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This journal brings authentic experiences of social workers, doctors and teachers working for the International Scientific Group of Applied Preventive Medicine I-GAP Vienna in Austria, where they 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 as the quality level in social work studying programmes is increasing along with the growing demand for social workers.

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IMPRESSUM
CLINICAL SOCIAL WORK, 2011

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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
Peter G. Fedor-Freybergh
Edition of journal

INFECTIOUS DISEASES AND EARTHQUAKES, EXPERIENCE FROM HAITI

L. Frechette, J. Benca, M. Bartkovjak, J. Smyczkova, R. Musil, J. Culka, M. Meciakova, K. Holeckova, K. Kralinsky, N. Svabova, B. Ciganova, J. Kralova, A. Kalavska, S. Seckova, I. Beldjebel, V. Krcmery

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ABSTRACT

Experience from Haiti earthquake first phase from January to May 2010 is analyzed (3993 patients). Diarhoea and infected wounds and posttraumatic syndrome were significaly more frequently observed in the first and pneumonia and malaria in the second – postquake period (P<0,001). Hypertension and psychic disorders were commonest in the lake post-quake phase.

Key words: Haiti, earthquake, spectrum of disease

Introduction

An Earthquake (also known as a quake, tremor, temblor or seismic activity) is the result of a sudden release of energy in the Earth's crust that creates seismic waves. There are around 500,000 earthquakes each year. With the rapid growth of mega-cities such as Mexico City, Tokyo and Tehran, in areas of high seismic risk, some seismologists are warning that a single quake may claim the lives of up to 3 million people. An estimated three million people were affected by the quake; the Haitian Government reported that an estimated 230,000 people had died, 300,000 had been injured and 1,000,000 made homeless. They also estimated that 250,000 residences and 30,000 commercial buildings had collapsed or were severely damaged (1). The earthquake has inflicted significant damage, particularly to critical infrastructure including basic utilities (power, water, and sanitation), transport, communication and health. many collapsed structures including hospitals and health centers in the Port-au-Prince area, with heavy loss of staff. As a result, the capacity to respond to this crisis has been severely compromised in one of the poorest country in the world, with already deficient infrastructures, significant water and sanitation problems. In 2007, 47% of the population lacked access to basic health care, with the majority of the population seeking care from traditional healers. An estimated 40% of households experience food insecurity, manifested by low birth weight and nutrient deficiencies (2). The health system in Haiti was served by public sector, and private non-profit sector, mainly NGOs, as our NGO who has been working for the last in two areas in Haiti: Quisquea Petioville and Cite Soleil; in the first place 50 to 70% of the houses collapsed with an estimated causalities ranged between 10000-20000, the Cite Soleil, which is a slum area registered few causalities, why? The answer is easy: Qusiquea area had proper houses while the house in Cite Soleil, were mainly light huts.
The Phases of disaster could be divided in schematically 3 phases:
The Impact Phase: from the impact of the disaster up to the 4th day

The characteristic of this phase is:
The extraction of people with trauma wounds and injuries, including minor cuts, bruises, simple and multiple fractures, internal injuries, crush syndrome and a significant number of burns.
Surgical need, blood transfusion and other intensive treatment are critically important, overwhelming existing treatment capabilities

Non Communicable diseases such cardiovascular diseases, diabetes, chronic respiratory pathologies, place a substantial burden on the health system during the acute phase of the emergency, the priorities are to treat the exacerbation and minimize the treatment interruption.
Mental health and psychosocial support: Much of the affected population is likely to be burdened by a wide range of symptoms of normal distress caused by severe loss, trauma, continuing danger, and constrained social and living conditions. It is important for health services to differentiate between normal psychological distress that may be reduced through psychological first aid and other psychosocial interventions and moderate or severe mental disorders that require clinical treatment.

Post impact Phase: (4 days to 4 weeks)

The characteristic of this phase are: Airborne, food borne, waterborne and vector diseases
The displaced populations in Haiti were at high risk from outbreaks of water, sanitation, hygiene and food borne-related diseases, due to: reduced access to safe water and sanitation systems, thedisruption of usual water sources resulting in contamination of water being consumed, increasing the risk of exposure to infectious diseases mainly diarrhea, which is already a major contributor to the high rates of under-five mortality; WHO estimates that diarrhea accounts for 16% of under-five deaths in Haiti (3).
The diarrhea was the first cause of consultation during our first week of intervention representing 30.3% of the consultation for Infectious diseases; cryptosporidium is one of the most frequent causes of waterborne diseases (Table2, 3)
Salmonella typhi, hepatitis A and E are present and have epidemic potential, Leptospirosis is endemic in Haiti
Population displacement can result in overcrowding in resettlement areas, raising the risk of transmission of certain communicable diseases that are spread from person to person through respiratory droplets such as TB, measles, diphtheria, pertussis, and acute respiratory infections
This risk is increased with inadequate ventilation, overcrowding that can increase the likelihood of transmission of meningitis, waterborne and vector-borne diseases in the weeks and months following the earthquake.
In the two places where we were working the Acute respiratory infections represent the majority of our patients especially after the first week, as most of the survivors were homeless, and exposed to respiratory infections (21.4% the first week versus40.2% the 6th week) (Table3)
In the acute phase of this emergency, the potential interruption of all treatments for chronic diseases (including TB, HIV, diabetes, etc.) and loss of patient follow-up is likely to be a significant problem. It is therefore essential that strong collaboration is established between health workers responding to the emergency and the established services.

Recovery Phase

This phase is characterized by the, Vector-borne diseases and zoonotic diseases.

Displaced populations may be at an increased risk of: malaria and dengue due to lack of adequate shelter resulting in increased exposure to vectors.
Further, once the rainy season started (typically between March and May), every fallen building will harbor mosquito breeding sites. These circumstances will likely sustain transmission. Malaria and Dengue, are problems that plagued the impoverished country before, High transmission rates of all four dengue viruses have been reported from Haiti, with transmission occurring mainly from April to November. Malaria risk in Haiti exists throughout the year in the entire country, including coastal and border zones. Risk in the main urban areas of Port-au-Prince is considered to be low but increased in the current emergency situation. Almost all malaria cases in Haiti are due to P. falciparum, which is sensitive to treatment with Chloroquine, the current first line treatment. In our OPD, we had a small number of patient diagnosed with Malaria the first week (1.2%) versus 8.7%, on the recovery period (Table 2).
Appropriate management of injured survivors should be implemented as soon as possible to minimize future disability and to avert avoidable death following the earthquake. All wounds and injuries should be scrutinized as Clostridium Tetani spores that are present in the soil can infect trivial, unnoticed wounds, lacerations and burns. Health-care workers operating in disaster settings should be alerted by the occurrence of cases of dysphagia. In populations with low vaccination coverage, the crowding associated with displacement may increase the risk of outbreaks from measles, pertussis, and diphtheria. Measles infection has not been confirmed in Haiti since 2001. Reports from the national authorities, WHO and UNICEF indicate 58% measles vaccine coverage among one-year-old children (2007), resulting in an increased risk of measles outbreaks. Diphtheria outbreaks occurred in Haiti in 2004, 2005 and 2009; 3rd dose (DTP3) coverage (2007) among one-year-old children in Haiti is reported as 53%. Polio has been eliminated in Haiti. Coverage (OPV3) among one-year-old children (2007) is 52% (4). Hepatitis A, Leptospirosis and Lymphatic Filariaisis are endemic throughout the island and might increase with the earthquake. Human rabies transmitted by dogs is a priority disease in Haiti. Rabies control is a priority, and a mass vaccination campaign of dogs was underway at the time of the earthquake. There may be an increased risk of rabies transmission from animal bites following the earthquake.

Other public health risks and considerations

Malnutrition is a problem in all provinces in Haiti, particularly for children under five years of age. Under-nutrition is an important underlying factor contributing to childhood mortality rates, and has also been linked to impaired cognitive development. The earthquake-affected populations are at an increased risk of moderate and severe acute malnutrition, especially in vulnerable groups such as young children, pregnant and lactating women and older persons. This risk is linked to lack of access to appropriate and adequate food, increased cases of diarrhea diseases and reduced access to health and nutrition services. During emergencies, vulnerable people may be subjected to situations that substantially increase their exposure to STIs, including HIV; Haiti is affected by a generalized HIV epidemic. An estimated 120 000 people in Haiti are living with the virus. In the 2008 the Ministry of Health and Population estimated there were 47 health centers (7%) providing antiretroviral treatment in Haiti, with over 19 000 patients receiving antiretroviral treatment (5). The emergency response should include a minimum package of HIV prevention, treatment and care services, including the strengthening of standard precautions, with the provision of gloves, sterile needles and syringes, and safe waste disposal management in health services. Additional services should include provision of condoms, education and prevention messages, and post-exposure prophylaxis for occupational exposure and survivors of rape. Efforts should be made to ensure

that HIV/AIDS patients receiving ART do not have their treatment interrupted. Skin infections occur not only due to overcrowding but also as a result of a lack of water and reduced hygiene. Infestations (e.g. scabies, lice – associated with typhus) are also common and require treatment once they occur.

Conclusion

When comparing post quake vs. late post quake period (first two weeks versus 1 month after earthquake) trends in favor of wound postoperative. Infections and pneumonia have been observed in the first period, and diarrhea and SSTI in the second period. When comparing heavily damaged area in Quisquea/Petionville with slum area in Cite Soleil trends in favor of pneumonia and wound infections have been observed in Quisqueai, and vice versa diarrhea and SSTI in slum area, of Cite Soleil what was not affected earthquake. Increasing number of patients in the second period is related to homelessness and .camping in parks and streets of about 1 million of people in Port Au Prince.

REFERENCES

1. http://developeconomies.com/development-economics/government-a-prerequisite-for-hope-in-haiti/
2. http://www.reliefweb.int/rw/rwb.nsf/db900SID/DKAN-7ZRMLR?OpenDocument
3. http://www.who.int/diseasecontrol_emergencies/publications/haiti_earthquake_20100118.pdf
4. J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou
   Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health
   3/2010. Vol. 6. pp 49-50
5. A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5
6. M. Mackinova, The social work methods with the unaccompanied migrants in the Slovak republic, Journal Clinical Social Work No 3-4-, 2010 ISSN 2076-9741, 104-118
7. S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81
8. S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31
9. http://www.unicef.org/publications/files/Immunization_Summary_2007.pdf
10. http://www.avert.org/thailand-aids-hiv.htm

Table 1: Spectrum of non-infectious disease, late vs. early period of health care. First week after the earthquake

Non-infectious diesease	Early period		Late period		p-value
Noninfect	**193**	**19.5% (992)**	**236**	**20,8% (1135)**	**NS (0.44)**
Trauma	101	52.3%	33	14%	<0.001
Hypertension	46	23.8%	78	33.1%	0.01
Psychosis	27	14%	66	28%	<0.001
Other	19	9.8%	59	25%	<0.001

Table 2: Spectrum of diseases: slum vs. urban (18 January -20 February)

Number of Patients	Slum population (Cité Soleille)		Regions of Urban Area (Petionville)		p-value
	1979		2014		
	Abs.	%	Abs.	%	
Infectious diseases	**1298**	65.6	**1013**	50.3	<0.001
Other	**686**	34.7	**399**	19.8	<0.001
Adult	**855**	43.2	**466**	23.1	<0.001
Children	**1124**	56.8	**1549**	76.9	
Uper RTI	**301**	15.2	**443**	22	<0.001
Pneumonia	**386**	19.5	**614**	30.5	<0.001
Diarrhea	**456**	23	**205**	10.2	<0.001
SST	**98**	5	**113**	5.6	NS (0.35)
Wound/post op.	**26**	1.3	**203**	10.1	<0.001
Other	**29**	1.5	**43**	2,14	NS (0,14)

Table 3: Early versus late OPD patients diagnoses - First week versus 6-th week after earthquake. Pooled data from OPD Mobile unit City Soleille and Field Slovak military hospital Quisqueia, both Port Au Prince

Number of Pacient	**Jan 18-25**		**Feb 8-24**		**p-value**
	992	%	**1135**	%	
Adults	**399**	40.2	**597**	52.6	<0.001
Children	**593**	59.8	**538**	47.4	<0.001
Infectious diseases	**799**	80.5	**899**	79.2	NS (0.44)
Pneumonia	**212**	21.4	**456**	40.2	<0.001
Diarrhoea	**301**	30.3	**199**	17.5	<0.001
Skin and Soft Tissue	**151**	15.2	**66**	5.8	<0.001
Urinary tract	**13**	1.3	**121**	10.7	<0.001
Malaria	**12**	1.2	**99**	8.7	<0.001
Scabies	**10**	1	**24**	2.1	0.04
Infected wound	**99**	9.9	**24**	2.1	<0.001
Other	**93**	9.3	**19**	1.7	<0.001

MANAGEMENT OF LOW BACK PAIN IN A LYBIAN HEALTH CENTRE

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ABSTRACT

International guidelines for the management of low back pain recommended an initial diagnostic classification process, a diagnostic triad, that differentiates among possible serious spinal pathology, nerve root problems, and nonspecific LBP. It is estimated that 85% of LBP patients seen in primary care have nonspecific LBP. Thus, the diagnostic label of nonspecific LBP does not contain specific therapeutic information, and refers to a large heterogeneous group of patients suffering from a variety of different pathological or patho-physiological conditions.

