your children, who are not looking into the bottom of the glass in a cold environment of the pub, where all kinds of love are slaughtered by addiction, you who entrust your children to God, you who are an authority to your children, and authority built on love. You, fathers governed by the Holy Spirit, give us all a remarkable gift in your children. We thank you" – as much the colleague of the father – a businessman.

Renewing of fatherhood requires a great deal of personal engagement, a will to overcome oneself, a real manly creative approach, as well as coming back to spirituality and religion. A very famous monograph of father Augustine on fatherhood is aimed at a broad range of readership: men preparing for a married life, men who are bringing up children, priests and family counsellors.[18]

Conclusion

Situation in contemporary Europe is characterised by a postmodern human being finding him/herself in a state of detachment of objectivity – being detached from life, being

[18] Augustyn, J.: *Otcovstvo.* Bratislava : Vydavateľstvo Dobrá kniha, 2002, pp. 328. (ISBN: 80-7141-382-8).

imprisoned by a number of systems and numerous intellectual, sociological, scientific, political and cultural structures, which are not giving him/her a chance to breathe in – people become limited and without a chance to develop. We find ourselves in the time of looking for a remedy. The modern age promised individual happiness based on an economic welfare, and now we experience sadness of this false expectation. We live in a society filled by things, but we are disappointed for we are not happy. By the fact that the rationalistic and over-technological society gave rise to a life of a material culture, the realm of relationships, the dimension of love was left limited, deprived of the possibility to be materialised. If the contemporary society wants to improve this situation, it has to start from the word go, i.e. from the father in the family. As an example we should consider the Heavenly Father, who gave us His only Son for the love of mankind, who constantly pointed out His Heavenly Father. I and my Father are one. Therefore, contemporary family should be healed by a great help of the father, who wants to be not only a physical, but also a spiritual father to his family and he receives his strength from the Heavenly Father.

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PROTECTION AGAINST LEGALIZATION AND TERRORIST FINANCING

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ABSTRACT

Money laundering issue is one of the key questions in the Slovak Republic. Protection against this phenomenon requires adoption of several efficient legal regulations and creation of institutional measures. In the article, the attention is paid to Slovak legal regulation aimed to protection against money laundering. Also, the article underlines how important is that obligated persons fulfill their obligations imposed in order to counter money laundering.

Key words
legalization, terrorism financing, money laundering, protection, law, obligated persons, unusual commercial operation, reporting, notification

One of the present issues, on which much attention is concentrated in the Slovak Republic, is the problem of protection against legalization of revenues from criminal activity (hereinafter referred to as legalization) and the financing of terrorism. The so called money laundering and financing of terrorism represent a menace which must be eliminated through palpable institutional measures on the national and on the international level. The international community intensifies the steps to adopt effective measures which shall secure a better protection[1)] and will enable a coordinated action of the whole community against legalization and terrorism financing.

Because of these reasons an important role is played by international documents, where the philosophy of the community tendency to encounter these negative effects is regulated. We count to the most important international documents which are a „way out" for the Slovak legal order: United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances**,** United Nations Convention against Transnational Organized Crime, Council of Europe Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime and on the Financing of Terrorism and 40 Financial Action Task Force (hereinafter referred to as ,,FATF"). From the point of view of the European Union the most important documents are Directive of the European Parliament and the Council 2005/60/EC adopted on 26 October 2005 on the Prevention of Money Laundering and Terrorist Financing (hereinafter referred to as Directive 2005/60/EC"), Directive of the Commission 2006/70/EC adopted on 1 August 2006, by which the executive measures of the Directive 2005/60/EC are adopted, while there is the definition of the ,,politically exposed person" and technical criteria of the process of the facilitated obligatory care in the relation to the client and exceptions on the basis of financial activities executed from time to time or in a very limited way (hereinafter referred to as „Directive 2006/70/EC") and the Framework Decision of the Council 2002/475/SVV adopted on 13 June 2002 on Fight against Terrorism (hereinafter referred to as Framework Decision of the Council 2002/475/SVV). [2)]

From legal instruments eliminating the mentioned problem the article concentrates on the Law no. 297/2008 Coll. on Protection against the Legalization of the Income from Criminal Activity and on Protection from Financing of Terrorism and on amending other laws (hereinafter referred to as "Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism").

I. Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism

Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism that entered into force on 1 September 2008 is the basis for the non-criminal regulation in the Slovak Republic.

I.1 Chosen provisions of the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism

I.1.1 Legalization

Notion of **„Legalization“** is the pillar of the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism. The provision of section 2 paragraph 1 regulates the intentional behaviour which is one form of active behaviour as stated in section 2 paragraph 1 letters a) to c) as being accomplice in this kind of action and this in form of grouping, aiding, abetting and inciting as well as in the case of attempt (section 2 paragraph 1 letter d/). *Definition of legalization comes from the notion of money laundering in the article 1 paragraph 2 of the Directive 2005/60/EC. Notion of legalization and money laundering are almost identical thereinafter synonyms. Money laundering is however too expressive and familiar. Standards of the Slovak legal terminology are met with the notion of legalization, which is used in this article.*

Legalization is an activity, of which the goal is to cover the existence of property coming from illegal activities or cover up operation for the purposes of hiding the illegality of its origin, determination or its clearing from the illegality which comes because of its illegal origin, determination or use and its use in a way as a legitimate origin.[3)] From the abovementioned one can infer that legalization is an activity by which the activities of criminals are covered. Activities through which the criminals illegally acquired an income, property or other rights.[4)] After receiving the income, property or other rights, the essence of legalization is realised, which is the cover up of illegal activities, creating the cloth of legality and investment of illegal finances through legal economics. Legalization is preceded by other means of criminal activity that is generating income, which are subsequently legalized. Sometimes the act of legalization helps to uncover former crimes, which could be complicated through the work done by the criminal. The suspicion of legalization is usually made by unusual commercial operations.

When dealing with legalization, it is not decisive, whether the illegal activity generating property was done on the territory of the Slovak Republic or on the territory of another country. Legalization does not recognize borders and limits between countries. Legalization is an international (or transnational) act, that misuses the existence of state borders, geographic distances between states and the existing differences (different legal orders, economic systems, organization and functioning of state organs, institutions etc.[5)]

I.1.2 Financing of Terrorism

Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism reacts also to the danger that is caused by terrorism. One of the decisive aspects of the fight against terrorism is limiting its financing. The preventing and uncovering of financing of terrorism has its specifics, that were attached to the legislation created in consent with the legal order of the European Union.[6)] Under section 3 of the Law no. 297/2008 Coll. the notion of „Financing of Terrorism” means providing or accumulating finances with the intent to use them or with the knowledge that they shall be used fully or in part to commit one of the enumerated crimes (section 3 paragraph 1 letter a/) or b/ or inciting , aiding and abetting the person to commit (to attempt to commit) one of the

stated crimes (section 3 paragraph 1 letter a/) or b/ with the goal to commit the crime of establishing, organizing and supporting a terroristic group or crime of terrorism.

The legal regulation that defines financing of terrorism does not take into account the origin of the finances and the fact whether the finances come from illegal activities as it is foreseen in the case of legalization. In the case of financing of terrorism the willingness of owners to sacrifice 30 – 40 per cent of the finances is not present. The need to legalize increases with the amount of money and for the financing of a terrorist act a relatively small amount of money suffices. For example during the terrorist attack on the traffic in London in 2006 only an amount of several thousands pounds was needed.[7)]

I.1.3 Unusual commercial operation

Another key term of Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism is the notion of unusual commercial operation (hereinafter referred to as „UCO"), which is a legal act or other act, that implies that through its commitment the legalization or financing of terrorism might have been committed (section 4 paragraph 1). The definition of UCO states the amount of the legislative understanding of this term. At the same time one can positively say that the Law enumerates particular cases which may be understood as UCO (section 4 paragraph 2).

Taking into regard the broad circle of persons and their profession the list of activities can be regarded as demonstrative. This regulation is logical as it is a highly sophisticated and dynamic issue, which does not enable to come with an exhaustive list; becasue of these reasons it was not possible to react to all the forms and methods of legalization and financing of terrorism that could occur in practice.

I.1.4 Obliged persons

The fulfilling of duties stated in the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism foresees an early uncovering and announcing of UCO. The responsibility lies with the obliged persons (section 5), that because of their experience relating to legal and natural persons, with which they do business (section 9 letter h/) will determine if it was a usual or unusual transaction. The term of business combines the terms of commerce, commercial operation and property that are used in the Law[8)]. In this way the ambiguity is cleared whether commerce is also a commercial operation, or buying and selling property that is done by the client on his/her own behalf.

The decisive criterion to classify the subjects between obliged persons is that when executing ones' profession and ones' activities, they encounter realities that evidence that there is a case of legalization or financing of terrorism. From this list of obliged persons (which is demonstrative because under section 5 paragraph 1 letter o/ obliged person is also a person if it is stipulated by another law) one can infer that the legislator wanted to regulate all of the possible cases, fields and activities in which there is a real possibility of establishing of these undesirable acts. In section 5 of the Law 297/2008 Coll. the obliged persons are mentioned which are in the preventive way the most important, i.e. credit and financial institutions and other legal and natural person which are regulated by the Law.

I.1.5 Politically exposed person

Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism regulates in the Slovak legal order the notion of the **politically exposed person** (section 6). The mentioned term is the incorporation of the Directives 2005/60/EC and 2006/70/EC. This term can be applied to politically exposed persons that do not have domicile on the territory of the Slovak Republic. The persons are

concerned that hold important public positions with nationwide or worldwide importance. To decide whether a person is or is not politically exposed (this person can be also a foreign national) one needs to find out information whereas it is important to use publicly available sources of information or the information from other obliged persons. For this purpose we can use also commercial lists. The obliged person needs however to have the risk process evaluation whether a person is politically exposed. When identifying close collaborators on which political functions were bestowed, it is foreseen that the relation with the collaborator is publicly known, or the obliged persons have reason to suppose that such a relation does exist.

I.1.6 Due care of the obliged person in the relation to a client

In the second part of the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism a basic, facilitated and qualified care is defined.

Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism regulates the particular cases when the obligation arises in the relation to a client as a basic care (customer due diligence) and defines the range, that is applied by the obliged person on the basis of its qualified consideration concerning the risk of legalization or the financing of terrorism..

Not taking into account cases when the obliged person must apply the basic care, there are cases when the client must be identified and verified whether the data were acquired without the duty to apply the respective case. The provision of section 10 differentiates the cases when the duty to identify the client (section 7) and verify (section 8) the acquired data without the duty of basic care arises. The fulfilling of the basic duty is realized through the handover of the data and documentation that the client is obliged to provide to the obliged person when executing the basic care.

Facilitated care is taken into regard in cases when the obliged person is not obliged to execute the basic care. It is the case of clients that are obliged persons and products that are not likely to be misused for legalization or financing of terrorism (section 11). The exceptions from the basic care do not mean that the obliged person has no duties. The person is obliged to examine whether the requirements are met to apply the facilitated care (for example in the situation when the client is present, he/she must be identified and it must verify the acquired data and should examine whether the planned business transaction is a usual one or unusual one.

Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism regulates the duty to pay special attention to all complicated, unusually big transactions and also to the risk of legalization or financing of terrorism that can arise from products, business transactions or technological innovations.

When higher risk of legalization or financing of terrorism is in question the obliged person applies qualified care. In this case the obliged person decides the range of the qualified care according to the qualification of risk (section 12). There are cases however when the qualified care must be executed at all time (for instance if the client is a politically exposed person or if the client is not present for the purposes of identification or verification).

As far as the mentioned facts are stated one needs to suppose that the actual execution of one of the types of the care enables to uncover the UCO. Because of these reasons the person focuses all of his/her attention on each risk of legalization or financing of terrorism that can be identified while exercising its duties.

I.1.7 Other duties of the obliged person

Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism imposes other duties on the obliged person:

a) Examining the UCO (section 14)

b) Refusal of concluding business transaction, breaking the business relation or refusal to execute a transaction (section 15)
c) Withholding UCO (section 16)
d) Announcing UCO (section 17)
e) Remain silent about the UCO (section 18)
f) Programme of ones activity (section 20)
g) Other obligations of the obliged person (section 21).

Ad a) **Examining the UCO (section 14)**

Examination of the UCO is regulated in section 14. The examination of transactions enables to search for UCO. The obliged person will focus on the unusual big transactions, transactions of unusual nature as well as on the risk of legalization and financing of terrorism, which can be identified while exercising his/her profession.

Ad b**) Refusal of concluding business transaction, breaking the business relation or refusal to execute a transaction (section 15)**

The legal possibilities of the required refusal are not regulated in the business sector in a clear way and because of this reason the prevention is regulated in a specified way. The list of reasons to refuse is defined by the Directive 2005/60/EC. In particular we can state that the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism impose this obligation only when and because of reasons that are on the side of the client and it is not possible to deliver or execute the basic care (section 10 particularly letters a/ - c/). This applies also in case when the client refuses in front of the obliged person to declare on behalf of whom he acts.

Ad c) **Withholding UCO** (section 16)

The obligation to withhold the prepared or the executed UCO is of great importance in the relation to the early reaction and efficiency of measures that can be executed by the financial service within a day after announcement. Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism regulates the process in case when there is real danger that by executing the UCO a seizure of funds from criminal activity or funds to finance terrorism will be impossible. Then the obliged person withholds the UCO until the written announcement is acquired. The longest period however is 48 hours since the acquirement of the announcement of the UCO by the financial service. If the financial service demands the withholding of the UCO in writing, the 48 hours period starts to run since the moment stated in the written demand (usually it is the moment when the client submits the notion for transfer of a business transaction (for example cash withdraval). The maximum period of withholding can be 72 hours (48 hours + 24 hours).

In case of withholding a UCO, one takes into account the technical and running details of the obliged person. If these do not enable to withhold the UCO, then they will not be withheld. The Law regulates the act of non-withholding of the UCO in the case, when after a warning by the financial service the act of withholding would disable its manipulation.

Ad d) **Announcing UCO (section 17)**

The obligation to withhold the UCO is narrowly connected with the obligation of announcing and the attempt to execute it. Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism does not regulate a period for announcing a UCO; under section 17 paragraph 1 UCO must be announced without undue delay, i.e. as soon as possible.

The way and the content of the announcement require an analysis of the transaction by the obliged persons. It is up to the obliged persons when there is a case of a usual or an unusual transaction. The obliged person applies the principle "know your own client" which enables the obliged person to recognize when a transaction is unusual, i.e. through the usual contact with the client, overview of his/her usual transactions or his/her financial development.

At the same time the Law lays down in section 17 paragraph 2 and 3 the fulfilment of the obligation to announce and the formal requirements of the announcing of the UCO. The range of identification data is defined with the purposes to document the activity of specified natural and legal persons in a way that they will not be doubts, who executed the particular act and for the purposes to secure evidence in writing that can be used in criminal investigation and trial. The Law distinguishes between the identification of the client and verification of the acquired data. The identification and verification of the client will be realized in one single step. The obliged person when fulfilling the announcing obligation is examining anomalies that by their nature, contents or its exceptionality do not match the usual profile or characteristics of transaction of a specified client. A demonstrative list of UCO mentioned in the Law enables the obliged persons to focus their attention on the most important aspects when examining the transaction.

For the sake of protecting the employees as it is foreseen by the Directive 2005/60/EC, the announcement does not content the data on the employee, by which the UCO was determined. The financial service accepts, evidences, checks and uses the UCO announcements for fulfilling its duties laid down in the Law of the National Council of the Slovak Republic no. 171/1993 Coll. on Police as amended. In this context it is important to highlight that the act of announcing the UCO to the financial services of the police is not protected by the legal obligation to remain silent according to section 17 paragraph 6 of the Law no. 297/2008. The Law stipulates a certain difference in the case of attorneys and defence counsels.

Ad e) **Obligation to be taciturn about the UCO (section 18)**

The purpose of the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism would have remained unfulfilled if it had not regulated the obligation to remain silent about the announced UCO. This obligation applies to a third person including the person which is directly affected by the UCO. This obligation does not apply to the obliged person, if the employee acts under the rules of the obliged person, which regulate the process of prevention of legalization and financing of terrorism. The employee must know to whom he may pass the information about the UCO within the structures of the obliged person. If he/she discloses the information to a person, which was not designed by the obliged person, the obligation to remain silent would be violated. The obliged person by regulating the protection of data that can refer to the UCO, defining the flow of information and by other measures, increases the protection of employees who participate in uncovering the UCO. The obligation to remain silent applies also to employees of control organs.

The legal regulation in the Law determines when the financial unit deprives the obliged person of the obligation to remain silent. When depriving someone of the obligation to remain silent, one decides for a process that cannot endanger the measures that were already adopted to fight legalization or financing of terrorism.

For the sake of a more effective process in the prevention of legalization and financing of terrorism, one limits the ban on exchange of information about the UCO between institutions that are business and credit interconnected and also between obliged persons that are taking part in a business operation of the same client. This exchange of information enables the obliged person to examine the businesses of the client in a more effective way and also to warn other obliged persons about the risk identified. At the same time the Law

regulates that the obliged persons can deliver information without the consent of the involved persons (section 18 paragraph 9).

Taking into regard that the state organs that fulfil the tasks in the field of the constitutional organs, domestic order and state security acquire information as stated by Law, the particular obligation to remain silent about the information and documentation from the Financial Unit is regulated.

With the obligation to remain silent the analysis and storing of data is connected (section 19). The obliged person can acquire personal and other data that are necessary to execute the relevant care, only according to the Law no. 428/2002 Coll. on Protection of Personal Data as amended. Because of this the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism stipulates the range of data, the purpose of its analysis and the list of the persons connected.

The great amount of acquired and stored data enables to document and go back to business transactions and acquire written evidence for the purposes of criminal investigation and trial.

In some well reasoned cases the financial unit can impose the obligation to store data and documentation over the obliged person for a period longer than five years. The reason for this regulation is to prevent the destruction of written evidence. The obligation to store the data and written documentation in the stipulated period does not finish for a businessman when he stops being a businessman.

Ad f) **The programme of the obliged person's activity (section 20)**

For the purposes to secure the application of the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism the obliged person is bound to come with a programme of its own activity. According to the requirements of the Directive 2005/60/EC and on the basis of real experience, obligatory parts and duties are defined as far as the relation to the employees is concerned. From the legal regulation in the Law one can infer the obligation to elaborate the mentioned programme in writing, whereas it must be accessible to the employees of the obliged person.

The obliged person updates the programme of its own activity according to the object of its business and according to the valid and effective legislation. One can state that it is up to the financial unit and the obliged person that come into contact with the UCO to identify and to define the forms and methods of the UCO and to prepare its employees for the obligations stipulated in the Law on Protection against the Legalization of the Income from Criminal Activity and on Protection against Financing of Terrorism (section 20 paragraph 3). We deem this provision very important when we take into account the activity of banks that are governed by the section 23 paragraph 1 letter h *(...) the competence and liability for the protection against legalization and financing of terrorism.*".

Ad g) **Other duties of the obliged person** (section 21)

Taking into regard the fact that the financial unit has to fulfil tasks that are imposed by the Law when protecting against legalization and financing of terrorism, the new regulation comes with new duties for the obliged person (section 21), which enables the financial unit to access the necessary data and written documentation.

II. Conclusion

To conclude we want to highlight that the Slovak legal regulation that is analysed in this article regulates the system of prevention, several institutes and methods of protection against legalization and financing of terrorism. Only when strictly coping with the mentioned

rules we can effectively fight against legalization and financing of terrorism. At the same time we must observe that this fight is not only a fight against legalization but a fight against organized crime. The act of blocking and making the access to finances more difficult, can help to infringe the access to an important source of finances and by that it can help to infringe the development of the organized crime.

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[8)] Section 9 letter a/ and h/ of the Law on Protection against the Legalization of the Income from Criminal Activity and Law on Protection against Financing of Terrorism

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AMENDMENTS TO THE ACT ON SOCIAL SERVICES

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In the article the author addresses the issue of the legislative changes to the act on social services. He examines the causes and provides the financial implications of these changes in practice.

Key words: Social services, the act, financial contribution, ministry, community, recipient, provider.

Social Services Act in its relatively short history, came into force on 1st January 2009, has undergone several significant legislative changes. The first legislative change was an effort to eliminate legal discrimination against beneficiaries and private providers of social services necessitated by the finding of the Constitutional Court of the Slovak Republic in 2010. Another important legislative change in 2012 was a change of financing public providers established or incorporated by municipality, and also private providers in selected types of social services.

On 18 May 2010 The Constitutional Court of the Slovak Republic ruled that the provisions of § 8. 2 and 3 points. d) of the Act no. 448/2008 on social services are not in accordance with the Constitution of the Slovak Republic. Subsequent amendment to the Act no. 551/2010, which amended the Act no. 448/2008 on social services, this discrepancy was removed. It is discriminatory provisions which determine how to ensure municipalities and higher territorial unit availability and the right to choose social services for individual, social services to the recipient. In practice, this meant that the municipality or higher territorial unit within its scope for natural person who is dependent on social services:

- provides social services
- ensure the provision of social services through a legal entity set up or established for that purpose
- ensure the provision of social services with other public social service provider

Only if the municipality or higher territorial unit can not provide or ensure the provision of social services in this way, by the public provider, then can ensure the provision of social services by non-public providers. This meant that overt discrimination by private providers of social services, providing its services in the public interest, which was clearly in conflict with the Constitution of the Slovak Republic.

The second amendment to the Act on Social Services, Act no. 50/2012, which entered into force 03.01.2012, provides a new way of funding public providers established or incorporated by municipality, as well as private providers in selected types of social services.

Legislative conditions for the financial contribution provided by the Ministry of Labour, social affairs and family (the ministry) to finance social service for providers in public facilities established or incorporated by municipality, as provided for in § 71 section 6 and § 78b Act on Social Services. The Ministry provides financial contributing from his dedicated community grants to fund social services in the following facilities:

- dormitory
- shelter

- home half way
- the emergency housing
- centre for temporery care of children
- assisted living facility
- facility for seniors
- nursing care facilities
- rehabilitation centre
- social service home
- specialized facility
- day care center

The financial contribution is provided by the type of social services and by the number of facilities in the amount under this Act (see table).

Legislative conditions for the provision of a financial contribution to ensure the provision of private providers of social services in selected types of social services are regulated in § 78a and § 78b of the Act on social services. The Ministry doesn't provide a financial contribution directly from their dedicated funding to ensure the provision of social services to private providers, but through the municipality, where private social service provider provides the following facilities:

- dormitory
- facility for seniors
- nursing care facilities
- day care center

An open question remains why the Ministry provides to the municipality from its special purpose grants financial contribution to fund 12 kinds of social services and private providers to fund only four kinds of social services?

The community submit application about finance resources to ministry for public provider, established or founded by themselves and as well as for not public provider, i fit provides social services in already said 4 selected species of social services. The community delivers application about finance resource to ministry for particular financial year to 31st of August of previous year at the latest. I tis not possible to accept the applications, which are delivered to ministry after this date. In practice it means, that if community does not deliver its application on time, the provider of social services remains a year and a half without finance resources.

Also it is not possible to provide finance resource during a year, for example if there is a possibility of increasing a capacity of equipment. Not to mention the amount of already provided finance resources, which ministry of the amendment to the law set lower than the minimum amount of finance resource used to be provided to provider, who provided social help by the law no. 195/1998 about social help, the law from the year of 1998, the law from last century. For better comparison of the amount of finance resources for provision of providing social service, please see the next table.

Table : Comparison of financial contributions in accordance with the amendment to the Social Services Act of 2012 and the Social Assistence Act of 1998.

Kind of social services	**Height provided financial contributions**		**Comparison between the amount of the current post** growth (+) / decrease (-)
	Amendment to the Act on Social Services of 2012	**Social Assistence Act of 1998**	

	EUR	SKK	SKK	SKK
Dormitory	1 440	43 381	30 000	+ 13 381
Shelter	1 440	43 381	60 000	- 16 619
Home half way	1 800	54 227	-	
The emergency housing	1 800	54 227	33 000	+ 21 227
Centre for temporery care of children	2 160	65 072	85 000	- 19 928
Assisted living facility	2 400	72 302	95 000	- 22 698
Facility for seniors	3 840	115 684	110 000	+ 5 684
Nursing care facilities	3 840	115 684	125 000	- 9 316
Rehabilitation centre	2 208	66 518	117 000	- 50 482
Social service home	3 960	119 299	155 000	- 35 701
Specialized facility	3 960	119 299	-	
Day care centre	2 208	66 518	85 000	- 18 482

It´s disappointing to say that the general and local government accepted a draft legislative standards that funding social services back more than 10 years ago, in exchange for access to the financial resources of the state. Because the average amount of financial contribution to the ministry for one client, which is designed to ensure the provision of social services now, is compared with the minimum amount of financial contributions to the Social Assistance Act of 1998, lower by 441,-EUR.

This means that a provider of social services has now the statutory financial contribution less than its predecessor dating back more than ten years.

Ing. Maros Satny,
The director DSS and DD St. Dominic

In Presov 12.12.2012

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15 TH INTERNATIONAL CONGRESS ON INFECTIOUS DISEASES – CONGRESS REPORT FROM BANGKOK

N. Kulkova, J. Sokolova, V. Krcmery, J. Benca, I. Beldjebel, T. Benson Alumbasi

SEUC Phnom Penh, Cambodia

Plenary Lecture II: Killed oral cholera vaccines: from concept to public health reality

Worldwide, cholera causes ≈ 100 000 deaths annually, with Vibrio cholerae serogroup O1, biotype El Toro being the most prevalent and serogroup O139 less prevalent. In 1960´s vaccine trials began, but first vaccines provided patients with only transient immunity and were highly reactogenic. Natural cholera infection is immunising as it leads to mucosal secretory antibodies production. These Ab act synergistically with antitoxins and cell mediated immunity. Cholera vaccines are mostly killed with formalin or heat-killed containing serougroup O1, Okinawa subtype.

First trial was introduced in Bangladesh in 1985, which later led to Dukoral license in Sweden. Also in Vietnam was trial started, in wchich also serogroup O131 was included, but this vaccine was used exclusively in Vietnamese population. Later, attenuated serotype Inaba was add (strain CVD 103-HgR) at University of Maryland, but unfortunately, vaccine was shown to be ineffective.

As Ducoral is just too expensive for patients in developing countries research on more affordable vaccines was initiated. In 2000 there was an effort started to internationalise Vietnamese vaccine, but that had a several limitations as Vietnamese national regulations did not meet the WHO requirements. Therefore the vaccine development was transferred to India (which has suitable regulations for worldwide distribution) and clinical development program started. In phase I – III trials no weighty and important adverse effects were found and protective efficacy at 66% was proved. Also, immunity was found to be not declining and reaching highest level at vulnerable age group of 5 – 15. In 2009 the vaccine was licensed in India as ShanChal (produced by Shantha Biotech – part of Sanofi).

Even when ShanChal price was set at 1,85 USD/dose (2 doses must be administered) it was surprisingly not placed on WHO priority list until Haiti earthquake followed by cholera epidemic.

Importance of vaccination consists in “vaccine herd protection”, when considering that protection of population is even better when person to person transmission is avoided. Risk of infection is much lower in unvaccinated people when there is at least 50% vaccination coverage in overall population. For example, in populaation with no vaccination there is incidence of 11,2 cholera cases/1000 persons, but in population with 58% vaccine coverage, there is only incidence of 0,6 cases/1000 persons.

Fungal Infection, Near and Far

Pythium insidiosum infections: Clinical presentations and treatment. B. Sathapatayavongs

Pythium insidiosum is a fungus-like organism, which is endemic in Thailand. There are only few pathogens in Pythium genus. Cutaneous pythiosis was firstly reported in 1985 in 46 years old women with alpha-thalassemia. She was suffering from unknown leg infection. Biopsy revealed hyphae but no growth in culture medium occurred. Patient developed massive occlusion of femoral artery which required limb amputation. After 1 month, gangrene and aneurysm of abdominal aorta was developed, followed by below knee amputation. Amphotericin B therapy was administered, but there was rupture of aortic stamp and patient died after 17 months of illness.

Alpha-thalassemia or other hemoglobinopathy was found to be predisposing factor for acquiring pythiosis. In therapy, surgical removement of aneurysm of clotted vessel remains to be first choice. Also, Pythium vaccince was developed in US and can be sometimes successfully used in treatment, but in some patients there si only moderate response. Therapy with antifungal agents can be carry out by combinational therapy with terbinaffne plus itraconazole, which was successful in some cases, and also with amphotericine B and fluconazole. In vitro Pythium was found to be susceptible to tygecycline, tertacyclines and macrolides, and synergy of terbinaffine with echinocandines and azoles was also showed.

Other cases of pythiasis were also described, such as cerebral pythiasis, GIT pythiasis and ocular infection after trauma.

Few methods are available for diagnosing pythium infection including smear, cultivation on SA, histopathology (difficult to differ from Mucorales), serodiagnostics (ELISA) and molecular biology (PCR).

Penicillium marneffei infections. K. Supparatpinyo

P. marneffei is the 4th most frequent fungal infection among HIV positive patients in Thailand. It is a dimorphic fungus (at 37°C it is a yeast, but at 25°C is a mould), which was firstly isolated in Vietnam in 1956. First case of infection caused by P. marneffei was described in patient with Hodgkin lymphoma. First case of infection in HIV positive patient was described in Bangkok in 1989. Since 1991 there has been documented increased prevalence of this infection worldwide, not only in Asia, even though South-east Asia is endemic area. Number of infected patients is increasing during rainy season.

There are two main risk factors for P. marneffei infections - (i) younger age (16 – 30 years, OR = 2,22) and (ii) exposure to soil, especially in rainy season (OR=1,91). It was remarked that penicilliosis sometimes occur shortly after ART start. The only reservoirs of P. marneffei are bamboo rats and humans, but also other mice could act as reservoir. To this day mode of transmission in unknown (may be inhalation of conidia or through injured skin).

Clinical manifestation includes fever, weight loss, diarrhoea, cough, skin lesion etc. However, infection may have subclinical course in some patients living in endemic areas. Diagnosis is based on positive cultivation from blood, skin biopsy or bone biopsy, which is followed by histopathology (typical septae). Also other methods can be performed, such as serology (immunodiffusion test, fluorescent antibody test, ELISA, latex agglutination test) and molecular biology.

P. marneffei was showed to be very good susceptible to itraconazole, ketoconazole, miconazole, 5-fluorocytosine and other antifungal drugs. Severe cases of marneffei penicilliosis should be treated with amphotericin B and mild cases with itraconazole or

voriconazole. Itraconazole can be used as prophylaxis as well. According to guidelines, prophylaxis is recommended in endemic areas in patients with CD4 less than 100 cells /ml.

Changing epidemiology and treatment options in invasive candida infections, T. Gottlieb

Treatment options for invasive candidosis are mainly threatened by two most important resistance patterns – fluconazole resistance and echinocandin resistance, even though echinocandin resistance occurs only in ~ 3% of patients, which is offered by mutations in fks gene. Oftenly, there are troubles with diagnosing and proving candidosis. Fungal blood cultures are proved to be susceptible to antifungals in 25 - 82% of isolates and only 50% of deaths are autopsy-proved cases of candidosis. This is mainly due to long cultivation required by yeast to grow from clinical samples (24 – 48 hours for C. albicans, > 48 hours for C. tropicalis and C. parapsilosis, > 120 hours for C. glabrata). In treatment, following should be included: (i) line removal, (ii) pre-emptive therapy (if possible), (iii) susceptibility check and (iv) antifungal therapy. Antifungal therapy can be performed with (i) azoles which are cheaper, less toxic and avialable per orally, (ii) echinocandines which have broader spectrum of activity, are fungicidal and provide improved outcomes; and by (iii) polyenes.

Cryptococcus infection in immunocompetent individuals, G. Reid

Cryptococcal infections account for approximately one third of HIV-associated deaths. Moratlity on cryptococcal infections is 9 – 70%. C. neoformans varieta grubii is the most prevalent in HIV-posotive patients. Diagnostics in immunocompromised host is not easy and is based on serology. However, serology is not very strong method as almost 77% are false-negative results. India ink method is also often negative and problems with differentiation of gatti vs grubii varieta occur. In case of cryptococcal vasculitis, nodulus and cyst forming, MRI can be performed. Treatment of Cryptococcus infection is based on immune status of the patient and patient should be checked for IRIS during the treatment. IDSA guidelines for therapy of cryptococcal infection in HIV-patients advise therapy based on immune status, which has 3 phases: (i) induction therapy, (ii) consolidation and (iii) maintenance (see Table 1).

Table 1: IDSA Updated Guideline for Management of Cryptococcal Disease [1]

Phase		Therapy
1	Induction	Amphotericin B (AmB) deoxycholate (AmBd; 0.7–1.0 mg/kg per day intravenously [IV]) plus flucytosine (100 mg/ kg per day orally in 4 divided doses; IV formulations may be used in severe cases and in those without oral intake where the preparation is available) for at least 2 weeks, followed by fluconazole (400 mg [6 mg/kg] per day orally) for a minimum of 8 weeks (A-I). Lipid formulations of AmB (LFAmB), including liposomal AmB (3–4 mg/kg per day IV) and AmB lipid complex (ABLC; 5 mg/kg per day IV) for at least 2 weeks, could be substituted for AmBd among patients with or predisposed to renal dysfunction (B-II).
2	Consolidation	
3	Maintance	Fluconazole (200 mg per day orally) (A-I). 8. Itraconazole (200 mg twice per day orally; drug-level monitoring strongly advised) (C-I). 9. AmBd (1 mg/kg per week IV); this is less effective than azoles and is associated with IV catheter–related infections; use for azole-intolerant individuals (C-I). 10. Initiate HAART 2–10 weeks after commencement of initial antifungal treatment (B-III). 11. Consider discontinuing

		suppressive therapy during HAART in patients with a CD4 cell count 1100 cells/mL and an undetectable or very low HIV RNA level sustained for _3 months (minimum of 12 months of antifungal therapy) (BII); consider reinstitution of maintenance therapy if the CD4 cell count decreases to !100 cells/mL (B-III). 12. For asymptomatic antigenemia, perform lumbar puncture and blood culture; if results are positive, treat as symptomatic meningoencephalitis and/or disseminated disease. Without evidence of meningoencephalitis, treat with fluconazole (400 mg per day orally) until immune reconstitution (see above for maintenance therapy) (B-III).