Key words: physiotherapy, back pain

Introduction

It is generally acknowledged that most patients with low back pain (LBP) are without a specific medical diagnosis due to the lack of an identified pathology that matches the patient's symptoms (Spitzer, 1987). Discussion about diagnosis subclassification of LBP arises from the assumption that this large heterogeneous group of patients would be treated more effectively if the patients could be assigned to the more homogeneous subgroups on the basis of valid criteria (Borkan et al, 1998; Bouter, van Tulder, and Koes, 1998; Leboeuf-Yde, Lauritsen, and Lauritzen, 1997; Spitzer, 1987).

Several classification systems have been proposed for subdividing nonspecific LBP patients by means of clinical examination (Petersen et al, 1999). In physiotherapy, three of those are of particular interest inasmuch as they (1) are sufficiently detailed to have implications for choice of treatment for the individual patient and (2) have been tested for reliability and validity (Delitto, Erhard, and Bowling, 1995; Maluf, Sahrmann, and Van Dillen,2000; McKenzie, 1981).

The classification system proposed by McKenzie (1981) is based on information from history taking, and symptom response to patient- or therapist-generated loading of the spine. It has been reported as the most commonly used system by physical therapists (Battie et al., 1994; Gracey, McDonough, and Baxter, 2002). The system has been tested for reliability and has substantial intertester agreement according to the criteria of Landis and Koch (1977) when applied by trained examiners (Kappa coefficients ranging from 0.6-0.7) (Kilpikoski et al, 2002; Razmjou, Kramer, and Yamada, 2000). Randomized controlled trials examining the validity of the McKenzie system, ie, its ability to categorize patients in a way that might result in selection of the most effective treatment, have shown conflicting results (Cherkin et al, 1998; Gillan et al, 1998; Nwuga and Nwuga, 1985; Petersen et al, 2002; Stankovic and Johnell, 1990, 1995).

Delitto et al (1985) have developed a classification system for categorization of patients with acute LBP by means of history taking and clinical examination. The system as a whole has shown a moderate intertester agreement (Kappa coefficient 0.56) Fritz and George, 2000).

Two randomized controlled trials have, with regard to choice of treatment, shown validity of one (extension-mobilization category) of the seven categories of the system (Delitto et al, 1993; Erhard, Deiitto, and Cibulka, 1994).In addition, one epidemiological study has shown differences in short-term prognosis for a few of the categories in the system when they were collapsed into four overall treatment categories (Fritz and George, 2000) .

Maluf, Sahrmann and Van Dillen (2000) have developed a classification system comprising five categories based on assessment of muscular stability, alignment, asymmetry, and flexibility of the lumbar spine, pelvis, and hip joints. The recording of movements and activities in daily functioning that provoke the patient's familiar symptoms is of particular interest in the system. Reliability of the individual tests used as criteria for classification varies from fair to perfect (Kappa coefficients ranging from 0.21-1.00) (Van Dillen et al, 1998). However, there are no reports on the general reliability of classifying patients into the five categories. The use of the system has been illustrated by a case report (MaIuf; Sahrmann, and Van Dillen, 2000), but no data have been published on the validity of the system.

To summarize, although data have been published supporting reliability of some of these systems, none has proven its superiority over others in identifying subgroups of patients with better outcomes from a specific treatment compared to others. Therefore, existing classification systems do not eliminate the need for development of alternative ones.

The present authors propose a new classification system that has a different, pathoanatomic orientation. The development of this system is in the early stages compared to the existing treatment-based ones, and a long line of future testing is required to substantiate or refute the validity and utility of this pathoanatomic approach.

This system aims at overcoming some of the fundamental problems concerning the existing treatment-oriented approaches. Labels and criteria used for classification in current systems differ according to the treatment methods preferred by the developers, and the result is a variety of competing classification systems. For example, it appears that LBP patient who responds with an increase in pain intensity following lumbar flexion movements and the abolition of pain following extension movements would be classified as "posterior derangement syndrome" in the system proposed by Delitto et al (1995), and in the "flexion category" in the system proposed by Muluf, Sahrmann, and Van Dillen (2000).

It has been pointed out that various practitioners have different, but equally acceptable approaches to the management of a particular treatment-oriented diagnostic category (Binkley et al, 19930). Instead of making the diagnostic system fit the treatment system preferred by the developers, it should be the other way around. Once a generally accepted diagnostic classification system has been developed, it should be the results of clinical trials that determine the most effective treatments for particular categories of patients.

2. Patients and methods

The aim of my study was to review low back pain and the possibilities to treat the syndrome with rehabilitation modalities and with pharmacologic agents. From this point of view I have studied a group of one hundred patients with different problems in the field of low back pain.

In my study I have one hundred patients including fifty women and fifty men. The age of women was between 25 years to 80 years and the age of men was between 23 years to 77 years.

The diagnosis was low back pain:

1. post operative hemilaminactomy
2. herniation intervertebral disc
3. disc protrusion

4. post operative of intervertebral disc
5. lumbago ischial syndrom

Treatment was medical pharmacological agents and for every patient was made rehabilitation program that consist of:

A – pharmacological agents

1. Quamatel tabs
2. Ibalgin tabs
3. Loratadin tabs
4. Myolastan tabs
5. Ataralgin tabs
6. Indometacin supp.
7. Mesocain inj.

B – rehabilitation program

1. exercices therapy
2. electrotherapy
3. massage therapy
4. spinal traction therapy
5. hydrotherapy

3. Results

A. Case EVALUATION (female)

№	Age	Date of admission	Date of discharge	diagnosis	pharmacotherapy	Rehabilitation program	Result
1	62	14-9-09	29-9-09	Herniation itervertebral disc	D7-mydocalm tab-ibalgin tab-quamatel tab	Exercices-u.s-interferntial electric-parafin-solux-massage-traction	better
2	49	19-9-09	28-9-09	Post operation of disc L5-S1	Euthyrox-klimonorm-condrosulf	exercices	better
3	30	23-9-09	04-10-09	Post operation hernia itervertebral disc L5-S1	D7-loratadin tab-famotidin tab-ataralgin tab-myolastan tab	exercices	better
4	46	07-9-09	16-9-09	Lumbago ischial syndrom S1 RT side	Mesocain-eunalgit-quamatel-ibuprofen-inf Fr1 mgSO4	Manual traction-solux-interfential elecric-U.S-massage-exercices	good
5	50	26-9-09	05-10-09	Lumbago ischial syndrom L5-S1 RT side	D3-inF FR-mesocain inj-mgSO4 inj-tramal inj-myolastan tab	Exercices-interfential electric-solux-magnatic therapy	Better
6	50	01-9-09	17-9-09	Post operative hernia itervertebral disc L4-5 RT side	D7-myolastan-ditropan-ibuprofen-Vit.E-vitacalcin-mesocain-algifin-tramal-mydocalm-indomtacin supp	exercices	better
7	54	19-9-09	31-9-09	Lumbago ischial syndrom L4-5 RT side	D10-piraben-enelbin-mesocaine-agapurin-Vit.E-mydocalm	Manual traction-exercices-solux-D.dynamic	Better
8	29	16-9-09	29-9-09	Disc protrusion L4-5 RT side	Analegeticke inf,NSA,myorelaxancia	Exercices-massage-solux	Better
9	40	02-9-09	12-9-09	Lumbago ischial syndrom L5 LT side	Indomethacin,mydocalm,tramal,D3	Exercices-electro therapy-parafin-solux-laser therapy	Better
10	57	24-9-09	05-10-09	Lumbago ischial syndrom L5 RT side	Aulin,mydocalm,fevarin,lexaurin, inf,FR+guajacuran+mesocain+D3	Exercices-massage-elecro therapy-parafin-solux	Better
11	64	05-9-09	19-9-09	Lumbago ischial Syndrm L5 Lt side	Quamatel tab,inf.FR,mesocaine inj, Tramal inj,mgSO4 inj,indomethacin supp	Exercices-massage-solux-electro therapy-parfin	Bad
12	59	05-9-09	23-9-09	Post operative hemilaminactomy L4-5 Lt side	Mydocalm,ibalgin,stimuloton,oxazepam	exercices	Better
№	**Age**	**Date of admission**	**Date of discharge**	**diagnosis**	**pharmacotherapy**	**Rehabilitation program**	**Result**

13	61	22-9-09	03-10-09	Lumbago ischial syndrom L5-S1 Rt side	Mesocain,eunalgit,veral tab,mydocalm,oxazepam,indometacin supp	Traction-massage	Better
14	64	08-10-09	21-10-09	Lumbago ischial syndrom L5 Lt side	Concor,ibuprofen,FR+mgSO4,mesocain,indomethacin supp	Traction-massage-exercices-electro therapy-	Better
15	75	08-10-09	19-10-09	Lumbago ischial syndrom L5 Lt side	D10,tensomin tab,algifin inj,mesocaine inj,mgSO4 inj,ataralgin tab	Exercices-electro therapy-hydrotherapy	Better
16	46	19-10-09	27-10-09	Lumbago ischial syndrom L5 Rt side	D3,inf.FR,tramal inj,mesocaine inj,mgSO4 inj,guajacuran inj,mydocalm tab	Exercices-massage-solux-electrotherapy-traction	Bad
17	50	16-10-09	29-10-09	Protrusion L4-5 left said	Analgeticke infusion-nsa myorelaxancia	Solux -exercises	Good
18	70	27-10-09	12-11-09	Lumbago ischial syndrom L5-S1 left side	Nsa-myrelaxncia infussion	Exercises solux	Better
19	70	19-10-09	04-11-09	Lumbago ischial syndrom L5 rt side	D10,tromaltal ,mesocain inj ,mgso4 inj	U-s+solux exercises	Good
20	43	18-10-09	27-10-09	Lumbago ischial syndrom L5-s1 rt side	D8- veral 50mg tab,myocalm tab,detralex tab	Traction,exercises,parafin- solux	Good
21	55	05-10-09	23-10-09	Herniation intervertebral disc L3-4 lt side	Baclofen infusion fr+tramal+mesokain +mgse4 +guajacuran , D3	Exercises ,traction	Batter
22	60	19-10-09	30-10-09	Lunbago ischial syndrom both side	D3-analgetika	Exercises	Good
23	80	26-10-09	05-11-09	Harniation intervertebral disc	D3-mydocalm tab ibalgin tab	Parafin – exercises	Better
24	70	06-10-09	17-10-09	Lumbago ischial syndrom L5 left side	D10-diclofenac	Exercises	Bad
25	61	01-10-09	19-10-09	post operative intervertebrel disc L5- S1	D7 - mydocalm	Exercises	Better
№	**Age**	**Date of admission**	**Date of discharge**	**diagnosis**	**pharmacotherapy**	**Rehabilitation program**	**Result**
26	56	22.04.10	03.05.10	Herniation disc L5/S1	Mydocalm tab-Ibalgin tab-D7	Exercises – massage – solux	Better
27	72	23.04.10	07.05.10	Laminactomy L1,L2	Ibuprofen-vitE-mesocain-indometacin supp	Exercises – D. dynamic	Better