Carbapenem Resistance

Overview of Carbapenemase mediated resistance, G. Cornaglia

Chromosomal metallo-beta-lactamases (MBL) can be found in some Gram-negative bacterial species such as *Stenontrophomonas* spp., *Myroides* spp., *Aeromonas hydrophilla* etc. Most of the carbapenemases alone confer only to lower susceptibility no to overall and absolute resistance.

There are some beta-lactamases (BL) which we consider to be the most important, those including IMP, VIM, NDM, KPC and OXA. These were circulating in Europe during 2011. IMP, VIM and DIM can be found in most clinically important gram –negative species. IMP was detected in 1990´s in *Serratia marcescens* in Japan and then was found all over the world. In Europe there is a high prevalence of VIM which is in contrast to the rest of the world. OXA-48 found in *Klebsiella* sp. causes many nosocomial outbreaks.

Detection of Carbapenemase-mediated resistance, P. Nordmann

Carbapenemase production is often suspected when multidrug resistance is obvious in antibiogram, but this is particularly hard in case of OXA-48, which confers to only low resistance level. But even cases of low-level resistance may be caused (and often really are) by carbapenemase producers. Therefore, MIC testing should be followed by typing of (i) strain variability, (ii) BL variability, (iii) chromosomal vs plasmid encoding and (iv) level of expression, to assess the heterogeneity of the pathogen.

Detection of imipenem/ertapenem resistance (in *Enterobacter* spp., *E. coli* and *Klebsiella* spp.) not provided by carbapenemases is performed by adding oxacillin to disk diffusion test. KPC detection is done by adding boronic acid disk test and this takes 24 – 48 hours (see Fig 1).

Detection of MBL is performed by EDTA inhibition with combination of E-test (Fig 2).

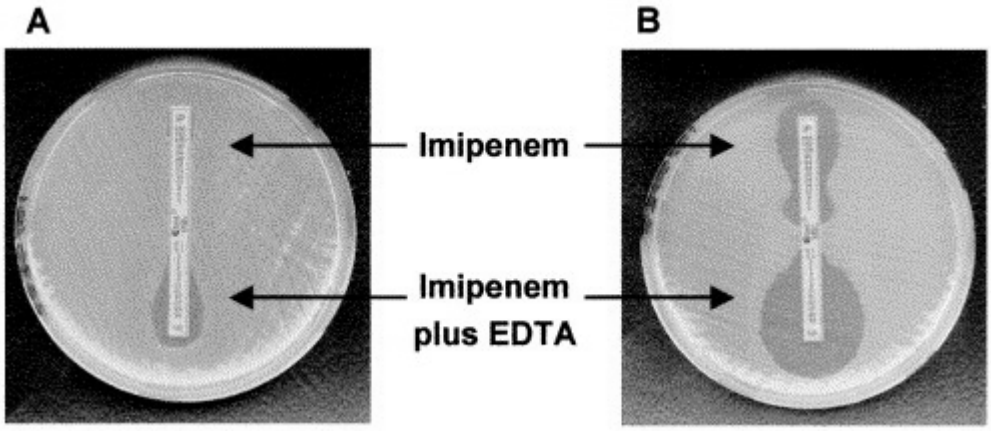


Figure 1: Different phenotypes of imipenem resistance as revealed by Etest MBL strips in two P. aeruginosa isolates carrying the VIM-1 (A) and VIM-2 (B) determinants. [2]

Class D of carbapenemases (e.g. OXA) do not hydrolyse ceftazidime and can be detected by temocillin.

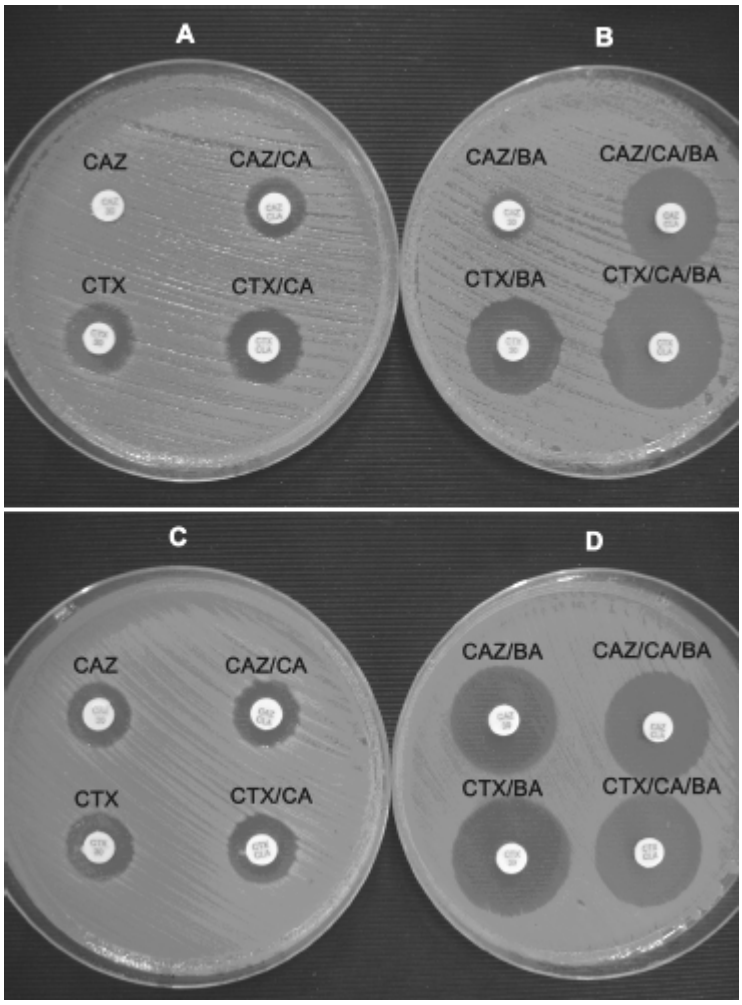


Figure 2: Representative results of the CLSI ESBL confirmatory test (A and C) and its modification using antibiotic disks containing BA (B and D) for ESBL PCR-positive (A and B) and ESBL PCR-negative (C and D) KPC-possessing isolates. [3]

Value of Hodge test for carbapenemase detection is not always very high, it has low sensitivity and specificity and should be replaced by more valuable test – by newly developed carba NP test. Carba NP test is very sensitive and specific (100% both) and do not require

very experienced stuff neither equipped lab. Detection of carbapenemase activity may be done by spectrophotometry, mass spectrometry, or by PCR.

The role of antimicrobial stewardship in curbing Carbapenem resistance, D. Lye

Author presents experience with antimicrobial stewardship program (ASP) containing MDR *A. baumannii* and KPC *Enterobacteriaceae*. The results of 3 years of a comprehensive multi-faceted multi-disciplinary ASP at Tan Tock Seng Hospital in Singapore are shared, where reduction in carbapenem use was associated with sustained reduction in carbapenem-resistant *P. aeruginosa* but not MDR *A. baumannii*. Rebound in carbapenem overuse has been associated with emergence of carbapenem-resistant *Enterobacteriaceae* including locally acquired NDM-1. It was found that ertapenem use selects *P. aeruginosa* with cross resistance to other carbapenems, so fewer carbapenems in usage led to fewer *P. aeruginosa* with resistance. Aminopenicillines, fluoroquinolones and vancomycin in therapy were found to be predictors of KPC-producing *K. pneumoniae* colonization. Risk factors for *A. baumanii* acquisition were imipenem in therapy, 3G cephalosporins therapy and other non-antibiotic factors (bad infection control of beds, sinks, and taps). Author concludes that limiting antibiotic usage alone may fail as the only one ASP intervention and therefore should be combined with careful infection control and judicious ATB usage.

Facing the Challenges of Malaria

Artemisinin resistance in falciparum malaria, A. Dondorp

Artemisinin acts very quickly and kills also ring forms of parasites, what is the biggest difference from other antimalarials. Nowadays artemisinin based therapy (ACT) is considered being the best treatment choice for uncomplicated malaria. In case of several malaria Sequamat, which reduced mortality on malaria at 23% in sub-Saharan Africa, is good treatment choice. Artemisinin starts to work very quickly and kills ~ 10.000 parasites every 48 hours.

It is interesting that parasite clearance was found to be much slower in western Cambodia. This was ascribed partially to bad drug use (monotherapy), fake drugs and parasite population which are somehow more adapted to resistance evolvement. With increasing failure rate of ACT in Cambodia, as well as in other near countries such as Thailand and Myanmar, percentage of parasites with very low susceptibility increased to 25% (Lancet, 2012). Then it was found that there are also other reasons responsible for delayed clearance, these including (i) immunity status of host, (ii) drug quality, which can be variable and (iii) genetic factor of the parasite. Genetic factor of plasmodium confers to 60% of decreased clearance and it is a heritable sign. It was found that in western Cambodia almost all patients are so called “slow clearers”. When looking for molecular markers, 3 genes (PfMDR1, PFCRT and PfUBQ) were looked for changes, but no mutation was found in them. With transcriptome studies genome region of artemisinin resistance (ASR) was revealed on chromsome 13. This area was found to be down-regulated in ring forms and up-regulated in schizont stages. Strategy to prevent ASR spreading must involve primaquine, which act as a transmission blocking agent because it reduces gametocytaemia. Also new compounds in artemisinin group – spiroindolone (NITD609) arterolane were presented in the lecture.

Progress towards effective malaria vaccination, C. Ockenhouse

Malaria vaccine development is one of the millennium developmental goals. There are only limited funds for malaria control but these are disproportioned. Development objectives consist of preventing strategy, lessen the diseases and block transmission.

Malaria vaccine may be prepared as (a) radiologically attenuated whole cell vaccine, or (b) T-cell based DNA/ viral-vectored or (c) combined protein vaccine (description in Table 2).

Table 2: Types of malaria vaccines with typical characteristics

Type of vaccine	Typical signs
ATTENUATED WHOLE CELL VACCINE	high level protection targets liver stage provides no protection if only DNA vectored
T-CELL BASED DNA/VIRAL VECTORED VACCINE	uses Ad5 vectors if viral vectored stimulates CD8+-T-cell immunity high neutralizing Ab targets pre-erythrocyte and blood stage
PROTEIN VACCINE	has limited CD8+ activity

The first effective malaria vaccine is RTS,S. RTS,S showed 56% reduction of malaria cases and 48% reduction of complicated cases. The RTS,S vaccine was prepared from genes of the outer protein of *Plasmodium falciparum* and a portion of a hepatitis B virus, plus a chemical adjuvant was added to boost the immune system response. It is developed by GlaxoSmithKline (GSK) with support from the Bill and Melinda Gates Foundation. Now the research group is trying to improve the efficacy of this vaccine to 80%, as well as to develop new one (second generation vaccine PfCel TOS - Plasmodium protein Cell-traversal protein for ookinetes and sporozoites).

Plenary lecture III: Infection control: worldwide perspectives; D. Pittet

More than 1,4 million patients get infected every day nosocomially. First challenge in fight against nosocomial infections was to assess what actually is health care associated infection (HCAI). HCAI is defined as an infection occurring in a patient during the process of care in a hospital or other health-care facility that was not manifest or incubating at the time of admission. This includes infections acquired in the hospital and any other setting where patients receive health care and may appear even after discharge.
Risk of HCAI acquisition is 2 – 18 times higher in developing countries (where less than 5% of the gross national product is spent on health care) [4], which in a bit contrast to what was anticipated – that nosocomial infections are major problem in industrialized rich countries. Compliance to hand washing interventions is/was less than 40% even it is the best intervention for preventing HCAI. It was even found that the more opportunities the stuff has to clean their hands the less frequently they were doing it. The major reason for poor hand hygiene compliance was the fact that it was very time consuming, as one hand cleaning with soap took 1 min and 5 sec. Therefore, alcohol-based hand rub (ABHR) was introduced which is lot more efficient than other hand hygiene methods (such as soap cleaning, iodophore cleaning) and is much quicker.
Thus, system change was required in particular hospital (Geneva) which is now known as "The Geneva Hand Hygiene Model". Interventions were proved to be very cost-effective, while moneys are saved by preventing nosocomial infections. For example, in Geneva hospital workplace alerts were placed to educate the stuff everywhere and nowadays Geneva University Hospital has 78% compliance to hand hygiene interventions. After significant success of Geneva model, WHO started to take interest in applying these interventions as WHO General Model. With 1st WHO Global Patient Safety Meeting international implementation started. Now, the campaign covers 90,2% of world population and 5th May

was declared as Day of clean hands. Also presently there are new approaches implemented into the programme, such as (i) local production of alcohol for ABHR to provide low-cost solution in resource limited settings (e.g. Mali, South Africa); or (ii) hand hygiene self-assessment framework, which is a scoring system to classify the level of hand hygiene control. According to this scoring system, hand hygiene control can be assessed as (i) inadequate, (ii) basic, (iii) intermediate and (iv) advanced.

Plenary lecture VI: Confronting tuberculosis in the era of HIV; S. Lawn

Highest prevalence of tuberculosis is in South Africa and south-east Asian countries such as Cambodia and Myanmar. Tuberculosis (TB) starts to develop mostly in HIV-positive patients with CD4 cells count less than 200 per millilitre (See Table 3). Patients with antiretroviral therapy have smaller risk of TB acquisition, which is due to CD4-associatred benefit. Most of these patients do have symptoms, like cough lasting more than 2 weeks, dry cough and they met WHO criteria. There are few new diagnostic methods available for detection of TB, which are presented below.

Xpert MTB/RIF was originally invented for diagnosing other microorganisms primarily for military purposes (anthrax). This tool requires at least 131 colony forming units (CFU) in sputum to be able to detect TB. It was even found that those patients, who were proved to be TB negative with Xpert, were less sick, had better CD4 status and less viral load, what suggest that Xpert can diagnose those ones who are most important.

There was lipo-arabino-mannan (LAM) antigenouria observed in patients with TB so rapid tests for LAM detection were developed. It was found that half of LAM-positive urine samples were also positive with Xpert. New point-of-care test named “Determine TB LAM” was developed by ALere (USA) and is based on ELISA detection of LAM. It can be performed in less than half hour, cost only 3,50 USD per test and is simple to read out. LAM based diagnostic seem to be most effective in the sickest patients with CD4 cells < 50/ml, but it should not be stand-alone.

When comparing abovementioned systems, it was found, that of all culture positive patients 5% will die, of all Xpert positive 10% will die and of all LAM positive 20% will die.

Table 3: CD4 status and its association with decreased protection against tuberculosis

CD4 status	< 200/ml	200 – 350/ml	> 350/ml
Level of protection decrease	84%	66%	57%

Acute Febrile Illness in the Tropics

Acute febrile illness in Africa; O. Mediannikov

Main causes of tropical fever in Africa are undiagnosed fever, malaria and rickettsiosis (in travellers). Also many other several diseases can be manifested as febrile disease, including typhoid/paratyphoid fevers, pneumococcal bacteraemia, viral infections like influenza, yellow fever, dengue, Chikungunya virus and Rift Valley fever. In Africa, facilities have been established in several areas focused to diagnose primary malaria for starting immediate treatment, but as malaria regresses, more cases of fever remain unexplained. Diagnostic methods to detect non-malaria causes of febrile illnesses are limited in such settings. Thus team around dr. Mediannikov started their project in Dielmo village in Senegal aimed on rapid PCR diagnostic of febrile diseases. Blood samples were taken from all febrile patients, DNA was extracted and samples were tested to evaluate bacterial infection. DNA extraction

was performed without centrifugation and point-of-care laboratory was constructed. POC laboratory was able to perform testing in field, was equipped with immunochromatography for antigen detection and with PCR cycler, thereupon able to provide result within 2 hours. Principle of preserving reagents against climatic influences and to restore them capable of POC molecular testing lean on using freeze-dried PCR mixes which are then reconstituted by adding water and extracted DNA. testing panel contains probes to detect *Borrelia*, *Rickettsia*, Influenza, *Bartonella*, *Coxiella*, *Dengue*, *Leptospira* and *Mycobacterium* spp.
With this system was found that the most prevalent causes of fever in Senegal are as follows 1. Rickettsia felis, 2. Borrelia crocidurae, 3. Malaria and 4. Q fever; and abovementioned method enabled to detect up to 30% fevers of previously unknown origin.

Acute febrile illness: Epidemiology versus clinical judgement; R. Premaratna

Diagnosis of tropical fever is mainly based on clinical picture, while confirmatory tests are not always available or affordable. In treatment we often meet with so called epidemiology-based tunnel vision or epidemiology-based blindness, when 2/3 of patients who are treated for malaria (even with antibiotics) do not have it.

Laboratory diagnosis of acute febrile illness: Where are we now? C.C. Chao

Acute febrile illness has been recognized as an important group of illness that is difficult to differentiate due to their similarity in symptoms. Rickettsia-related diseases, such as scrub typhus, murine typhus, spotted fever group rickettsia, Q fever and leptospirosis, have emerged or re-emerged in different area around the world. IFA (immunofluorescence assay) was the most used test for detection of complicated rickettsial infections, but was followed by development of nucleic acid based test (NA tests) and serological (antigenic) tests (Ag tests). List of available assays is summarized in Table 4.

Table 4: List of test used for diagnostic of febrile illnesses

Type of test	Infection	Principle of test	Pros/cons
Ag tests	Scrub typhus	SDS-page and western blot of Orientia call lystae	rapid test can be perforemd in 10 min specificity/sensitivity ≈ 90%
	Q-fever	detection of Com-1 or Ada A or OmpH protein	rapid tests are in development
	Leptospirosis	detection of 3 important antigens	80% specificity/sensitivity strip test
NA test (other than PCR)	LAMP	Use of different primers specifically designed to recognize distinct regions on the target gene and the reaction process proceeds at a constant temperature using strand displacement reaction	Amplification and detection of gene can be completed in a single step, by incubating the mixture of samples, primers, DNA polymerase with strand displacement activity and substrates at a constant temperature

			(about 65°C). It provides high amplification efficiency, with DNA being amplified 109-1010 times in 15-60 minutes. Because of its high specificity, the presence of amplified product can indicate the presence of target gene. The total cost can be reduced, as LAMP does not require special reagents or sophisticated equipments.
	RPA	bacterial RecA binds with primers to specicfic site and amplifies this region without thermal cycling	comparable susceptibility to qPCR lasts ≈ 20 min

LAMP – Loop mediated isothermal amplification; RPA – recombinase-polymerase reaction

Plenary lecture: Finding a cure for HIV: the need for science, collaboration and advocacy; S. Lewin

With increasing numbers of HIV-infected people, emerging new toxicities secondary to HAART and the need for life-long treatment, there is now a real urgency to find a cure for HIV. When considering treatment of HIV we have to differ between sterilising cure (elimination of all HIV particles, thus havin less than 1 copy per ml) and functional cure – remission (with less than 50 copies per ml).

Sterilising cure can be achieved by transplantation of Δ32/Δ32 mutated cells, which are naturally resistant to HIV infection. Otherwise to achieve remission requires strong T-cell response while there is an on-going replication. Post-ART controllers – patients who started their ART very early after infection – are those who can be introduced in such position. T-cell response is associated also with different HLA-types, e.g. B27 and B57 are associated with very good response to ART.

There are few candidate strategies to cure HIV including (i) elimination of latently infected cells, (ii) elimination of HIV replication (ERAMUNE) and (iii) make cells resistant to HIV. When trying eliminate latently infected cells, transcription must be induced in those patients on ART. Newly produced HIV particles are then eliminated by ART. HIV can be activated in cells in vitro with HDAC (histone deacetylases) inhibitors, antiPD1 agents, disulfuram etc. These agents act via uncoiling chromosomal DNA therefore inducing transcription of incorporated HIV-DNA. Vorinostat administered in daily dose of 400 mg showed ability of turning HIV genes on. Similarly with disulfuram adminstered for 14 days at 500 mg/daily was observed increased transcription of HIV genes.

To force cell to become resistant against HIV requires blocking new infections and allowing infected cells to die. Experiments started in 6 patients. These are focused on expression of CCR5, wchihc is a ZN-finger nuclease recognizing HIV DNA sequences. In those 6 patients was viral load decreased do undetectable level.

MRSA: Keeping up with the Evolving Pathogen

Developing resistance to drugs against MRSA; I. Gould

Treatment of serious MRSA infection is still mostly carry out by vancomycin (VAN). Its increased usage soon led to evolvement of VRSA, GISA and hVISA species (vancomycin-resistant S. aureus, GISA – glycopeptide-intermediate susceptible S. aureus and vancomycin-heteroresistant S. aureus respectively). Studies proved that there is a significantly higher mortality with infections caused by hVISA. Treatment outcome is influenced by clinical and pathogen factors. When evaluating data from long-term stored isolates we have to keep in mind their possibility of increase their VAN minimal inhibitory concentration (MIC), and before starting work with such isolates we have to regenerate the strain. Also with different methods (broth microdilution testing, Vitek, Etest, Microscan) we can reach different MIC value, but Etest is considered as the most relevant in good clinical response. VAN MIC value breakpoints according to CLSI are as following: VSSA $\leq$ 2 mg/L, VISA > 8 mg/L and VRSA $\geq$ 16 mg/L, while in EUCAST there is no intermediate category.
The most important molecular features which are responsible for VAN resistance are regulatory genes such as agr and gra loci, and cell wall associated such as mprf (mpfr is a cfr methyltransferase which is a transferable gen responsible also for linezolid resistance) or cce6 and of course VanA gene acquired from enterococci.

Resistance to agents for MRSA decolonization and its clinical implications; A. Apisarnthanarak

Most of the neonates are colonized with MRSA in less than 1 month abter birth. Of adults, 20% remain to be persistant carriers and 60% intermittent carriers, with males being more likely to be colonised. Strategies for decolonization include daily bathing and use of topical or oral antibiotics. Bathing may be performed with chlorhexidine (CHG), unfortunately can lead to skin irritation or rash, especially in Asia. Decreased MIC to CHG is caused by MDR-efflux pumps encoded by qacAB gene, which can be plasmid-mediated.
Decolonization with topical and oral antibiotics and topical antiseptics should be profrmed before surgery procedures. Agents used for this purpose are mupirocin, polysporin, vancomycin or bacitracin, and these should be alwys used in combination to be efficient. However, we met mupirocin resistance which now can lead to failure of decontamination, but mupirocin resistance is not normally tested. The most important mechanism of mupirocin resistance is encoded by the gene mupA, which is plasmid mediated and leads to mutation in tRNA synthetase.
Newly studied topical agents for MRSA-decontamination include retapamulin (GlaxoSmithKline), and fusidic acid with trimetoprime/sulphametoxazole. Retapamuline belongs to novel class of pleuromutilin antibiotics. Nowadays it is in Phase II of clinical trials and was approved by FDA for treatment of impetigo.

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EMERGENCIES IN TROPICAL SOCIAL WORK, NURSING AND PUBLIC HEALTH

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ABSTRACT

News in Emergenciesin and their impact or social work and public health in Subsaharan africa, Central Europe (imported) and SE Asia is reviewed by our social work and health tropicteam

Introduction:
Typhoid Fever Outbreak Associated With Frozen Mamey Pulp Imported From Guatemala to the Western United States, 2010
Anagha Loharikar et al. Clinical Infectious Diseases 2012, 55(1):61-6
Fifty-four outbreaks of domestically acquired typhoid fever were reported between 1960 and 1999. In 2010, the Southern Nevada Health District detected an outbreak of typhoid fever among persons who had not recently travelled abroad. In this case-control study autors examine the relationship between illness and exposures. A case was defined as illness with the outbreak strain of Salmonella serotype Typhi, as determined by pulsed-field gel electrophoresis (PFGE), with onset during 2010. Controls were matched by neighborhood, age, and sex. Bivariate and multivariate statistical analyses were completed using logistic regression. Traceback investigation was completed. We identified 12 cases in 3 states with onset from 15 April 2010 to 4 September 2010. The median age of case patients was 18 years (range, 4-48 years), 8 (67%) were female, and 11 (92%) were Hispanic. Nine (82%) were hospitalized; none died. Consumption of frozen mamey pulp in a fruit shake was reported by 6 of 8 case patients (75%) and none of the 33 controls (matched odds ratio, 33.9; 95% confidence interval, 4.9). Traceback investigations implicated 2 brands of frozen mamey pulp from a single manufacturer in Guatemala, which was also implicated in a 1998-1999 outbreak of typhoid fever in Florida.Reporting of individual cases of typhoid fever and subtyping of isolates by PFGE resulted in rapid detection of an outbreak associated with a ready-to-eat frozen food imported from a typhoid-endemic region. Improvements in food manufacturing practices and monitoring will prevent additional outbreaks. (1-13)

Variation in Reported neonatal Group B Streptococcal Disease Incidence in Developing Countries.
Alemnew F. Dagnew et al. Clinical Infectious Diseases 2012, 55(1):91-102
Group B *Streptococcus* (GBS) is a leading cause of neonatal sepsis in developed countries. Its burden in the developing world is less clear. Studies reporting neonatal GBS disease incidence from developing countries were identified from 5 literature databases. Studies were assessed with respect to case finding and culture methods. Only 20 studies were identified. The GBS incidence ranged 0–3.06 per 1000 live births with variation within and between geographic regions. All but 1 study identified GBS cases within a hospital setting, despite the

potential for births in the community. Possible case under-ascertainment was only discussed in 2 studies. A higher GBS incidence was reported when using automated culture methods. Prospective, population-based surveillance is urgently needed in developing countries to provide an accurate assessment of the neonatal GBS disease burden. This will be crucial for the design of interventions, including novel vaccines, and the understanding of their potential to impact mortality from neonatal sepsis.

Rapid Implementation of New TB Diagnostic Tests. Is It Too Soon for a Global Roll-Out of Xpert MTB/RF?

Daniela E. Kirwan, Am. J. Trop. Med. Hyg., 87(2), 2012, pp. 197-201

In 2011 the World Health Organization approved Xpert MTB/RIF for tuberculosis diagnosis and recommended its rapid implementation. Xpert MTB/RIF is accurate: sensitivity is 72.5 - 98.2% (smear-negative and -positive cases, respectively) and specificity 99.2%. Benefits include same-day diagnosis and simultaneous detection of rifampicin resistance. However, the test has some shortcomings and has not had time for thorough evaluation. Cost-effectiveness studies are difficult to perform and few have been completed. Existing data suggest cost-effectiveness in some, but not all, settings. The urgent need for better diagnostics is evident. Yet, serial implementation of new technologies causes ineffective spending and fragmentation of services. How new tests are incorporated into existing diagnostic algorithms affects both outcomes and costs. More detailed data on performance, effect on patient-important outcomes, and costs when used with adjunct tests are needed for each setting before implementation. While awaiting further clarification it seems prudent to slow its implementation among resource-constrained tuberculosis control programs.

Drug Coverage Surveys for Neglected Tropical Diseases: 10 Years of Field Experience

Caitlin Worrell et al. Am. J. Trop. Med. Hyg., 87(2), 2012, pp. 216-222

Mass drug administration is one of the public health strategies recommended by the World Health Organization for the control and elimination of seven neglected tropical diseases (NTDs). Because adequate coverage is vital to achieve program goals, periodically conducting surveys to validate reported coverage to guide NTD programs is recommended. Over the past decade, the Centers for Disease Control and Prevention (CDC) and collaborators conducted more than 30 two-stage cluster household surveys across three continents. The questionnaires gathered coverage data and information relevant to improving NTD programs including NTD-related attitudes and practices. From the 37 coverage survey estimates obtained in those surveys, 73.3% indicated an over reporting of coverage, including all three that assessed school-based distributions. It took an average of 1 week to conduct a survey. Our experiences led us to conclude that coverage surveys are useful and feasible tools to ensure NTD elimination and control goals are reached.

Artemisinin-resistant Malaria: research Challenges, Opportunities and Public Health Implications

Rick M. Fairhurst et al. Am. J. Trop. Med. Hyg., 87(2), 2012, pp. 231-241

Artemisinin-based combination therapies are the most effective drugs to treat Plasmodium falciparum malaria. Reduced sensitivity to artemisinin monotherapy, coupled with the emergence of parasite resistance to all partner drugs, threaten to place millions of patients at risk of inadequate treatment of malaria. Recognizing the significance and immediacy of this possibility, the Fogarty International Center and the National Institute of Allergy and Infectious Diseases of the U.S. National Institutes of Health convened a conference in November 2010 to bring together the diverse array of stakeholders responding to the growing threat of artemisinin resistance, including scientists from malarious countries in peril. This conference encouraged and enabled experts to share their recent unpublished data from studies that may improve our understanding of artemisinin resistance. Conference sessions addressed research priorities to forestall artemisinin resistance and fostered collaborations

between field- and laboratory-based researchers and international programs, with the aim of translating new scientific evidence into public health solutions. Inspired by this conference, this review summarizes novel findings and perspectives on artemisinin resistance, approaches for translating research data into relevant public health information, and opportunities for interdisciplinary collaboration to combat artemisinin resistance.

Health research in Africa: getting priorities right

Ole F. Olesen et al. Tropical Medicine and International Health, Vol. 17, No. 9, pp. 1048

Table 1 Infectious agents that are causing or may contribute to non-communicable pathologies in Sub-Saharan Africa

Infectious disease/agent	Non-communicable disease	Reference
Chlamydia pneumoniae	Asthma, CVD, heart diseases	Taylor-Robinson and Thomas (2000)
Chlamydia trachomatis	Cervical cancer	Sitas *et al.* (2008)
Cysticercosis	Epilepsy	Sinha and Sharma (2009)
Group A β haemolytic streptococcus	Rheumatic heart disease	Carapetis *et al.* (1999)
Epstein–Barr virus (EBV)	Burkitt's lymphoma, Hodgkin lymphoma	Kutok *et al.* (2006)
Hepatitis B	Liver cancer	Motola-Kuba *et al.* (2006)
Hepatitis C	Liver cancer	Motola-Kuba *et al.* (2006)
Herpesvirus 8	Kaposi sarcoma	Jessop (2006, 2006)
Helicobacter pylori	Gastric cancer	http://www.who.int/mediacentre/factsheets/fs297/en/
HIV/AIDS	Depression, anxiety	Myer *et al.* (2008)
HIV/AIDS	Kaposi's sarcoma	Jessop (2006)
Hookworm	Anaemia	Stoltzfus *et al.* (1997)
Human papilloma virus (HPV)	Cervical cancer	Sitas *et al.* (2008)
Loa loa	Endomyocardial fibrosis	Bukhman *et al.* (2008)
Malaria	Burkitt's lymphoma, epilepsy	Lehrer (2010); Ngoungou and Preux (2008); Rainey *et al.* (2007)
Schistosomiasis	Liver fibrosis, bladder cancer, hepatomegaly, chronic renal disease	Heyns and Merwe (2008); Manzella *et al.* (2008)
Trichuriasis	Inflammatory bowel disease, asthma	Bethony *et al.* (2006)

Scaling up Xpert MTB/RIF technology: the costs of laboratory vs. clinic-based roll-out in South Africa

Kathryn Schnippel et al. Tropical Medicine and International Health, Vol. 17, No. 9, pp. 1142

The World Health Organization recommends using Xpert MTB/RIF for diagnosis of pulmonary tuberculosis (PTB), but there is little evidence on the optimal placement of Xpert instruments in public health systems. In this study used recent South African data to compare the cost of placing Xpert at points of TB treatment (all primary clinics and hospitals) with the cost of placement at sub-district laboratories. Autors estimated Xpert's cost/test in a primary clinic pilot and in the pilot phase of the national Xpert roll-out to smear microscopy laboratories; the expected future volumes for each of 223 laboratories or 3799 points of treatment; the number and cost of Xpert instruments required and the national cost of using Xpert for PTB diagnosis for each placement scenario in 2014. In 2014, South Africa will test 2.6 million TB suspects. Laboratory placement requires 274 Xpert instruments, while point-of-treatment placement requires 4020 instruments. With an Xpert cartridge price of $14.00, the cost/test is $26.54 for laboratory placement and $38.91 for point-of-treatment placement. Low test volumes and a high number of sites are the major contributors to higher point-of-treatment costs. National placement of Xpert at laboratories would cost $71 million/year; point-of-treatment placement would cost $107 million/year, 51% more. Placing Xpert technology at points of treatment is substantially more expensive than placing the instruments in smear microscopy laboratories. The incremental benefits of point-of-treatment placement, in terms of better patient outcomes, will have to be equally substantial to justify the additional cost to the national health budget.