28	25	20.04.10	31.05.10	Protrusion Disc L4,L5	Indometacin-D3-Mydocalm	Solux - Exercises – D. dynamic	Better
29	72	06.04.10	19.04.10	Herniation disc L3,L4	D7- Ibuprofen	Exercises – Us – solux	Better
30	56	06.04.10	16.04.10	Lumbago ischiel syndrome L4	Ibalgin- Mydocalm-mesocain	D. dynamic – solux - Exercises – massage	Better
31	78	12.04.10	26.04.10	Herniation disc L5/S1	D7- Mydocalm- Ibalgin	D. dynamic – Us - Exercises	Better
32	33	06.04.10	16.04.10	Disc protrusion L5/S1	D7- Ibuprofen	Solux – Us - parafin	Better
33	56	18.03.10	01.04.10	Herniation disc L5/S1	Ibalgin- Mydocalm	D. dynamic – Us – Exercises - massage	Better
34	52	07.04.10	19.04.10	Herniation disc L3,L4	Ibalgin- Mydocalm-D7	Solux – Us – Exercises - massage	Better
35	77	20.04.10	03.05.10	Chronic discopatia L5/S1	Inj. Mesocain- Ibalgin	Solux– Exercises – D. dynamic	Better
36	37	19.04.10	30.04.10	Disc protrusion L4,L5	D7- Ibuprofen-quamatol	Us – Exercises - massage	Better
37	59	22.04.10	06.05.10	Laminactomy L4,L5	Ibalgin- Mydocalm	Exercises – massage – electrostimolation	Better
38	56	15.03.10	31.03.10	Herniation disc L4,L5	Mesocain- indometacin supp	Us – Exercises - massage	Better
№	**Age**	**Date of admission**	**Date of discharge**	**diagnosis**	**pharmacotherapy**	**Rehabilitation program**	**Result**
39	69	10.03.10	24.03.10	Lumbago ischiel syndrome L5 Rt side	Mesocain- indometacin supp	Traction – massage - Exercises	Result
40	58	07.09.09	21.09.09	Disc protrusion L3-L4-L4-L5-L5/S1	Inj-Mesocain- mydocalm tab	Traction – massage – Exercises - D. dynamic	Better
41	51	07.09.09	21.09.09	Lumbago ischiel syndrome L5 Lt side	Mesocain- Ibalgin	Us – Exercises - massage	Better

42	49	30.09.09	14.10.09	Disc protrusion L4,L5	Inj. Mesocain- Ibalgin	Solux – Exercises - massage	Better
43	55	28.09.09	12.10.09	Lumbago ischiel syndrome L4 Lt side	Indometacin-D3-Mydocalm	Exercises - D. dynamic	Better
44	77	28.09.09	12.10.09	Lumbago ischiel syndrome L5 Rt side	Ibuprofen-vitE-mesocain-indometacin supp	Exercises - Solux - D. dynamic	Better
45	58	24.08.09	07.09.09	Disc protrusion L3,L4-L4,L5	D8- veral 50mg tab,myocalm tab,detralex tab	Exercises - massage - D. dynamic	Better
46	54	25.08.09	07.09.09	Herniation itervertebral disc L5/S1	Inj-Mesocain- mydocalm tab	Exercises - massage - Us	Better
47	55	18.08.09	31.08.09	Sacro iliac disease	Baclofen infusion fr+tramal+mesokain +mgse4 +guajacuran , D3	Exercises - massage - Parafin	Better
48	55	08.09.09	22.09.09	Lumbago ischiel syndrome L4 Rt side	Inj. Mesocain- Ibalgin	Exercises - massage - Us	Better
49	62	29.09.09	12.10.09	Laminactomy L5	Concor,ibuprofen,FR+mg SO4,mesocain,indometha cin supp	Exercises - massage - Us	Better
50	35	20.07.09	03.08.09	Herniation itervertebral disc L5/S1	Ibuprofen-vitE-mesocain-indometacin supp	Exercises - massage - electrostimulation	Better

B. Case EVALUATION (male)

№	Age	Date of admission	Date of discharge	diagnosis	pharmacotherapy	Rehabilitation program	Result
1	47	10-09-09	19-09-09	Chronic lumbago ischial syndrom S1 RT side	D3-inf FR-mesocaine-mgSO4-algifin-indometacin supp	Exercices-massage-parafin therapy	Better
2	55	12-09-09	20-09-09	Lumbago ischial syndrom L5 RT side	D10-tenaxum-hydrochlorthiazid-plendil-ibuprofen	Exercices-solux-D.dynamic	Better
3	54	02-09-09	10-09-09	Lumbago ischial syndrom L4 LT side	Nolicin-hytrin-prostamol-mesocain-mgSO4-algifin	Massage-traction-exercices	Better

4	65	19-09-09	30-09-09	Post operative hemilaminactomy L4-5 LT side	D7-ibuprofin-quamatol	exercices	Better
5	53	23-09-09	05-10-09	Lumbago ischial syndrom RT side	Vasokardin-orfarin-inf.FR+algifen+mgSO4+mesocain	Exercices-elecro therapy -solux	Better
6	55	23-09-09	05-10-09	Lumbago ischial syndrom L4-5 both side	Inf.FR,mesocain,mgSO4, guajacuran,indometacin supp,veral	Massage-exercices-U.S	Better
7	42	12-09-09	19-09-09	Lumbago ischial syndrom L4-5 Rt side	Ibalgin,mydcalm,thimin,inf.FR,mesocain,mgSO4,algifin	Exercices-massage-solux-parafin-Electro therapy	Better
8	58	25-09-09	05-10-09	Lumbago ischial syndrom L5 both side	Inf.FR+algifen+mgSO4,vitacalcin,flector gel,B.complex,diclofenac, D3	Massage-exercices-parafin	Better
9	48	08-09-09	18-09-09	Lumbago ischial syndrom L5 Lt side	Inf.FR,mesocaine,mgSO4,algifin,indomethacin supp	Massage-traction-exercices-electro therapy-U.S-solux	Better
10	65	14-09-09	03-10-09	Herniation intevertabarl disc L5-S1 left side	D7-iblagin tab mydocalm tab	Interfential electro prafin-exercises-traction	Better
11	53	19-09-09	30-09-09	Lumbago, ischial syndrom L4-5 left side	D 10 mesocain-vit e - mydocalm	Solux-exercises	Better

№	Age	Date of admission	Date of discharge	diagnosis	pharmacotherapy	Rehabilitation program	Result
12	58	03-09-09	14-09-09	Lumbago ischial syndrom L5-S1	D7-mydocalm tab	Manual traction exercises-solux	Bettr
13	35	23-09-09	04-10-09	Post operation hernia invertebral disc L4-5	D7-famotidin tab myolastan tab	Execisesr	Better
14	70	08-10-09	22-10-09	Chnonic lumbago ischial syndrom S1 rt side	D3-indometacin supp-ibalgin	Execises -solux-D dynamic	Bad
15	33	16-10-09	30-10-09	Protrusion disc-L4-5 left side	Analegeticke inf-NSA,myore laxancia	Solux-massage-exercises	Better
16	55	13-10-09	22-10-09	Lumbago ischial syndrom- L5 left side	D10-mesocain-indometacin supp	Parafin-massage-exercises	Better
17	40	12-10-09	22-10-09	Post operative hemilamin-actomy L5-S1 rt side	Ibuprofin-quamatol	Exercises	Better

18	52	02-10-09	12-10-09	Chronic lumbago ischial syndrom L4-5 both side	D3- mydocalm-indometacin supp	Exercises-massage parafin	
19	50	10-10-09	26-10-09	Herniation interverteb-ral disc L5-S1	D7-mydocalm tab	Interferntial electric- U. S-parafin-traction execises	Better
20	30	10-10-09	25-10-09	Mild inter-vertebral disc L5,S1	D7-mesocain-mydocalm-indometacin supp	Traction-U. S – exercises	Good
21	41	15-10-09	02-11-09	Protrusion disc L4-5 lt side	Indometacin supp - mydocalm-mesocain	Exercises-U.S parafin-traction	Beter
22	60	20-10-09	05-11-09	Lumbago ischial syndrom L4-5 rt side	D3- tramel inj myolastan tab	Solux-magnatic theraby- exercises	Bad
23	57	12-10-09	23-10-09	Lumbago ischial syndrom L5-S1 both side	D7-indometacin supp	Exercises -U.S- solux	Better

№	**Age**	**Date of admission**	**Date of discharge**	**diagnosis**	**pharmacotherapy**	**Rehabilitation program**	**Result**
24	35	17-10-09	30-10-09	Mild herniation inter vertebral disc L5-S1 left side	D7-mydocalm	Solux-exercises traction	Good
25	54	06-10-09	20-10-09	Lumbago ischial syndrom L5-S1 both side	Mydocalm-indometacin supp	parafin-exercises	Bad
26	23	22.04.10	03.05.10	Lumbago ischiel syndrome L4	Ibalgin- Mydocalm-mesocain	D. dynamic – solux - Exercises – massage	Better
27	30	06.04.10	19.04.10	Herniation disc L5/S1	D7- Mydocalm- Ibalgin	D. dynamic – Us - Exercises	Better
28	58	20.04.10	31.05.10	Disc protrusion L5/S1	D7- Ibuprofen	Solux – Us - parafin	Better
29	77	12.04.10	26.04.10	Herniation disc L5/S1	Ibalgin- Mydocalm	D. dynamic – Us – Exercises - massage	Better
30	74	18.03.10	01.04.10	Herniation disc L3,L4	Ibalgin- Mydocalm-D7	Solux – Us – Exercises - massage	Better
31	74	07.04.10	19.04.10	Laminactomy L1,L2	Ibuprofen-vitE-mesocain-indometacin supp	Exercises – D. dynamic	Better

32	60	20.04.10	03.05.10	Protrusion Disc L4,L5	Indometacin-D3-Mydocalm	Solux - Exercises – D. dynamic	Better
33	33	19.04.10	30.04.10	Herniation disc L3,L4	D7- Ibuprofen	Exercises – Us – solux	Better
34	31	15.03.10	31.03.10	Chronic discopatia L5/S1	Inj. Mesocain- Ibalgin	Solux– Exercises – D. dynamic	Better
35	50	10.03.10	24.03.10	Disc protrusion L4,L5	D7- Ibuprofen-quamatol	Us – Exercises - massage	Better

№	**Age**	**Date of admission**	**Date of discharge**	**diagnosis**	**pharmacotherapy**	**Rehabilitation program**	**Result**
36	31	07.09.09	21.09.09	Disc protrusion L4,L5	Inj. Mesocain- Ibalgin	Solux – Exercises - massage	Better
37	45	07.09.09	21.09.09	Herniation disc L5/S1	Mydocalm tab-Ibalgin tab-D7	Exercises – massage – solux	Better
38	59	30.09.09	14.10.09	Lumbago ischiel syndrome L4 Rt side	Inj. Mesocain- Ibalgin	Exercises - massage - Us	Better
39	48	20.07.09	03.08.09	Lumbago ischiel syndrome L4 Lt side	Indometacin-D3-Mydocalm	Exercises - D. dynamic	Better
40	39	29.09.09	12.01.09	Lumbago ischiel syndrome L5 Rt side	Mesocain- indometacin supp	Traction – massage - Exercises	Better
41	59	08.09.09	22.09.09	Lumbago ischiel syndrome L5 Rt side	Ibuprofen-vitE-mesocain-indometacin supp	Exercises - Solux - D. dynamic	Better
42	60	18.08.09	31.08.09	Disc protrusion L3,L4-L4,L5	D8- veral 50mg tab,myocalm tab,detralex tab	Exercises - massage - D. dynamic	Better
43	47	25.08.09	07.09.09	Lumbago ischiel syndrome L5 Rt side	Mesocain- indometacin supp	Traction – massage - Exercises	Better
44	58	24.08.09	07.09.09	Sacro iliac disease	Baclofen infusion fr+tramal+mesokain +mgse4 +guajacuran , D3	Exercises - massage - Parafin	Better

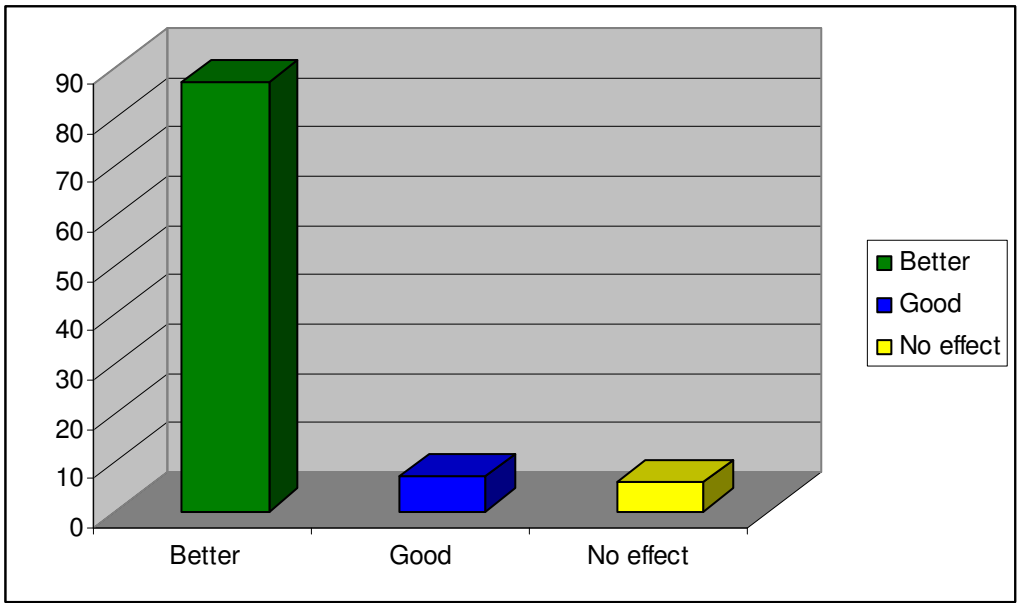
45	74	28.09.09	12.10.09	Laminactomy L5	Concor,ibuprofen,FR+mgSO 4,mesocain,indomethacin supp	Exercises - massage - Us	Better
46	39	30.09.09	12.10.09	Herniation disc L4,L5	Mesocain- indometacin supp	Us – Exercises - massage	Better
47	43	15.03.10	31.03.10	Laminactomy L4,L5	Ibalgin- Mydocalm	Exercises – massage – electrostimolation	Better

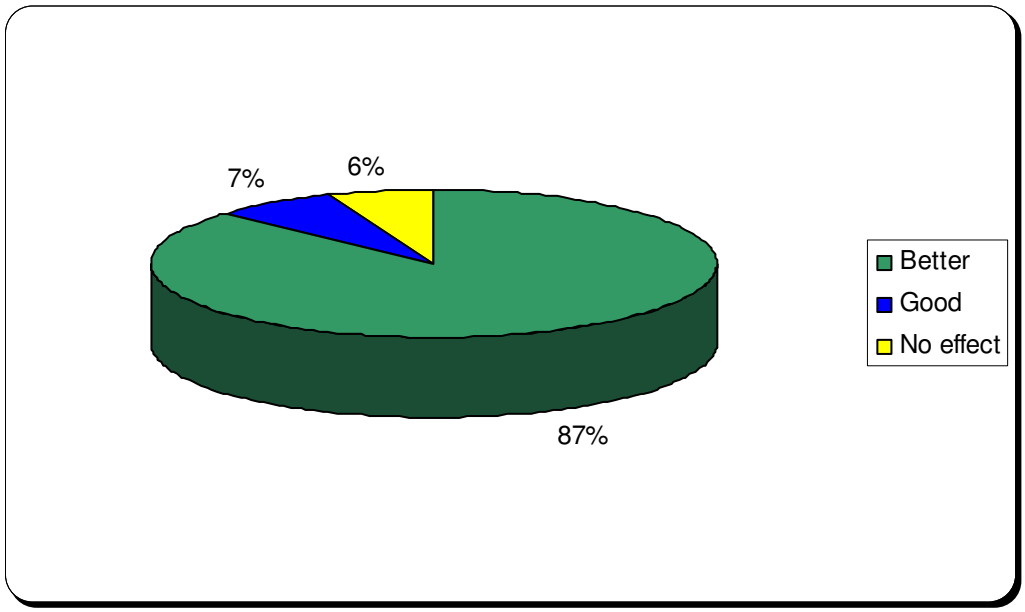
№	Age	Date of admission	Date of discharge	diagnosis	pharmacotherapy	Rehabilitation program	Result
48	55	22.04.10	06.05.10	Herniation itervertebral disc L5/S1	Inj-Mesocain- mydocalm tab	Exercises - massage - Us	Better
49	52	19.04.10	30.04.10	Lumbago ischiel syndrome L5 Lt side	Mesocain- Ibalgin	Us – Exercises - massage	Better
50	49	20.04.10	03.05.10	Disc protrusion L3-L4-L4-L5-L5/S1	Inj-Mesocain- mydocalm tab	Traction – massage – Exercises - D. dynamic	Better

Results Analysis:

The results of my study were

Better	87
Good	7
No effect	6





5.4 Discussion

1) In my study I present a group pf 100 patients including 50 women and 50 men , The age of women was between 25 years to 80 years and the age of men was between 23 years to 77 years with different diseases and syndromes of low back pain.
2) For this group I used in clinical treatment program in view of clinical evaluation the different pharmacological agents and the rehabilitation programs.
3) Rehabilitation program consists of different rehabilitation methods and techniques including exercises therapy, hydrotherapy, electrotherapy and other methods such as reflex and classical massage.
4) In the results we can see that the combination of methods and techniques of rehabilitation medicine and medications with different pharmacological agents is the best approach for treatment of patients with low back pain.
5) Patients with low back pain need beside physiotherapy and pharmacotherapy rehabilitation program.

5.5 Conclusion

1. We have evaluated 101 patients with low back pain and with different diseases.
2. The results that I have been obtained in this study indicate that the appropriate program for long treatment of the patients of low back pain are the combination of rehabilitation and pharmacological agents.
3. The clinical characteristics of the patients – fifty women and fifty men are in the tables A and B.
4. The best methods of treatment of the patients with low back pain in a long term treatment program is a combination of different rehabilitation methods and techniques and pharmacological agents.
5. The results of the study were for 101 patients with low back pain.
   - eighty seven patients ⟶ better (87%)
   - seven patients ⟶ good (7%)
   - six patients ⟶ no effect (6%)

REFERENCES

1. Richards. Snell: Clinical Anatomy for Medical Student – Edition 6, A Wolters Kluwer Company 2000, Philadelphia, Baltimore, New York, London, Buenos Aires, Hong Kong, Sydney, Tokio, 898 p.
2. Clayton's: Electrotherapy,10^{E} 1996, WB Sounders Company Ltd., Third printing 1998, London, 374 p.
3. Richardson RW: Physical Modalities: Aprimer for chiropractic, Davis Company. Philadelphia 1988, 349 p.
4. John MacLoad: Clinical Examination, Edition 5, 1979, 476 p.
5. Michael P.Barnes and Anthony B. Ward: Textbook of Rehabilitation Medicine, First published 2000, 391 p.
6. Bridget C. Davis and Ronald A. Harrison: Hydrotherapy in Practice, First published 1988, 185 p.
7. Donlin M. Long: Current therapy and Neurological Surgery – 2, 1989 B.C.Decker Inc., Toronto, Philadelphia, 346 p.
8. Robin Mackenzie: Treat your own back © Robin Mackenzie 1985 – New Zealand, 73 p.
9. Delisa, J: Rehabilitation Medicine – Principles and Practice – Philadelphia, J. B. Lippicott Company 1993, 1238 p.
10. Battie MC, Cherkin DC, Dunn R, Giol MA, Wheeler KJ, 1994, Managing Low Back Pain: Attitudes and Treatment Preferences of Physical Therapists. Physical Therapy, 74: 219-226
11. Bigos SJ, Bawyer ROR, Braen GR, 1994: Acute Low Back Problem in Adults. Clinical Practice Guidelines No. 14. AHGPR Publication No. 95-0642: 1-160
12. Binkley J, Finch E, Hall J, Black T, Gowland C: 1993, Diagnostic Classification of Patients with Low Back Pain: Report on a Survey of Physical Therapy Experts. Physical Therapy, 73:138-150
13. Borkan JM, Koes B, Reis S, Cherkin DC 1998 A Report from the Second International Forum for Primary Care Research on Low Back Pain. Reexamining Priorities Spine 23: 1992-1996
14. Bouter LM, Van Tulder MW, Koes BW 1998Methodologic Issues in Low Back Pain Research in Primary Care. Spine 23: 2014-2020
15. Cherkin DC, Battie MC, Deyo RA, Street JH, Barlow W 1998 A comparison of Physical Therapy, Chiropractic Manipulation, and Provision of an Educational Booklet for the Treatment of Patients with Low Back Pain, New England Journal of Medicine 339: 1021-1029
16. Delitto A, Cibulka MT, Erhard RE, Bowling RW, Tenhoula JA 1993 Evidence for Use of an Extension – Mobilization Category in Acute Low Back Pain Syndromes: A Prescriptive Validation Pilot Study. Physical Therapy 73: 216-228
17. Deyo RA, Phillips WR 1996 Low Back Pain. A Primary Care Challenge. Spine 21: 2826-2832
18. Fritz JM, George S 2000 The use of a Classification Approach to Identify Subgroups of Patients with Acute Low Back Pain. Interrater Reliability and Short Term Treatment Outcomes. Spine 25: 106-114
19. Gillan MG, Ross JC, McLean IP, Porter RW 1998 The Natural History of Trunk List, Its Associated Disability and the Influence of McKenzie Management. European Spine Journal 7: 480-483
20. Kilpikoski S, Airaksinen O, Kankaanpaa M, Leminen P, Videman T, Alen M 2002 Interexaminer Reliability of Low Back Pain Assessment Using the McKenzie Methods. Spine 27: E207-E214