Cohort monitoring of persons with hypertension: an illustrated example from a primary healthcare clinic for Palestine refugees in Jordan

Ali Khader et al. Tropical Medicine and International Health, Vol. 17, No. 9, pp. 1163-1170

There were 97 newly registered patients with hypertension in quarter 1, 2012, and a total of 4130 patients with hypertension ever registered since E-Health started in October 2009. By 31 March 2012, 3119 (76%) of 4130 patients were retained in care, 878 (21%) had failed to present to a healthcare worker in the last 3 months and the remainder had died, transferred out or were lost to follow-up. Cumulative and 12-month cohort outcome analysis indicated deficiencies in several components of clinical performance related to blood pressure measurements and fasting blood glucose tests to screen simultaneously for diabetes. Between 8% and 15% of patients with HT had serious complications such as cardiovascular disease and stroke. Cohort analysis is a valuable tool for the monitoring and management of non-communicable chronic diseases such as HT.

Zinc as adjunct treatment in infants aged between 7 and 120 days with probable serious bacterial infection: a randomised, double-blind, placebo-controlled trial

Shinjini Bhatnagar et al. Lancet 2012, 379: 2072-78

Serious bacterial infections are a major cause of death in early infancy in developing countries. Inexpensive and accessible interventions that can add to the effect of standard antibiotic treatment could reduce infant mortality. We measured the effect of zinc as an adjunct to antibiotics in infants with probable serious bacterial infection. In this randomised, double-blind, placebo-controlled trial, we enrolled infants aged 7—120 days with probable serious bacterial infection at three hospitals in New Delhi, India, between July 6, 2005, and Dec 3, 2008. With computer-generated sequences, we randomly assigned infants in permuted blocks of six, stratified by whether patients were underweight or had diarrhoea at enrolment, to receive either 10 mg of zinc or placebo orally every day in addition to standard antibiotic treatment. The primary outcome was treatment failure, which was defined as a need to change antibiotics within 7 days of randomisation, or a need for intensive care, or death at any time within 21 days. Participants and investigators were masked to treatment allocation. All analyses were done by intention-to-treat. 352 infants were randomly assigned to receive zinc and 348 to placebo. 332 given zinc and 323 given placebo could be assessed for treatment failure. Significantly fewer treatment failures occurred in the zinc group (34 [10%]) than in the placebo group (55 [17%]; relative risk reduction 40%, 95% CI 10—60, p=0·0113; absolute risk reduction 6·8%, 1·5—12·0, p=0·0111).Treatment of 15 (95% CI eight to 67) infants with zinc would prevent one treatment failure. Ten infants receiving zinc died compared with 17 given placebo (relative risk 0·57, 0·27—1·23, p=0·15).

Zinc could be given as adjunct treatment to reduce the risk of treatment failure in infants aged 7—120 days with probable serious bacterial infection.

Department of Biotechnology, Government of India; the European Commission; the Meltzer Foundation; and the Research Council of Norway.

The initial health-system response to the earthquake in Christchurch, New Zealand, in February, 2011

Michael W. Ardagh et al. Lancet 2012, 379: 2109-15

Feb 22, 2011, an earthquake struck Christchurch, New Zealand, causing widespread destruction. The only regional acute hospital was compromised but was able to continue to provide care, supported by other hospitals and primary care facilities in the city. 6659 people were injured and 182 died in the initial 24 h. The massive peak ground accelerations, the time of the day, and the collapse of major buildings contributed to injuries, but the proximity of the hospital to the central business district, which was the most affected, and the provision of good medical care based on careful preparation helped reduce mortality and the burden of injury. Lessons learned from the health response to this earthquake include the need for emergency departments to prepare for: patients arriving by unusual means without prehospital

care, manual registration and tracking of patients, patient reluctance to come into hospital buildings, complete loss of electrical power, management of the many willing helpers, alternative communication methods, control of the media, and teamwork with clear leadership. Additionally, atypical providers of acute injury care need to be integrated into response plans.

Efficacy of Miltefosine in the Treatment of Visceral Leishmaniasis in India After a Decade of Use

Shyam Sundar et al. Tropical Infectious Diseases 2012, 55(4): 543-50

Miltefosine is the only oral drug available for treatment of Indian visceral leishmaniasis (VL), which was shown to have an efficacy of 94% in a phase III trial in the Indian subcontinent. Its unrestricted use has raised concern about its continued effectiveness. This study evaluates the efficacy and safety of miltefosine for the treatment of VL after a decade of use in India.

An open-label, noncomparative study was performed in which 567 patients received oral miltefosine (50 mg for patients weighing <25 kg, 100 mg in divided doses for those weighing ≥25 kg, and 2.5 mg per kg for those aged <12 years, daily for 28 days) in a directly observed manner. Patients were followed up for 6 months to see the response to therapy.

At the end of treatment the initial cure rate was 97.5% (intention to treat), and 6 months after the end of treatment the final cure rate was 90.3%. The overall death rate was 0.9% (5 of 567), and 2 deaths were related to drug toxicity. Gastrointestinal intolerance was frequent (64.5%). The drug was interrupted in 9 patients (1.5%) because of drug-associated adverse events. As compared to the phase III trial that led to registration of the drug a decade ago, there is a substantial increase in the failure rate of oral miltefosine for treatment of VL in India.

In Vitro Susceptibilities and Molecular Analysis of Vancomycin-Intermediate and Vancomycin- Resistant *Staphylococcus aureus* Isolates

Louis D. Saravolatz Tropical Infectious Diseases 2012, 55(4): 582-6

There is increasing frequency of vancomycin-intermediate and -resistant Staphylococcus aureus (VISA and VRSA) isolates identified in clinical practice. There are limited reports evaluating susceptibility patterns and molecular characteristics of these strains. Laboratory analysis was performed on 13 VRSA and 33 VISA isolates, including susceptibility testing by broth microdilution, detection of Panton-Valentine leukocidin (PVL) genes, arginine catabolic mobile element (ACME), and staphylococcal cassette chromosome mec typing using polymerase chain reaction. Strain typing using pulsed-field gel electrophoresis (PFGE) was performed on VRSA isolates. Telavancin, linezolid, tigecycline, and minocycline were active against >90% of VISA isolates, while >90% of VRSA isolates were susceptible to ceftaroline, daptomycin, linezolid, minocyline, tigecycline, rifampin, and trimethoprim/sulfamethoxazole. There were no VISA or VRSA isolates that carried PVL genes or ACME, and most strains (69.8%) were staphylococcal cassette chromosome mec type II. VRSA isolates were predominantly related to USA100 (53.8%) and none were related to USA300 or USA400.

A large number of available antimicrobial agents retain very good in vitro activity against VRSA and VISA isolates. The present isolates appear to be derived from healthcare-associated strains based on the absence of features associated with community-associated strains, and VRSA isolates are polyclonal by PFGE.

Rapid Diagnostic Tests for a Coordinated Approach to fever Syndromes in Low-resource Settings

Yansouni CP et al. Clin Infect Dis. 2012 Aug;55(4):610-1

This large unrecognized outbreak of severe disease from a clonal strain of *Salmonella* illustrates the pitfals of focusing on a single pathogen, sucha s malaria, in patients presenting with febrile illnesses in low-resource settings. Futher, widespread adoption of malaria rapid diagnostic tests (RDT) has resulted in dramatic increases in empiric antibacterial use among

the three-quarters of febrile patients in whom no malaria is found. This dichotomous diagnostic approach can only fuel emerging antimicrobial resistance in the settings that can least afford it.

Current rabies vaccines and prophylaxis schedules: Preventing rabies before and after exposure

Warell M. J. et al. Tropical Medicine and Infectious Disease 2012, 10, 1-15

Travellers are probably the largest group in the general population to receive rabies pre-exposure prophylaxis. The dangerous consequences of the unavailability of rabies immune globulin in many countries could be ameliorated if pre-exposure rabies vaccination were practised more widely, especially in children, living in dog rabies enzootic countries. The WHO has recommended several different regimens for post-exposure prophylaxis, while individual countries decide on protocols for local use. Intramuscular regimens are expensive and waste vaccine. Although failure to receive vaccine is usually the due to the cost, the economical potential of intradermal vaccination has still not been realised 19 years after its introduction. The currently recommended 2-site intradermal post-exposure regimen is not economical for use in rural areas where 80% of Indian rabies deaths occur. Most countries using it demand higher potency vaccine, indicating that they do not have complete confidence in the method. This intradermal regimen has only been used where immunoglobulin is likely to be available for severely bitten patients. Increased intradermal doses are sometimes used for selected patients. Provision of economical rabies prophylaxis can be improved. Decisions to change recommendations should take account of the immunological, financial, practical and logistical aspects of dog bite treatment in remote areas.

Adherence to artemether/lumefantrine treatment in children under real-life situations in rural Tanzania

Daudi O. Simba et al. Transaction of the Royal Society of Tropical Medicine and Hygiene 106(2012)3-9

A follow-up study was conducted to determine the magnitude of and factors related to adherence to artemether/lumefantrine (ALu) treatment in rural settings in Tanzania. Children in five villages of Kilosa District treated at health facilities were followed-up at their homes on Day 7 after the first dose of ALu. For those found to be positive using a rapid diagnostic test for malaria and treated with ALu, their caretakers were interviewed on drug administration habits. In addition, capillary blood samples were collected on Day 7 to determine lumefantrine concentrations. The majority of children (392/444; 88.3%) were reported to have received all doses, in time. Non-adherence was due to untimeliness rather than missing doses and was highest for the last two doses. No significant difference was found between blood lumefantrine concentrations among adherent (median 286 nmol/l) and non-adherent [median 261 nmol/l; range 25 nmol/l (limit of quantification) to 9318 nmol/l]. Children from less poor households were more likely to adhere to therapy than the poor [odds ratio (OR)=2.45, 95% CI 1.35-4.45; adjusted OR=2.23, 95% CI 1.20-4.13]. The high reported rate of adherence to ALu in rural areas is encouraging and needs to be preserved to reduce the risk of emergence of resistant strains. The age-based dosage schedule and lack of adherence to ALu treatment guidelines by health facility staff may explain both the huge variability in observed lumefantrine concentrations and the lack of difference in concentrations between the two groups.

Morbidity and mortality of severe malnutrition among Sudanese children in New Halfa Hospital, Eastern Sudan

Hyder M. Mahgoub et al. Transaction of the Royal Society of Tropical Medicine and Hygiene 106(2012) 66-68

Medical files of children with severe malnutrition admitted at New Halfa hospital, Sudan during 2007-2009 were reviewed. A total of 1097 children (54.9%, 602 male) with severe

malnutrition were admitted during the three year period. Oedematous severe malnutrition was found in 179 (16.3%) children. Of these 1097, 796 (72.6%) patients with severe malnutrition were children <2 years old. Out of these 1097 children, 780 (71.1%) and 112 (10.2%) had diarrhoea and malaria, respectively. Sixty-one (5.5%) of these children died, 237 (21.6%) discharged against medical advice and 799 (72.8%) were discharged. Of the 61 children who died 11 (18.0%) had septicaemia following diarrhoea and respiratory tract infections. The case fatality rate was not different with sex or with presence/absence of oedema.

Nerve damage in leprosy: a continuing challenge to scientists, clinicians and service providers

Diana N. Lockwood et al. International health 4 (2012) 77-85

This review focuses on nerve damage in leprosy. We present evidence to support the argument that leprosy is best seen as a chronic neurological condition rather than a simple skin disease. Nerve damage affects small dermal nerves and peripheral nerve trunks. Perineural inflammation is a characteristic and hallmark of early leprosy. T cell-mediated inflammation is the main pathological process in leprosy nerve damage. The level of nerve damage in leprosy is high with up to 60% of multibacillary patients having clinically apparent nerve damage at the time of diagnosis; 30% of patents may develop further nerve damage during treatment and 10% may develop new nerve damage after drug treatment. Since the nerve damage is immune mediated, the antibiotics used to treat *Mycobacterium leprae* infection have little effect on the accompanying nerve damage. This requires treatment with immunosuppressants to stop the inflammation. Treatment of nerve damage with steroids can be effective but about 50% of patients relapse and require a further course of steroids. Research is needed to refine steroid regimens to be used and define appropriate alternatives. Neuropathic pain is now being recognised as another late complication for leprosy patients. There are also service challenges relating to how best to identify patients who need steroid treatment and how to manage patients with established neuropathy who may require health services for many years.

Mortality after surgery in Europe: a 7 day cohort study

Rupert M. Pearse et al. Lancet 2012, 380: 1059-65

Clinical outcomes after major surgery are poorly described at the national level. Evidence of heterogeneity between hospitals and health-care systems suggests potential to improve care for patients but this potential remains unconfirmed. The European Surgical Outcomes Study was an international study designed to assess outcomes after non-cardiac surgery in Europe. We did this 7 day cohort study between April 4 and April 11, 2011. We collected data describing consecutive patients aged 16 years and older undergoing inpatient non-cardiac surgery in 498 hospitals across 28 European nations. Patients were followed up for a maximum of 60 days. The primary endpoint was in-hospital mortality. Secondary outcome measures were duration of hospital stay and admission to critical care. We used $\chi 2$ and Fisher's exact tests to compare categorical variables and the *t* test or the Mann-Whitney *U* test to compare continuous variables. Significance was set at $p<0{\cdot}05$. We constructed multilevel logistic regression models to adjust for the differences in mortality rates between countries. We included 46 539 patients, of whom 1855 (4%) died before hospital discharge. 3599 (8%) patients were admitted to critical care after surgery with a median length of stay of 1·2 days (IQR 0·9—3·6). 1358 (73%) patients who died were not admitted to critical care at any stage after surgery. Crude mortality rates varied widely between countries (from 1·2% [95% CI 0·0—3·0] for Iceland to 21·5% [16·9—26·2] for Latvia). After adjustment for confounding variables, important differences remained between countries when compared with the UK, the country with the largest dataset (OR range from 0·44 [95% CI 0·19—1·05; p=0·06] for Finland to 6·92 [2·37—20·27; p=0·0004] for Poland).

The mortality rate for patients undergoing inpatient non-cardiac surgery was higher than anticipated. Variations in mortality between countries suggest the need for national and international strategies to improve care for this group of patients.

Perioperative and anaesthetic-related mortality in developed and developing countries: a systematic review and meta-analysis

Daniel Bainbridge et al. Lancet 2012, 380: 1075-81

The magnitude of risk of death related to surgery and anaesthesia is not well understood. We aimed to assess whether the risk of perioperative and anaesthetic-related mortality has decreased over the past five decades and whether rates of decline have been comparable in developed and developing countries. We did a systematic review to identify all studies published up to February, 2011, in any language, with a sample size of over 3000 that reported perioperative mortality across a mixed surgical population who had undergone general anaesthesia. Using standard forms, two authors independently identified studies for inclusion and extracted information on rates of anaesthetic-related mortality, perioperative mortality, cardiac arrest, American Society of Anesthesiologists (ASA) physical status, geographic location, human development index (HDI), and year. The primary outcome was anaesthetic sole mortality. Secondary outcomes were anaesthetic contributory mortality, total perioperative mortality, and cardiac arrest. Meta-regression was done to ascertain weighted event rates for the outcomes. 87 studies met the inclusion criteria, within which there were more than 21·4 million anaesthetic administrations given to patients undergoing general anaesthesia for surgery. Mortality solely attributable to anaesthesia declined over time, from 357 per million (95% CI 324-394) before the 1970s to 52 per million (42-64) in the 1970s-80s, and 34 per million (29-39) in the 1990s-2000s ($p<0·00001$). Total perioperative mortality decreased over time, from 10,603 per million (95% CI 10,423-10,784) before the 1970s, to 4533 per million (4405-4664) in the 1970s-80s, and 1176 per million (1148-1205) in the 1990s-2000s ($p<0·0001$). Meta-regression showed a significant relation between risk of perioperative and anaesthetic-related mortality and HDI (all $p<0·00001$). Baseline risk status of patients who presented for surgery as shown by the ASA score increased over the decades ($p<0·0001$). Despite increasing patient baseline risk, perioperative mortality has declined significantly over the past 50 years, with the greatest decline in developed countries. Global priority should be given to reducing total perioperative and anaesthetic-related mortality by evidence-based best practice in developing countries.

Untreated surgical conditions in Sierra Leone: a cluster randomised, cross-sectional, countrywide survey

Reinou S. et al. Groen Lancet 2012, 380: 1082-87

Surgical care is increasingly recognised as an important part of global health yet data for the burden of surgical disease are scarce. The Surgeons OverSeas Assessment of Surgical Need (SOSAS) was developed to measure the prevalence of surgical conditions and surgically treatable deaths in low-income and middle-income countries. We administered this survey countrywide in Sierra Leone, which ranks 180 of the 187 nations on the UN Development Index. The study was done between Jan 9 and Feb 3, 2012. 75 of 9671 enumeration areas, the smallest administrative units in Sierra Leone, were randomly selected for the study clusters, with a probability proportional to the population size. In each cluster 25 households were randomly selected to take part in the survey. Data were collected via handheld tablets by trained local medical and nursing students. A household representative was interviewed to establish the number of household members (defined as those who ate from the same pot and slept in the same structure the night before the interview), identify deaths in the household during the previous year, and establish whether any of the deceased household members had a condition needing surgery in the week before death. Two randomly selected household members underwent a head-to-toe verbal examination and need for surgical care was recorded on the basis of the response to whether they had a condition that they believed needed surgical assessment or care. Of the 1875 targeted households, data were analysed for 1843 (98%). 896 of 3645 (25%; 95% CI 22·9—26·2) respondents reported a surgical condition needing attention and 179 of 709 (25%; 95% CI 22·5—27·9) deaths of household members in the previous year might have been averted by timely surgical care. Our results show a large unmet need for surgical consultations in Sierra Leone and provide a baseline against which future surgical programmes can be measured. Additional surveys in other low-income and middle-income countries are needed to document and confirm what seems to be a neglected component of global health.

Clusters of leprosy transmission and of late diagnosis in a highly endemic area in Brazil: focus on different spatial analysis

Carlos H. Alencar et al. Tropical Medicine and International Health, Vol. 17, No. 4, pp: 518

A total of 254 (68.0%) municipalities were classified as hyperendemic (mean annual detection rates >40 cases/100 000 inhabitants). There was a concentration of municipalities with higher detection rates in Pará and in the center of Maranhão. Spatial scan statistic identified 23 likely clusters of new leprosy case detection rates, most of them localized in these two states. These clusters included only 32% of the total population, but 55.4% of new leprosy cases. We also identified 16 significant clusters for the detection rate <15 years and 11 likely clusters of new cases with grade-2. Several clusters of new cases with grade-2/population overlap with those of new cases detection and detection of children <15 years of age. The proportion of new cases with grade-2 did not reveal any significant clusters.

Rural electrification in Brazil and implications for schistosomiasis transmission: a preliminary study in a rural community in Minas Gerais State, Brazil

Helmut Kloos et al. Tropical Medicine and International Health, Vol. 17, No. 4, pp: 526-530

Our results indicate that further studies are needed to determine the infectivity of well water and its impact on schistosomiasis transmission.

Virological Failure and Drug Resistance in Patients on Antiretroviral Therapy After Treatment Interruption in Lilongwe, Malawi

Julia Luebbert et al. CID 2012, 55(3):441-8

Since 2004, Malawi has rapidly scaled up access to antiretroviral therapy (ART) in the national program following a public health approach with limited laboratory monitoring. We examined virological outcomes in patients with treatment interruption at 2 clinics of the Lighthouse Trust, Lilongwe, Malawi. We evaluated patients who resumed first-line ART after having at least 1 treatment interruption documented in the electronic data system in 2008-2009. Viral load (VL) was analyzed at least 2 months after resumption of ART. For VL ≥1000 copies/mL, drug-resistance genotype was characterized using the Stanford database. Between June and November 2009, we enrolled 133 patients (58.7% female) with a mean age of 38.4 years. Mean duration of ART prior to treatment interruption was 14.3 months. After a minimum of 2 months following ART resumption, VL was undetectable in 81 (60.9%) patients, was 400-1000 copies/mL in 12 (9.0%) patients, and was ≥1000 copies/mL in 40 (30.1%) patients. Genotyping and drug-resistance testing were successfully performed for 36 of 40 patients, all carrying human immunodeficiency virus type 1 subtype C. Relevant mutations affecting nonnucleoside reverse transcriptase inhibitors were found in 32 of 133 (24.1%) patients and combined with relevant nucleoside reverse transcriptase mutations in 27 of 133 (20.3%) patients. Virological failure combined with drug resistance after resumption of first-line ART occurred in 24.1% of the patients with treatment interruption, requiring a switch to protease inhibitor-based second-line therapy. Patients with treatment interruption should receive VL assessment after resumption of ART to detect treatment failure and to reduce development and spread of drug resistance.

Procalcitonin to Guide Initiation and Duration of Antibiotic Treatment in Acute Respiratory Infections: An Individual Patient Data Meta- Analysis

Philipp Schuetz et al. CID 2012, 55(5): 651-62

Procalcitonin algorithms may reduce antibiotic use for acute respiratory tract infections (ARIs). We undertook an individual patient data meta-analysis to assess safety of this approach in different ARI diagnoses and different clinical settings. We identified clinical trials in which patients with ARI were assigned to receive antibiotics based on a procalcitonin algorithm or usual care by searching the Cochrane Register, MEDLINE, and EMBASE. Individual patient data from 4221 adults with ARIs in 14 trials were verified and reanalyzed to assess risk of mortality and treatment failure-overall and within different clinical settings and types of ARIs. Overall, there were 118 deaths in 2085 patients (5.7%) assigned to procalcitonin groups compared with 134 deaths in 2126 control patients (6.3%; adjusted odds ratio, 0.94; 95% confidence interval CI, .71-1.23)]. Treatment failure occurred in 398

procalcitonin group patients (19.1%) and in 466 control patients (21.9%; adjusted odds ratio, 0.82; 95% CI, .71-.97). Procalcitonin guidance was not associated with increased mortality or treatment failure in any clinical setting or ARI diagnosis. Total antibiotic exposure per patient was significantly reduced overall (median [interquartile range], from 8 [5-12] to 4 [0-8] days; adjusted difference in days, -3.47 [95% CI, -3.78 to -3.17]) and across all clinical settings and ARI diagnoses. Use of procalcitonin to guide initiation and duration of antibiotic treatment in patients with ARIs was effective in reducing antibiotic exposure across settings without an increase in the risk of mortality or treatment failure. Further high-quality trials are needed in critical-care patients.

An Outbreak of Shiga Toxin-Producing Escherichia coli O104:H4 Hemolytic Uremic Syndrome in Germany: Presentation and Shortterm Outcome in Children

Sebastian Loos et al. CID 2012, 55(6): 753-9

In May and June 2011 the largest known outbreak of hemolytic uremic syndrome (HUS) occurred in northern Germany. Because, quite unusually, a large number of adults was affected and the causative Escherichia coli strain, serotype O104:H4, showed an atypical virulence factor pattern, it was speculated that this outbreak was associated with an aggressive course and an unfavorable prognosis also in children. Retrospective analysis of medical records of 90 children and comparison to previous outbreak and sporadic case series. Median age was unusually high (11.5 years) compared with that in historical series. Only 1 patient (1.1%) died in the acute phase. Most patients (67/90 [74%]) received supportive care only. Renal replacement therapy was required in 64 of 90 (71%) of the children. Neurological complications, mainly seizures and altered mental stage, were present in 23 of 90 (26%) patients. Ten patients received plasmapheresis, 6 eculizumab, and 7 a combination of both. After a median follow-up of 4 months, renal function normalized in 85 of 90 (94%) patients, whereas 3 patients had chronic kidney disease stage 3 or 4, and 1 patient (1.1%) still requires dialysis. Complete neurological recovery occurred in 18 of 23 patients. Mild to moderate and major residual neurological changes were present in 3 patients and 1 patient, respectively, although all patients were still improving.

E. coli O104:H4 caused the largest HUS outbreak in children reported in detail to date and most patients received supportive treatment only. Initial morbidity, as well as short-term outcome, due to this pathogen, is comparable to previous pediatric series of Shiga toxin-producing E. coli HUS.

The Role of Asymptomatic Bacteriuria in Young Women With Recurrent Urinary Tract Infections: To Treat or Not to Treat?

Tommaso Cai et al. CID 2012, 55(6): 771-7

Little is known about the role of asymptomatic bacteriuria (AB) treatment in young women affected by recurrent urinary tract infection (UTI). We aimed to evaluate the impact of AB treatment on the recurrence rate among young women affected by recurrent UTI. A total of 673 consecutive asymptomatic young women with demonstrated bacteriuria from January 2005 to December 2009 were prospectively enrolled. Patients were split into 2 groups: not treated (group A, n = 312) and treated (group B, n = 361). Microbiological and clinical evaluations were performed at 3, 6, and 12 months. Quality of life was also measured. Recurrence-free rate at the end of the entire study period was the main outcome measure. At baseline, the 2 most commonly isolated pathogens were Escherichia coli (group A, 38.4%; group B, 39.3%) and Enterococcus faecalis (group A, 32.7%; group B, 33.2%). At the first follow-up visit, there was no difference between the 2 groups (relative risk [RR], 1.05; 95% confidence interval [CI], 1.01-1.10), whereas after 6 months, 23 (7.6%) in group A and 98 (29.7%) in group B showed recurrence with a statistically significant difference (RR, 1.31; 95% CI, 1.21-1.42; P < .0001). At the last follow-up, 41 (13.1%) in group A and 169 (46.8%) in group B showed recurrence (RR, 3.17; 95% CI, 2.55-3.90; P < .0001). One patient in group A and 2 patients in group B were found to have pyelonephritis. This study shows that AB

should not be treated in young women affected by UTI, suggesting it may play a protective role in preventing symptomatic recurrence.

Costs of Healthcare- and Community-Associated Infections With Antimicrobial–Resistant Versus Antimicrobial-Susceptible Organisms

Matthew J. Neidell et al. CID 2012, 55(6): 807-15

We compared differences in the hospital charges, length of hospital stay, and mortality between patients with healthcare- and community-associated bloodstream infections, urinary tract infections, and pneumonia due to antimicrobial-resistant versus -susceptible bacterial strains. . A retrospective analysis of an electronic database compiled from laboratory, pharmacy, surgery, financial, and patient location and device utilization sources was undertaken on 5699 inpatients who developed healthcare- or community-associated infections between 2006 and 2008 from 4 hospitals (1 community, 1 pediatric, 2 tertiary/quaternary care) in Manhattan. The main outcome measures were hospital charges, length of stay, and mortality among patients with antimicrobial-resistant and -susceptible infections caused by Staphylococcus aureus, Enterococcus faecium, Enterococcus faecalis, Klebsiella pneumoniae, Pseudomonas aeruginosa, and Acinetobacter baumannii. . Controlling for multiple confounders using linear regression and nearest neighbor matching based on propensity score estimates, resistant healthcare- and community-associated infections, when compared with susceptible strains of the same organism, were associated with significantly higher charges ($15 626; confidence interval [CI], $4339–$26 913 and $25 573; CI, $9331–$41 816, respectively) and longer hospital stays for community-associated infections (3.3; CI, 1.5–5.4). Patients with resistant healthcare-associated infections also had a significantly higher death rate (0.04; CI, 0.01–0.08). . With careful matching of patients infected with the same organism, antimicrobial resistance was associated with higher charges, length of stay, and death rates. The difference in estimates after accounting for censoring for death highlight divergent social and hospital incentives in reducing patient risk for antimicrobial resistant infections.

Efficacy and safety of tigecycline for the treatment of infectious diseases: a meta-analysis

Efthimia Tasina et al. Lancet 2011, 11: 834-44

Multidrug resistance among bacteria increases the need for new antimicrobial drugs with high potency and stability. Tigecycline is one candidate drug, and a previous meta-analysis of only published randomised controlled trials suggested that it might as effective as comparator treatments; we did a meta-analysis to include new and unpublished trials to assess its efficacy for the treatment of adult patients with serious bacterial infection. We searched PubMed, Cochrane Central Register, and Embase up to March 30, 2011, to identify published studies, and we searched clinical trial registries to identify completed unpublished studies, the results of which were obtained through the manufacturer. Eligible studies were randomised trials assessing the clinical efficacy, safety, and eradication efficiency of tigecycline versus other antimicrobial agents for any bacterial infection. The primary outcome was treatment success in patients who received at least one dose of the study drug, had clinical evidence of disease, and had complete follow-up (the clinically assessable population). Meta-analysis was done with random-effects models because of heterogeneity across the trials. 14 randomised trials, comprising about 7400 patients, were included. Treatment success was lower with tigecycline than with control antibiotic agents, but the difference was not significant (odds ratio 0·87, 95% CI 0·74—1·02). Adverse events were more frequent in the tigecycline group than in the control groups (1·45, 1·11—1·88), with significantly more vomiting and nausea. All-cause mortality was higher in the tigecycline group than in the comparator groups, but the difference was not significant (1·28, 0·97—1·69). Eradication efficiency did not differ between tigecycline and control regimens, but the sample size for these comparisons was small.

Tigecycline is not better than standard antimicrobial agents for the treatment of serious infections. Our findings show that assessment with unpublished studies is needed to make appropriate decisions about new agents.

Efficacy and effectiveness of influenza vaccines: a systematic review and meta-analysis
Michael T. Osterholm et al. Lancet 2012, 12: 36-44
No published meta-analyses have assessed efficacy and effectiveness of licensed influenza vaccines in the USA with sensitive and highly specific diagnostic tests to confirm influenza.
We searched Medline for randomised controlled trials assessing a relative reduction in influenza risk of all circulating influenza viruses during individual seasons after vaccination (efficacy) and observational studies meeting inclusion criteria (effectiveness). Eligible articles were published between Jan 1, 1967, and Feb 15, 2011, and used RT-PCR or culture for confirmation of influenza. We excluded some studies on the basis of study design and vaccine characteristics. We estimated random-effects pooled efficacy for trivalent inactivated vaccine (TIV) and live attenuated influenza vaccine (LAIV) when data were available for statistical analysis (eg, at least three studies that assessed comparable age groups).
We screened 5707 articles and identified 31 eligible studies (17 randomised controlled trials and 14 observational studies). Efficacy of TIV was shown in eight (67%) of the 12 seasons analysed in ten randomised controlled trials (pooled efficacy 59% [95% CI 51—67] in adults aged 18—65 years). No such trials met inclusion criteria for children aged 2—17 years or adults aged 65 years or older. Efficacy of LAIV was shown in nine (75%) of the 12 seasons analysed in ten randomised controlled trials (pooled efficacy 83% [69—91]) in children aged 6 months to 7 years. No such trials met inclusion criteria for children aged 8—17 years. Vaccine effectiveness was variable for seasonal influenza: six (35%) of 17 analyses in nine studies showed significant protection against medically attended influenza in the outpatient or inpatient setting. Median monovalent pandemic H1N1 vaccine effectiveness in five observational studies was 69% (range 60—93). Influenza vaccines can provide moderate protection against virologically confirmed influenza, but such protection is greatly reduced or absent in some seasons. Evidence for protection in adults aged 65 years or older is lacking. LAIVs consistently show highest efficacy in young children (aged 6 months to 7 years). New vaccines with improved clinical efficacy and effectiveness are needed to further reduce influenza-related morbidity and mortality.

Fidaxomicin versus vancomycin for infection with Clostridium difficile in Europe, Canada and the USA: a double-blind, non-inferiority, randomised controlled trial
Oliver A. Cornely et al. Lancet 2012, 12: 281-89
Infection with *Clostridium difficile* is the primary infective cause of antibiotic-associated diarrhoea. We aimed to compare efficacy and safety of fidaxomicin and vancomycin to treat patients with *C difficile* infection in Europe, Canada, and the USA. In this multicentre, double-blind, randomised, non-inferiority trial, we enrolled patients from 45 sites in Europe and 41 sites in the USA and Canada between April 19, 2007, and Dec 11, 2009. Eligible patients were aged 16 years or older with acute, toxin-positive *C difficile* infection. Patients were randomly allocated (1:1) to receive oral fidaxomicin (200 mg every 12 h) or oral vancomycin (125 mg every 6 h) for 10 days. The primary endpoint was clinical cure, defined as resolution of diarrhoea and no further need for treatment. An interactive voice-response system and computer-generated randomisation schedule gave a randomisation number and medication kit number for each patient. Participants and investigators were masked to treatment allocation. Non-inferiority was prespecified with a margin of 10%. Modified intention-to-treat and per-protocol populations were analysed. This study is registered with ClinicalTrials.gov, number NCT00468728. Of 535 patients enrolled, 270 were assigned fidaxomicin and 265 vancomycin. After 26 patients were excluded, 509 were included in the modified intention-to-treat (mITT) population. 198 (91·7%) of 216 patients in the per-protocol population given fidaxomicin achieved clinical cure, compared with 213 (90·6%) of 235 given vancomycin,

meeting the criterion for non-inferiority (one-sided 97·5% CI −4·3%). Non-inferiority was also shown for clinical cure in the mITT population, with 221 (87·7%) of 252 patients given fidaxomicin and 223 (86·8%) of 257 given vancomycin cured (one-sided 97·5% CI −4·9%). In most subgroup analyses of the primary endpoint in the mITT population, outcomes in the two treatment groups did not differ significantly; although patients receiving concomitant antibiotics for other infections had a higher cure rate with fidaxomicin (46 [90·2%] of 51) than with vancomycin (33 [73·3%] of 45; p=0·031). Occurrence of treatment-emergent adverse events did not differ between groups. 20 (7·6%) of 264 patients given at least one dose of fidaxomicin and 17 (6·5%) of 260 given vancomycin died. Fidaxomicin could be an alternative treatment for infection with *C difficile*, with similar efficacy and safety to vancomycin.