21. Koes BW, Van Tulder MW, Ostelo R, Kim BA, Waddell G 2001 Clinical Guidelines for the Management of Low Back Pain in Primary Care: An International Comparison. Spine 26: 2504-2513
22. Leboeuf-Yde C, Lauritsen JM, Lauritzen T 1997 Why has the Search for Causes of Low Back Pain Largely Been Nonconclusive? Spine 22: 877-881
23. Nwuga G, Nwuga V 1985 Relative Therapeutic Efficacy of the Williams and McKenzie Protocols in Back Pain Management. Physiotherapy Practice 1: 90-105
24. Petersen T, Thorsen H, Manniche C, Ekdahl C 1999 Classification of Nonspecific Low Back Pain. A review of the literature on classification Systems relevant to Physiotherapy. Physical Therapy Reviews 4: 265-281
25. Spitzer WO 1987 Scientific Approach to the Assessment and Management of Activity – Related Spinal Disorders. A Monograph for Clinical. Report of the Quebec Task Force on Spinal Disorders. Spine 12 supp: s1-59
26. Stonkovic R, Johnell O 1990 Conservative Treatment of Acute Low Back. A prospective randomized trial: McKenzie Method of treatment versus Patient Education in mini back school. Spine 15: 120-123
27. Van Tulder MW, Assendelft WJ, Koes BW, Bouter LM 1997 Spinal Radiographic Findings and Nonspecific Low Back Pain. A systematic review of observational studies. Spine 22: 427-434
28. J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou, Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health 3/2010. Vol. 6. pp 49-50
29. A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5
30. M. Mackinova, The social work methods with the unaccompanied migrants in the Slovak republic, Journal Clinical Social Work No 3-4-, 2010 ISSN 2076-9741, pp 104-118
31. S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81
32. S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31
33. M. Jankechova, Education of nurses at the St. ladislav Faculty of health Care and social Work in Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 118-126 ISBN978-80-8082-393-1
34. M. Jankechova, The history of nursing education in town Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 110-118, ISBN978-80-8082-393-1
35. M. Jankechova, Examination of the knowledge and skills parents of children with epilepsy, Zbornik VIII. Mezinarodni symposium osetrovatelstvi OU FZS 2010, 131-136, ISBN 978-80-7368-694-9
36. M. Jankechova, Healthcare of chool – age children with diabetes and their parents, Zbornik z odbornej conference "pedagogika v osetrovatelstvi,Zlin 2010, 164, ISBN 978-80-7318-995-2
37. M. Jankechova, Nursing metaparadigm – in the Nightingale environmental model, Sbornik k IV. Mezinarodni konf. Vseob sester, Brno 2011, 115-121, ISBN 978- 80- 7399 – 196 – 8
38. M. Jankechova, The function of nursing in prevention of Lung Tuberculosis, Zbornik z vedeckej conference, FZSP TU 2007
39. M. Jankechova, Nursing Education leadership and Competences of nurses in Slovakia, Pflegekongress der Osterreichischen Gesellschaft, Wien 2009

TUBERCULOSIS CARE AND CONTROL IN REFUGEE AND DISPLACED RWANDA POPULATION

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ABSTRACT

The World Health Organization (WHO) estimates that there were 8,8 million new cases of tuberculosis (TB) with 1,6 million deaths worldwide in 2005. These deaths comprise 25% of all avoidable adult deaths in developing countries. Some 95% of TB patients and 98% of TB deaths are in developing countries, where 75% of TB patients are in the most economically productive age group (15-50 years). After increasing at a rate of 1% per year over previous years the TB incidence was stable or in decline in all six WHO regions in 2005. However, the total number of new TB cases is still rising slowly.

Key words: TB, refugees, tuberculosis

Introduction

The World Health Organization (WHO) estimates that there were 8,8 million new cases of tuberculosis (TB) with 1,6 million deaths worldwide in 2005. These deaths comprise 25% of all avoidable adult deaths in developing countries. Some 95% of TB patients and 98% of TB deaths are in developing countries, where 75% of TB patients are in the most economically productive age group (15-50 years). After increasing at a rate of 1% per year over previous years the TB incidence was stable or in decline in all six WHO regions in 2005. However, the total number of new TB cases is still rising slowly.

- **Natural history of TB**

WHO estimates that up to one third of the world´s population is infected with Mycobacterium tuberculosis, the bacterium that causes TB. Once infected, a person stays infected for many years, probably for life.

- **TB in refugee and displaced populations**

The Office of the United Nations High Commissioner for Refugees (UNHCR) estimated the number of refugees, internally displaced persons (IDPs) and other people of concern to UNHCR to be more than 32 million in 2006. More than 85% of refugee originate from, and remain within, countries with high burdens of TB.

Refugees and displaced populations are at particularly high risk of developing TB. The crowded living conditions of these populations can facilitate the transmission of TB infection. Coexistent illness, particularly HIV and poor nutritional status, can also weaken their immune system and make them more vulnerable to developing active TB. TB is an increrasingly important cause of morbidity and mortality among refugee and displaced populations.

SUDAN, KENYA, REPUBLIC OF INGUSHETIA

In 1985, 26% of deaths among adult refugees in Somalia and between 38-50% of all deaths among refugees in camps in eastern Sudan were attributed to TB.

In norths-east Kenya in 1994, the incidence of new infectious TB patients in camps was four times the rate in the local population.

In Ingushetia in 2000, the TB notification rate for displaced Chechens was almost twice as high as the resident Ingush population.

A. Managment of TB in adults

- **Diagnosis of TB in adults**

The most important symptom in the identification of TB suspects in adults (over 15 years of age) is:

- cough of long duration (more than 2 weeks)

Patients with TB may also have other symptoms or signs such as:

- significant weight loss
- fever or night sweats
- haemoptysis
- chest pain
- breathlessness
- tiredness
- loss of appetite.

- **Pulmonary TB, smear-positive**

Smear-positive pulmonary TB cases represent at least 65% of the total number of pulmonary TB cases in adults, and 50% or more of all TB cases when microscopy laboratory services are available and appropriately carried out, and diagnostic criteria are properly applied. Note that these proportions may be lower in populations with high HIV incidence.

- **Pulmonary TB, smear-negative and extrapulmonary TB**

In the absence of TB culture, even with access to X-ray facilities, the diagnosis of smear-negative pulmonary TB is unavoidably imprecise. Without the use of chest radiography, a diagnosis of smear-negative pulmonary TB is likely to be even less specific. In refugee situations, it is common not to have ready access to X-rays facilities, but it may be possible to refer patients for X-rays or other hospital services. While a chest X-ray cannot diagnose TB, typical radiological findings can suggest a diagnosis of TB. A normal X-ray, typical findings of another disease or the absence of findings compatible with TB, make a diagnosis of TB unlikely.

Table 1. Criteria for diagnosis of sputum smear-positive and sputum smear-negative pulmonary TB in adults.

Pulmonary TB, sputum smear-posistive **Either:** a patient with at least two sputum specimens positive for acid-fast bacilli (AFB) by microscopy, **Or:** a patient with at least one sputum specimen positive for AFB by microscopy and radiographic abnormalities consistent with active pulmonary TB as determined by a clinician, **Or:** a patient with at least one sputum specimen positive for AFB by microscopy, which is culture positive for M. tuberculosis
Pulmonary TB, sputum smear-negative **Either:** a patient who fulfils all the following criteria: • At least three sputum specimens negative for AFB on microscopy • Radiografic abnormalities consistent with active pulmonary TB (in the complete absence of radiography, a clinical judgement must be made by a medical officer) • No clinical response to a course of broad-spectrum antibiotics • Decision by a medical officer to treat with full course of TB chemotherapy **Or:** a patient who fulfils all the following criteria: • Severely ill • At least two sputum specimens negative for AFB by microscopy • Radiographic abnormalities consistent with extensive pulmonary TB (intestinal or miliary), and • Decision by a medical officer to treat with full course of TB chemotherapy **Or:** a patient whose sputum smears were negative but whose sputum culture result is positive. This group includes cases without smear result, which should be exceptional in adults but is relatively more frequent in children.

Table 2. Revised WHO recommendations for diagnosis of TB and HIV-prevalent and resource-constrained settings.

Pulmonary TB, sputum smear-posistive One sputum smear examination positive for acid-fast bacilli (AFB) and Laboratory confimation of HIV infection or Strong clinical evidence of HIV infection
Pulmonary TB, sputum smear-negative At least two sputum specimens negative for AFB and Radiographical abnormalities consistent with active TB and Laboratory confirmation of HIV infection or Strong clinical evidence of HIV infection and Decision by a clinician to treat with a full course of anti-TB chemotherapy

Table 3. Fixed-dose combination drugs from the WHO Model List of Essential Medicines (revised April 2002)

Drug (abbreviation)	**Dose form**	**Strength for daily use**	**Strength for intermittent use 3 times weekly**
Rifampicin + isoniazid (RH)	Tablet Tablet or pack of granules	150 mg + 75mg 300mg + 150mg 60mg + 30mg	150mg + 150 mg 60mg + 60mg
Ethambutol + isoniazid (EH)	Tablet	400mg + 150mg	
Rifampicin + isoniazid + Pyrazinamide (RHZ)	Tablet Tablet or pack of granules	150mg + 75mg + 400mg 60mg + 30mg + 150mg	150mg + 150mg + 500mg
Rifampicin + isoniazid + Pyrazinamide + ethambutol (RHZE)	Tablet	150mg + 75mg + 400mg + 275mg	

Table 4. Recommended TB treatment regimens for each tretment category

TB treatment category	**TB cases**	**Initial (intensive) phase**	**Continuation phase**
I	New smear-positive pulmonary TB New smear-negative pulmonary TB with extensive parenchymal involvement New cases of severe forms of extrapulmonary TB	2HRZE or $2H_3R_3Z_3E_3$	$4H_3R_3$ (6HE)
II	Sputum smear-positive Relapse Treatment failure Treatment after interruption	2SHRZE/ 1HRZE	$5H_3R_3E_3$
III	New smear-negative pulmonary TB (other than in Category I) Less severe forms of extrapulmonary TB	2HRZE or $2H_3R_3Z_3E_3$	$4H_3R_3$ (6HE)

Table 5. Recommended dosages of essential TB drugs

Drug	**Daily administration mg/kg (maximum dose) (dose range)**	**Three times weekly mg/kg (maximum dose) (dose range)**
1. Isoniazid	5 (300) (4-6)	10 (600) (8-12)
2. Rifampicin	10 (600) (8-12)	10 (600) (8-12)
3. Pyrazinamide	25 (2g) (20-30)	35 (3g) (30-40)
4. Streptomycin	15 (1g) (12-18)	15 (1g) (12-18)
5. Ethambutol	15 (2g) (15-20)	30 (25-35)

B. Management of TB in children

- **Tuberculin skin test (TST)**

A positive TST does not indicate the presence or extent of TB disease, it only indicates infection. In a child who has not had Bacille Calmette-Guérin (BCG) vaccination, a TST is defined as "positive" when the diameter of skin induration is 10 mm or more. In a child who has had BCG, an induration of 10-14 mm may be due to vaccination or TB infection. A negative TST does not exclude TB infection and some induration, e.g. 5-14mm, is supportive if the clinical features and contact history are suggestive. The TST is less likely to be positive in a child with TB if the child also has severe malnutrition, HIV infection or disseminated TB such as miliary disease or TB meningitis.

- **HIV and TB in children**

HIV makes diagnosis and management of TB in children more difficult (as with adults) for the following reasons:

- Other HIV-related disease, such as lymphocytic interstitial pneumonitis, may present in a similar way to pulmonary TB or miliary TB
- Interpretation of TST and chest X-ray is less reliable
- When TB/HIV coinfection is common in adults, a positive contact history is less specific if the contact is the child´s parent. The child is at risk of becoming infected with both diseases.
- Children with TB and advanced HIV disease may not respond to TB treratment

- **Management of childhood TB**

High treatment success rates are achievable in children with active TB. There has been understandable caution with the use of ethambutol in children too young to report early visual deterioration, but ethambutol has been safely used in infants and young children at the recommended dosages. The recommended daily dose of ethambutol is higher in children (20 mg per kg/day) than in adults (15 mg per kg/day) because of the differences in pharmacokinetics.

Table 6. Recommended TB treratment regimen for children

Clinical presentation	**Intensive phase**	**Continuation phase**
New smear-positive pulmonary TB New smear-negative pulmonary TB with extensive parenchymal involvement (acute miliary, segmental or lobar opacity) New cases of severe forms of extrapulmonary TB (disseminated acute TB, abdominal, spinal and pericardic TB)	2HRZE or $2H_3R_3Z_3E_3$	$4H_3R_3$ 6HE
TB meningitis	2SHRZ	4RH
New smear-negative pulmonary TB (other than in Category I) Less severe forms of extrapulmonary TB (TB adenitis, mediastinal lymphadenopathy)	2HRZ or $2H_3R_3Z_3$	$4H_3R_3$
Previously treated smear-positive pulmonary TB: - Relapse - Treatment failure - Treatment after interruption	2HRZES/1HRZE	$5H_3R_3E_3$

Table 7. Dosage schedules for treatment of non-severe smear-negative TB in children using fixed-dose combination drugs

Patient body weight (kg)	**Intesive phase (2 months)**	**Continuation phase (4 months)**	
	Daily	Daily	Or 3 times weekly
	RHZ 60 mg + 30 mg + 150 mg	RH 60mg + 30 mg	RH 60mg + 60mg
<7	1	1	1
8-9	1,5	1,5	1,5
10-14	2	2	2
15-19	3	3	3
20-24	4	4	4
25-29	5	5	5

C. <u>Special groups</u>

Refugee camps and asylum seekers

- **Eritrea**

TB case detection and treatment was strengthened as part of the response to very high levels of malnutrition among Somali refugees in Eritrea in 2002. UNHCR data from 2003 show an annual incidence six times that of the host population (1852/100 000 in the Somali refugees in 2003 versus 277/100 000 in the local Eritreans in 2001).

- **Islamic Republic of Iran**

Approximately 2,3 million Afghan refugees live in the Islamic Republic of Iran, most of them within communities in urban and sub-urban settings, less than 5% are in refugee camps, mainly in Sistan-Balochistan Province on the border with Afghanistan. In 2001, 20% of TB cases notified in the Islamic Republic of Iran were refugees, they accounted for approximately 44% of sputum smear-positive pulmonary TB cases identified in Tehran.

- **Uganda**

Almost 30% of Uganda´s population is internally displace. Refugees from other countries make up 15% of the displaced population in Uganda. Uganda is a high TB burden country with the incidence of all TB cases of 363 per 100 000 population. Although Uganda is one of the countries reported to be implementing the DOTS strategy, sub-national data from 2002 show that only 28 out of 56 districts were at various stages of implementing DOTS, with 16 districts not implementing DOTS at all. Most of the 1 418 432 registered IDPs are hosted in eight districts where DOTS was not being fully implemented.

The average national treatment success rate (60%), and that in districts with IDPs and refugees (58%), was similar. However, IDPs accounted for only 1,7% of TB cases notified to the NTP. UNHCR-run treatment centres consistently achieved higher average treatment success rates (67%). Despite challenges experienced in the course of providing services to refugee populations, it is noted that where UNHCR has a presence, TB programme activities are better implemented.

Specific efforts must be made to reach IDPs if Stop TB Strategy targets are to be reached.

REFERENCES

J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou, Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health 3/2010. Vol. 6. pp 49-50

A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5

M. Mackinova, The social work methods with the unaccompanied migrants in the Slovak republic, Journal Clinical Social Work No 3-4-, 2010 ISSN 2076-9741, pp 104-118

S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81

S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31

M. Jankechova, Education of nurses at the St. ladislav Faculty of health Care and social Work in Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 118-126 ISBN978-80-8082-393-1

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M. Jankechova, The function of nursing in prevention of Lung Tuberculosis, Zbornik z vedeckej conference, FZSP TU 2007

M. Jankechova, Nursing Education leadership and Competences of nurses in Slovakia, Pflegekongress der Osterreichischen Gesellschaft, Wien 2009

http://www.unicef.org/publications/files/Immunization_Summary_2007.pdf

http://www.avert.org/thailand-aids-hiv.htm

http://developeconomies.com/development-economics/government-a-prerequisite-for-hope-in-haiti/

http://www.reliefweb.int/rw/rwb.nsf/db900SID/DKAN-7ZRMLR?OpenDocument

http://www.who.int/diseasecontrol_emergencies/publications/haiti_earthquake_20100118.pdf

LABORATORY SURVEILLANCE OF COMMON DISEASES AT KENYAN ST.RAPHAEL CLINIC WITHIN 4 YEARS

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ABSTRACT

Laboratory surveillance of commonest infectious diseases within 4 years in St. Raphael Clinic Mihango, Nairobi, Kenya is reported.

Key words: laboratory surveillance, tropical diseases

Introduction

The aim of this study is to asses incidence of common diesease at St. Raphael Clinic in Nairobi from 23rd Oct/2006 to 31ST Mar/2010.

Methods

Various tests namely blood slide for malaria parasite examination, urine analysis, HVS(high vaginal)/urethral swabs wet preparation microscopy and gram stain, stool microscopy, widal and VDRL/RPR. Rheumatoid factor, brucellosis and helicobacter pylori tests among others were carried out during the period of study to patients aged between a few weeks to above 65 years and summed up in the following table:

Year	Total number of patients	Total number of tests
23rd Oct 2006 to 31st Dec2007	3,788	6,895
2008	7,873	17,722
2009	10,282	27,736
4th Jan 2010 to 31st march 2010	3,076	7,239

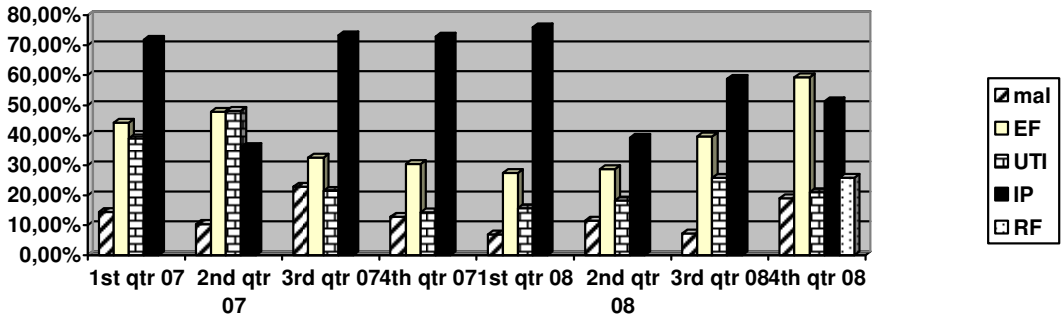
On the basis of deductive thinking, incidences have been summarized using random block design as follows;
1. Malaria [MAL]
2. Enteric fever [EF]

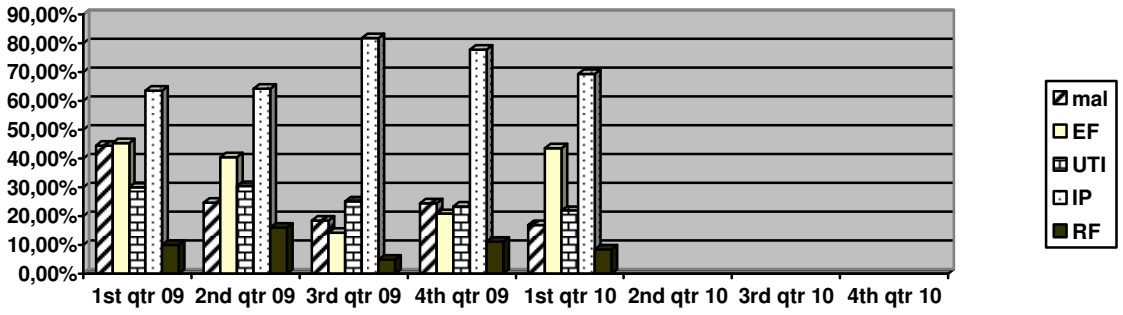
- Brucella
- Typhoid
- *Helicobacter pylori*

3. Urinal genital tract infections [UTI]
   - Non gonococci urethritis/ vaginitis
   - Gonorrhea
   - Syphilis
   - Candidiosis
   - Trichomoniasis
4. Intestinal parasites [IP]
   - Amoebiasis
   - Giadiasis
   - Helminthes[HEL]
5. Rheumatic fever [RF]

Results

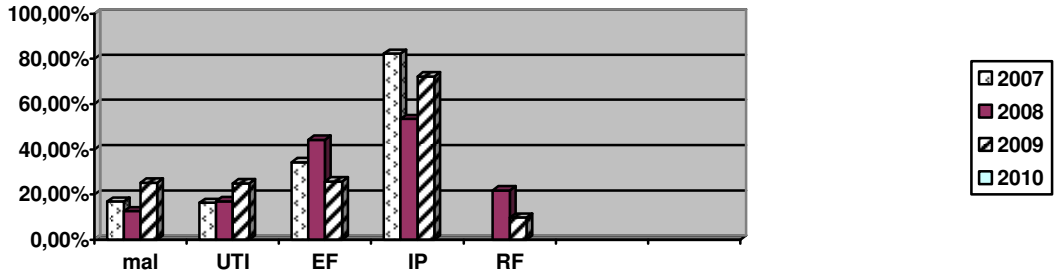
The following prevalence trends (positive cases divided by negative cases, multiplied by 100) were observed on quarterly analysis.





Various factors could explain the sudden increase of malaria cases between the 4th quota of year 2008 and the 1st quota of year 2009. One could be traveling of patients to holoendemic regions during festive season and also increase in total slides examined is among other factors.

The following graph represents annual prevalence rates of the diseases covered in this study.



Conclusion

In conclusion, in every 10 blood slides from suspected patients of malaria 2 slides were positive, every 10 suspected cases of enteric fever 3 were positive, every 10 suspected cases of intestinal parasites 7 were positive and every 10 suspected cases of urinary tract infection 2 were positive. Helminthes accounts for 0.1% of all intestinal parasite infections. Standard operational procedures were observed for every test carried out which had the recommended specificity and sensitivity for quality assurance. Of the total 59,592tests carried out on 25,019 patients aged between few weeks to over 65 years, 51,517 tests were processed using mathematical methods for the data submitted herein. Tests such as hemoglobin, pregnancy, blood grouping, ESR, CRP, blood sugar and PBF examinations totaled to 8,075 during the period of study and were exempted in the above histograms to reduce variables and fallacy.