Daclatasvir for previosly untreated chronic hepatitis C genotype-1 infection: a randomised, paralel-group, double-blind, placebo-controlled, dose-finding, phase 2a trial

Stanislas Pol et al. Lancet 2012, 12: 617-77

Daclatasvir seems to be a potent NS5A replication complex inhibitor that increases the antiviral potency of peginterferon and ribavirin. Our findings support the further development of regimens containing 60 mg daclatasvir for the treatment of chronic genotype-1 HCV infection.

Effectiveness and safety of drotrecogin alfa (activated) for severe sepsis: a meta-analysis and metaregression

Andre C. Kalil et al. Lancet 2012, 12: 678-86

Real-life use of drotrecrogin alfa (activated) was associated with significant reduction in hospital mortality and increased rates of bleeding in patients with severe sepsis. Our effectiveness findings were in line with the PROWESS trial but not with the PROWESS-SHOCK trial.

How changes in coverage affect equity in maternal and child health interventions in 35 Countdown to 2015 countries: an analysis of national surveys

Cesar G. Victora et al. Lancet 2012, 380: 1149-56

Achievement of global health goals will require assessment of progress not only nationally but also for population subgroups. We aimed to assess how the magnitude of socioeconomic inequalities in health changes in relation to different rates of national progress in coverage of interventions for the health of mothers and children. We assessed coverage in low-income and middle-income countries for which two Demographic Health Surveys or Multiple Indicator Cluster Surveys were available. We calculated changes in overall coverage of skilled birth attendants, measles vaccination, and a composite coverage index, and examined coverage of a newly introduced intervention, use of insecticide-treated bednets by children. We stratified coverage data according to asset-based wealth quintiles, and calculated relative and absolute indices of inequality. We adjusted correlation analyses for time between surveys and baseline coverage levels. We included 35 countries with surveys done an average of 9·1 years apart. Pro-rich inequalities were very prevalent. We noted increased coverage of skilled birth attendants, measles vaccination, and the composite index in most countries from the first to the second survey, while inequalities were reduced. Rapid changes in overall coverage were associated with improved equity. These findings were not due to a capping effect associated with limited scope for improvement in rich households. For use of insecticide-treated bednets, coverage was high for the richest households, but countries making rapid progress did almost as well in reaching the poorest groups. National increases in coverage were primarily driven by how rapidly coverage increased in the poorest quintiles.

Countdown to 2015: changes in official development assistance to maternal, newborn and child health in 2009-10 and assessment of progress since 2003

Justine Hsu et al. Lancet 2012, 380: 1157-68

Tracking of financial resources to maternal, newborn, and child health provides crucial information to assess accountability of donors. We analysed official development assistance (ODA) flows to maternal, newborn, and child health for 2009 and 2010, and assessed progress since our monitoring began in 2003. We coded and analysed all 2009 and 2010 aid activities from the database of the Organisation for Economic Co-operation and Development, according to a functional classification of activities and whether all or a proportion of the value of the disbursement contributed towards maternal, newborn, and child health. We analysed trends since 2003, and reported two indicators for monitoring donor disbursements: ODA to child health per child and ODA to maternal and newborn health per livebirth. We analysed the degree to which donors allocated ODA to 74 countries with the highest maternal and child mortality rates (Countdown priority countries) with time and by type of donor. Donor disbursements to maternal, newborn, and child health activities in all countries continued to increase, to $6511 million in 2009, but slightly decreased for the first time since our monitoring started, to $6480 million in 2010. ODA for such activities to the 74 Countdown priority countries continued to increase in real terms, but its rate of increase has been slowing since 2008. We identified strong evidence that targeting of ODA to countries with high rates of maternal mortality improved from 2005 to 2010. Targeting of ODA to child health also improved but to a lesser degree. The share of multilateral funding continued to decrease but, relative to bilaterals and global health initiatives, was better targeted. The recent slowdown in the rate of funding increases is worrying and likely to partly result from the present financial crisis. Tracking of donor aid should continue, to encourage donor accountability and to monitor performance in targeting aid flows to those in most need.

Bill & Melinda Gates Foundation; World Bank; Governments of Australia, Canada, Norway, Sweden, and the UK.

Reduction in child mortality in Niger: a Countdown to 2015 country case study

Agbessi Amouzou et al. Lancet 2012, 380: 1169-78

The Millennium Development Goal 4 (MDG 4) is to reduce by two-thirds the mortality rate of children younger than 5 years, between 1990 and 2015. The 2012 Countdown profile shows that Niger has achieved far greater reductions in child mortality and gains in coverage for interventions in child survival than neighbouring countries in west Africa. Countdown therefore invited Niger to do an in-depth analysis of their child survival programme between 1998 and 2009. We developed new estimates of child and neonatal mortality for 1998—2009 using a 2010 household survey. We recalculated coverage indicators using eight nationally-representative surveys for that period, and documented maternal, newborn, and child health programmes and policies since 1995. We used the Lives Saved Tool (LiST) to estimate the child lives saved in 2009. The mortality rate in children younger than 5 years declined significantly from 226 deaths per 1000 livebirths (95% CI 207—246) in 1998 to 128 deaths (117—140) in 2009, an annual rate of decline of 5·1%. Stunting prevalence decreased slightly in children aged 24—35 months, and wasting declined by about 50% with the largest decreases in children younger than 2 years. Coverage increased greatly for most child survival interventions in this period. Results from LiST show that about 59 000 lives were saved in children younger than 5 years in 2009, attributable to the introduction of insecticide-treated bednets (25%); improvements in nutritional status (19%); vitamin A supplementation (9%); treatment of diarrhoea with oral rehydration salts and zinc, and careseeking for fever, malaria, or childhood pneumonia (22%); and vaccinations (11%). Government policies supporting universal access, provision of free health care for pregnant women and children, and

decentralised nutrition programmes permitted Niger to decrease child mortality at a pace that exceeds that needed to meet the MDG 4.
Bill & Melinda Gates Foundation; World Bank; Governments of Australia, Canada, Norway, Sweden, and the UK; and UNICEF.

Mumps Outbreak in Orthodox Jewish Communities in the United States
Albert E. Barskey et al. N Engl J Med, 367, 18, 2012
By 2005, vaccination had reduced the annual incidence of mumps in the United States by more than 99%, with few outbreaks reported. However, in 2006, a large outbreak occurred among highly vaccinated populations in the United States, and similar outbreaks have been reported worldwide. The outbreak described in this report occurred among U.S. Orthodox Jewish communities during 2009 and 2010. Cases of salivary-gland swelling and other symptoms clinically compatible with mumps were investigated, and demographic, clinical, laboratory, and vaccination data were evaluated. From June 28, 2009, through June 27, 2010, a total of 3502 outbreak-related cases of mumps were reported in New York City, two upstate New York counties, and one New Jersey county. Of the 1648 cases for which clinical specimens were available, 50% were laboratory-confirmed. Orthodox Jewish persons accounted for 97% of case patients. Adolescents 13 to 17 years of age (27% of all patients) and males (78% of patients in that age group) were disproportionately affected. Among case patients 13 to 17 years of age with documented vaccination status, 89% had previously received two doses of a mumps-containing vaccine, and 8% had received one dose. Transmission was focused within Jewish schools for boys, where students spend many hours daily in intense, face-to-face interaction. Orchitis was the most common complication (120 cases, 7% of male patients ≥12 years of age), with rates significantly higher among unvaccinated persons than among persons who had received two doses of vaccine. The epidemiologic features of this outbreak suggest that intense exposures, particularly among boys in schools, facilitated transmission and overcame vaccine-induced protection in these patients. High rates of two-dose coverage reduced the severity of the disease and the transmission to persons in settings of less intense exposure.

Evaluation of Immigrant Tuberculosis Screening in Industrialized Countries
Manish Pareek et al. Emerging Infectious Diseases, 2012, Vol. 18, No. 9 x
In industrialized countries, tuberculosis (TB) cases are concentrated among immigrants and driven by reactivation of imported latent TB infection (LTBI). We examined mechanisms used to screen immigrants for TB and LTBI by sending an anonymous, 18-point questionnaire to 31 member countries of the Organisation for Economic Co-operation and Development. Twenty-nine (93.5%) of 31 responded; 25 (86.2%) screened immigrants for active TB. Fewer countries (16/29, 55.2%) screened for LTBI. Marked variations were observed in targeted populations for age (range <5 years of age to all age groups) and TB incidence in countries of origin of immigrants (>20 cases/100,000 population to >500 cases/100,000). LTBI screening was conducted in 11/16 countries by using the tuberculin skin test. Six countries used interferon-γ release assays, primarily to confirm positive tuberculin skin test results. Industrialized countries performed LTBI screening infrequently and policies varied widely. There is an urgent need to define the cost-effectiveness of LTBI screening strategies for immigrants.

Old Drugs, New Purpose: Retooling Existing Drugs for Optimized Treatment of Resistant Tuberculosis
Kelly E. Dooley et al. Tropical Infectious Diseases 2012, 55(4): 572-81
Treatment of drug-resistant tuberculosis is hindered by the high toxicity and poor efficacy of second-line drugs. New compounds must be used together with existing drugs, yet clinical trials to optimize combinations of drugs for drug-resistant tuberculosis are lacking. We conducted an extensive review of existing in vitro, animal, and clinical studies involving World Health Organization-defined group 1, 2, and 4 drugs used in drug-resistant tuberculosis regimens to inform clinical trials and identify critical research questions. Results suggest that optimizing the dosing of pyrazinamide, the injectables, and isoniazid for drug-resistant

tuberculosis is a high priority. Additional pharmacokinetic, pharmacodynamic, and toxicodynamic studies are needed for pyrazinamide and ethionamide. Clinical trials of the comparative efficacy and appropriate treatment duration of injectables are recommended. For isoniazid, rapid genotypic tests for Mycobacterium tuberculosis mutations should be nested in clinical trials. Further research focusing on optimization of dose and duration of drugs with activity against drug-resistant tuberculosis is paramount.

Screening of patients with tuberculosis for diabetes mellitus in China

Liang Li Tropical Medicine and International Health, Vol. 17, No. 10, pp. 1294-1301

There is a high burden of both diabetes (DM) and tuberculosis (TB) in China, and this study aimed to assess feasibility and results of screening patients with TB for DM within the routine healthcare setting of six health facilities. Agreement on how to screen, monitor and record was reached in May 2011 at a stakeholders' meeting, and training was carried out for staff in the six facilities in July 2011. Implementation started in September 2011, and we report on 7 months of activities up to 31 March 2012. There were 8886 registered patients with TB. They were first asked whether they had DM. If the answer was no, they were screened with a random blood glucose (RBG) followed by fasting blood glucose (FBG) in those with RBG $\geq$ 6.1 mm (one facility) or with an initial FBG (five facilities). Those with FBG $\geq$ 7.0 mm were referred to DM clinics for diagnostic confirmation with a second FBG. Altogether, 1090 (12.4%) patients with DM were identified, of whom 863 (9.7%) had a known diagnosis of DM. Of 8023 patients who needed screening for DM, 7947 (99%) were screened. This resulted in a new diagnosis of DM in 227 patients (2.9% of screened patients), and of these, 226 were enrolled to DM care. In addition, 575 (7.8%) persons had impaired fasting glucose (FBG 6.1 to <7.0 mm). Prevalence of DM was significantly higher in patients in health facilities serving urban populations (14.0%) than rural populations (10.6%) and higher in hospital patients (13.5%) than those attending TB clinics (8.5%). This pilot project shows that it is feasible to screen patients with TB for DM in the routine setting, resulting in a high yield of patients with known and newly diagnosed disease. Free blood tests for glucose measurement and integration of TB and DM services may improve the diagnosis and management of dually affected patients.

Screening patients with Diabetes Mellitus for Tuberculosis in China

Yan Lin et al. Tropical Medicine and International Health, Vol. 17, No. 10, pp. 1302-1308

Objective There is a high burden of both diabetes (DM) and tuberculosis (TB) in China, and as DM increases the risk of TB and adversely affects TB treatment outcomes, there is a need for bidirectional screening of the two diseases. How this is best performed is not well determined. In this pilot project in China, we aimed to assess the feasibility and results of screening DM patients for TB within the routine healthcare setting of five DM clinics. Method Agreement on how to screen, monitor and record was reached in May 2011 at a national stakeholders meeting, and training was carried out for staff in the five clinics in July 2011. Implementation started in September 2011, and we report on 7 months of activities up to 31 March 2012. DM patients were screened for TB at each clinic attendance using a symptom-based enquiry, and those positive to any symptom were referred for TB investigations. Results In the three quarters, 72% of 3174 patients, 79% of 7196 patients and 68% of 4972 patients were recorded as having been screened for TB, resulting in 7 patients found who were already known to have TB, 92 with a positive TB symptom screen and 48 of these newly diagnosed with TB as a result of referral and investigation. All patients except one were started on anti-TB treatment. TB case notification rates in screened DM patients were several times higher than those of the general population, were highest for the five sites combined in the final quarter (774/100 000) and were highest in one of the five clinics in the final quarter (804/100 000) where there was intensive in-house training, special assignment of staff for screening and colocation of services. Conclusion This pilot project shows that it

is feasible to carry out screening of DM patients for TB resulting in high detection rates of TB. This has major public health and patient-related implications.

Fetal outcome of antepartum and intrapartum eclampsia in Aba, southeastern Nigeria
Chukwuemeka N. Onyearugha et al. Tropical Doctor 2012, 42: 129-132
The objective of this study was to evaluate the fetal outcome of antepartum and intrapartum eclampsia. All cases of antepartum and intrapartum eclampsia managed at the Abia State University Teaching Hospital, Aba, Nigeria, between 1 January 2002 and 31 December 2007 were retrospectively analysed. Of the women who were delivered in our hospital over the period studied, 0.80% had ante- or intrapartum eclampsia which started mostly outside the hospital: 85.4% were unbooked; 62.5% nulliparous; and 62.5% aged less than 30 years. Forty-eight babies were delivered by the eclamptic mothers. All of the fetuses were delivered in the last trimester: 68.8% of the fetuses were preterm; and 58.7% had a low birthweight. Stillbirths occurred in 60.4%; 8.3% suffered severe birth asphyxia; and 70.9% were delivered vaginally. Sustained education of pregnant women on the need for early booking and regular antenatal visits is recommended.

Tetanus – still a scourge in the 21st century: a paediatric hospital-based study in India
Kirtisudha Mishra et al. Tropical Doctor July 2012, 42
Tetanus remains endemic in India. A retrospective hospital-based study was conducted to review the profile of all children admitted with diagnosis of tetanus between January 2009 and December 2010. A total of 140 cases of tetanus were admitted; 45 cases of neonatal tetanus (NT) and 77 cases of post-neonatal tetanus (PNT) were studied. Age of presentation of NT was 9.4 ± 1.2 days. Home-delivered children accounted for 86.7% of cases, with 77.8% being attended by untrained birth attendants. Unimmunized mothers accounted for 93.4%. In PNT, otogenic route of infection and trauma were present in 58.4% and 23.3% of cases, respectively. The rate of hospital admission of tetanus remains high. Unlike previously published reports, otogenic route is the most common mode of PNT infection in this study. Improving immunization, increasing deliveries by skilled birth attendants and prompt treatment of suppurative otitis media are the main areas in which public health initiatives need to be focused.

Plasmodium vivax remains responsive to chloroquine with primaquine treatment regimen: a prospective cohort study from tertiary care teaching hospital in southern India
Kavitha Saravu et al. Tropical Doctor 2012, 42: 163-164
We conducted this prospective study among 110 symptomatic Plasmodium vivax patients attending the Kasturba Hospital, Manipal, India, in order to evaluate their clinico-laboratory profile during July 2007-July 2009. Complications observed among patients were: anaemia (46.4%; 95% confidence interval [CI], 37.08-55.72%); thrombocytopenia (68.2%; 95% CI, 59.5-76.9%); leucopenia (29.1%; 95% CI, 20.61-37.59%); hyperbilirubinaemia (20%; 95% CI, 12.53-27.47%); non-oliguric renal failure (10.9%; 95% CI, 5.08-16.72%); elevated serum transaminases (33.6%; 95% CI, 24.77-42.43%); hypotension (8.2%; 95% CI, 3.07-13.33%); hepatomegaly (27.3%; 95% CI, 18.97-35.63%); and splenomegaly and jaundice in 12.7% (95% CI, 6.48-18.92%). The 99% chloroquine response and zero mortality observed in this study of vivax malaria are encouraging points for practicing physicians.

Rapid evolution and spread of carbapenemases among Enterobacteriaceae in Europe
Cantón R. et al. Clin Microbiol Infect 2012, 18: 413-431
Plasmid-acquired carbapenemases in Enterobacteriaceae, which were first discovered in Europe in the 1990s, are now increasingly being identified at an alarming rate. Although their hydrolysis spectrum may vary, they hydrolyse most β-lactams, including carbapenems. They are mostly of the KPC, VIM, NDM and OXA-48 types. Their prevalence in Europe as

reported in 2011 varies significantly from high (Greece and Italy) to low (Nordic countries). The types of carbapenemase vary among countries, partially depending on the cultural/population exchange relationship between the European countries and the possible reservoirs of each carbapenemase. Carbapenemase producers are mainly identified among Klebsiella pneumoniae and Escherichia coli, and still mostly in hospital settings and rarely in the community. Although important nosocomial outbreaks with carbapenemase-producing Enterobacteriaceae have been extensively reported, many new cases are still related to importation from a foreign country. Rapid identification of colonized or infected patients and screening of carriers is possible, and will probably be effective for prevention of a scenario of endemicity, as now reported for extended-spectrum β-lactamase (mainly CTX-M) producers in all European countries.

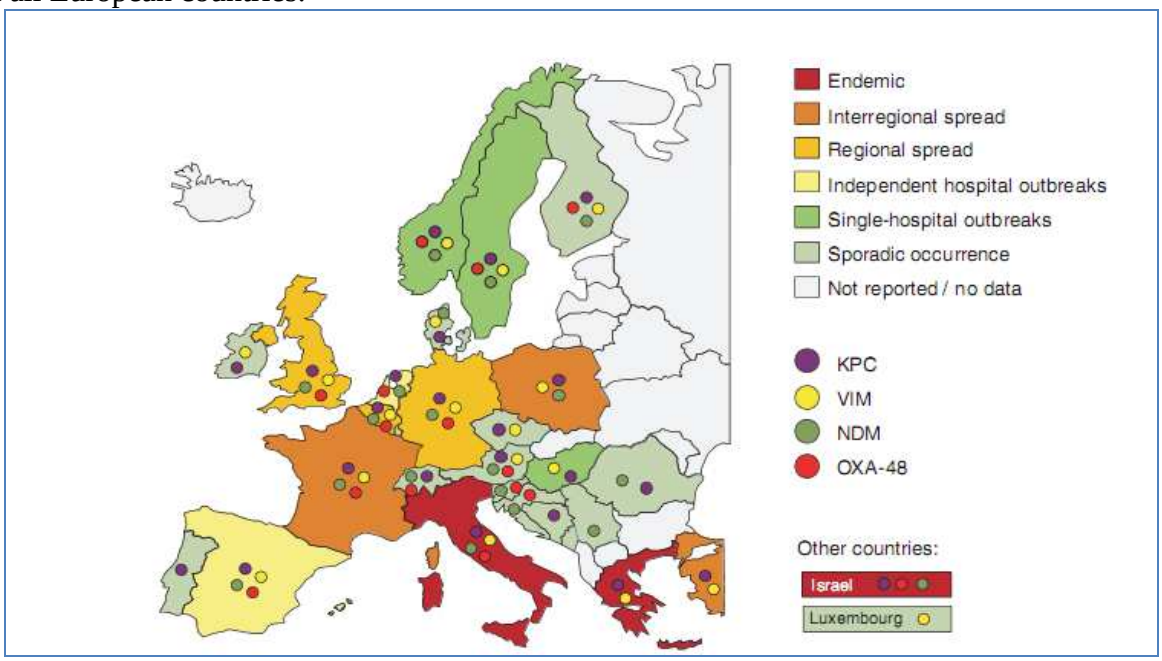


FIG. 1. European situation regarding carbapenemase-producing Enterobacteriaceae, using an epidemiological scale of nationwide expansion (data have been updated from reference 17) and carbapenemase types in different countries or geographical areas known until January 2012.

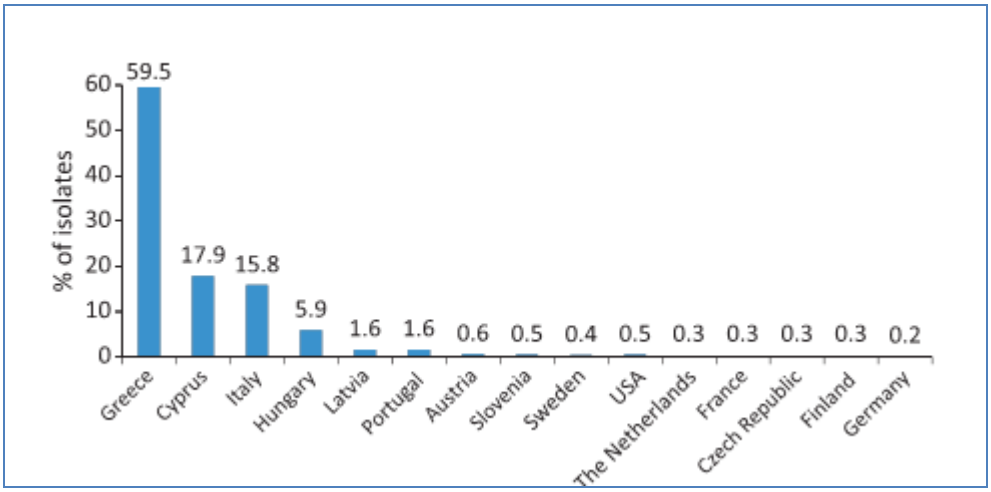


FIG. 2. Rates of non-susceptibility (intermediate plus resistant) of Klebsiella pneumoniae to carbapenems in European countries. Data were obtained from the EARS-Net database (2010). (http://ecdc.euro pa.eu/en/activities/surveillance/EARS-Net/database/Pages/database.as px). Only those countries with non-susceptible isolates are included.

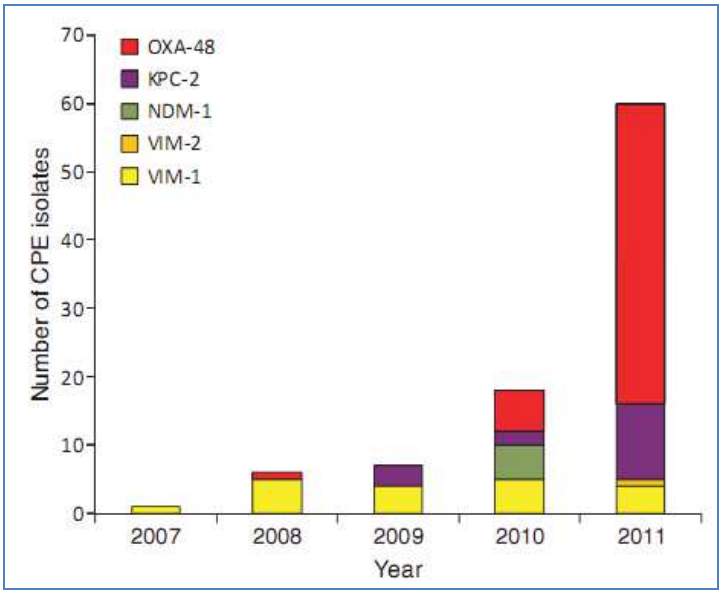


FIG. 3. Evolution of the carbapenemase-producing Enterobacteriaceae

Travel-related imported infections in Europe, euro TravNet 2009

Odolini S. et al. Clin Microbiol Infect 2012, 18: 468-474

The aim of this study was to investigate travel-associated morbidity in European travellers in 2009 in comparison with 2008, with a par-ticular emphasis on emerging infectious diseases with the potential for introduction into Europe. Diagnoses with demographic, clinical and travel-related predictors of disease from ill returning travelers presenting to 12 core uroTravNet sites from January to December 2009 were analysed. A total of 6392 patients were seen at EuroTravNet core sites in 2009, as compared with 6957 in 2008. As compared with 2008, there was a marked increase in the number of travellers exposed in North America and western Europe. Respiratory illnesses, in particular pandemic A(H1N1) influenza, influenza-like syndromes, and tuberculosis, were also observed more frequently. A significant increase in reported dengue cases in 2009 as compared with 2008 was observed (n = 172, 2.7% vs. n = 131, 1.90%) (p 0.002). The numbers of malaria and chikungunya cases were also increasing, although not significantly. Two deaths were recorded: visceral leish-
maniasis and sepsis in a Sudanese migrant, and Acinetobacter sp. pneumonia in a patient who had visited Spain. This is the most compre-hensive study of travel-related illness in Europe in 2009 as compared with 2008. A significant increase in travel-related respiratory and vector-borne infections was observed, highlighting the potential risk for introduction of these diseases into Europe, where competent vectors are present. The number of traveller deaths is probably underestimated. The possible role of the travellers in the emergence of infectious diseases of public health concern is highlighted.

The impact of multidrug resistance in healthcare-associated and nosocomial Gram-negative bacteraemia on mortality and lenght of stay: cohort study

Lye D. C. et al. Clin Microbiol Infect 2012, 18: 502-508

Multidrug-resistant Gram-negative bacteria (MDR-GNB) are an emerging public health threat. Accurate estimates of their clinical impact are vital for justifying interventions directed towards preventing or managing infections caused by these pathogens. A retrospective observational cohort study was conducted between 1 January 2007 and 31 July 2009, involving subjects with healthcare-associated and nosocomial Gram-negative bacteraemia at two large Singaporean hospitals. Outcomes studied were mortality and length of stay post-onset of bacteraemia in survivors (LOS). There were 675 subjects (301 with MDR-GNB) matching study inclusion criteria. On multivariate analysis, multidrug resistance was not associated with 30-day mortality, but it was independently associated with longer LOS in survivors (coefficient, 0.34; 95% CI, 0.21–0.48; $p < 0.001$). The excess LOS attributable to

multidrug resistance after adjustment for confounders was 6.1 days. Other independent risk factors for higher mortality included male gender, higher APACHE II score, higher Charlson comorbidity index, intensive care unit stay and presence of concomitant pneumonia. Concomitant urinary tract infection and admission to a surgical discipline were associated with lower risk of mortality. Appropriate empirical antibiotic therapy was neither associated with 30-day mortality nor LOS, although the study was not powered to assess this covariate adequately. Our study adds to existing evidence that multidrug resistance *per se* is not associated with higher mortality when effective antibiotics are used for definitive therapy. However, its association with longer hospitalization justifies the use of control efforts.

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SOCIAL AND HEALTHCARE IMPACT OF AIDS TO DEVELOPING COUNTRIES

Sol Sorath, Hoy Leaughoin, Rajoo Magaswari, C. Petersmann, F. Schumann, H. Takthalie, H. Sondermann, T. Hahn, P. Solwerk, G. Mikolasova,G.Kralik, J. Benca, J. Ravasz, E. Vrankova, M. Hettes, F. Hanobik, Or Tou, Vicet Chom, L. Seng Hong

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ABSTRACT

News in AIDS and their impact or social work and public health in Subsaharan Africa, Central Europe (imported) and SE Asia is reviewed by our social work and health tropicteam.

Introduction:

Early HIV viral load determination after initiating first-line antiretroviral therapy for identifying patients with high risk of developing virological failure: data from a cohort study in a resource-limited setting Gerardo Alvarez-Uria Tropical Medicine and International Health, Vol. 17, No. 9, pp. 1152-1155, Sept. 2012.

To evaluate the performance of a single determination of HIV viral load (VL) 6-12 months after starting antiretroviral therapy (ART) for identifying patients who will subsequently develop virological failure.

We selected HIV-infected patients with at least two VL determinations after 6 months of ART from an HIV cohort study in India. Patients were divided in two groups depending on whether the first VL was below (Group 1) or above (Group 2) 1000 copies/ml. Cut-off for virological failure was defined according to World Health Organization recommendation (>5000 copies/ml).

The study included 584 patients and 560.1 person-years of follow-up. Of all virological failures, 83% were diagnosed at the first VL determination. The cumulative incidence of virological failure after 1 and 2 years since the first VL was 0.9% [95% confidence interval (CI), 0.3-2.7] and 1.7% (95% CI, 0.6-5), respectively, for Group 1, and 58.2% (95% CI, 47-69.7) and 63.1% (95% CI, 49.8-76.4), respectively, for Group 2. Compared with Group 1, patients from Group 2 had a hazard ratio for virological failure of 78.3 (95% CI, 27.8-220.2).

A single VL determination after 6 months of ART was able to identify patients with high risk of virological failure.

The decline of typhoid and the rise of non-typhoid salmonellae and fungal infections in a changing HIV landscape: bloodstream infection trends over 15 years in southern Vietnam

Tran Vu Thieu Nga, Transaction of the Royal Society of Tropical Medicine and Hygiene 106(2012) 26-34

The etiological spectrum of bloodstream infections is variable between industrialized and developing countries and even within a defined location over time. We investigated trends in bloodstream infections at an infectious disease hospital in Ho Chi Minh City, Vietnam, from 1994-2008. Amongst 66,111 blood cultures performed, a clinically relevant pathogen was isolated in 7645 episodes (positivity rate; 116/1000 cultures). Salmonella Typhi was the predominant pathogen until 2002; however, a considerable annual decline in the proportion of S. Typhi was observed (OR 0.6993, 95% CI [0.6885, 0.7103], p<0.0001). Conversely, there was a significant increase in the proportions of non-typhoidal Salmonella (NTS),

Cryptococcus neoformans and Penicillium marneffei, concurrent with increasing HIV prevalence. These data document a substantial longitudinal shift in bloodstream infection etiology in southern Vietnam. We propose such changes are related to increasing economic prosperity and HIV prevalence, and this pattern marks a substantial change in the epidemiology of invasive salmonellosis in Southeast Asia.

Adoptionof new HIV treatment guidelines and drug substitutions within first-line as a measure of quality of care in rural Lesotho: health centers and hospitals compared

Niklaus D. Labhardt, Tropical Medicine and International Health, Vol. 17, No. 10, pp. 1245-1254, October 2012

Objective In 2007, Lesotho launched new national antiretroviral treatment (ART) guidelines, prioritising tenofovir and zidovudine over stavudine as a backbone together with lamivudine. We compared the rate of adoption of these new guidelines and substitution of first-line drugs by health centers (HC) and hospitals in two catchment areas in rural Lesotho.

Retrospective cohort analysis. Patients aged ≥16 years were stratified into a HC- and a hospital-group. Main outcome variables: Type of backbone at ART-initiation (i), substitutions within first line (ii) and type of backbone among patients retained by December 2010 (iii). A multiple logistic regression model including HC vs. hospital, patient characteristics (sex, age, WHO-stage, baseline CD4-count, concurrent pregnancy, concurrent tuberculosis treatment) and year of ART-start, was used.

Of 3936 adult patients initiated on ART between 2007 and 2010, 1971 started at hospitals and 1965 at HCs. Hospitals were more likely to follow the new guidelines as measured by prescription of backbones without stavudine (Odds-ratio 1.55; 95%CI: 1.32-1.81) and had a higher rate of drug substitutions while on first-line ART (2.39; 1.83-3.13). By December 2010, patients followed at health centres were more likely to still receive stavudine (2.28; 1.83-2.84).

Health centers took longer to adopt the new guidelines and substituted drugs less frequently. Decentralised ART-programmes need close support, supervision and mentoring to absorb new guidelines and to adhere to them.

Low martality risk but high loss follow-up among patients in the Tanzanian national HIV care and treatment programme

Somi G. Tropical Medicine and International Health, Vol. 17, No. 4, pp. 497-506, April 2012

To analyse survival and retention rates of the Tanzanian care and treatment programme.

Routine patient-level data were available from 101 of 909 clinics. Kaplan-Meier probabilities of mortality and attrition after ART initiation were calculated. Mortality risks were corrected for biases from loss to follow-up using Egger's nomogram. Smoothed hazard rates showed mortality and attrition peaks. Cox regression identified factors associated with death and attrition. Median CD4 counts were calculated at 6 month intervals.

In 88,875 adults, 18% were lost to follow up 12 months after treatment initiation, and 36% after 36 months. Cumulative mortality reached 10% by 12 months (15% after correcting for loss to follow-up) and 14% by 36 months. Mortality and attrition rates both peaked within the first six months, and were higher among males, those under 45 kg and those with CD4 counts below 50 cells/μl at ART initiation. In the first year on ART, median CD4 count increased by 126 cells/μl, with similar changes in both sexes.

Earlier diagnoses through expanded HIV testing may reduce high mortality and attrition rates if combined with better patient tracing systems. Further research is needed to explore reasons for attrition.

Switching children previously exposed to nevirapine to nevirapinne-based treatment after initial suppression with a protease-inhibitor-based regimen: long-term follow-up of a randomised, open-label trial

Louise Kuhn,

Lancet 2012, 12, 521-30

We followed up the children for a median of 156 weeks and there were three deaths in each group. Children in the switch group (Kaplan-Meier probability 0·595) were less likely to experience non-suppression greater than 50 copies per mL than in the control group (0·687; p=0·01) and had better CD4 and growth responses initially after switching (52 children in the switch group vs 66 control group met this endpoint). By 156 weeks after randomisation, more children had virological failure--which we defined as confirmed viraemia of more than 1000 copies per mL--in the switch group (22 children) than in the control group (ten children; p=0·009). We detected all 22 failures in the switch group by 52 weeks compared with five in the control group. Virological failure was related to non-adherence and pretreatment drug resistance. In children without pretreatment drug resistance, we did not identify a significant difference in virological failure between the switch (Kaplan-Meier probability 0·140) and control (0·095) groups (p=0·34; seven failures in the switch group vs five in the control group). Children in the switch group were significantly more likely to develop grade 1-3 alanine aminotransferase abnormalities over the duration of follow-up.