REFERENCES

J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou, Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health 3/2010. Vol. 6. pp 49-50

A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5

M. Mackinova, The social work methods with the unaccompanied migrants in the Slovak republic, Journal Clinical Social Work No 3-4-, 2010 ISSN 2076-9741, pp 104-118

S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81

S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31

M. Jankechova, Education of nurses at the St. ladislav Faculty of health Care and social Work in Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 118-126 ISBN978-80-8082-393-1

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M. Jankechova, Examination of the knowledge and skills parents of children with epilepsy, Zbornik VIII. Mezinarodni symposium osetrovatelstvi OU FZS 2010, 131-136, ISBN 978-80-7368-694-9

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M. Jankechova, The function of nursing in prevention of Lung Tuberculosis, Zbornik z vedeckej conference, FZSP TU 2007

M. Jankechova, Nursing Education leadership and Competences of nurses in Slovakia, Pflegekongress der Osterreichischen Gesellschaft, Wien 2009

http://www.unicef.org/publications/files/Immunization_Summary_2007.pdf

http://www.avert.org/thailand-aids-hiv.htm

http://developeconomies.com/development-economics/government-a-prerequisite-for-hope-in-haiti/

http://www.reliefweb.int/rw/rwb.nsf/db900SID/DKAN-7ZRMLR?OpenDocument

http://www.who.int/diseasecontrol_emergencies/publications/haiti_earthquake_20100118.pdf

EPIDEMIOLOGICAL STUDY OF HIV/AIDS INFECTION IN RURAL AREA OF BURUNDI -RUTOVU MODEL OF DECENTRALIZED HIV/AIDS CARE

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ABSTRACT

Burundi after a civil war 1993 – 2006 has become devastated which impacts also on awful lack of even basic health care infrastructure (87% of population living under poverty line, 155th country according to World Development Indicators Database of World Bank, total expenditure on health 17$ per capita). There is a severe health worker shortage – 3 physicians and 19 nurses per 100 000 population. In these conditions the silent epidemic of HIV/AIDS has started. According to the latest official research of prevalence of HIV in the country (2002), the prevalence is - total: 5,4%, urban area: 9,4%, semiurban area: 10,5%, rural area: 2,5%. According to the national guidelines the HIV services are still centralized - HIV testing is available only in district hospitals, further management including CD4 examination, biochemistry and ART providing only in provincial hospitals. In conditions of extreme poverty of the population it is exceedingly insufficient.

Key words: AIDS, tropical programe

Objectives

Burundi after a civil war 1993 – 2006 has become devastated which impacts also on awful lack of even basic health care infrastructure (87% of population living under poverty line, 155th country according to World Development Indicators Database of World Bank, total expenditure on health 17$ per capita). There is a severe health worker shortage – 3 physicians and 19 nurses per 100 000 population. In these conditions the silent epidemic of HIV/AIDS has started. According to the latest official research of prevalence of HIV in the country (2002), the prevalence is - total: 5,4%, urban area: 9,4%, semiurban area: 10,5%, rural area: 2,5%. According to the national guidelines the HIV services are still centralized - HIV testing is available only in district hospitals, further management including CD4 examination, biochemistry and ART providing only in provincial hospitals. In conditions of extreme poverty of the population it is exceedingly insufficient.

Methods

Rutovu district involves around 90 000 inhabitants with 2 district hospitals and only 1 physician. We tried to make a picture about real situation on the field of epidemiology of HIV/AIDS infection in this rural area with the aim to propose model of HIV programme for these conditions. We examined sample of 1911 patients of Rutovu hospital during period of November 2005 – November 2009. We stratified this group into 4 subgroups: group A - voluntary counselled and tested patients (VCT) (1334), group B - blind tested patients´

samples (256), group C – VCT pregnant women (192), group D – HIV-positive patients already diagnosed (129). According to our results and specific needs and issues of this reagion we proposed and started to run HIV programme in this area.

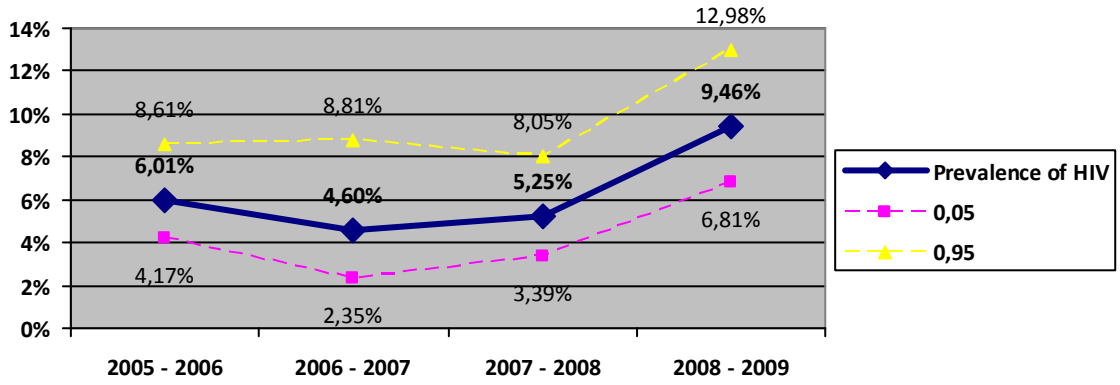
Results

Population of VCT clients consists mostly of younger, unmarried, childless farmers. Prevalence of HIV infection was of 6.52% - most of them were middle-aged farmers, married, with children. As the risk groups we identified widows / widowers, policemen and soldiers. Trend of incidence of HIV infection during period of 2005 – 2009 was increasing. (graph 1) Among blind tested samples prevalence of HIV infection was 18.36% - from them 66,67% weren´t aware about their HIV status, 80.85% were examined because of HIV-non-indicative disease. VCT pregnant women were mostly younger, married, primigravidas. The prevalence of HIV infection in this group was 1.56% - most of them middle-aged, married, multigravidas. In comparison to this group – prevalence of HIV infection among blind tested VCT women in child-bearing age and OPD women in child-bearing age was 5.85% vs. 23.73%. In the group of already HIV diagnosed patients were 82.17% on CTX prophylaxis, the rest was on HAART but only 3.16% of all of them have ever examined CD4 cell count. CD4 cell count in the time of diagnosis of HIV infection was 336 ± 144.76 cells/µl (minimum 78 cells/µl, maximum 696 cells/µl) and it was in negative correlation with the age of patient (P 0.0065, RSquare 0.22).

Conclusion

Burundi is not officially country with high prevalence of HIV infection. Our study suggests that real prevalence in rural areas can be higher than it is officially declared. HIV-positive individuals are people from normal population, not from marginalized groups. Risk groups composed from army forces, refugees, widows/widowers and orphans. The great number of orphans in country can be caused not only by genocide but also by HIV infection. HIV infection is often diagnosed in late stage, in married adults with more children that may results in high transmission of HIV infection from mother to child. Specific issues of country and population give conditions that HIV infection is still silent epidemic in the country. As a result of our epidemiologic study we started to run HIV programme in Rutovu district since 2008.

Graph 1: Incidence of HIV infection during years 2005 – 2009 in Rutovu district



REFERENCES

J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou, Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health 3/2010. Vol. 6. pp 49-50

A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5

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S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81

S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31

M. Jankechova, Education of nurses at the St. ladislav Faculty of health Care and social Work in Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 118-126 ISBN978-80-8082-393-1

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M. Jankechova, Healthcare of chool – age children with diabetes and their parents, Zbornik z odbornej conference "pedagogika v osetrovatelstvi,Zlin 2010, 164, ISBN 978-80-7318-995-2

M. Jankechova, Nursing metaparadigm – in the Nightingale environmental model, Sbornik k IV. Mezinarodni konf. Vseob sester, Brno 2011, 115-121, ISBN 978- 80- 7399 – 196 – 8

M. Jankechova, The function of nursing in prevention of Lung Tuberculosis, Zbornik z vedeckej conference, FZSP TU 2007

M. Jankechova, Nursing Education leadership and Competences of nurses in Slovakia, Pflegekongress der Osterreichischen Gesellschaft, Wien 2009

http://www.unicef.org/publications/files/Immunization_Summary_2007.pdf

http://www.avert.org/thailand-aids-hiv.htmň

http://developeconomies.com/development-economics/government-a-prerequisite-for-hope-in-haiti/

http://www.reliefweb.int/rw/rwb.nsf/db900SID/DKAN-7ZRMLR?OpenDocument

http://www.who.int/diseasecontrol_emergencies/publications/haiti_earthquake_20100118.pdf

NEW VECTORS OF OLD DISEASES: LESSONS FROM MEDICAL ENTOMOLOGY REVIEW

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ABSTRACT

Arthropoda is the largest group of animals and may be present in many part of the world. They transmmit the caustaive agents of many important diseases, are currently prevalent in the tropics and subtropics and rare in temperate zones. From medically point of view, in Central and Eastern Europe, tick are the main importent vectors of many pathogens, which cause diseases. The presence of vectors (anofeline mosquitoes) and the increasing number of autochtonouse cases and airport malaria in these cooler regions are also meaningful. This review paper breafly deals with classification of arthropoda and pathogens transmitted by vectors and diseases they cause.

Key words: medical entomology, arthropoda, disease

Introduction

Arthropoda is a largest group of animals and may be found in many part of the glob. Arthropoda live in close association with humans and transmmit the caustaive agents of many important diseases. These diseases are currently prevalent in the tropics and subtropics and relatively rare in temperate zones.

Predicting the effects of global warming on health requires an examination of the current incidence and distribution of major vector-borne diseases. According to the report of the World Health Organization (WHO) Commission on Health and Environment „*Our Planet, Our Health,* "The conditions in which environmental factors are most prominent are tropical diseases, which to a large extent are caused by infection by parasites requiring one or more intermediate hosts and vectors for their development.

The most common insect bites are those of mosquitoes and other blood sucking flies, bedbugs, fleas and lice. In favourable temperate regions environmental conditions, they can transmmit some of those pathogens as well. One of the most devastated diseases ever – malaria was once endemic in many temperate parts of the globe including Central and Eastern Europe. The presence of vectors (anofeline mosquitoes) and the increasing number of autochtonouse cases and airport malaria in these cooler regions are considerable.

PHYLLUM ARTHROPODA

- Arthropoda may be found in every part of the world- every type of environment
- Many of them live in close association with humans
- Primarily parasites of animals, will readily attack or feed upon humans
- Some may be specifically adapted as human parasites
- May be of medical significance, because of their physical attack as blood-sucking habits or
- May be of considerable importance as distributors of organisms that cause disease

The arthropoda disease vectors:

- May transfer pathogenic organisms in a purely mechanical manner from infected material to human food
- May act as developmental vectors, incubating the pathogenic agents before passing them on to hosts
- May be of considerable public health and economic importance, causing significant damage and nuisance by infesting and feeding on stored food and other commodities and infesting domestic situations (beetles, moths ....)

Arthropods directly influence humans as:

- parasites
- vectors
- causing tissue damage and disease (infestation to skin and damage tissues e.g. mites (Sarcoptes scabiei)
- also affect human health by reducing the availability of food
- livestock are also affected arthropode-borne infections
- vast areas of Africa are short of protein foods because cattle suffer a number of vector-borne diseases
- entomophobia and arachnophobia are usual psychological conditions

Transmission – patogens

- viruses (Yellow Fever, West Nile, WEE, EEE, Dengue, Japanese B-Encephalitis,...)
- rikettsia (Endemic Typhus, ...)
- bacterias (Borelia spp, ...)
- protozoa (Plasmodium spp., Babesia spp)
- helmintes (Wuchereria bancroftii, Brugia spp., Dirofilaria spp...)