Optimising the manufacture, formulation and dose of antiretroviral drugs for more cost-efficient delivery in resource-limited settings: a consensus statement

Keith W. Crawford

Lancet 2012, 12, 550-60

It is expected that funding limitations for worldwide HIV treatment and prevention in resource-limited settings will continue, and, because the need for treatment scale-up is urgent, the emphasis on value for money has become an increasing priority. The Conference on Antiretroviral Drug Optimization--a collaborative project between the Clinton Health Access Initiative, the Johns Hopkins University School of Medicine, and the Bill & Melinda Gates Foundation--brought together process chemists, clinical pharmacologists, pharmaceutical scientists, physicians, pharmacists, and regulatory specialists to explore strategies for the reduction of antiretroviral drug costs. The antiretroviral drugs discussed were prioritised for consideration on the basis of their market impact, and the objectives of the conference were framed as discussion questions generated to guide scientific assessment of potential strategies. These strategies included modifications to the synthesis of the active pharmaceutical ingredient (API) and use of cheaper sources of raw materials in synthesis of these ingredients. Innovations in product formulation could improve bioavailability thus needing less API. For several antiretroviral drugs, studies show efficacy is maintained at doses below the approved dose (eg, efavirenz, lopinavir plus ritonavir, atazanavir, and darunavir). Optimising pharmacoenhancement and extending shelf life are additional strategies. The conference highlighted a range of interventions; optimum cost savings could be achieved through combining approaches.

Prediction of Treatment Failure Using 2010 World Health Organization Guidelines Is Associated With High Misclassification Rates and Drug Resistance Among HIV-Infected Cambodian Children

Benjamin P. Westley

CID 2012, 55(3)432-40

Antiretroviral therapy (ART) in resource-limited settings (RLS) is monitored clinically and immunologically, according to World Health Organization (WHO) or national guidelines. Revised WHO pediatric guidelines were published in 2010, but their ability to accurately identify virological failure is unclear.

We evaluated performance of WHO-2010 guidelines and compared them to WHO-2006 and Cambodia-2011 guidelines among children on ≥6 months of 1st line ART at Angkor Hospital for Children between 1/2005 and 9/2010. We determined sensitivity, specificity, positive and negative predictive value, and accuracy using bootstrap resampling to account for multiple tests per child. HIV resistance was compared between those correctly and incorrectly identified by each guideline.

Among 457 children with 1079 viral loads (VLs), 20% had >400 copies/mL. For children with WHO stage 1/2, misclassification as failure (met CD4 failure criteria, but VL undetectable) was 64% for WHO-2006, 33% for WHO-2010 and 81% for Cambodia-2011; misclassification as success (did not meet CD4 failure, but VL detectable) was 11%, 12% and 12%. For children with WHO stage 3/4, misclassification as failure was 35%, 40% and 43%; misclassification as success was 13%, 24% and 21%. Compared to WHO-2006, WHO-2010 significantly increased the risk of misclassification as success in stage 3/4 ($p<0.05$). The WHO-2010 guidelines failed to identify 98% of children with extensive reverse transcriptase resistance.

In our cohort, lack of virological monitoring would result in unacceptable treatment failure misclassification, leading to premature ART switch and resistance accumulation. Affordable virological monitoring suitable for use in RLS is desperately needed.

Maternal HIV-1 Disease Progression 18-24 Months Postdelivery According to Antiretroviral Prophylaxis Regimen (Triple-Antiretroviral Prophylaxis During Pregnancy and Breastfeeding vs Zidovudine/Single-Dose Nevirapine Prophylaxis): The Kesho Bora Randomized Controlled Trial

CID 2012, 55(3)449-60

Antiretroviral (ARV) prophylaxis effectively reduces mother-to-child transmission of human immunodeficiency virus type 1 (HIV). However, it is unclear whether stopping ARVs after breastfeeding cessation affects maternal HIV disease progression. We assessed 18-24-month postpartum disease progression risk among women in a randomized trial assessing efficacy and safety of prophylactic maternal ARVs.

From 2005 to 2008, HIV-infected pregnant women with CD4(+) counts of 200-500/mm(3) were randomized to receive either triple ARV (zidovudine, lamivudine, and lopinavir/ritonavir during pregnancy and breastfeeding) or AZT/sdNVP (zidovudine until delivery with single-dose nevirapine without postpartum prophylaxis). Maternal disease progression was defined as the combined endpoint of death, World Health Organization clinical stage 4 disease, or CD4(+) counts of <200/mm(3).

Among 824 randomized women, 789 had at least 1 study visit after cessation of ARV prophylaxis. Following delivery, progression risk up to 24 months postpartum in the triple ARV arm was significantly lower than in the AZT/sdNVP arm (15.7% vs 28.3%; P = .001), but the risks of progression after cessation of ARV prophylaxis (rather than after delivery) were not different (15.0% vs 13.8% 18 months after ARV cessation). Among women with CD4(+) counts of 200-349/mm(3) at enrollment, 24.0% (95% confidence interval [CI], 15.7-35.5) progressed with triple ARV, and 23.0% (95% CI, 17.8-29.5) progressed with AZT/sdNVP, whereas few women in either arm (<5%) with initial CD4(+) counts of ≥350/mm(3) progressed.

Interrupting prolonged triple ARV prophylaxis had no effect on HIV progression following cessation (compared with AZT/sdNVP). However, women on triple ARV prophylaxis had lower progression risk during the time on triple ARV. Given the high rate of progression among women with CD4(+) cells of <350/mm(3), ARVs should not be discontinued in this group.

Co-formulated elvitegravir, cobicistat, emtricitabine and tenofovir versus co-formulated efavirenz, emtricitabine and tenofovir for initial treatment of HIV-1 infection: a randomised, double-blind, phase 3 trial, analysis of results after 48 weeks

Paul E. Sax

Lancet 2012, 379: 2439-48

If regulatory approval is given, EVG/COBI/FTC/TDF would be the only single-tablet, once-daily, integrase-inhibitor-based regimen for initial treatment of HIV infection.

Global trends in antiretroviral resistance in treatment-naive individuals with HIV after rollout of antiretroviral treatment in resource-limited settings: a global collaborative study and meta-regression analysis

Ravindra K. Gupta

Lancet 2012, 380: 1250-58

The emergence and spread of high levels of HIV-1 drug resistance in resource-limited settings where combination antiretroviral treatment has been scaled up could compromise the effectiveness of national HIV treatment programmes. We aimed to estimate changes in the prevalence of HIV-1 drug resistance in treatment-naive individuals with HIV since initiation of rollout in resource-limited settings.

We did a systematic search for studies and conference abstracts published between January, 2001, and July, 2011, and included additional data from the WHO HIV drug resistance surveillance programme. We assessed the prevalence of drug-resistance mutations in untreated individuals with respect to time since rollout in a series of random-effects meta-regression models.

Study-level data were available for 26 102 patients from sub-Saharan Africa, Asia, and Latin America. We recorded no difference between chronic and recent infection on the prevalence of one or more drug-resistance mutations for any region. East Africa had the highest estimated rate of increase at 29% per year (95% CI 15 to 45; p=0·0001) since rollout, with an estimated prevalence of HIV-1 drug resistance at 8 years after rollout of 7·4% (4·3 to 12·7). We recorded an annual increase of 14% (0% to 29%; p=0·054) in southern Africa and a non-

significant increase of 3% (—0·9 to 16; p=0·618) in west and central Africa. There was no change in resistance over time in Latin America, and because of much country-level heterogeneity the meta-regression analysis was not appropriate for Asia. With respect to class of antiretroviral, there were substantial increases in resistance to non-nucleoside reverse transcriptase inhibitors (NNRTI) in east Africa (36% per year [21 to 52]; p<0·0001) and southern Africa (23% per year [7 to 42]; p=0·0049). No increase was noted for the other drug classes in any region.

Our findings suggest a significant increase in prevalence of drug resistance over time since antiretroviral rollout in regions of sub-Saharan Africa; this rise is driven by NNRTI resistance in studies from east and southern Africa. The findings are of concern and draw attention to the need for enhanced surveillance and drug-resistance prevention efforts by national HIV treatment programmes. Nevertheless, estimated levels, although increasing, are not unexpected in view of the large expansion of antiretroviral treatment coverage seen in low-income and middle-income countries—no changes in antiretroviral treatment guidelines are warranted at the moment.

Bill & Melinda Gates Foundation and the European Community's Seventh Framework Programme

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MISSIONARY PROJECTS IN UGANDA AND UPDATE ON VIRAL HEAMORRHAGIC FEVERS

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Hemorrhagic Fever Viruses - background

The term viral hemorrhagic fever (HF) refers to the illness associated with a number of geographically restricted viruses. It is very important know to these agents and knowledge of how to prevent them. In general, they present as a febrile disease that progress to manifest some degree of hemorrhage, often in the form of increased capillary permeability, which may lead to death. Although a number of other febrile viral infections may produce hemorrhage, only the agents of Lassa, Marburg, Ebola, and Crimean-Congo hemorrhagic fevers are known to have caused significant outbreaks of diseases with person-to-person transmission (3,9,10, 15, 16).

The viruses known to cause hemorrhagic fever (HF) in humans differ in their structure and genetics but share the ability to cause a generalized illness that can be severe, marked by involvement of visceral organs and by thrombocytopenia or other coagulation defects that lead to disseminated intravascular coagulation or other bleeding diatheses. Humans likely are not the primary hosts for any of these viruses, with the possible exception of dengue. The two most important routes of exposure are insect bites (yellow fever, dengue, Rift Valley fever, Crimean-Congo HF, Kyasanur Forest disease, and Omsk HF) and exposure to infectious rodent urine either directly or, more often, via contaminated airborne dust (Lassa fever, Argentine HF, Bolivian HF, and Hantaan and related HFs). Nosocomial transmission, often under conditions where routine safe hospital practices are not being followed. Person-to-person transmission may occur, but is usually not the dominant mode of transmission (1, 3). The natural route of exposure is not known for Marburg and Ebola HFs (11-13). Laboratory-acquired infections have been reported for Hantaan HF (1, 107) and Kyasanur Forest disease, but person-to-person transmission is not known to occur with yellow fever, dengue, Argentine HF, Bolivian HF, Rift Valley fever, Hantaan HF, Kyasanur Forest disease, or Omsk HF, and these diseases are not discussed further here (108). Both Ebola and Marburg virus can persist in tissues for several months following acute infection, emphasizing the need for careful handling. As with Lassa and Marburg viruses, it is recommended to supplement Standard with full Contact Precautions (3, 16).

Historically, some were also weaponized as biological warfare agents, and today there is considerable concern that they could be used as terrorist weapons.

Current danger of VHFs at the missionary project in Central region of Africa

During the last 3 months there are 3 outbreaks of VHFs in Uganda which kills more than two hundred people including health care workers.

Marburg Hemorrhagic Fever Outbreak in Uganda (2012)

As of November 13, 2012, the Ugandan Ministry of Health reported 17 cases (probable and confirmed) of Marburg virus infection, including 9 deaths, in the Kabale District of southwest Uganda. Testing of samples by CDC's Viral Special Pathogens Branch is ongoing at the Uganda Virus Research Institute in Entebbe. Working with the Ministry's National Task Force, a CDC team is on site to assist in the diagnostic and ecological aspects of the outbreak. Note that Kabale District, on the border with neighboring Rwanda, is distinct from Kibaale

District, the site of the recently-ended Ebola outbreak; both districts are in Uganda's Western Region (8).

A recent history of Marburg cases and outbreaks in Uganda includes:

a fatal case in 2008 of a Dutch tourist who visited the Python Cave, a bat cave in Queen Elizabeth National Park (QENP);

a non-fatal case in 2008 of an American tourist who visited the same cave in QENP; and,

a 2007 small outbreak of Marburg HF among miners working in the Kitaka lead and gold mine in Kamwenge District (8,9).

Marburg virus/Marburg VHF is a highly infectious viral haemorrhagic fever, which kills in a short time but can be prevented. Marburg virus infection is spread through direct contact with body fluids like blood, saliva, vomit, stool, and urine of an infected person. A person suffering from Marburg virus disease presents with sudden onset of high fever with any of the following; headache, vomiting blood, joint and muscle pains, and bleeding through the body openings, that is, eyes (red eyes), nose, gums, ears, anus, and the skin. Virus can be spread also through use of unsterilised injection syringes, contaminated linen, beddings, and clothes; by the use of skin piercing instruments that have been used by an infected person. And also by direct physical handling of persons who have died of Marburg virus disease (3,9).

The following measures have to be taken to avert the spread of the disease:

- Report immediately any suspected patient to a nearby health unit

- Avoid direct contact with body fluids of a person suspected to be suffering from Marburg virus disease by using protective materials like gloves and masks

- Persons who have died of Marburg virus disease must be handled with strong protective wear and buried immediately

- Avoid eating dead animals [sic; presumably animals that died of disease]

- Avoid unnecessary public gatherings especially in the affected district

- Burial of suspicious community deaths should be done under close supervision of well trained burial teams - Report all suspicious deaths to a nearby health facility (9).

Ebola Hemorrhagic Fever Outbreak in Democratic Republic of Congo (2012)

According to the DRC Ministry of Health report on October 27, 2012, a total of 35 confirmed cases (12 of them fatal), all from the Isiro area in DRC's Province Orientale, were reported. The case count also includes 17 probable and 25 suspect cases, with 24 deaths in these 2 categories. CDC is assisting the Ministry of Health in the epidemiologic and diagnostic aspects of the investigation. Laboratory support was provided both through CDC's field laboratory in Isiro, and through the CDC/UVRI lab in Uganda. The Public Health Agency of Canada (PHAC) also provides diagnostic support through its field lab in Isiro. The outbreak in DRC is not linked epidemiologically to the recently-ended Ebola outbreak in the Kibaale district of Uganda (8).

Ebola Hemorrhagic Fever Outbreak in Uganda (2012)

On July 28th, 2012, the Uganda Ministry of Health reported an outbreak of Ebola Hemorrhagic fever in the Kibaale District of Uganda. A total of 24 human cases (probable and confirmed only), 17 of which were fatal, have been reported since the beginning of July. Laboratory tests of blood samples, conducted by the Uganda Virus Research Institute (UVRI)

and the U. S. Centers for Disease Control and Prevention (CDC), confirmed Ebola virus in 11 patients, four of whom have died (8).

Ebola virus/ Ebola VHF – Ebola virus belongs to the family _Filoviridae_ which is comprised of 5 distinct species: Zaire, Sudan, Cote d'Ivoire, Bundibugyo and Reston. Zaire, Sudan and Bundibugyo species have been associated with large Ebola haemorrhagic fever (EHF) outbreaks in Africa with high case fatality ratio (25-90 percent) while Cote d'Ivoire and Reston have not. Reston species can infect humans but no serious illness or death in humans have been reported to date (3,8).

The natural reservoir of the Ebola virus is unknown despite extensive studies, but it seems to reside in the rain forests on the African continent and in the Western Pacific. Although non-human primates have been a source of infection for humans, they are not thought to be the reservoir. They, like humans, are believed to be infected directly from the natural reservoir or through a chain of transmission from the natural reservoir. On the African continent, Ebola infections of human cases have been linked to direct contact with gorillas, chimpanzees, monkeys, forest antelope and porcupines found dead in the rain forest. So far, the Ebola virus has been detected in the wild in carcasses of chimpanzees (in Cote-d'Ivoire and the Republic of the Congo), gorillas (Gabon and the Republic of the Congo) and duikers (the Republic of the Congo)(8).

Different hypotheses have been developed to explain the origin of Ebola outbreaks. Laboratory observation has shown that bats experimentally infected with Ebola do not die, and this has raised speculation that these mammals may play a role in maintaining the virus in the tropical forest (3).

Health officials (Dr Joseph Amonye/MOH and Dr. Jozef Suvada/International Tropic Team) told reporters in Kampala that the 14 dead were among 20 reported with the disease. Two of the infected have been isolated for examination by researchers and health officials. A clinical officer and, days later, her 4-month-old baby died from the disease caused by the Ebola virus, officials said. Officials urged Ugandans to be calm, saying a national emergency taskforce had been set up to stop the disease from spreading far and wide. There is no cure or vaccine for Ebola, and in Uganda, where in 2000 the disease killed 224 people and left hundreds more traumatized, it resurrects terrible memories (10).

Ebola, which manifests itself as a hemorrhagic fever, is highly infectious and kills quickly. It was first reported in 1976 in Congo and is named for the river where it was recognised, according to the Centers for Disease Control and Prevention. Scientists don't know the natural reservoir of the virus, but they suspect the first victim in an Ebola outbreak gets infected through contact with an infected animal, such as a monkey (8,10).

How is Ebola spread?

Infections with Ebola virus are acute. There is no carrier state. Because the natural reservoir of the virus is unknown, the manner in which the virus first appears in a human at the start of an outbreak has not been determined. However, researchers have hypothesized that the first patient becomes infected through contact with an infected animal.

After the first case-patient in an outbreak setting is infected, the virus can be transmitted in several ways. People can be exposed to Ebola virus from direct contact with the blood and/or secretions of an infected person. Thus, the virus is often spread through families and friends because they come in close contact with such secretions when caring for infected persons. People can also be exposed to Ebola virus through contact with objects, such as needles, that have been contaminated with infected secretions (3, 16).

Nosocomial transmission refers to the spread of a disease within a health-care setting, such as a clinic or hospital. It occurs frequently during Ebola HF outbreaks. It includes both types of transmission described above. In African health-care facilities, patients are often cared for

without the use of a mask, gown, or gloves. Exposure to the virus has occurred when health care workers treated individuals with Ebola HF without wearing these types of protective clothing. In addition, when needles or syringes are used, they may not be of the disposable type, or may not have been sterilized, but only rinsed before reinsertion into multi-use vials of medicine. If needles or syringes become contaminated with virus and are then reused, numerous people can become infected (10).

The virus can be transmitted in several ways, including through direct contact with the blood of an infected person. During communal funerals, for example, when the bereaved come into contact with an Ebola victim, the virus can be contracted, officials said, warning against unnecessary contact with suspected cases of Ebola. In Kibaale, some villagers had started abandoning their homes in recent weeks to escape what they thought was an illness that had something to do with bad luck, because people were quickly falling ill and dying, and there was no immediate explanation (8,10).

This is the 4th outbreak of [ebolavirus] in the country since 2000, when it killed 224 people. About 40 people died of the disease in villages along the border with the Democratic Republic of Congo in 2008, while another isolated death occurred last year [2011, in Uganda]. Ebola [hemorrhagic fever], which has no known cure, is highly infectious and symptoms include vomiting, diarrhea, and external and internal bleeding. It was first identified in 1976 in Congo near the River Ebola. Regarding bleeding in Ebola hemorrhagic fever, during the Ebola outbreak in Gulu, Uganda in 2000-2001, we collected detailed clinical information on over 100 patients with laboratory confirmed Ebola Sudan virus infection. Excluding subconjunctival bleeding/injection, hemorrhage was noted in only approximately 20 percent of the patients and virtually always occurred in the later stage of illness. Hematemesis and bleeding from the gums were the most frequent hemorrhagic manifestations. Many patients die without visible hemorrhage although, when present, hemorrhage does confer a poor prognosis. Studies done in the isolation ward demonstrated that [ebolavirus] was shed in a wide variety of bodily fluids during the acute period of illness but that the risk of transmission from fomites or from convalescent patients was low (7).

Dr Joseph Amonye, the national coordinator of the Ebola task force disclosed through Dr. Jozef Suvada that health experts were monitoring 398 cases believed to have come into contact with people who died of Ebola [hemorrhagic fever]. Of these, 84 have passed the 21-day period during which signs of infection would have shown, although they are still being monitored (8,10).

The epicenter of the outbreak is in Sombwe Parish, Nyimbwa Sub County, Luwero district, which is located about 40 km north of the capital Kampala. Joseph Okware, the Luwero District Health Officer, was quoted on Wednesday [13 Nov 2012] as saying that 2 people belonging to the same family had died of the disease over the weekend. The outbreak comes at a time when the country is still experiencing the deadly Marburg fever in several parts of western Uganda. In July this year [2012], the Ebola outbreak in the midwestern Ugandan district of Kibaale left at least 20 people dead (10).

Ebola victims present with symptoms like fever, vomiting, diarrhea, abdominal pain, headache, measles-like rash, red eyes, and sometimes with bleeding from body openings (3,10, 16).

Recommendation for postexposure prophylaxis: Little information is available regarding PEP of viral hemorrhagic fevers. **Ribavirin**, administered orally, may be effective in preventing Lassa fever. (14, 15)

Therapeutic Countermeasures for Viral Hemorrhagic Fever

The mainstay of treatment for VHF is supportive, intensive care as indicated by the complications of the disease. Management of bleeding diatheses is controversial but generally

involves the administration of blood and clotting factor components as indicated by the laboratory findings. Heparin or tissue factor antagonists may be useful therapeutic choices in cases of DIC. Steroids have not been shown to be effective but should be considered with evidence of adrenal involvement (3, 11, 13). Ribavirin has some in vitro activity against members of the Arenaviridae and Bunyaviridae (7).

Postexposure Prophylaxis

There is no effective PEP for asymptomatic persons exposed to VHF virus. The Working Group on Civilian Biodefense instead recommends that exposed populations be placed under surveillance for signs of fever or other symptoms suggestive of VHF. In the event of a documented fever higher than 38,5°C, persons should be given intravenous ribavirin unless the agent is a confirmed filovirus or flavivirus. This is an off-label use. Surveillance should continue for 21 days following exposure and is recommended for HCWs in the epidemic time by caregiving to ill people suspected of VHF (1,7).

Vaccine

The only effective licensed vaccine against VHF is yellow fever vaccine (2). In the event of a epidemia attack, yellow fever vaccine would not be effective as a prophylactic treatment following exposure, because the disease incubation period is significantly shorter than the time required for developing immunity following vaccination (3, 14). Vaccines against Argentine HF and Rift Valley fever are known to be efficacious but are available only as investigational drugs (13). Efforts to develop additional vaccines against various HF viruses are ongoing (2, 11).

Implications for Healthcare Workers

Nosocomial transmission has usually occurred by contact with infected body fluids or blood (3, 11). Needlesticks or the reuse of needles has also been associated with viral transmission (1, 12, 13). Although these viruses form stable infectious aerosols, person-to-person airborne transmission is distinctly uncommon, the potential for airborne transmission in a healthcare setting cannot be ruled out (3, 11, 13). HCWs must exercise appropriate isolation procedures for patients with suspected or confirmed VHF including a combination of Airborne and Contact Precautions. The Working Group on Civilian Biodefense recommends the following precautions for healthcare settings (7): All HCWs must have appropriate personal protective equipment, including N95 masks or personal air-purifying respirators (PAPR). Patients must be placed in a negative pressure room, with restriction of nonessential staff and visitors. All healthcare workers who have had high-risk close contact with patients suspected of having VHF should be placed under medical surveillance for 21 days following exposure. If multiple patients suspected of having VHF are admitted to a healthcare facility, they should be cohorted to minimize exposure to HCWs and other patients (2).

All cases of suspected VHF should be reported immediately to state or local public health officials, according to disease reporting requirements.

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SOCIAL SUPPORT AND QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV/AIDS IN CENTRAL UGANDA

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Introduction

The development of anti-HIV medicine has led to significant increases in life expectancy and quality of life for people living with HIV/AIDS (PLWHA). The average number of years a PLWHA lives after treatment started with combination antiretroviral therapy is estimated to be 20–35 years [3]. This tends to transform HIV to a chronic disease [33]. Chronic traits of a disease increase demand for care, treatment, and support for PLWHA. In order to fulfill demand for care and treatment, family, friends, and the community can be major sources of support [20]. A number of research studies have indicated that there is a significant relation between social support and quality of life [4, 5, 12, 16, 28, 29, 32, 40, 51].

Hope is an under researched concept in the social aspects of HIV treatment [8]. The concept has been explored minimally within the context of HIV/AIDS [36], previous research on HIV/AIDS mainly focused on the dynamics of hope in the process of caring PLWHA [35], maintaining hope while coping with the end-stage of AIDS and how nurses inspire and instill hope in terminally ill AIDS patients [14]. Some authors [1] suggested that the goal of fostering hope should focus on how to improve quality of life of the individual. However, thorough research on factors that mediate the relationship between social support and health-related outcome or quality of life on PLWHA is unavailable.

The assumptions made in this paper are:

(1) There will be a significant positive correlation between perceived satisfaction from social support and quality of life, perceived satisfaction from social support and hope and perceived hope and quality of life among PLWHA;

(2) Perceived satisfaction from social support and hope considered together will explain more of the variance of quality of life than either variable considered independently.

Review

Defining social support

The roots of the concept of social support are found in nineteenth century sociologists such as Durkheim [15], who established the link between diminishing social ties and an increase in suicide [44, 52]. As a concept, it has evolved over time starting with the term ‘‘social ties’’ as used by Durkheim [52]. Caplan [10] describes a social system as others who (1) help people to mobilize their psychological resources in order to deal with emotional problems (linking, loving, and empathy); (2) information (about the environment), (3) instrumental aid (provide an individual with money, material, skills, and advice in order to help them to deal with particularly stressful situations that they are exposed to). Social support has come to possess different dimensions and is expressed in different forms and different ways. The source of social support can come in the form of emotional support from family, friends, and peers [20]. It can also emanate from social interactions in the community including professionals [9] and even from interaction with the environment [19, 54].

Social support and hope in HIV

Herth [26] examined hope-fostering strategies on PLWHA which were defined as those sources that assist to install, support or restore hope in some way. Further strategies were categorized into seven categories: (1) interpersonal connectedness; mainly focuses on love from family and friends, i.e., meaningful relationships, being loved and giving love; (2) spiritual base focusing on spiritual practice as a source of hope, belief in God and family, belief helps to overcome the suffering; (3) attainable aim direct to setting goals and maintaining independence, goals are further divided into attainable and unattainable; (4) affirmation of worth; focusing on positive relationships within professional careers, helping relationship regarding illness and being treated with courtesy and respect; (5) light heartedness; focusing on friendship with others who are suffering from a same cause, laughing with professionals and laughing as an inner resource; (6) personal attribute; focusing on determination and being a fighter; (7) uplifting memories; focusing on recalling uplifting moments acting as a hope-fostering strategy. Hindrances to hope were defined as those factors that interfere or inhibit the possibility of attaining or maintaining hope, which constitute: (1) abandonment and isolation, physical and emotional loss of significant others, such as spouse that will not or cannot support patient psychologically, poor communication with professionals; (2) uncontrollable pain and discomfort, continuance of overwhelming pain or discomfort despite repeated attempts to control; and (3) devaluation of personhood, being treated as a non-person having little value.

Another study on HIV suggested that hope is an important component of effectively dealing with HIV and AIDS. The experience of hope is less just after diagnosis of HIV, and potential sources for fostering hope are (1) receiving support; (2) engaging in meaningful life experiences; (3) perceiving options; (4) receiving treatment; and maintaining quality of life [23].

One of the studies on PLWHA identified four major ways that hope was maintained: by miracles, religion, involvement in work or vocations, and support of family and friends [21, 52]. Specific ways of being in relationships with others include dealing with one's family, renegotiating the friendship group, helping others with HIV and developing a relationship with a higher power, and in this case, social support act as the functional component of relationships, such as emotional and tangible assistance [5].

A study on HIV infected terminally ill persons indicates that there were significant differences in the level of hope according to diagnosis [26], and hope can help PLWHA to deal with the HIV diagnosis and acts as an internal resource for helping individuals living with HIV to experience increased well-being [25].

One of the studies on women with HIV showed a significant positive relationship between hope and coping, hope and managing the illness, and between hope and spiritual activities. A significant negative relationship was observed between hope, and inability to cope and stigma was associated with less hope [42].

Promoting hope and acceptance of HIV-status enables PLWHA to develop a positive therapeutic relationship with medication, which in turn promotes adherence to treatment. Treatment adherence was related to active participation in social networks [39]. Facilitating hope appears to be an important therapeutic goal in working with newly diagnosed HIV-positive individuals, and hope was connected to longer life for PLWHA [23].

There are two sources of social support that have been discussed in previous studies. The first relates to family and friends, and the second to community-based support, government agencies, and the health care industry [48]. The non-family support mostly comes from nurses or nursing practice, and it is connected with the concepts of nursing, caring, and helping [14], peer counselors and health workers are important to provide referral information (as informational support) for livelihood to receive counseling and medical treatment in the process of fostering hope [1, 23].The support from friends and family is valuable to counter stigma [2, 17].

Social support and quality of life in HIV Quality of life is defined as a ‘‘fighting spirit’’ associated with longer life expectancies for individuals with HIV/ AIDS [37, 53]. Social support of PLWHA was significantly correlated with health-related quality of life [41]. Research on PLWHA indicates that a supportive social environment, particularly friends and family acceptance, was significantly associated with quality of life [16, 28]. Alienation, rejection, and isolation can threaten hope and well-being of PLWHA [38].

Taking care of physical, psychological, and social relationship was important for maintaining health-related quality of life and social support of PLWHA [49]. One of the studies suggested that social support is significantly associated with health-related quality of life, with the exception of physical functioning and bodily pain aspects [6]. A low level of social support causes a worsening of physical functioning [45]. Another study suggested that psychological functioning and physical symptoms were associated with a higher level of social support [54]. Furthermore, the type of social support influences the level of quality of life, as the level of emotional support decreases physical distress, mental distress, activity limitation, depressive symptoms, anxiety symptoms, insufficient sleep, and pain [50, 54], the tangible or functional support seems to be more relevant to PLWHA [18]. Social support from peers was critical for psychological functioning of PLWHA in many circumstances. However, in periods of crisis, family support becomes a more important determinant of psychological functioning [13].

Also, quality of life relates both to adequacy of material circumstances and to personal feelings about these circumstances, and it includes ‘‘overall subjective feelings of well-being that are closely related to morale, happiness and satisfaction’’ [37, 43].

In summary, in terms of research on HIV, the above review of literature showed that hope is an inner resource to experience well-being for long-term survival. Most of the research findings [4, 5, 12, 16, 28, 29, 32, 40, 51] suggested the existence of relationships among aspects of social support and quality of life. Others [1, 14, 35] pointed out relationships among aspects of hopelessness, depression, despair, coping, managing illness, and quality of life. None of the studies explored the relationship among positive aspects of life, which is being ‘hopeful about the future’, perceived satisfaction from social support, and uality of life. Yet, even with some progress, hope has remained a complex and even elusive concept to measure in community settings where PLWHA are receiving care, support, and treatment. A lack of research in the area continues to exist in relation to the HIV/AIDS population.

In addition, most of the tools used in previous research in HIV were not specific HIV/AIDS. This research intends to fill the gaps in the conceptual approach of hope as having positive attributes from social support and tools to measure hope and perceived social support specific to HIV.

Methodology

Study design and participants

The study was descriptive and cross-sectional in design, focusing on adults living with HIV/AIDS in Uganda. The underlying criterion for sample selection was PLWHA receiving support from a community-based NGO. Further, the study also relied on a convenient and purposefully selected sample (N = 160). Selection of participants was based on the following criteria: (1) PLWHA receiving care, support, and treatment, (2) PLWHA being at least 18 years old, and (3) PLWHA who were physically able to answer the questionnaire. The study was conducted during 2010– 2011, and data collection was undertaken by the author with the support of hired professional research assistants from the Busoga University, Uganda and St. Elizabeth University, Slovakia. Oneto- one interviews were conducted during monthly meetings in eight community-based organizations where PLWHA gather to share their experiences and to receive other support. Prior to the interviews, the purpose of the study was explained to the participants, and with their consent, information was collected agreeing that their names and addresses would not be included in the questionnaire, as well as in research paper.

Measurements

Demographic questionnaire

The first questionnaire was administered to gather information regarding age, gender, type of religion, educational level, occupational status, mode of transmission, duration of living with HIV, stigma, how they handle with stigma and self-reported CD4 count.

Hope scale

The hope scale was developed particularly for this study.

The construct of the scale was based on the meaning of hope defined by 25 PLWHA during in-depth interviews and the hope concept suggested by Hays [24] and Herth [26], which was specific to PLWHA. The ‘‘Hope scale’’ consists of seven items and measures perceived hope. The first item measures hope from engaging in meaningful life, the second item measures hope from personnel willpower, the third item measures level of hopelessness due to discrimination by others, the fourth item measures perceived hope from family love and care, the fifth item measures perceived hope because of help from friends, counselors or health and community workers, the sixth item measures perceived hope from others help with material, such as caring spouse, and the seventh item measures perceived hope from belief in religion or God. The scale was translated into Ugandan language and the Ugandan version of the scale showed good internal reliability. The scale applied a five point value ranging from not at all to extremely hopeful; a higher score indicated better hope [50, 54].

Social support questionnaire

The social support scale was adapted from the shorter Sarason’s Social Support questionnaire (SSQ-S) developed by Sarason et al. [46]. The SSQ-S original is a 12-item instrument that measures two aspects of perceived social support: six odd-numbered items count social support network (the number of people in the individual’s social support system), the total number of people in the individual’s social support system is further divided into family network and non-family network support and six even-numbered items measures perceived satisfaction from social support network. The overall satisfaction from specific support is based on a six-point scale ranging from very satisfied to very dissatisfied. The original scale was modified into a 14-item scale. The added and modified two odd items were to measure ‘‘whom they could really count on when they needed help for’’ HIV/AIDS-related treatment and help from spouse, for living arrangement, for food, for transportation and others, followed by two even number for level of satisfaction from support. A factor analysis of the seven odd number items outcome revealed three distinct factors and each corresponds to a different support function; the first tangible, the second informational, and the third emotional support. The modified version of HIV-specific social support questionnaire was translated from English into Luganda language and translated back from Luganda into English by independent translators. Each of the domains in the Luganda version of the scale showed good internal reliability, yielding Cronbach’s alpha of .90 emotional, .87 informational, .82 tangible, and .88 for overall support.

Quality of life

The (WHO) QOL-26 tool consists of 26 items and was derived from the (WHO) QOL-100 items tool. It includes seven items in the physical domain (physical state), six items in the psychological domain (cognitive and affective state), three items in the social domain (interpersonal relationship and social role in life), eight items in the environmental domain (relationship to salient feature of the environment), one item for general quality of life, and one item for health-related quality of life combining together as global domain [34, 51]. The PLWHA were required to rate their quality of life in the past 2 weeks. The item scores ranged from 1 to 5, with a higher score indicating a better quality of life. Because the numbers of

items were different for each domain, the domain scores were calculated by multiplying the average of the scores of all items in the domain by 4 to standardize all domain scores and make it comparable with other domains [27, 31, 49, 53].

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) version 17.0. The respondents' demographics status was presented as a mean and a percentage. Scores of quality of life, social support, and hope scale were presented as a mean, standard deviation and range. Pearson's correlation analysis was performed to see the correlation between perceived satisfactions from social support, hope, and quality of life. Stepwise hierarchical multiple regression was also conducted to observe the contribution of the independent variables, social support and hope, had on each quality of life domain.

Results

The demographic and clinical characteristics of the study sample are summarized in Table 1. Of the 160 HIVinfected person included in study, 72.5% were female and 27.5% were male, 11.3% of them were between 18 and 25 years old, 25% were between 25 and 32, 51.2% were between 33 and 40, and 12.5% were over 40 years old. In addition, 26.3% were unmarried, 41.9% were married, 13.8% were widow, and 18% were divorced. It was also found out that 60.6% of respondents were Protestant, 28.1% were Muslims, and 11.3% were Catholic.

In terms of education, 18.7% were uneducated, 58.7% had received primary education, 19.4% had higher education, 3.1% of respondents had university. The data on occupation showed that 28.1% were employed where as 60% were unemployed and 11.9% were involved in social work in community-based NGOs. Time since diagnosis, 25.1% were in 2010–2011, 32.5% were 2–4 years ago, 6.9% were between 5 and 8 years, and 35.5% were more than 8 years.

The acknowledge risk factors showing 53.8% had infection cause of sex with other than a partner and 43.1% were infected by their husbands, 3.1% were infected with another rout of the HIV transmission (perinataly were infected 4 and by transfusion 1person) and 30.69% had <200 cells/μL CD4 count blood level, and 69.4% had more than 200 cells/μL.

Table 1 Characteristics of study participants

Characteristics	Number of person	Percentage
Age		
18-25	18	11.3
25-32	40	25.0
33-40	82	51.2
Over 40	20	12.5
Gender		
Male	44	27.5
Female	116	72.5
Marital status		
Unmarried	42	26.3
Married	67	41.9
Widow	22	13.8
Divorced	29	18.0
Religion		
Protestant	97	60.6
Muslim	45	28.1
Catholic	18	11.3
Education		

Uneducated	30	18.7
Primary school	94	58.8
High school	31	19.4
Graduate	5	3.1
Employment		
Employed	45	28.1
Unemployed	96	60.0
Social work	19	11.9
Duration of living with HIV		
This year	40	25.1
2-4 years ago	52	32.5
5-8 years ago	11	6.9
More than 8 years ago	57	35.5
Acknowledge risk factors		
Sex with other	86	53.8
From husband/wife	69	43.1
Others (blood transfusion - 1, perinatal - 4)	5	3.1
Medical outcome (CD4 count)		
>200	111	69.4
<200	49	30.6

The mean standard deviation and range of score for the social support, hope, and quality of life scale are presented in Table 2. The mean score was 5.15 for overall satisfaction from social support, 3.87 for hope, 14.01 for physical capacity, 14.36 for psychological functioning, 12.48 for social relationship, 13.66 environmental functioning, and 6.73 for global domains of quality of life.

As predicted, a significant positive correlation was found between the perceived overall satisfaction from the social support and all domain of quality of life, physical capacity ($r = .296$, $p = .000$), psychological functioning ($r = .243$, $p = .001$), social relationship ($r = .152$, $p = .029$), environmental functioning ($r = .398$, $p = .000$), and global functioning ($r = .286$, $p = .000$). Satisfaction with informational, tangible, and emotional support was a stronger predictor of physical functioning, psychological functioning, environmental functioning, and global domains of quality of life than social relationship. The correlations obtained between perceived satisfaction from social support and the domains of quality of life are summarized in Table 3.

As predicted, a significant positive correlation was found between hope and quality of life domain, although hope is significantly correlated with all domains of quality of life, hope was a stronger predictor for the environmental functioning ($r = .445$, $p = .000$) than the other four domains of the quality of life. The result of the correlations is summarized in Table 4.

As predicted, perceived satisfaction with social support and hope considered together would explain more variance in quality of life than either variables considered independently, implying stepwise hierarchical multiple regression perceived satisfaction from social support was entered into regression equation on the first step. The adjusted R^2 shows that 7% of variance in physical functioning ($F = 14.095$, $p = .000$), 5% of variance in psychological functioning ($F = 10.371$, $p = .002$), 2% of variance in social relationship ($F = 4.319$, $p = .039$), 17% of variance in environmental functioning ($F = 33.212$, $p = .000$), and 8% of variance in

global functioning (F = 14.321, p = .000) domains of quality of life were explained by overall satisfaction from perceived social support. Entering hope into equation at step two, the adjusted R^2 indicates that 15% of variance in physical functioning (F = 14.508, p = .000) explaining an additional 7% of variance, 14% variance in psychological functioning (F = 13.594, p = .000) explaining an additional 8% variance, 9.8% variance in social relationship (F = 9.331, p = .000) explaining an additional 8% variance, 27% variance in environmental functioning (F = 30.364, p = .000) explaining an additional 10% variance, 12.% of variance in global functioning (F = 11.762, p = .004) explaining an additional 4% variance of domains in quality of life. The variance in environmental functioning explained by the satisfaction with social support independently or considered together was greater than the other domain of quality of life. Together perceived satisfaction with social support and hope was significantly explained more by variance in quality of life.

Discussion

The aim of the study was first to assess the level of satisfaction from social support, the level of hope and the quality of life of PLWHA, second to examine the relationship among social support, hope, and quality of life. This study applied hope as a mediation factor between social support and quality of life. It is plausible to argue that this study is reflective of the general HIV population in the context of risk factor and age group distribution and other characteristics in rural Uganda, therefore, the findings of the study may be generalized to HIV-infected people being cared, supported, and treated in other community settings in Uganda. Social support should not be conceptualized simply in terms of availability, but in its perceived adequacy. Social support may not be considered useful unless the individual perceives it as supportive. It has been proposed that the qualitative components of perceived satisfaction from three major components of social support i.e., informational, tangible, and emotional supports [24] are considered more important than the quantitative aspects of social support [51, 54]. Perception is generally a better predictor of health outcome than the receipt [53].

The result of the correlation analyses shows that satisfaction with social support was significantly correlated with all domains in the quality of life. These findings support those found in previous studies, which show that social support was significantly correlated with quality of life [27, 41, 51]. The greatest impact of social support was on environmental functioning, whereas the lowest impact was on social relationship (Table 3). This study's finding was different from previous studies by Bastardo and Kimberlin [6], Jia et al. [29], and Remor [45], who suggested that that social support was not correlated with the physical functioning, and only psychological functioning was correlated with social support [54]. Furthermore, satisfaction from the informational and tangible support was a better predictor of quality of life except social relationship domain (Table 3).

The findings of this study show that mean score of family support network was less than the non-family support network (Table 2), the family support is a major source of emotional support [13, 48], limited emotional support can inhibit social relationship [50], and a study by Friedland et al. [16] and Ichikawa [28]) suggested that family acceptance was significantly related to the social relationship of quality of life. Harris and Larsen [22] suggested that non-family members such as health workers, counselors, volunteers, and friends have vital contributions in providing information and tangible support for livelihood and treatment. Therefore, the concept of providing information support should be based on the information to acquire emotional support from family and other social relations, which would further increase the social relationship of PLWHA.

Overall satisfaction from social support was significantly correlated with hope, and this finding is similar to that which shows hope was positively associated with perceived social support by PLWHA [55]. Again, satisfactionfrom emotional support was less of a predictor of levels of hope than informational and tangible support. A similar finding has been reported by

[1, 5, 18, 24] indicating instrumental or informational support seems more relevant to people living with HIV when patients experience AIDS-related symptoms.

Hope was significantly correlated with all domains of the quality of life. This finding is collaborated by similar findings in which hope was found to be an important internal resource for the increased functioning of PLWHA [11, 25]. The greatest impact of hope was on environmental functioning and the lowest was on global functioning. The employment status, Table 1, showed that 11.9% of the respondents were engaged as support provider and they were working as counselors or assisting in the referral system. They called themselves a social worker, which, in turn, puts them in the company of others who are also infected with HIV. This is in line with the hope-fostering strategy suggested by Herth [26]. The argument states that being around others who have HIV and who have been living long healthy lives helps PLWHA to experience hope that they may also have a long healthy life, the findings in this study showed that not only being around others, but also receiving various types of support from PLWHA can foster hope which leads to better quality of life. This study's findings confirm that social support has impact on the all domains of quality of life and hope.

The result from the regression analysis showed that the effect of social support on the quality of life was through the mediation variable hope, when controlling other demographic characteristics. Although the independent variables, social support plus hope, together explain significant amount of variance in quality of life, there still exists a large number of variance unexplained.

This study found that HIV infected males experienced less perceived satisfaction from social support, which, in turn, concurs the finding that HIV-infected men receive less social support [31]. This may refer to Beine's [7] proposed dominant cultural model of HIV/AIDS, in which he suggested that widely shared understanding of HIV/AIDS as a fetal, infectious, and sexually transmitted disease and further suggested that the common themes regarding HIV/AIDS as a ''bad person's'' disease, HIV/AIDS as the result of bad spirit which are against the moral and traditional customs. Cultural values such as accuses for transmitting disease to their husband, fear of stigmatization, and discrimination prevent women from disclosing their status, not to seek medical support or advices and men are to proud to do so [30]. Furthermore, socio-cultural factors may influence the social support, hope, and quality of life of women participants in this study.

Conclusion

Correlation analysis showed that social support was significantly associated with hope and quality of life, and hope was also significantly associated with quality of life; however, social relationship had less of a correlation than other domains. Emotional support was less of a predictor of quality of life and hope. Increasing social support and increasing hope together may have influence a better quality of life in this sample. Although the independent variables social support and hope account for a significant amount of variance of quality of life, there is still a large number of variance remaining unexplained. Further research is suggested to investigate other sources of variance in the domains of quality of life of person being cared, treated, and supported in community setting in Uganda.

Community-based workers and health professionals should provide tangible support and inform to HIV-infected persons about psycho-social support from friends and family, particularly to males. The regression analysis also showed that the effect of social support on quality of life was mainly through the mediation variable hope, suggesting that improving social support will increase hope, which, in turn, would improve their quality of life.

Table 2 Mean score achieved by subjects on the study Instruments (N = 160)

Scale	Mean	SD	Range
Satisfaction with social support	5.15	0.5	2-6
Overall network	4.20	1.5	1-9
Family network	2.53	1.2	1-6
Non-family network	4.82	0.93	4-8
Hope	3.87	0.5	2.33-5.33
QOL domain			
Physical functioning	14.01	2.12	7-19
Psychological functioning	14.38	1.78	7-21
Social relationship	12.12	1.96	4-15
Environmental functioning	13.44	1.80	9-17
Global functioning	6.75	1.80	3-9

SD, standard deviation

Table 3 Correlation between overall social support, types of support, and quality of life (N = 160)

Quality of life	Overall satisfaction	Informational satisfaction	Tangible satisfaction	Wmitional satisfaction
Physical functioning	.296**	.295**	.240**	.253**
Psychological functioning	.243**	.230**	.232**	.218**
Social relationship	.152*	.167*	.150*	.131*
Environmental functioning	.398**	.344**	.449**	.300**
Global functioning	.286**	.233**	.258**	.274**

Table 4 Correlation between hope and quality of life (N = 160)

Quality of life	Hope
Physical functioning	.375**
Psychological functioning	.357**
Social relationship	.352**
Environmental functioning	.445**
Global functioning	.313**

Numbers indicate Pearson r (** $p<0.01$)

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3rd SOUTHEAST EUROPEAN CONFERENCE ON CHEMOTHERAPY AND INFECTION. NOVEMBER November 8th – 11th 2012

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Session: The impact of Antibiotic PK/PD Relations on Clinical outcome of Infection

Bruno Barsic: Continuous infusion of antibiotics in critically ill patients

Pharmacokinetic parameters are significantly changed in critically ill patients with suffering of severe infections. Many factors are responsible for these changes but the most important one is capillary leak syndrome. Because of those concentrations of many antibiotics, particularly beta-lactams are greatly reduced and associated with treatment failures. Satisfactory time-above MIC is the most important PK/PD parameter associated with treatment outcome for beta-lactams, and it is significantly shortened in patients with severe infections, particularly if caused by organisms of reduced susceptibility (higher MIC values). This is the reason that continuous or prolonged administration of beta-lactam antibiotics is used in ICU setting. Although randomized, controlled trials did not show the advantage of such treatment, they did not include the most severe patients. Meropenem, ceftazidime, cefepime, piperacillin-tazobactam and vancomycin are the most common antibiotics administered in continuous infusion. Imipenem-cilastatin and oxacillin are given in prolonged infusions (3 hours).

Presently, in the absence of expensive monitoring of antibiotic concentrations, continuous use of antibiotics represents a safe and easy to perform modality of drug administration, enhancing the possibility of obtaining the most appropriate PK/PD premises for optimal treatment.

Anouk Muller: Appropriate PK/PD management of combinations

Combination therapy of antimicrobials to increase efficacy is still a controversial issue, although studies published over the last three years clearly show a clinical benefit in severely ill patients. In addition, in vitro studies and experimental evidence from animal studies clearly indicate the benefit for some combinations. There is increasing evidence that, similar to usage in tuberculosis and AIDS, emergence of resistance could be reduced or at least slowed down by using combination therapy. Since the emergence of resistant mutants is a direct result of selective pressure by antimicrobial therapy, the chance of resistant mutants being present to two antimicrobials in the parent population is a product of the mutation frequencies, provided that resistance mechanisms are independent. Comparative studies in in vitro pharmacokinetic models and in vivo indicate that emergence of resistance is less common when combination therapy is used. This is particularly true for micro-organisms known to develop resistance relatively fast, such as *Pseudomonas aeruginosa* and resistance mechanisms which occur at a relatively high frequency.

Session: MDR Gram negative: An ongoing epidemic

Maria Souli: The epidemiology of Gram- negative infections

The term “multidrug resistance” (MDR) is defined as acquired resistance to at least three classes of therapeutically relevant antimicrobial agents. Carbapenem-resistant *Klebsiella pneumoniae, Pseudomonas aeruginosa* and *Acinetobacter baumannii*, have been recognized as the most important nosocomial MDR Gram negatives worldwide. The production of a carbapenemase is usually the mechanism which is responsible for this phenotype. VIM-type enzymes are responsible for carbapenem resistance among *P. aeruginosa* and *K. pneumoniae* whereas NDM-type enzymes have been already identified in a variety of *Enterobacteriaceae* and non-fermenters. KPC is currently the most prevalent carbapenemase among *K. pneumoniae* while OXA-type enzymes have been identified among *A. baumannii* with the exception of OXA-48, which has emerged among *K. pneumoniae* first in Turkey and recently in other European countries. There is a considerable variation of resistance rates across Europe, with the Southern countries experiencing higher rates than the Northern ones.

Nevertheless, MDR organisms are easily carried across international borders through the transfer of patients. For that reason multidrug resistance should definitely be considered a global problem.

Stefania Stefani, Maria Lina Mezzatesta, Floriana Gona: Rapid diagnosis of MDR organisms

Multidrug-resistant (MDR) gram-negative pathogens are one of major hazards for patients requiring long-term hospitalisation or hospitalisation in ICU, leaving very few treatment options. Their prevalence and diffusion in hospitals is rapidly increasing worldwide. Many mechanisms, involving three or more different antimicrobial families, contributed to the MDR phenotypes, including extended-spectrum β-lactamases (ESBLs) that affect fourth-as well as third-generation analogues, that were universally active against *Enterobacteriaceae* and also active against *P. aeruginosa* and, often, *A. baumannii*. The confirmation tests for ESBL detection were used in the laboratories until 2010; currently, following the most recent guidelines that have lowered all breakpoints related to these drugs, testing is not anymore requested by both agencies (CLSI and EUCAST). The suggestion to perform confirmation tests is guided by epidemiological and infection control purposes only. During the last decade, carbapenem resistance has emerged, and its epidemiology is compounded by the diversity of carbapenems-hydrolysing enzymes such as KPC, metallo-beta-lactamases and oxacillinases. Among these enzymes, the class A *Klebsiella pneumoniae*- carbapenemases (KPC) have a rapid international spread and it is also of note that KPCs are mostly plasmid encoded so that they can easily disseminate to other Enterobacterial strains.

Phenotypic and molecular tests are needed for their rapid and accurate detection during diagnostic procedures, due to an often heterogeneous expression of resistance. A number of simple phenotypic tests, most of them in the disk diffusion format, have been described and evaluated as methodologies for the specific detection of carbapenemases. In many cases, PCR-based confirmation is necessary. Furthermore, the identification of epidemic MDR clones is also an important step for controlling the MDR spread in hospitals.

Diamantis Plachouras: MDR-GNB: An ongoing epidemic. Prevention and control.

Antimicrobial resistance (AMR) constitutes one of the most serious threats to public health on a global scale. Current dissemination of carbapenem resistant *Enterobacteriaceae* (CRE) presents the most worrisome trend. What are effective and practical measures to prevent and control the spread of this epidemic before it makes a number of modern medical achievements obsolete?

First, there is a need for continuous and consistent quantification and assessment of the extent and trends of AMR and the timely recognition of emerging hazards. This can be

accomplished through strengthened surveillance on regional, national and international levels. In order to prevent the emergence of resistance, the optimization of the use of antibiotics through antimicrobial stewardship cannot be overemphasized. Dissemination of resistance demands the strict implementation of infection control practices. Education of healthcare providers is extremely important. At a hospital level, identifying colonized patients is indispensable. To this end, active screenings as well as screening of patient contacts and point-prevalence surveys are often needed. Single-room placement or cohorting are effective strategies to control the spread of MDR-GNB. Various measure bundles are applicable depending on the prevalence of the problem in the specific setting. However measures at an institutional level are not sufficient. Action at a regional level appears to be necessary, as evidenced by one of the few successful stories of controlling the spread of CPE in Israel.

Even on a larger scale, international cooperation is required due to factors that lead to the spread of resistant bacteria across borders, including transfer of patients and medical tourism. In conclusion, it is only through multi-faceted, multi-level approaches that the problem can be contained.

George Petrrikos, Mical Paul: Treatment options for Carbapenem-resistant Gram-Negative bacteria.

Carbapenem-resistant Gram-negative bacteria remain variably susceptible to colistin, aminoglycosides and tigecycline. No study has compared these treatment alternatives. Recent observational studies examined colistin treatment in comparison with carbapenems or beta-lactams. Overall, a compilation of these studies demonstrates increased mortality with colistin, [unadjusted odds ratio 1.70 (95% confidence interval 1.36-2.13); multivariable-adjusted OR 1.63 (95% CI 1.22-2.17)]. Pharmacokinetic studies raise the possibility that suboptimal dosing of colistin in these studies might have been responsible for its inferior outcomes. The time to reach therapeutic concentrations of colistin in plasma (≥2 mg/L) was 36-48 hours without a loading dose and steady state levels were frequently sub-therapeutic. A loading dose followed by a twice-daily schedule of at least 9 million IU per day might improve microbiological efficacy. However, the effect of such a dosing strategy on nephrotoxicity and overall patient outcomes has yet to be described. Even in trials using the older dosing regimens the rate of renal failure with colistin was higher than with beta-lactams, (OR 1.58; 95% CI 1.11-2.26). Eventually, therapeutic drug monitoring will probably be necessary to guide optimal use of colistin in clinical practice. Observational studies show promise for colistin inhalations in the treatment of pneumonia, but the effects of this intervention should be assessed in a randomized controlled trial. The penetration of colistin to CSF is very poor and although slightly increased during meningitis, reported levels were usually below 0.1 mg/L. Intrathecal/intraventricular colistin has only been reported in case reports that present a relatively high success rate. In-vitro studies currently examine the interactions of colistin with several antibiotics. The most studied combination is colistin/ polymyxin-carbapenem combination therapy. A systematic review of these studies shows that synergy is most commonly observed for *Acinetobacter baumannii*. Clinical trials are under way to examine the effects of colistin combination therapy on clinical outcomes.

Plenary Session: New Antibiotics on the Horizon.

Ethan Rubinstein: New antibiotics 2012.

After many years of dryness in the antibiotic development pipeline the situation seems to have changed and currently there are a number of compounds under development (Table 1).

The antibiotics in the most advanced stage of development are those aimed at *Staphylococcus aureus*, particularly against MRSA, hVISA and penicillin-resistant *S. pneumoniae*. Older drugs that are in Phase III clinical trials include the glycopeptides: oritavancin (The Medicine Group), Dalbavancin (Durata), Telavancin (Theravance) for ABSSI the later also for HAP/VAP. They are all active against vancomycin resistant *S. aureus* (VRSA) , MRSA, MSSA and GAS. Other compounds active against MRSA include the oral AFN 1252 (Affinium)- a-fatty acid synthesis inhibitor, JNJ 6Q-2 (Furiex)- a fluoroquinolone, PMX 30063 (Polymedix) a cell-wall active compound, Delafloxacin/Radezolid (Rib-X Pharmaceuticals) an oxazolidinone, BC 3781 (Nabriva Therapeutics) and Tedezolid (Trius) the later has finished a phase III ABSSI trial successfully. New fluoroquinolones those are active against Gram-positive organisms including MRSA and hVISA, include ozenoxacin and delafloxacin that finished phase II study successfully in ABSSI. Of these compounds it seems that Tedezolid is the more advanced and will likely be marketed in the not too distant future.

In the Gram negative arena, plazmomycin is a new aminoglycoside which seems to be safer than gentamicin and tobramycin and achieved in a pharmacodynamics model target attainment against *Enterobacteriaceae* that was superior to cefipime and gentamicin, but not active against *Ps. aeruginosa*. A whole series of beta-lactam antibiotics combined with beta-lactamase inhibitors have been developed: ceftaroline/avibactam (=NXL 104), ceftazidime/avibactam, cefepime/tazobactam, ceftolozane/tazobactam, and the carbapenem RPX2003/RPX 7009. All of them demonstrate very good activity against beta-lactamase producing Gram-negatives, including *Acinetobacter*, *Ps. aeruginosa*, ESBL's producers, NDM-1 producers, OXA 48 etc. Pyrollamines are non-fluoroquinolones with a site of activity that is the bacterial topoisomerase. Other agents that target this enzyme are as following: coumarins, simocyclinone and albicidin. New potentially effective anti-mycobacterial agents include the nitroimidazole TBA-354 which is bactericidal for the Tuberculosis bacillus including MDR and XDR TB at low concentrations and is inactive against other bacteria.

If only a few of these agents would become clinically available it will certainly change the gloomy scene that we are facing today with increased bacterial resistance and dwindling amount of effective agents.

Table 1: New antimicrobials under development in 2012

	Name	**Group**
Anti-Gram positive	Oritavancin Dalbavancin Telavancin	Glycopeptides
	AFN 1252	Fatty acid synthesis inhibitor
	JNJ 6Q-2 ozenoxacin delafloxacin	Fluoroquinollones
	PMX 30063	Cell-wall inhibitor
	Delafloxacin/Radezolid Tedezolid (formerly torezolid)	Oxazolidinone
	BC 3781	Pleuromutillins
Anti-Gram-negative	Plasomycin	Aminoglycoside
	Ceftaroline/avibactam Ceftazidime/avibactam Cefepime/tazobactam Ceftolozane/tazobactam	Beta-lactams with inhibitors of beta-lactamases
	RPX2003/RPX 7009	Carbapenem
	Coumarins, Simocyclinone Albicidin Pyrollamines	Non-fluoroquinollone inhibitors of topoisomerase
Anti-TB	TBA-354 Bedaquilin	Nitroimidazole

NEWS IN MALARIA AND RELATED TROPICAL DISEASES IN SOCIAL WORK AND HEALTH

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ABSTRACT

News in malaria and their impact or social work and public health in Subsaharan africa, Central Europe (imported) and SE Asia is reviewed by our social work and health tropicteam

Introduction

Antenatal Receipt of Sulfadoxine-Pyrimethamine Does Not Exacerbate Pregnancy-Associated Malaria Despite the Expansion of Drug-Resistant Plasmodium falciparum: Clinical Outcomes From the QuEERPAM Study

Steve M. Taylor

Clinical Infectious Diseases 2012, 55(1):42-50

Antenatal intermittent preventive therapy with 2 doses of sulfadoxine-pyrimethamine (IPTp-SP) is the mainstay of efforts in sub-Saharan Africa to prevent pregnancy-associated malaria (PAM). Recent studies report that drug resistance may cause IPTp-SP to exacerbate PAM morbidity, raising fears that current policies will cause harm as resistance spreads.

We conducted a serial, cross-sectional analysis of the relationships between IPTp-SP receipt, SP-resistant Plasmodium falciparum, and PAM morbidity in delivering women during a period of 9 years at a single site in Malawi. PAM morbidity was assessed by parasite densities, placental histology, and birth outcomes.

The prevalence of parasites with highly SP-resistant haplotypes increased from 17% to 100% ($P < .001$), and the proportion of women receiving full IPTp (≥2 doses) increased from 25% to 82% ($P < .001$). Women who received full IPTp with SP had lower peripheral ($P = .018$) and placental ($P < .001$) parasite densities than women who received suboptimal IPTp (<2 doses). This effect was not significantly modified by the presence of highly SP-resistant haplotypes. After adjustment for covariates, the receipt of SP in the presence of SP-resistant P. falciparum did not exacerbate any parasitologic, histologic, or clinical measures of PAM morbidity.

In this longitudinal study of malaria at delivery, the receipt of SP as IPTp did not potentiate PAM morbidity despite the increasing prevalence and fixation of SP-resistant P. falciparum

haplotypes. Even when there is substantial resistance, SP may be used in modified IPTp regimens as a component of comprehensive antenatal care. (1-11)

The impact intermittent preventive treatment with sulfadoxine-pyrimethamine on the prevalence of malaria parasitaemia in pregnancy

Uchenna Anthony Umeh

Tropical Doctor July, 2012, 42

The levels of parasitaemia in the intervention group upon registration (4.9%) and at 34 weeks (63.9%) were not significantly different ($P > 0.05$) from that of the control group (10%) and at 34 weeks gestation (68.3%). IPT with SP during pregnancy did not significantly reduce the prevalence of the malaria parasitaemia among the pregnant women in our environment.

Tropical Medicine in the Fight against Plague, Death, Famine and War

Peter J. Hotez

Am. J. Trop Med. Hyg., 87(1), 2012, pp. 3-10

Table 1

Plague and pestilence: Number of global cases of tropical diseases*

Disease	Estimated no. cases
Ascariasis	807 million
Trichuriasis	604 million
Hookworm infection	576 million
Schistosomiasis	391–587 million
Amebiasis†	480 million
Malaria	216 million
Lymphatic filariasis	115 million
Dengue	70–500 million
Trachoma	40 million
Strongylodiasis	30–100 million
Onchocerciasis	26 million
Liver fluke infection‡	24 million
Paragonimiasis	23 million
Typhoid fever	22 million
Leishmaniasis	12 million
Chagas disease	10 million
Intestinal fluke infection	7 million
Paratyphoid fever	5 million
Cholera	3–5 million
Fascioliasis	3 million

Disease	Estimated no. cases
Leprosy	< 0.5 million
Total	3.5–4.2 billion

Table 2

Death: Annual number of global deaths from tropical diseases[*]

Disease	Estimate no. deaths
Malaria	655,000
Schistosomiasis	280,000[‡]
Typhoid fever	217,000
Cholera	120,000
Hookworm infection	65,000
Rabies	55,000
Leishmaniasis	51,000
Amebiasis	40,000
Dengue	21,000
Chagas disease	14,000
Trichuriasis	10,000
Food-borne trematodiases	7,000
Leprosy	6,000
Total	1.5 million

No Evidence of Delayed Parasite Clearance after Oral Artesunate Treatment of Uncomplicated Falciparum Malaria in Mali

Amelia W. Maiga

Am. J. Trop Med. Hyg., 87(1), 2012, pp. 23-28

Plasmodium falciparum resistance to artemisinins by delayed parasite clearance is present in Southeast Asia. Scant data on parasite clearance after artemisinins are available from Africa, where transmission is high, burden is greatest, and artemisinin use is being scaled up. Children 1-10 years of age with uncomplicated malaria were treated with 7 days of artesunate and followed for 28 days. Blood smears were done every 8 hours until negative by light microscopy. Results were compared with a similar study conducted in the same village in 2002-2004. The polymerase chain reaction-corrected cure rate was 100%, identical to 2002-2004. By 24 hours after treatment initiation, 37.0% of participants had cleared parasitemia, compared with 31.9% in 2002-2004 (P = 0.5). The median parasite clearance time was 32 hours. Only one participant still had parasites at 48 hours and no participant presented parasitemia at 72 hours. Artesunate was highly efficacious, with no evidence of delayed parasite clearance. We provide baseline surveillance data for the emergence or dissemination of P. falciparum resistance in sub-Saharan Africa.

Effect of HIV Infection and Plasmodium falciparum Parasitemia on Pregnancy Outcomes in Malawi

Ella T. Nkhoma

Am. J. Trop Med. Hyg., 87(1), 2012, pp. 29-34

Plasmodium falciparum and human immunodeficiency virus (HIV) are both risk factors for low birth weight (LBW) and maternal anemia, and they may interact to increase risk of adverse pregnancy outcomes. In 2005 and 2006, we followed 831 pregnant women attending antenatal care clinics in southern Malawi through delivery. HIV was associated with increased risk of LBW (adjusted prevalence ratio [PR(adj)] = 3.08, 95% confidence interval [CI] = 1.40, 6.79). Having greater than or equal to three episodes of peripheral parasitemia was also associated with increased risk of LBW (PR(adj) = 2.68, 95% CI = 1.06, 6.79). Among multigravidae, dual infection resulted in 9.59 (95% CI = 2.51, 36.6) times the risk of LBW compared with uninfected multigravidae. HIV infection and placental parasitemia were each associated with increased risk of anemia. Thus, HIV infection and parasitemia are important independent risk factors for adverse pregnancy outcomes. Among multigravidae, HIV infection and placental parasitemia may interact to produce an impact greater than the sum of their independent effects.

Serious and Fatal Illness Associated with Falciparum and Vivax Malaria among Patients Admitted to Hospital at West Sumba in Eastern Indonesia

Siti Nurleila

Am. J. Trop Med. Hyg., 87(1), 2012, pp. 41-49

Records of 3,449 patients admitted to Karitas Hospital at Waitabula in eastern Indonesia with microscopy-confirmed malaria through 2008 and 2009 were systematically reviewed. Falciparum, vivax, and mixed species malaria occurred among 1,541, 1,837, and 71 admissions, respectively. Among these, 400 (26%), 199 (11%), and 15 (21%) had serious illness. Fatalities occurred in 46 (12%), 18 (9%), and 2 (13%) of these patients, respectively. Although patients with a diagnosis of falciparum malaria were more likely to have serious illness compared with those with vivax malaria (odds ratio [OR] = 2.9; 95% confidence interval [CI]: 2.4–3.5), this diagnosis nonetheless was associated with 32% of serious illness and 27% of fatalities. Among the seriously ill with a diagnosis of falciparum or vivax malaria, no significant difference in risk of death occurred (OR = 1.3; 95% CI: 0.7–2.5). Serious and fatal illness was predominantly anemia or altered mental state syndromes among patients with either of the species diagnoses. *Plasmodium vivax* was associated with a substantial share of the burden of morbidity and mortality caused by malaria in this hypo- to meso-endemic community.

Repeated Artemisinin-based Combination Therapies in a Malaria Hyperendemic Area of Mali: Efficacy, safety and Public Health Impact

Issaka Sagara

Am. J. Trop Med. Hyg., 87(1), 2012, pp. 50-56

Artemisinin-based combination therapies (ACTs) are the first-line treatment of uncomplicated malaria. The public health benefit and safety of repeated administration of a given ACT are poorly studied. We conducted a randomized trial comparing artemether-lumefantrine, artesunate plus amodiaquine (AS+AQ) and artesunate plus sulfadoxine-pyrimethamine (AS+SP) in patients 6 months of age and older with uncomplicated malaria in Mali from July 2005 to July 2007. The patient received the same initial treatment of each subsequent uncomplicated malaria episode except for treatment failures where quinine was used. Overall, 780 patients were included. Patients in the AS+AQ and AS+SP arms had significantly less risk of having malaria episodes; risk ratio (RR) = 0.84 (P = 0.002) and RR = 0.80 (P = 0.001), respectively. The treatment efficacy was similar and above 95% in all arms. Although all drugs were highly efficacious and well tolerated, AS+AQ and AS+SP were associated with less episodes of malaria.

Community Health Workers Use Malaria Rapid Diagnostic Tests (RDTs) Safely and Accurately: Results of a Longitudinal Study in Zambia

Helen Counihan

Am. J. Trop Med. Hyg., 87(1), 2012, pp. 57-63

Malaria rapid diagnostic tests (RDTs) could radically improve febrile illness management in remote and low-resource populations. However, reliance upon community health workers (CHWs) remains controversial because of concerns about blood safety and appropriate use of artemisinin combination therapy. This study assessed CHW ability to use RDTs safely and accurately up to 12 months post-training. We trained 65 Zambian CHWs, and then provided RDTs, job-aids, and other necessary supplies for village use. Observers assessed CHW performance at 3, 6, and 12 months post-training. Critical steps performed correctly increased from 87.5% at 3 months to 100% subsequently. However, a few CHWs incorrectly read faint positive or invalid results as negative. Although most indicators improved or remained stable over time, interpretation of faint positives fell to 76.7% correct at 12 months. We conclude that appropriately trained and supervised CHWs can use RDTs safely and accurately in community practice for up to 12 months post-training.

Review: Emerging Nucleic Acid-Based Tests for Point-of-Care Detection of Malaria

Michael S. Cordray

Am. J. trop. Med. Hyg., 87(2), 2012, pp.223-230

Malaria remains a serious disease in the developing world. There is a growing consensus that new diagnostics are needed in low-resource settings. The ideal malaria diagnostic should be able to speciate; measure parasitemia; low-cost, quick, and simple to use; and capable of detecting low-level infections. A promising development are nucleic acid tests (NATs) for the diagnosis of malaria, which are well suited for point-of-care use because of their ability to detect low-level infections and speciate, and because they have high sensitivity and specificity. The greatest barrier to NAT use in the past has been its relatively high cost, and the amount of infrastructure required in the form of equipment, stable power, and reagent storage. This review describes recent developments to decrease the cost and run time, and increase the ease of use of NAT while maintaining their high sensitivity and specificity and low limit of detection at the point-of-care.

Assay	Reference	Limit of detection	Time	Cost/test	Requirements	Tested in field?
Microscopy	19, 21	50 parasites/μL	20 minutes/slide	$0.20[†]	Trained personnel, microscope, Giemsa stain	Yes
RDT	31	> 100 parasites/μL	20 minutes	$0.45–$1.40[†]	Cold chain for storage/transport of RDTs	Yes
Laboratory-based PCR	43	< 5 parasites/μL	1 hour	$1.50–$4 (reagents only)	Themocycler, cold chain, power, reagent grade water	No
RT-PCR	65, 67	0.1–10 parasites/μL	1 hour	$4–$5 (reagents only)	DNA extraction, thermocycler, reagent water, power	No
PCR LDA	66, 68	0.3–10 parasites/μL		$0.30 (detection only)	DNA extraction, PCR	No
PCR ELISA	70	< 30 parasites/μL	6 hours		DNA extraction, heat source, wellplate reader	Yes (Army hospital in Thailand)
LAMP	56, 57, 58, 60	0.2–5 parasites/μL	30 minutes–2 hours	$0.40–$0.70 (reagents only)	Heat source for amplification/DNA extraction,	No
NASBA	38, 62	0.01–0.1 parasites/μL	60 minutes	$5–$20 (reagents only)	Heat source for amplification, RNA extraction method, fluorescence measurement system	No
NALFIA	71	0.3–3 parasites/μL	1–1.5 hours		Self-contained test	Yes (Mbita, Kenya)

Table 3
Comparison of diagnostic characteristics that are relevant to the ability of a test to be useful at the point-of-care[*] *RDT = rapid diagnostic test; PCR = polymerase chain reaction; RT = reverse transcription; LDA = lactate dehydrogenase assay; ELISA = enzyme-linked immunosorbent assay; LAMP = loop-mediated isothermal amplification; NASBA = nucleic acid sequence–based amplification; NALFIA = nucleic acid lateral flow immunoassay.

[†]Costs listed for more established techniques (microscopy PCR and RDTs) reflect a more realistic cost to the end user including shipping, storage, and reagent costs. Costs listed for the techniques under development (RT-PCR, PCR LDA, PCR ELISA, LAMP, NASBA, and NALFIA) reflect only the cost of the materials required to perform the assay as given by the authors of the cited studies and likely underestimate the ultimate end cost to the user.

Insecticide-treated Plastic Sheeting for Emergency Malaria Prevention and Shelter among Displaced Populations: An Observational Cohort Study in a Refugee Setting in Sierra Leone

Matthew Burns

Am. J. trop. Med. Hyg., 87(2), 2012, pp.242-250

A double-blind phase III malaria prevention trial was conducted in two refugee camps using pre-manufactured insecticide-treated plastic sheeting (ITPS) or untreated polyethylene sheeting (UPS) randomly deployed to defined sectors of each camp. In Largo camp the ITPS or UPS was attached to inner walls and ceilings of shelters, whereas in Tobanda the ITPS or UPS was used to line only the ceiling and roof. In Largo the Plasmodium falciparum incidence rate in children up to 3 years of age who were cleared of parasites and monitored for 8 months was 163/100 person-years under UPS and 63 under ITPS (adjusted odds ratio [AOR] = 0.40, 95% confidence interval [CI] = 0.33-0.47). In Tobanda incidence was 157/100 person-years under UPS and 134 under ITPS (AOR = 0.85, 95% CI = 0.75-0.95). Protective efficacy was 61% under fully lined ITPS and 15% under roof lined ITPS. Anemia rates improved under ITPS in both camps. This novel tool proved to be a convenient, safe, and

long-lasting method of malaria control when used as a full shelter lining in an emergency setting.

Lack of Evidence for Chloroquine-Resistant *Plasmodium falciparum* Malaria, Leogane, Haiti

Ami Neuberger

Emerging Infectious Diseases, Vol. 18, No. 9, Sept. 2012

Plasmodium falciparum malaria in Haiti is considered chloroquine susceptible, although resistance transporter alleles associated with chloroquine resistance were recently detected. Among 49 patients with falciparum malaria, we found neither parasites carrying haplotypes associated with chloroquine resistance nor instances of chloroquine treatment failure. Continued vigilance to detect emergence of chloroquine resistance is needed.

Novel Vectors of Malaria Parasites in the Western Highlands of Kenya

These fi ndings highlight the value of the use of characteristics of local Anopheles spp. populations, including their behavior, based on morphologic features and DNA analysis, to accurately determine whether the species is contributing to malaria parasite transmission. This knowledge is essential for implementation of appropriate, and therefore successful, malaria control interventions.

The seroprevalence of *Helicobacter pylori* and its relationship to malaria in Ugandan children

Vinay Gupta

Transaction of the Royal Society of Tropical Medicine and Hygiene 106(2012)35-42

Helicobacter pylori epidemiology in sub-Saharan Africa, particularly among children, has been little investigated. A secondary endpoint of our study was to examine for associations between the seroprevalence of H. pylori and the incidence of malaria. We explored H. pylori prevalence by measuring serum IgG antibodies to H. pylori whole cell and cytotoxin-associated gene A (CagA) antigens by ELISA in a longitudinal cohort of 200 Ugandan children, aged 1-10 years at enrollment, in whom malaria incidence was followed over 572 person-years. First-sample seroprevalence for H. pylori -specific IgG (63%) and for the H. pylori protein CagA (78.5%) were both high, and they were positively associated with advancing age (per each 1-year age increase, OR (95% CI): 1.60 (1.39-1.85), P<0.001). We observed nearly universal prevalence of CagA+ H. pylori by the age of 10 years in Kampala and found no evidence that H. pylori-positivity is protective against malaria.

Diagnosis and treatment of malaria by health care providers: findings from a post conflict district in Sri Lanka

Lima J.

International Health 4 (2012) 148-150

This study determines whether 72 health care providers in a previously conflict-affected district in Sri Lanka adhere to the recommendations of the Anti Malaria Campaign with regard to diagnosis, prescribing antimalarials and reporting of a positive case. All patients suspected of clinically having malaria are being referred for laboratory confirmation, indicating that presumptive treatment is not practiced. The knowledge amongst health care providers regarding accurate management and reporting of a malaria positive case needs to be improved.

Optimal dose finding for novel antimalarial combination therapy

Duparc S.

Tropical Medicine and International Health, Vol. 17, No. 4, pp. 409-413, April 2012

A recent discussion meeting convened by the Medicines for Malaria Venture examined how best to manage the discovery and preclinical pipeline to achieve novel combination therapies which would address the key clinical needs in malaria. It became clear that dose optimisation of components within combination therapy was a key issue in achieving antimalarial efficacy and for preserving that efficacy against parasite resistance emergence. This paper outlines some of the specific issues in malaria that cause dose-ranging and dose-optimisation studies to be particularly challenging and discusses the potential of factorial study design to address such challenges.

Treatment of acute *P. falciparum* infection is not the only clinical objective. There are other targets that could potentially benefit from novel antimalarial combinations.

- *Plasmodium vivax* acute therapy: chloroquine resistance is an issue in some regions (Baird 2011).
- Treatment of *P. vivax* hypnozoites, the cause of clinical relapse (Galappaththy *et al.* 2007).
- Drugs that interrupt malaria transmission: a key component of malaria elimination efforts (The malERA Consultative Group on Drugs 2011).

Lack of Evidence for Chloroquine-Resistant *Plasmodium falciparum* Malaria, Leogane, Haiti

Ami Neuberger

Emerging Infectious Diseases, Vol. 18, No. 9, Sept. 2012

Artemisinin-based combination therapy is the first-line treatment for uncomplicated alciparum malaria. This study assessed the antimalarial efficacy and safety of a combination of 150 mg

of arterolane maleate and 750 mg of piperaquine phosphate (AM-PQP) in comparison to Coartem (artemether and lumefantrine) in patients with acute uncomplicated P. falciparum malaria.

In this open-label, randomized, multicentric, parallel group clinical trial, 240 patients were randomized to receive AM-PQP (160 patients) or Coartem (80 patients). Patients with P. falciparum monoinfection and initial parasite densities ranging from 1000 to 100 000 asexual parasites/µL of blood were followed for 28 days. Polymerase chain reaction-corrected adequate clinical and parasitologic response on day 28, parasite clearance time, and fever clearance time were evaluated.

A total of 151 (94.4%) of 160 patients in the AM-PQP group completed the trial, while 77 (96.3%) of 80 patients in the Coartem group completed the trial. No treatment failure was noted in the AM-PQP group, while one patient receiving Coartem failed treatment on day 28. There was no difference in the median parasite clearance time (30 hours in both groups) or median fever clearance time (24 hours in both groups) after administration of the 2 study treatments.

The available data support the evaluation of a drug combination in a larger population as a fixed-dose combination.

Placental Malaria is Associated With Increased Risk of Nanmalaria Infection During the First 18 Months of Life in a Beninese Population

Antoine Rachas

CID 2012, 55(5): 672-8

Several studies have shown that the risk of malaria infection increases for children born of a mother with placental malaria infection. An immune tolerance phenomenon has been hypothesized. We addressed whether Plasmodium falciparum placental infection could additionally be associated with the risk of non-malaria fevers in infants.

From 2007 to 2009, 553 infants were followed up from birth to 18 months in Benin. The occurrence of fever was actively screened by trained community workers. Malaria fevers (temperature >37.5°C with positive rapid diagnostic test or thick-blood smear) were excluded from analysis. The association between placental malaria infection and the number of total, gastrointestinal and respiratory febrile episodes was explored using binomial negative regression, adjusting for maternal age, parity, parents' schooling, socioeconomic level, sex, village of birth, season of birth, prematurity, Apgar score and nutritional status.

The prevalence of placental malaria infection was 11.2%. During a median follow-up of 17.8 months, 624 non-malaria fevers were registered. Placental malaria infection was associated with a higher risk of non-malaria fever episodes (adjusted IRR=1.4; 95% CI 1.1-1.8) as well as gastrointestinal (1.6; 1.1-2.5) and respiratory (1.5; 1.1-2.1) febrile syndromes. The same pattern was obtained when considering consultations after the age of 6 months.

These results suggest an association between placental malaria infection and non-malaria infections in the first 18 months of life. Immune tolerance could lead to impaired immune development not specific to malaria infections in infants born from placental malaria infection, but further studies are needed.

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REPORT FROM THE13TH ASIA-PACIFIC CONGRESS OF CLINICAL MICROBIOLOGY AND INFECTION

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Community-onset Methicillin-Resistant *Staphylococcus aureus* Infections: from Epidemiology to Clinical Management

Staphylococcus aureus has been well-recognized as an important pathogen among patients with community-onset infection. Even with rapid progress in modern medicine, patients with *S. aureus* infection, especially for those with bloodstream, endovascular, deep-seated, or low respiratory tract infections, still carry significant risk for disease-associated mortality and morbidity. Treatment of *S. aureus* infections, however, is further challenged as the increasing recognition of methicillin-resistant isolate recovered from patients with community-onset infection.

Traditionally, *S. aureus* infections acquired in the community are generally expected to be less resistant to antimicrobial agents than infections acquired in the hospital. Most community patients with methicillin-resistant *S. aureus* (MRSA) infection have direct or indirect epidemiological linkage to prior healthcare-associated (HA) exposure. It is therefore reasonable to reserve empirical anti-MRSA therapy for community patients with previous HA exposure in terms of the risk of antimicrobial resistance and the infection-associated mortality rate. Recently, however, infection with novel community-associated MRSA (CA-MRSA) in community patients without prior HA exposure has been increasingly identified and emerged as a global public health issue.

As the wide spread of CA-MRSA in the communities, whether anti-MRSA agents should be empirically implemented for all community patients suspecting *S. aureus* infection has become an important and challenging therapeutic issue. It is, however, a clinical dilemma of introducing selection pressure for high antimicrobial-resistant micro-organism from antibiotics overuse or posing adverse patient outcomes from delay of effective anti-MRSA antibiotics. To propose possible solution, we analyzed this important clinical issue in three main dimensions: (1) the epidemiology and evolution of methicillin resistance among patients with community-onset *S. aureus* infection; (2) risk stratification for MRSA infection among community patients with *S. aureus* infection; (3) impact of methicillin-susceptible *S. aureus*, CA-MRSA, and traditional hospital MRSA infections on clinical outcomes of patients with community-onset infections. Though currently there is no direct answer, recent studies still provide important evidence and help first-line physicians with their treatment decision.

The Artificial Liver Support System in the People's Republic of China (Jianrong Huang)

Artificial liver support system (ALSS) is a very effective and important method in treatment of liver failure. The artificial liver support system (ALSS) is an extracorporeal device that clears up harmful substances produced by liver failure with mechenical or biological mechanism. Through offering the nessecery substances produced or metabolized by liver, or balancing of the water and electrolites, the ALSS temporarily substitues the main fuction of liver which provides a chance for hepatocytes regenerating and thus improves the survivial rate of liver failure patients.

The ALSS in China has its own specialty due to its development history and the special pathogenesis of liver failure. The ALSS evolves from the combination of blood dialysis and plasma supplement in China, and thus plasma exchange is the cornerstone of ALSS. Around

90% patients of liver failure are induced by viruses in China. Besides, around 28%-67% patients of liver failure are induced by medication in England, USA, France and Australia.
The history of ALSS in China could be divided into three periods. Between the late 1970s to middle 1980s, the ALSS was in its initial period, during which hemoperfusion using activated charcoal were attempted in treating severe hepatitis. The activated charcoal has its disadvantage such as immunological reaction and poor biocompatibility. The second stage was between the middle 1980s to late 1990s, ALSS research centers was found in the First Affiliated Hospital of Zhejiang University. A set of ALSS was developed, which overcame major difficulties such as bleeding and coagulation, hypotention and overburden of heart. Ever since late 1990s, ALSS has been popularized and performed in approximately 200 hospitals in 31 provinces across China, the total number of patients receving ALSS is more than 35,000. The main molds of ALSS include: plasma exchange (PE), plasma dialysis, plasma filtration, and plasma absorption. In the clinical practice, they are used in combinations to maximum the cure effect. The most common methods are selective plasma exchange, plasma diafiltration(PDF), and continuous renal replacement therapy(CRRT). While in the western world the most success ful ALSS are MARS and Prometheus which are based on albumine dialysis.
The treatment effect of ALSS is evaluated by cure rate for short period or by 6 month or 1 year survival rate for long period.Statistical data from 650 acute- on-chornic liver failure patients in Zhejiang University shows that the survival rate of ALSS group is 47.9%, which is significantly higher than that of internal medicion group(34.6%). Up to now more than 1500 patients have received more than 4000 times of ALSS therapy in our center, and the clinical cure rate of acute and sub-acute liver failure increased from 11.9% to 51.4%, the improvement rate of acute-on-chronic and chronic liver failure increased from 15.4% to 42.5%.
The aim of The National Science&Technology Major Project for Infectious Disease Control of China (2008ZX10002-05) is to decrease the morbidity and mortality of liver failure induced by HBV. A research queue of 1800 HBV liver failure patients was collected, which includs a ALSS subgroup composed by 630 HBV liver failure patients from multiple research centers. The death rate of acute liver failure was decreased to 38.5%, subacute liver failure to 41.7% and chronic liver failure to 43.3%.
The exploring in bioartificial liver in China could be cast back to 1990s. In 2003, Professor Li's group published a research of hybrid artificial liver combining ALSS and biological device containing chinese minitype porcine hepatocytes.
15 cases chronic severe hepatitis patients were treated with hybrid ALSS, 11 cases survived. In receant years, more and more researchers focus on stem cells and their use in bioartificial liver. Several cilinical trial and animal experiment has showed good foregroud in this field.
In all, the ALSS in China has its own specialty and is very effective and important in treatment of liver failure. With the communication between China and other countries, the application of ALSS will be international and exert more power.

Carbapenemases in Enterobacteriaceae: Enzymes and Answers (David M Livermore, UK)

For 20 years after imipenem's introduction in 1985, carbapenems retained near-universal activity against Enterobacteriaceae. Occasional resistance, particularly to ertapenem, arose contingent on porin loss in strains that produced ESBLs or AmpC enzymes but was generally unstable meaning that strains with this mode of resistance achieve little spread. Latterly, however, true carbapenemases have begun to proliferate amongst Enterobacteriaceae, particularly Klebsiella. These enzymes are diverse, including Class A (KPC), B (IMP, VIM and NDM) and D (OXA-48 and -181) types. Each is spreading globally from initial foci: KPC from the US; VIM for SE Europe; NDM from India and Pakistan and OXA-48 from Turkey. The diversity of enzyme types complicates the design of stable agents and inhibitors. Monobactams evade Class B (metallo) enzymes but not other types; many cephalosporins

escape OXA-48/181 but not other types; avibactam inhibits Class A and D carbapenemases but not Class B types. One comprehensive answer is to protect a monobactam (stable to class B enzymes) with an inhibitor of other carbapenemases and of the various ESBL and AmpC enzymes that commonly accompany carbapenemases; another is to use multiple inhibitors. KPC carbapenems are strongly associated with a high-risk clone, K. pneumoniae ST258, which has spread globally. This has been brought under control in Israel (not elsewhere) by nationally co-ordinated infection control, predicated on rigorous screening and cohorting of patients.

Other carbapenemases are more associated with promiscuous plasmids, disseminating among bacterial strains; blaNDM is especially adept at transferring among plasmids. This epidemiology is less tractable to classical infection control than clonal dissemination, but spread may be discouraged by good antibiotic stewardship and, in countries where disseminating is occurring outside hospitals, notably India, by improved public sanitation.

Progression in the Molecular Epidemiology of Tuberculosis and Research on the Beijing Genotype of Mycobacterium Tuberculosis (Dick van Soolingen, Netherlands)

Study on the spread of tuberculosis and underlying mechanisms DNA fingerprinting of *Mycobacterium tuberculosis* has been used to trace transmission of tuberculosis since the early 1990s. VNTR typing has in the last years gained recognition as the gold standard in typing, and the first two proficiency studies in nearly 40 laboratories world wide have brought important insights in the performance of this methodology.

Meanwhile, the new possibilities of Whole Genome Sequencing in molecular epidemiology are being explored. In The Netherlands nearly 200 *M. tuberculosis* isolates of cases with known epidemiological links were examined for their genetic turnover, but revealed no consistent molecular clock over short time scales.

In Europe, within the framework of an ECDC project it has been shown that about half of the MDR/XDR-TB cases, especially in the Eastern part of Europe, are due to transmission. One major outbreak, involving nearly 450 cases and detected in 15 European countries, is caused by one Beijing genotype strain. Interestingly, the mutations associated with first-line drugs are identical (AA315 in the *katG* gene and AA531 in the *rpoB* gene), but the mutations associated with resistance to second line drugs vary. In a recent publication it was shown that the same Beijing strain is also the driving force behind part of the transmission of MDR/XDR-TB in other Central Asian areas. The underlying mechanisms for successful spread are not well understood. We recently found a much higher frequency of mutations encoding rifampicin resistance for part of the Beijing strains in comparison to East African Indian strains. In addition, a part of the Beijing strains revealed a lower *in vitro* susceptibility to rifampicin. Gagneux *et al* disclosed mutations in the *rpoA* and *rpoC* gene that compensate for the loss of fitness in MDR-TB strains associated with transmission. Not surprisingly, the European outbreak strain revealed such a mutation in *rpoC*, namely F452S.

In Vietnam, where about 40% of the TB cases are caused by strains of the Beijing genotype, nationwide as well as local, population-based studies showed a clear correlation between this genotype and low age, suggesting active and ongoing spread. Furthermore, while the Beijing genotype was not associated with treatment failure it was strongly associated with TB relapse in a prospective cohort study, indicating a possible mechanism for its epidemiological success.

In China, more and more molecular epidemiological studies are being conducted. In a recently published study in

multiple provinces, 73% of the cases were caused by Beijing strains, while in the Beijing region 93% of the isolates represented this genotype. The indications that the Beijing genotype is also in this region associated with resistance are increasing. In the Chinese province Guangxi, hypothetical ancestors of the Beijing genotype were traced and this will facilitate future research on the evolutionary development of this successful genotype.

A Decade of Outpatient Parenteral Antibiotic Therapy; Acceptance and Sustainability (Dale Andrew Fisher, Singapore)

In 2004, Singapore's Health Ministry permitted access to the National health funding scheme for OPAT expenses. Prior to this, costs were borne personally by patients. In 2006, 243 episodes of care were delivered by OPAT centres in 2 of Singapore's largest hospitals. This number increased to 509 episodes in 2011.

Our study included 2487 episodes of OPAT care. Antibiotic provision at the hospital-based infusion centres was preferred in 76% of cases but 17% and 7% respectively received home based therapy either via a caregiver or by visiting nurses.

Male patients predominated (64.2%; $p<0.001$) and the treatment course median was 16 (range 1-205) days. The median age was 56 (range 7-94) years. Seven children (<13yrs) have been enrolled.

The most common diagnoses were osteomyelitis (15.1%), primary bacteraemia (10.0%) and liver abscess (9.8%).The most frequently prescribed antibiotics were ceftriaxone (21.6%) and ertapenem (18.2%).

Four patients absconded (0.2%) and there was 1 unexpected death. All-cause readmission was 12.6% across the six-year period (2006-2011); 52.0% were due to worsened co-morbidity, while 19.6% were due to worsened OPAT ID condition.

Clinical outcomes in OPAT services worldwide consistently compare well with inpatient care. Healthcare costs have been shown in Singapore, European and North American OPATs to be <20% of that observed in inpatient care. OPAT has been shown to be safe, cost effective and preferred by many patients and their caregivers.

Cefazolin (John Turnidge, Australia)

The susceptibility testing breakpoints for cephalosporins and Enterobacteriaceae were recently revised extensively by CLSI. As a consequence, cephalothin was recognised to be ineffective against Enterobacteriaceae, and was relegated to surrogate testing to represent the oral first-generation cephalosporins. Furthermore, after a false start with the revision for cefazolin breakpoints, these were adjusted to ≤2 mg/L as susceptible, 4 mg/L as intermediate and ≥ 8 mg/L as resistant. The adjustment was made to prevent the susceptible breakpoint from bisecting the wild-type of the common Enterobacteriaceae, namely E. coli, Klebsiella spp. and P. mirabilis, which in their wild type state are considered to be the natural targets of the drug. Since these breakpoints have been implemented, a number of issues have emerged. Many laboratories, especially those using automated instruments for susceptibility testing, have been using cefazolin as a surrogate agent for the oral first-generation cephalosporins, even though CLSI does not recommend this. They have chosen to do this because no testing panels have incorporated both cefazolin and cephalothin up to now, and putting up a cephalothin disk requires extra time and expense at the bench. CLSI have now commenced a process that will attempt to resolve this problem, comparing disk and MIC testing of cefazolin, cephalothin and a range of oral cephalosporins (cephalexin in particular), hoping to identify a suitable surrogate test for the oral first-generation cephalosporins. The other significant concern expressed by some laboratories has been the notable increase in resistance percentages in the institutions that they serve. This undoubtedly reflects the prevalence of a variety of β-lactamases in their institutions. It should not be a reason to review breakpoints yet again. Nevertheless, the question has been raised about whether higher breakpoints might apply to isolates from the urinary tract. Currently this is not done for any β-lactams by CLSI.

On the other hand, EUCAST have not set breakpoints for cefazolin, but do provide breakpoints for cephadroxil and cephalexin for uncomplicated urinary tract infection only. Both of these latter agents must be tested directly. EUCAST has no provision currently for surrogate testing of a single first-generation cephalosporin to represent all the oral agents. The only difficulty this poses is that there are no parenteral first-generation cephalosporins that can be tested against the Enterobacteriaceae using EUCAST standards. Laboratories wishing

to test cefazolin may choose to supplement EUCAST breakpoints with the CLSI breakpoints for this agent because the testing conditions for this agent are identical in both standards.

Clinical Impact of Carbapenem Updated Breakpoints for Enterobacteriaceae: CLSI vs. EUCAST (Wen-Chien Ko,Taiwan)

Antimicrobial resistance among Gram-negative bacilli has become an increasingly urgent and troublesome problem worldwide. To avoid the labor-intensive and time-consuming detection of bacterial isolates with specific resistance mechanisms, it is necessary to update the interpretive criteria for antimicrobial agents so that false rates of susceptibility can be minimized. With the concerns of carbapenemases, the Clinical and Laboratory Standards Institute (CLSI) revised the interpretive criteria of carbapenems for Enterobacteriaceae in the M100-S21 after their evaluation of pharmacokinetic-pharmacodynamic properties, MIC distributions, and limited clinical data. However, the clinical impact of such a revision remained undefined. A total of 251 patients with bacteremia caused by ESBL-producing Escherichia coli and Klebsiella pneumoniae isolates treated by a carbapenem were identified and susceptibility rates of ertapenem (MICs ≤0.25 μg/ml) were 83.8% and 76.4%, meropenem 100% and 99.3%, and imipenem 100% and 97.9%, respectively. Multivariate analysis of the variables related to sepsis-related mortality found that the presence of severe sepsis, hospital-onset bacteremia, and ertapenem-nonsusceptible isolates were independent risk factors. Infections due to the ertapenem-susceptible isolates (MICs ≤0.25 μg/ml) were associated with a more favorable outcome than those due to ertapenem-nonsusceptible isolates (MICs >0.25 μg/ml), if treated by a carbapenem. However, the mortality of bacteremic episodes due to isolates with MICs ≤0.5 μg/ml was similar to those with MICs >0.5 μg/ml (P=0.8). More clinical data will be welcomed to better define the most useful susceptible breakpoints of carbapenems for Enterobacteriaceae, irrespective of the presence of the beta-lactamase types alone or in combination.

Peumococcal Resistance and Serotypes in Asia (Jae-Hoon Song)

Emergence of multidrug-resistant 19A serotypes

After the introduction of heptavalent pneumococcal conjugate vaccine (PCV7), epidemiology of S. pneumoniae, including serotype distribution and prevalence of antimicrobial resistance, has been changing in many countries. Incidence of invasive pneumococcal diseases caused by vaccine serotypes (4, 6B, 9V, 14, 18C, 19F, and 23F) has substantially declined while non-vaccine serotypes such as 19A, 3, and 6A have remarkably increased worldwide. In particular, serotype 19A has emerged as an important cause of invasive pneumococcal diseases . Data from the Asian Network for Surveillance of Resistant Pathogens (ANSORP) study in 2008-2009 showed that 47.5% of isolates showed non-PCV7 serotypes with 19A (8.2%) as the most prevalent non-vaccine serotype in the Asian region. Emergence of serotype 19A was due to multiple factors including effect of PCV7 vaccination, clonal spread of serotype 19A strains, and injudicious use of antimicrobial agents. Emergence of non-vaccine serotypes was also associated with increasing prevalence of antimicrobial resistance. Particularly, macrolide resistance has remarkably increased in many parts of the world, which was reported to be > 70% among clinical isolates from Asian countries.

ANSORP data showed that resistance to erythromycin was extremely prevalent in the Asian region (72.7%), including China (96.4%), Taiwan (84.9%), and Vietnam (80.7%). Serotype 19 A was also associated with the emergence of multidrug resistance in pneumococci . In Asia, 80 % of serotype 19A isolates showed multidrug resistance. Antimicrobial resistance and serotypes in S. pneumoniae have been evolving with the introduction of pneumococcal conjugate vaccines. Given the clinical importance of pneumococcal infections, continuous surveillance of resistance and serotypes is warranted, especially in the Asian region.

The Role of the Bacteria in Mortality from Influenza (Keith P. Klugman, South Africa)

Pneumonia is the leading vaccine preventable cause of death, yet little research is devoted to its treatment and prevention. Influenza may progress to bacterial pneumonia, but the extent of the contribution of bacteria to influenza associated pneumonia morbidity and mortality is unknown. In a double blind randomized trial pneumococcal conjugate vaccine (PCV9) prevented hospitalized clinical pneumonia associated influenza by 45%. More recently it has been shown that States in the USA that quickly adopted PCV7 in infants, had less influenza associated hospitalization, than States that were slower to introduce PCV7. This suggests that a major fraction of influenza associated pneumonias in children may be due to pneumococcal super-infection. Analysis of the 1918 influenza pandemic suggests that, in contrast to recent prevailing wisdom, >90% of pneumonias occurred > 6 days after onset of symptoms; the time to mortality of untreated pneumococcal pneumonia follows an identical time course to the 1918 influenza deaths; a recent recut of autopsy specimens from the 1918 epidemic found bacterial infection in all of 58 specimens of lung tissue from influenza deaths during the pandemic; bacteria were isolated from blood in 16% of patients with pneumonia following influenza, compared to <1% bacteremia among uncomplicated influenza patients during the pandemic; specimens cultured from pleural fluid or lung tissue, revealed bacteria during life in 80%; the pneumococcus was predominant, in up to 50% of patients, with hemolytic streptococci second, and staphylococci rarely isolated. Finally bacterial vaccine studies performed during the 1918 pandemic were poorly designed by today's standard, but a re – analysis of these studies, using influenza cases as the denominator, suggest that pneumococcal killed bacterial vaccines may have prevented both pneumonia and deaths. Autopsy data from the 2009 H1N1 pandemic in the USA found bacteria in 29% of 77 confirmed deaths; predominant pathogen was again the pneumococcus followed by group A streptococci and staphylococci. A similar study of autopsies of 2009 H1N1 victims in New York found 55% to have bacterial co – infection. A smaller autopsy study from Brazil among 21 patients found 38% with bacterial infection. In the UK 40% of fatal pediatric cases had presumed or confirmed bacterial co –infection. Case control studies from Brazil and Japan found that detection of the pneumococcus in the nasopharynx was associated with increased risk of hospitalization or death due to H1N1. These studies suggest that a large fraction of hospitalizations and deaths in otherwise healthy individuals during 2009 may have been due to bacterial co – infection, and pneumococcal infection in particular. A model of a 1918 – like pandemic in a contemporary setting suggests 10 fold less pneumococcal pneumonia due to lower frequency of pneumococcal carriage and herd immunity from PCV7 vaccine.

Clinical Significance of Quantitative HBsAg in the Natural History of Chronic Hepatitis B (Jia-Horng Kao, Taiwan)

In our clinical practice, hepatitis B surface antigen (HBsAg) is the hallmark of HBV infection and it has been qualitatively used for the diagnosis of hepatitis B virus (HBV) infection over the past decades. Virologically, HBsAg is produced by 2 pathways: from translation of transcriptionally active cccDNA molecules that serve as a template for replication and from translation of viral genes transcribed from integrated HBV DNA sequences in the host genome. Using recently developed commercial quantitative assays, qHBsAg has been shown to be helpful in the understanding and management of patients with chronic HBV infection.

Studies consistently showed that HBsAg level is highest in immune tolerant phase (4.5-5.0 log10 IU/mL) and is lowest (1.5-3.0 log10 IU/mL) in low replication phase. Thus, the reduction of HBsAg for >1 log IU/mL could reflect improved host immune control against HBV infection. The combined single point quantification of HBsAg <1000 IU/mL and HBV-DNA ≤ 2000 IU/mL can identify minimal risk HBV carriers in both genotype D and non-D HBeAg-negative patients. In genotype B and C dominant HBeAg-negative carriers with normal ALT, the lower the serum HBsAg level < 1000 IU/mL the higher the chance of spontaneous HBsAg seroclearance, and an HBsAg level of ≤100 IU/mL is an appropriate cut-off for predicting HBsAg loss over time. Regarding the role of qHBsAg in predicting disease

progression in HBV carriers with a low viral load (< 2000 IU/mL), our recent studies indicated that a higher HBsAg level (>1000 IU/mL) is associated with a higher HCC risk. Taking these lines of evidence together, qHBsAg can complement HBV-DNA for the monitoring of HBV patients in the clinical practice. In conclusion, qHBsAg can be integrated into future clinical practice guidelines for the management of chronic HBV infection.

Host Heat-Stress Cognate 70 as a Potential Drug Target against Drug Resistance in Hepatitis B Virus (Jian-Dong Jiang, China)

Heat-stress cognate 70 (Hsc70) is a host protein associated with hepatitis B viral (HBV) replication. The goal of this study is to investigate whether Hsc70 could be an anti-HBV drug target. Our results showed that introducing Hsc70 increased HBV replication in the HBV(+) human hepatocytes (HepG2.2.15 cells). The coiled coil region on Hsc70 (nt 1533-1608, aa 511-536) was the key sequence for HBV replication. Knockdown of Hsc70 expression by RNAi largely inhibited HBV replication with no cytotoxicity to the host.

Using Hsc70 mRNA screening assay, natural compound oxymatrine (OMTR) was found to be a selective inhibitor for Hsc70 expression. Then, OMTR was used to investigate the potential of Hsc70 as an anti-HBV drug target. OMTR inhibited Hsc70 mRNA expression by 80% and HBV DNA replication by over 60% without causing cytotoxicity. The anti-HBV effect of OMTR appeared to be mediated through destabilizing Hsc70 mRNA. The T1/2 of Hsc70 mRNA decreased by 50% in OMTR treated hepatocytes. The Hsc70 mRNA 3'UTR sequence was the element responsible for OMTR's destabilization activity. OMTR suppressed HBV de novo synthesis at the reverse transcription stage from pgRNA to DNA, and was active against either wild-type HBV or those resistant to lamivudine, adefovir and entecavir. Therefore, host Hsc70 could be a novel drug target against HBV; and OMTR appears to inhibit HBV replication through destabilizing Hsc70 mRNA. As the target is not a viral protein, OMTR is active for either wild-type HBV or those resistant to reverse transcriptase (RT) inhibitors.

Clinical studies showed that OMTR monotherapy (oral, 12 months) reduced blood HBV DNA by 96% and HBeAg by 70% in the chronic hepatitis B (CHB) patients resistant to lamivudine (n=17), equal to its efficacy in the naïve CHB cohort (n=20). Liver biopsy study showed that OMTR treatment caused a decrease of Hcs70 mRNA in liver cells, paralleled with which was a reduction of intracellular HBV DNA. Combination of lamivudine with OMTR (n=15) (oral, 12 months) showed an enhanced anti-HBV effect as compared to lamivudine monotherapy (n=25). The incidence of drug-resistance against lamivudine in the combination group was significantly lower than that in lamivudine group (1/15 vs 7/25; $p<0.01$). The results were further confirmed in vitro. Treatment of HBV(+) HepH2215 cells with sub-optimal dose of OMTR for 8 months suppressed HBV replication without inducing drug-resistance, whereas lamivudine monotherapy caused drug-resistant mutation in 3 months. Combination of OMTR with lamivudine prevented HBV from developing drug-resistance. In conclusion, OMTR appears to be effective in treating CHB patients with drug-resistant HBV and might reduce the chance of drug-resistance to RT inhibitors in clinic.

Impact and Overcoming Challenges of ART in Resource- Limited Settings (Kiat Ruxrungtham, Thailand)

By 2101, according to the WHO, 6.6 million people (47%) of those in need (CD4+ cell count <350 cells/mm3) were on antiretroviral therapy (ART). Most reports had shown the 1 year survival rate was more than 80%. However there was up to 15% of patients died from OIs and/or IRIS in the first 6 months of treatment due to the late presenting to care. ***When to start in RLS***: Most countries have been implementing the recent WHO treatment guidelines to start at the CD4 350 cut-off. After the HPTN052 study has demonstrated that early commencing HAART can reduce 96% of the HIV transmission rate from the HIV-infected individuals to their uninfected partners, a number of countries have amended their guidelines to also commencing HAART in individuals who have sero-discordant partners irrespective of their CD4+ count. ***What to start in RLS***: While in resource rich settings 4 preferred regimens are

available (2 NRTIs+ EFV, or ATV/r, or DRV/r or Ral), in RLS there is only the NNRTI-based regimen (EFV or NVP) is available. ***How to monitor in RLS***: Adherence is the cornerstone of the durability of treatment success.

However to early detect non-adherence, a proper laboratory monitoring particularly viral load test is essential. Due to the high cost and lack of availability, most countries can provide only CD4+ count to follow up the treatment response. There are only a few countries providing viral load test at least once yearly in their national AIDS program. Although a randomized study has shown that the VL monitor had only a modest impact on morbidity/mortality reduction when compared to the CD4 monitoring, the report from the Chinese National Program has found that by using CD4 alone, by 5 years 50% had immunological failure.

The delay in detecting virologic failure will eventually lead to an accumulation of HIV resistant mutants and will consequently compromise future ART options (of which has already been very limited). ***Aging issues in RLS***: In countries where HAART have been implementing for more than a decade, there are more patients (who can live longer) become older than 60. The aging-related issues are thus concerning for example: the risk of TDF r bPI-associated toxicities, and drug-drug interaction. ***In conclusions***: Millions of patients in various RLSs have now been treating with HAART and have a significant improvement in survival and quality of life. While wider coverage are implementing, a number of challenges and limitations have to be overcome. These include strategies to earlier identify new cases, an effective system of linking to care and retention, expanding the trainings for HCWs to increase their expertise, implementing low cost and cost-effective frequency of VL test to early detect VF, increasing a number of low cost second and third-line ART options, and encouraging treating discordant couple as early as possible for treatment-as-prevention.

Complications of Antiretroviral Therapy (Graeme J. Moyle, GB)

The demographics of the HIV-1 pandemic in Europe and North America have changed over the past three decades. The HIV-1+ cohort is ageing, and individuals receiving diagnosis when over the age of 50 have been identified as the fastest growing epidemiological risk group in the USA. Increased transmission within the older demographic may be attributable to under perception of risk, low uptake of condom use, and increased susceptibility at the mucosal site of viral entry. In addition to increased transmission and diagnoses within this older group of people, those individuals diagnosed at an earlier age are living longer, owing to the irrefutable success of combination antiretroviral therapy (cART). Consequently the average age of HIV-1+ patients in the USA is expected to exceed 50 by 2015 with similar senescence of cohorts occurring in Europe, presenting a very relevant consideration for future therapeutic strategies.

Individuals contracting HIV-1 at an older age have a poorer prognosis owing to a combination of factors. Late diagnosis is more common, with 53% of over 50s diagnosed late compared to only 21% of patients diagnosed aged 30 and under, resulting in treatment at a later stage of HIV-1 disease. Once cART is initiated, CD4 T-cell recovery is less rapid in older people, discordance in treatment-mediated immune reconstitution and virologic suppression is more common, and concomitant medication for the treatment of commonly occurring co-morbidities of advancing age and higher than expected frequencies of age-inappropriate diseases within the HIV-1+ cohort, complicate cART adherence and potentiate drug:drug interactions.

Factors such as efficacy, short-term tolerability, lack of mitochondrial toxicity and the administrative convenience of fixed-dose co-formulation has led to tenofovir DF/emtricitabine (TDF/FTC) and abacavir/lamivudine (ABC/3TC) becoming the most widely prescribed initial NRTI backbones in industrialised countries. Both NRTI pairs have long term safety issues which remain incompletely elucidated. Concerns regarding the impact of TDF on renal function and bone mineral density has been raised in preclinical studies, using biomarkers and in cohort studies where excess relative risk of chronic kidney disease and fracture risk has been associated with TDF use, especially with boosted protease inhibitors

(PI). While the short term risk of abacavir hypersensitivity can be eliminated by HLA-B5701 testing, concerns about abacavir use and an increase in myocardial infarction have been raised based mostly on data from observational cohort studies. To date, there are no established biological mechanisms to explain a potential increase in risk of myocardial infarction in ABC recipients.

Following anecdotal reports or short case series of myocardial infarction in persons who had recently started ART an association between combination antiretroviral therapy and the risk of myocardial infarction was reported from cohort studies. Data from the "Data collection of Adverse events of Anti-HIV Drugs Group" (DAD) study reported an association between cumulative exposure to some PIs and an increased risk of myocardial infarction. Subsequently, current or recent (within the last 6 months) use of the NRTIs abacavir (ABC) and didanosine (ddI) was associated with an increased risk of cardiovascular disease within the setting of the DAD cohort study and the viral suppression arm of the SMART. A modest association was also found with the cumulative use of ABC and risk of myocardial infarction. By contrast, the results of a case-control study nested within the French Hospital Database on HIV showed that any association of short-term/recent exposure to ABC with risk of MI was lost when subjects were case-matched to controls by cocaine or intravenous drug use. The authors concluded that the association with ABC use could not be considered causal. Results from a Veterans Administration's (VA) Clinical Case registry, show that cumulative exposure to ABC was not associated with significant increase in risk of MI but with a reduced risk of stroke.

Moreover, any trend towards an association of ABC use with MI was weaker after adjustment for traditional cardiovascular risk factors including renal function. However, a second VA cohort study suggest ABC use was associated with MI risk and TDF use associated with an increases relative risk of cardiac failure.

In the absence of data from randomised controlled trials (RCTs), clinicians rely on cohort data for safety signals as part of post-approval pharmacovigilance. However, there is controversy over the validity of non-randomised evidence, related to the existence and magnitude of selection bias. The primary criticism of observational studies is that either known or unknown confounding factors may influence any observed association between an exposure of interest and a given outcome.

Overview of Antiretroviral Treatment in China: Advancement and Challenges (Taisheng Li, China)

To respond the HIV/AIDS epidemic in China, the national AIDS control policy, "Four Frees and One Care" was announced since 2003. There were a lot of difficulties in complementing the national free antiretroviral treatment (ART) program, including lack of qualified human resources, inadequate access to laboratory monitoring and limited class of available antiretroviral drugs. Overcoming these difficulties, China has made significant strides in the fight against HIV/AIDS. Over 150 000 adult persons had received first-line HAART thus far and mortality significantly decreased to 4 or 5 deaths per 100 person years. By 2011, at least 2000 children had received ART. However many challenges remain and well-coordinated efforts will be needed for continued progress. Increased funding, development of the health care system, and greater attention to side effects and comorbid conditions will help China achieve its future HIV-treatment goal.

Severe Community-acquired Pneumonia 2012 (Michael S. Niederman, M.D., USA)

Approximately 10% of all hospitalized patients with community –acquired pneumonia (CAP) require ICU admission, but it is important to identify patients who need ICU care as soon as possible, since delayed transfer to a critical care unit is associated with increased mortality, compared to early and direct admission.

No prognostic scoring system is ideal to define when to identify patients with severe CAP, and in the absence of obvious criteria such as septic shock and need for mechanical

ventilation, a number of minor criteria are usually present to identify when intensive care is needed. The Pneumonia Severity Index, the CURB-65, SMART-COP and REA-ICU scoring systems have been used with varying success to define when severe pneumonia is present, in the absence of obvious findings. The IDSA/ ATS gudielines defined 9 minor criteria for severe CAP, and the presence of 3-4 of these criteria does identify patients who need ICU care. Recently, biomarkers such as procalcitonin , have been added to prognostic scoring tools to define the optimal site of care for CAP patients.

Once in the ICU, patients should receive prompt therapy , but never with a single agent. Empiric therapy of CAP is directed at pneumococcus and atypical pathogens for all patients, but those with risk factors (bronchiectasis, corticosteroid therapy, malnutrition and recent antibiotic therapy) also need therapy directed at *P. aeruginosa*. Current therapy algorithms recommend either a beta-lactam/macrolide combination or a beta-lactam/ quinolone combination. If Pseudomonal risk factors are present then the patient needs an anti-Pseudomonal beta-lactam (imipenem, meropenem, piperacillin/tazobactam, cefepime) with an aminoglycoside plus a macrolide or quinolone. Alternatively, this patient could also be treated with an ant-Pseudomonal beta-lactam plus an anti-Pseudomonal quinolone (levofloxacin, ciprofloxacin). Data show an advantage for a macrolide in most patients with severe CAP, including those with pneumococcal bacteremia, but a quinolone may be preferred if legionella is present. Recently, community-acquired MRSA has emerged in ICU-admitted CAP patients, and requires therapy with an antibiotic and an agent to inhibit bacterial toxin production, which means the use of either vancomycin with clindamycin, or linezolid alone. One controversy in the therapy of severe CAP is whether routine corticosteroid therapy is beneficial, but recent data do not show a clear benefit, and do suggest some risk for late onset infection and delayed clinical failure.

Patients with severe CAP may have a substantial mortality at 6 months that far exceeds the rate of death in the hospital. Current research suggests that this delayed mortality may be related to cardiac disease, with the possibility that acute cardiac events are promoted by the inflammatory response to the presence of pneumonia.

CAP, Tuberculosis, and Fluoroquinolones (Donald E Low, Canada)

Community-acquired pneumonia (CAP) is a common and important disease that occurs in all age groups worldwide. The fluoroquinolones for treatment of respiratory diseases, including moxifloxacin, and levofloxacin, have an excellent spectrum, providing coverage for the most important respiratory pathogens, including drug-resistant S. pneumoniae and atypical pathogens. The rate of fluoroquinolone-resistant pneumococcal infection is <3% in most countries. As a result, the fluoroquinolones for treatment of respiratory diseases have been recommended and are increasingly being used as preferred or alternative therapy for the treatment of CAP.

Fluoroquinolones have excellent in vitro activity against M. tuberculosis. They are one of the most important drug classes for the treatment of multidrug-resistant TB and of patients who experience severe adverse effects of first-line anti-TB therapy. Depending on the prevalence of TB in a specific region, a percentage of patients with CAP who are empirically treated with a fluoroquinolone will actually have pulmonary TB with or without infection due to a copathogen. In a study of CAP in adult patients in Asian countries, Song et al. found that the etiology was M. tuberculosis in 3.3% of cases. There therefore is concern that monotherapy with a fluoroquinolone may temporarily improve the patient's symptoms and, therefore, delay diagnosis and/or may select for fluoroquinolone-resistant M. tuberculosis strains. Long et al. had access to 2 large provincial TB registries in Canada with linkages to corresponding prescription drug plans, the authors found that, although outpatient fluoroquinolone use (ostensibly for CAP) was not uncommon among patients with pulmonary TB, fluoroquinolone-resistant M. tuberculosis was identified infrequently; only 3 of 74 patients who had been treated with a fluoroquinolone prior to the diagnosis of pulmonary TB were infected with a fluoroquinolone-resistant strain. The newer fluoroquinolones, including

moxifloxacin and levofloxacin, have better in vitro and bactericidal activity and more favorable pharmacokinetic properties, compared with the older fluoroquinolones, ciprofloxacin and ofloxacin. The duration of exposure of the M. tuberculosis infecting organisms to the fluoroquinolone may also be a risk factor for the development of resistance. Resistance is unlikely to emerge with a short duration of therapy for CAP, especially with an active agent. At the end of the day, the most important strategy to reduce the risk of a mistaken diagnosis of CAP in a patient with pulmonary TB is to always consider the "great mimicker" as a possible cause and, when suspected, to perform the relevant diagnostic tests before prescribing fluoroquinolones.

Antimicrobial Resistance and Serotype Distribution of *Streptococcus pneumoniae* Isolated from Multi-centers across China

Qi Wang et all, Peking University People's Hospital, China

Background: To investigate the trends of resistance of *S. pneumonia* and evaluate the potential coverage of pneumococcal conjugate vaccine (PCV), we examined the antibiotic susceptibility and serotype distribution of 471 pneumococcal strains isolated from invasive (37 strains from blood and cerebrospainl fluid) and noninvasive (434 strains from sputum and other specimen) diseases in multi-center across China from 2010 to 2011.

Methods: In vitro susceptibility to 17 antimicrobial agents was determined by agar dilution method. Serotyping of *S. pneumoniae* was performed by using latex agglutination and quelling reaction. Vaccines coverage by 7- and 13- valent conjugate vaccine were estimated by calculating the percentage of isolates that belonged to the serotypes included in the vaccines.

Results: Among all strains tested, 50.1% were resisant to penicillin (MIC≥2μg/mL, oral breakpoint), and for invasive isolates, the resistance rate was 32.4%. Overall, 60.3%, 58.8% and 18.5% of *S. pneumoniae* were resistant to cefaclor, cefuroxime and ceftriaxone, respectively. The resistance rates to other antibiotic agents, such as erythromycin, tetracycline, clindamycin, trimethoprim/sulfamethoxazole, and chloramphenicol, were 93.2%, 89.6%, 88.7%, 62.8% and 22.1%, respectively. Multidrug resistance rates to tetracycline, erythromycin, and clindamycin were higher than 80%. The most prevalent serotype was 19F (23.8%), followed by 19A (13.4%), 3 (7.4%), 14(7%), 23F (6.2%), 6A (4.9%) and 15 (3.8%). Serotype 19F accounted for 39% of penicillin-resistant *S. pneumoniae* (PRSP), 19A for 24.6%, and 23F for 8.1%. The potential coverage by 7- and 13-valent pneumococcal conjugate vaccine was 43.1% and 66.9%, respectively.

Conclusions: The antibiotic resistance of *S. pneumoniae* was erious in China. Most of PRSP belonged to serotype 19F and 19A (over 60%). PCV13 covered the most of the isolates (66.9%), especially for PRSP (over 88%), which was higher than PCV7.

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NEW ISSUE FOR ID FELLOWS IN SOCIAL WORK AND TROPICAL HEALTH CARE – NEWS FROM ICAAC

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ABSTRACT:

News from ICAAC and and their impact or social work and public health in Subsaharan africa, Central Europe (imported) and SE Asia is reviewed by our social work and health tropicteam (1-13)

Treatment of MDR-R E.coli and other gramnegative MDR bacteria

1) COL+IMI is probably better for MDR A. baumni

2) FOSFOMYCIN is active option for ESBL E.coli

3) 3.1 III. phase. NXL 104 (Betalactamase inhibitor) CTAZ + AVIbactam

3.2 Plazomycin ACHN-490-Aminoglycoside active agent ESBL-E.coli plus ESBS producing K.pneumoniae

B. News in Vaccines

1) Single dose of **FLU** vaccine is OK, for all ages also in pregnancy effects 4%.

2) Pneumococcal vaccine PCV 13 (single dos)

3) Live attenuated Vacinella – Zoster – plus do not give to pts with steroides, decrease zoster and postherpetic neuralgia, HIV < CD4 or pregnancy should not receive the vaccine

4) Tetanus vaccine should be revaccinated after 5-10 years

5) Di-Te-Pu in US receive pregnant woman in 3rd trimester of pregnancy also the grandparents who care for infants < 12 years

6) Zoster + hepatitis B + Influenza + Tdap should be given in people > 60 in nursing or assisted living facility. It should be like Mother in law – never forgets

7) All female 11-12 should receive HPV vaccine, Catch up for 13-26 (Gardasil)

C. HIV Treatment options

CD4 < 350 All, CD4-CD500 AII?, CD4 > 500 B III. IAS – USA guidelines July 2012 (Risk groups – pregnant, MSM -0, sexually active neonate).

Posibilites: TEN/ tab (FTC) efavivenz (gold standard) –single dose

1st line TEN/FTC + nevirapin

TEN/FTC + lopinavir/cobistat

TEN/FTC + efavirenz

TEN/FTC + vitonavir/lopavir (once daily, pills)

2nd relapsed (or virology failure) similar requirements

3rd patients with co morbidity - Abacair + 3TC + (efavirenz – IVO) NRTI – sparing reginen (PI)

D. Global health: Pandenias, Middle East war conflicts, Lakh of make food (Media – Anthrax, Sars, Pandemic Bird, Swine FLU, ATB resistance, HIV, TB)

Resume – global meaning, foreign travel – Western Nile, SARS, NDM-1, N1N1 – all travel Instruments – Pro Med Mail)

E. Hepatitis C – 130 mil. people infected

Very high – Libya, Congo, Mongolia, China) HCV-HC-LC-HCC (Cancer). Cirrhosis is on the rise – from 5 up to 120 mil. cases, and per 1 to 10 mild. Cases of liver cancer (HCC)

We desperately need vaccine. Therapy is available (TELAPRAVIR, BOCEPREVIR)

Current Tx Ribavin + IFN (about 50% are on tx)

New Tx – direct targeting antivirals (N53 phrase, or N55 protease – inhibition = Telapravir or Cocepravir

Investigational – dadatasovir t6SK 7977 (80% net pons)

Unfortunately – money investments to research in now one 10x higher than to malaria/TB. Reason – HCV is STD in rich us and EU drug users and MSM – homosexual individuals. Malaria/TB is decrease in 1,2 bill. poor people in the third world countries (Africa, SE Asia).

F. Laboratory and ID – Technology evolution

Nobelists: RIA (1977 Rosalyn Yallow Nobel Price)

DNA (1989 Sepecing – Sagen Gilvat – HIV resistance mechanism)

PCR 1993

Moss spectroscopy 1998 – Tanaka

First genome – Plagne 1977

Latest HIV Salina test

The future? Necessity is the mother irritation, prevention care – patient test for 3rd world and developing countries.

G. New antibiotics:

Production/Research of antibiotics – price is 1 bill. USD.

1) Finally antibiotics in nature (atrhemisin, aminoglycosides)

2) Magic bullets new genets = 2nd gen of tetracycline – tigencylin, pentacycline scaffold 5/4 d.gn of cefatrolin fosamil + avibactam, 2nd gen - ceptalosporin

The most potent ATB 1956-1988 explain – Varecamycin, nalidix1960 – moxiplaxacin 1999

Phase 3 – amadacycline

- dalba vancin, tela vancin, oritavancin
- cefatreolin fosamil (avibactam) – only one for grangoline bacteria
- neomycin

Future – looking for new bacterial all targets and enzymes, new combination of new ATB: ecq BLA + BLA/ INH (transpylidare, transglycolitase) lipoid II. enzymes)

Example: (antimicrobial peptides) (LP+D-lypopoysactobecide)

Thiaorylquinolone – Bedaquillin is the ONLY – ATB-ATP synthetase inhibitor

Combination tx – historical examples, ampicellin + subacten, RIF+INH.

H. Top 10 papers in infect. Control:

Brown, Ann Surg 2011, Eveng and Eng team.

Hatim, Surg. Endless 2011 Duration of operative line highly correlated JAmColl Surg. 2010, LD Proctor, and general Surgery Operative duration. AE Anderson, AJIC, Traffic flow (>CFU/m3) is related per door opens in surgtheat, T. Anthy, Arch surg. 2011: Mechanical, oral ATB+ Cefoxilin, versus PREVENTION (ATR but not mechanical bowelo...45% vs. 24% infections (PLO 004) Buddle is ..ether.

UOSS, A: Of returning Agents for 2009: Veterinary use still high ESBI still high is Dutch community patients, ESDI- lot in vegetables.

JAC – Farming fish with quinolones – resistance plasmids (Cows surg – eat more chicken)

JAC – Organic retail 44% of samples have ESRL.

I. News Indicators for quinolones – 50 years anniversary

1) Polyroma vines neplopathy in NSET ICIS 2005. Cipo recipients developed less BK viral load viruria/less cystitis

2) Leprosy and FQ (1873 M. TBC Dr. Hansen)

Antilepton Bayer, 1921 Louisiana

1941 Promina (Sulfozaine), 1950 Dapsove pills (Dr. Chochane) 1970 Malta – MDR

1981 – WHO recommend – Armadillo in US, Mexico leprosy is the worst form. Current therapy:

- Dapson 100 mg + RIF 600 mg 12 m (USA) vs. RIF + OFL + Minocycline (WHO), (+- clofazimin has 70 days half-life)
- Alternative OFL +RIF 6-12 month (or MOXI + RIF) single dose 1 week

3) TBC and quinolones – 4 month MOXI + RIF + INH is enough for tx and 2 months for tx of latent TB, and option is XDR-R TBC

4) Use and abuse FQ: 1962 Nalidixic Acid/Sterling Wintog by product of choroquine synthesis. Now floxacin 1977 Mlich 1980 developed in Japan but licensed in US in 1987. 1980 -1990 OFL, CIP, PEF, ENO, lenofoacin in Japan 1990 long PEF, lipophillic. In Greece – no prescription for CIPro. India- also as OTC. Renewal due to toxicity – Terma Flox, Spartloxacin, Tronafloxacin now in EU. After PEN and CEF are quinolone the third most posited groups.
- Problem – veterinary use, resistance in 6NB including PA, E.coli. Correlation between MRSA and high quinolone use. In vitro surgery testing against gram-negative bacteria. Combination treatment is usually not tested. Synergy is not tested; With E tests two longer cross or with bactericidal test

J. Tropical medicine

J1 Cysticercosis – therapy

Albendazol + praziquantel + surgery + antiepileptic's + steroids – solitary using or albendazol has to be always giver with steroids – calcified old lesions

J2 – Infections in migrants

Schistosomiasis (Katayama fever) – treatment always praziquantel 40 – 60 mg/kg + steroids/repeat after 2 months

Artemisins 2 days. Mefloquine – also active clinics of Katayama fever 2 weeks – 4 weeks after exposure – fever, eosinophilia, cough, asthma, rash

J3 Tropical dermatology – commonest – eczema/dermatitis, infestation scabies, pyodermia, fungal infection, acne vulgaris

- Vietnam – eating raw snake cobra blood or cobra heart
- sparganosis

1. Vietnamese man early raw reptiles US soldier with beetle dermatitis,
2. US Army medical Journal, 2009, July, 6 – 15, Outbreak of dermatitis linearis in Iraq,
3. Ghana/Guinea equatorial amoeba abscess,
4. 14 years old girl with apoptosisis – loaosis (Calabar coast smelling),
5. Flea infestation in a street from Guayna (Tungiasis) – by returning slaves from America,
6. 12 year old boy returned from summer vacation from Nigera, dispigmentation in gingival – cherring Betel areca palm nut, Discoloration gingival (minocyclin, amalgam, lead)
7. Cady with tabood gingival
8. Periorbital edema in Haiti lady – T. cruzi chagoma and Male with coetaneous

J4 Blood exposure during travel

- STD is in Thailand . HIV
- Lymphogranuloma venereum proctitis in MSM in London, Doxicyclin 21 days,

- MSM with proctitis and hepatitis Cm repeat HCV antibody not treat

- Laboratory technology in San Salvador, 1 x weekly chloroquine for Plasmodium vivax prophylaxis. Get Denque fever, or may are virus arthritis + fever. (Tarantola A, Rachline A, Konto C, Houzé S, Sabah-Mondan C, Vrillon H, Bouvet E.: Occupational Plasmodium falciparum malaria following accidental blood exposure: a case, published reports and considerations for post-exposure prophylaxis. Scand J Infect Dis. 2005;37(2):131-40.)

K. New antibiotics

Approvals: FDA 2011 – 4, 2012 – 2, 2010 – 8, Number decreasing

Global ATM Share in USA – now only 25% ! of global market. Asia (outside of Japan 35%!!.

9 billions USD of total antibacterial sales, 12 billions USD – China + India!! US + EU stage depression. Phase IV. trials.

Do we need in USA government FDA reform?

In 2000 – last 2 classes (Oxazolidines – linezolid, lipopeptides – daptomycin)

In 2011 – only 1! new anti G – ATB is available – Teflovi Cefalotin + NLX (Aribactazon). One other old molecule Fidoxamycin and 1 aminoglycozide (Slazomycin). Even 2 new compound collapsed 2012 – PROWES SHOCK – Xigvis and Tigecyl (Pfitzer) after 10 years in the mark et.

1) Resistance is a Public health Risk,

2) ATB resistance is also Public health risk,

India and China are imposing quality good industry,

EU – Greece – 53% of Ciprofloxacin is OTC, Belgium, Spain.

Access to ATB – About 70% of neonatal infections cannot be treated with currently available ATB. About 30 – 40% of children in sepsis in Darces Saloam die.

L. New antibiotics (Few and no new class, but some hope)

No new class, all – old classes

L1 Macrolides ATB – Fidaxomicin relatives to Rifampin, Erytromycin – natural ATB close structure to glycopeptides

Clinical: Vankomycin vs. Fidaxomycin – similar result against Clostridium difficile colitis (p = 0.048 – not very convincing)

Cetromycin

Solithromycin – fluoroketolide, active against gram-positibe plus atypical - Phase II.

Pneumonia versus levofloxacin.

Cyclopeptid – Cubist CB183.315

Dalbaraicin – DUR 001 – 1 x week - Phase III in SSTI in surgery.

L2 Oxazolidines – Teclizolid

Apart of linezolides are investigate (Ribex – Rib X company). Active against mycobacteria and vankomycín resistant Enterococci and MRSA.

Linezolid resistance: VRE, MRSA emerging.

Sutezolid . vest against TB – Phase II

Rudezolid – Rib X company – Phase I

Tudizolid – Torezolid – Phase II

L3 Cepharolin: not active against Pseudomonas aeruginosa or ESBL + 6 NB (Astra Zeneca /SKB) active against MRSA and PEN-R Str. pneumoniae also some VRE.

Cepharolin – fosamil 600 mg intravenous or intramuscular, every 13 hours.

Despite 28 – EMEA, CA pneumonia and CA – SSTI. Not for bloodstream and not for nosocomial pneumonia. Cepharolin is against anti 6 + ATB (useless ATB in the time of need of anti MR 5NB Pseudomonas aeruginosa, AB.

L4 Aribactam (BAL30072) against + AU BLA except of SHV, AmC.

Bazilen: MER + BAL, Ceftazidin – aribacten (AZ/Forrest), Cefholozan + AVI or cefdolozan + doxipenem but in Pseudomonas aeruginosa has Cefttozolan + tazobactam, active also against PA (only phase I – II) only exception are OXA in Acinetobacter (Atibactam)

Future – UTI but not VAP.

L5 Plazomycin – neoglycodise (aminoglycoside)

ACHN – 490, derivate of srisomycin, first presented ICAAC 2009, Achaogen however, they is no better activity against Pseudomonas aeruginosa and AB – similar to TOB. Once a day 4 – 7 mg/kg for 10 days. Currently in phase II in comparison to Levofloxacin other aminoglicosides – SXP2523, select X Neomycin B Lipid conjugates.

M. Infections in ivdu (intravenous drug users)

- botulism. Wounds infectious multiple. Protein – toxin – Anthrax in Marihuana Smokers 47 cases, 13 deaths. Coutaneus anthrax, rare but OK.

N. ID in children

TB or not TB in children (latent TB) isoniasid is better in children than in adults, 9 month 2 x week, or NHH 6 months (RIF for 4 month, or NHH + IRF 3 months Rifampin + Isoniasid, for 12 week.

New treatment – none (TMC – 208 – is only adults, Bedaquillin) pKard pD for children

In children, bronchoscopy not too much used. Only resist TB – major problem (FQ, high isoniasid, CLAR).

HUS . Shiga toxin related Hemolytic uremic syndrome.

Reservoir – is Enterohaemorhagic Escherichia coli. (Buchholz U, Bernard H, Werber D, Böhmer MM, Remschmidt C, Wilking H, Deleré Y, an der Heiden M, Adlhoch C, Dreesman J, Ehlers J, Ethelberg S, Faber M, Frank C, Fricke G, Greiner M, Höhle M, Ivarsson S, Jark U, Kirchner M, Koch J, Krause G, Luber P, Rosner B, Stark K, Kühne M. German outbreak of Escherichia coli O104:H4 associated with sprouts. N Engl J Med. 2011 Nov 10;365(19):1763-70.) Adjuctive treatment: Entizumab German adults study used plasmaferesis and carbapenems (E. coli was ESBL positive).

HBV and HCV clinic in children

Usually asymptomatic, only 5%, 2% HCC, sometimes HBV vaccination (during immune).

Lamivudin or tenofovir plus Interferon for treatment (25% response only) cannot change the face of the Infection (confirmed treatment better)

Duration of therapy is unknown.

Cirhosis – less than 2% for HCV. HCV – ribavirin + pegiled interferon.

Boceprevir/ talapravir data in children are cause. MTCT is less of 5% Pneumococcal vaccines.

Meningitis/bacteremia decreased, pneumonia increased – in Utah, al in Alaska – 70% reduction.

Cab effectiveles – 10 years prevent 0.5 millions cases of invasive pneumococcal disease shifting, therefore we need a universal pneumococcal vaccine.

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INSTRUCTIONS FOR AUTHORS

Allow me to introduce a new expert journal – Clinical Social Work. We would like to offer you an opportunity to contribute to its content as we would like to aspire to create a collection of real experiences of social workers, doctors, missionaries, teachers, etc. CWS Journal is published by the International Scientific Group of Applied Preventive Medicine I-GAP in Vienna, Austria.

The journal is to be published quarterly and only in English language as it will be distributed in various foreign countries.

We prefer to use the term 'clinical social work' rather than social work even though it is less common. In the profession of clinical social work, there clearly is some tension coming from unclear definitions of competence of social workers and their role in the lives of the clients; the position of social work in the structures of scientific disciplines especially in cases where people declare themselves to be professionals even though they have no professional educational background. These are only few of the topics we would like to discuss in the CWS Journal.

Your contribution should fit into the following structure:
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Edition of journal

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