Transmission cane be:

- mechanical (flies)
- biological (ticks, mosquitoes...)
- transovarial transmission (e.g. mites, ticks)
  e.g. Ixodes ricinus – EEV
  lice- transmission of Rikettsiae
  Xenopsylla cheopis – as reservoar host (Yersinia pestis)

ARTHROPODA – CLASSIFICATION

1- Chelicerata
Acari (mites)
Acariformes
Order **Sarcopteformes**
Family **Sarcoptidae**
Genus **Sarcoptes**
Species **Sarcoptes scabiei** (Scabies)

Order **Trombidiformes**
Trombidiformes
Species Neutrombicula automnalis

Superorder **Parasitiformes**
Ixodida
Family **Ixodidae** – hard ticks
Genus Ixodes
Species Ixodes ricinus - common tick (Tick born encephalitis virus, Coxiella burneti, Babesia sp., Borrelia spp., Francisella tularensis)
Dermacentor andersoni and D. variabilis (tick borne paralysis- toxin, „Spotted fever“)
Dermacentor spp. (Q-fever, Rikettsia slovaca)
Haemopysalis spp. (Rocky Monutain Spotted Fever - RMSF)
Rhipicepalus spp. (Q-fever, RMSF)

Family **Argasidae** – Soft ticks
Genus Argas
Species Argas reflexus (intoxication)
Ornithodorus moubata (Borrelia duttoni)

2- Tracheata
Insecta
Phthiraptera
Family **Phthiridae**
Species **Phthirus pubis**
Order **Anoplura**
Family **Pediculidae**
Species Pediculus capitis
Pediculus humanus (Rikettsia prowazeki; Bartonella quintana; Borrelia recurrentis)
Hemiptera – Bugs

Family **Reduviidae**
Triatominae
Species Rhodneus prolixus - Tropical bed bug (Trypanosoma cruzi)
Triatoma infestans - Kissing bug, cone-nosed bug (Trypanosoma cruzi)
Panstrongylus megistus - (Trypanosoma cruzi)

Cimex lectularius - Bed bug - (blood sucker in temperate region)
C. hemipterus (blood sucker in the tropics)

Order **Siphonaptera** – Fleas
Genus Pulex
Pulex irritans – human flea (Yersinia pestis)

Genus Ctenocephalides

Ctenocephalides felis (cats)
Ctenocephalides canis – dogs flea (Dipylidium caninum, Hymenolepis diminuta)
Xenopsylla cheopis - plaques flea (Yersinia pestis)
Tunga penetrans - chigger flea or sand flea (Clostridium tetani)

Order **Diptera**
Suborder **Nematocera**
Family **Ceratopogonidae** – The Bting Midges
Genus Culicoides
Culicoides sp. (Mansonella ozardii, M. perstans, M. streptocerca; viruses {oropoche fever in Brazil, Rift valley fever in Africa, Eastern equine encephalitis in USA}, blue tong virus)

Family **Psychodidae** – sand flies
Subfamily Phlebotominae
Genus Phlebotomus
Species Phlebotomus papatasi (Leishmania spp., papatasi virus)
Genus Lutzomyia (Leishmania spp)
Species Lutzomyia verrucarum (Leishmania spp;Bartonella bacilliformis)

Family **Simuliidae** – Black flies
Genus Simulium
Simulium damnosum (Onchocerca volvulus)
Simulium amozonicum (Mansonella ozardi- Brazil

Culicidae (mosquitoes)
Sub-family Culicinae
Genus Aedes (viruses, Dirofilaria spp)
Species Aedes albopictus (Denque virus, Chikungunia virus, Yellow fever
Aedes aegypti (Yellow fever virus, Dengue virus)
Aedes albopictus (Chikungunia virus, Dirofilaria sp.)
Ae. scutellaris (viruses, W. bancrofti)
Subgenus:Ochlerotatus (viruses, Dirofilaria spp)
Genus Culex (viruses, Dirofilaria spp, filariae)
Cx. pipies quinguefasciatus (W. bancrofti)
Culex tritaniorhynchus (Japanies B encephalitis)
Mansonia (viruses, Dirofilaria spp., Brugia)
Psorophora (viruses)

Culeseta (EEEV, WEEV, Tahyna)
Sub- family Anophelinae

Genus Anopheles
Species Anopheles gambiae (Plasmodium spp., Wuchereria bancrofti, O´nyong-nyong fever)
Anopheles funestus (Plasmodium spp. Wuchereria bancrofti, O´nyong-nyong fever)
An. culicifacies (Plasmodium spp.)
An. stefensi (Plasmodium spp.)
An. hyrcanus ((Plasmodium spp)
An. barbirostris (W. bancrofti, Bugia malayi)
An. maculipennis s. str. (capable of transmiting Plasmodium sp., Calovo virus)

Suborder **Brachycera**
Family **Tabanidae**
Genus Tabanus
Species Tabanus bromius
Genus Chrysops
Chrysops distinctipennis (Loa loa)

Family **Glossinidae** – Tse-tse flies
Genus Glosina
Species Glosina palpalis (Trypanosoma gambiense)
Glosina morsitans (Trypanosoma rhodesiense)

Suborder **Brachycera**
Family **Tabanidae**
Suborder **Cyclorrhapha**
Family: **Muscidae** (entric bacteria, entric viruses, protozoa; myiasis)
Calliphoridae (myiasis)
Cuterebridae (myiasis)
Gasterophidae (myiasis)
Hypodermatidae (myiasis)
Oesdtridae (myiasis)
Piophilidae (myiasis)
Syrphidae (myiasis)
Sarcophagidae (myiasis)
Stratiomyidae (myiasis)

Conclusion

The most common insect bites are those of mosquitoes and other blood sucking flies, bedbugs, fleas and lice. These insects transmit the causative agents of diseases mainly in the tropics and subtropics. In favourable temperate regions environmental conditions, they can transmit some of those pathogens as well. Malaria- one of the most widedistribute diseases ever – was once endemic in many temperate parts of the globe including Central and Eastern Europe. The presence of vectors (anofeline mosquitoes) and the increasing number of autochtonouse cases and airport malaria in these cooler regions are considerable. In cooler conditions (e.g. Central and Eastern Europe) one the most dangerous arthropods are ticks transmitting EEV, Borelia spp., Babesia spp., Coxiella burneti (Q- fever), Rikettsia slovaca causing tickborne lymphadenopathy (TIBOLA) etc.

REFERENCES

Aspöck H. Steckmücken als Virusüberträin Mitteleuropa. Nova Acta Leopoldina NF 1996; 71: 37-55.
Cancrini G, Frangipane di Regalbone DA, Ricci I, Tessarin C, Gabrielli S, Pietrobelli M. Aedes albopictus is a natural vector of Dirofilaria immitis in Italy. Vet parasitol 2003; 118 (3-4):195-202.
Cancrini G, Gabrielli S. Vectors of Dirofialaria nematodes: biology, behaviour and host/parasite relationships. In: Genchi C., Rinaldi L., Cringoli G. Mappe parassitologie 8 – *Dirofilaria immitis* and *Dirofilaria repens* in dog and cat and human infections. 2007; 48 – 56.
Cook GC and Zumla AI. Manson's tropical diseases. 21st ed W.B. Saunders, LTD, London, 2003; 1864pp.
Despommier DD, Gwadz RW, Hotz PJ, Knirsch CA. Parasitic Diseases. Fifth Edition. Apple Trees Productions, LLC. New York. 2005; 363pp.
Jalili NA. A faunistic review and virological testing of mosquitoes in western Slovakia between 1991-1993. Dipterologica Bohemoslovaca 1995; 7: 77-82.
Jalili N, Kobzová D, Novák I, Dubinský P, Babál P. The first case of human dirofilariosis in Slovakia (in Slovak with English abstract). Acta Tropica 2007; 5: 75 – 78.
Labuda M, Kozuch O, Gresikova M. Isolation of West Nile virus from *Aedes cantans* mosquitoes in west Slovakia. Acta Virol. 1974; 18: 429-33.
Lukešová D., Minář J., Kočišová A., Silberová P.: Health Risks in Tropics and Subtropics: Infections Transmitted by Vectors, 2008, 130 pp.
Országh I, Halgoš J, Jalili N & Labuda M. Mosquitoes (Diptera, Culicidae) of Slovakia II. European Mosquito Bulletin 2001; 11: 1-26.
Rosický B, Daniel M et al. Lékarská entomologie a životní prostredie [Medical entomology and living environment]. Academia CSAV Praha 1989; 437pp.
Service, M, W. Medical Entomology for students. Second Edition. Combridge University Press. 1999; 283pp.
Snow K.R. & Ramsdale C.D. A revised checklist of European mosquitoes. European Mosquito Bulletin 2003; 15: 1-5.
Trpis, M. Okologische Analyse der Stechmuckenpopulationen in der Donautiefebene in der Tschechoslowakei. *Biologicke prace* (Bratislava) 1962; 8: 1-132.
Weaver SC, Scott TW, Lorenz LH and Repik PM. Detection of Eastern Equine Encephalomyelitis Virus Deposition in *Culiseta Melanura* Following Ingestion of Radiolabeled Virus in Blood Meals. Am. J. Trop. Med. Hyg. 1991; 44(3): 250-259.
White NJ. Malaria. In: Cook GC, Zumla AI. Manson´s tropical diseases, 21st edition. Elsevier Limited. 2003, 1847pp.
J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou, Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health 3/2010. Vol. 6. pp 49-50
A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5
M. Mackinova, The social work methods with the unaccompanied migrants in the Slovak republic, Journal Clinical Social Work No 3-4-, 2010 ISSN 2076-9741, pp 104-118
S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81
S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31

M. Jankechova, Education of nurses at the St. ladislav Faculty of health Care and social Work in Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 118-126 ISBN978-80-8082-393-1
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M. Jankechova, Healthcare of chool – age children with diabetes and their parents, Zbornik z odbornej conference "pedagogika v osetrovatelstvi,Zlin 2010, 164, ISBN 978-80-7318-995-2
M. Jankechova, Nursing metaparadigm – in the Nightingale environmental model, Sbornik k IV. Mezinarodni konf. Vseob sester, Brno 2011, 115-121, ISBN 978- 80- 7399 – 196 – 8
M. Jankechova, The function of nursing in prevention of Lung Tuberculosis, Zbornik z vedeckej conference, FZSP TU 2007
M. Jankechova, Nursing Education leadership and Competences of nurses in Slovakia, Pflegekongress der Osterreichischen Gesellschaft, Wien 2009
http://www.ciesin.columbia.edu/TG/HH/veclev3a.html

NEWS IN AIDS: SOCIAL WORK WITH HIV POSITIVE MANAGEMENT AND PREVENTION

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ABSTRACT

Empirical results from ecological and population-based studies and from several short-term observational studies involving HIV status-discordant heterosexual couples suggest that ART reduces the rate of HIV transmission. Early HIV detection and treatment (ie, test and treat) are being considered as an important prevention strategy. In this article, we review the data supporting the use of ART to prevent HIV transmission and critically examine the public health implications of this strategy.

Key words: HIV, transmission prevention

1) **Treatment to prevent transmission of HIV-1** (Myron S. et al, Clin Inf Dis 2010, 50(S3): S85-S95)

A. HIV transmission

Nearly half of the transmission events could be traced to infected persons with a blood HIV RNA level >35 000 copies/ml. These results have been confirmed in prospective studies involving HIV status-discordant couples.

B. Effects of ART on viral load in the blood and genital tract

There are now 25 antiretroviral agents available for the treratment of HIV-1 infection. Through the use of triple ART combinations, HIV-1 replication can be effectively suppressed to <50 copies in most patients over several weeks. However, even after suppression, very low level viremia persists, integrated HIV can be detected in cellular DNA, and the latent pool of HIV renders HIV infection incurable. HIV RNA was detected in semen in 12 (48%) of 25 participants and in 4 (16%) of 25 participants with an HIV RNA level >5000 copies/ml in semen.

C. ART and suppression of HIV transmission
Observational results

More recently, results from HIV status-discordant couples in Uganda, Zambia, and Rwanda were reported. Working in Uganda, Were et al conducted a household survey and found a prevalence of HIV infection of 37,1% among adults aged 25-44 years, 43% of spouses of patients eligible for ART were HIV negative, emphasizing the frequency of discordant couples and the potential to prevent transmission. The effects of ART on HIV transmission have also been assessed by statistically analyzing population-level trends. In San Francisco, Porco et al noted a 48% decrease in predicted incidence of HIV infection in a large closed MSM cohort that was ascribed to availability of ART.

HIV prevention trials network (HPTN) 052: A randomized controlled trial

HPTN052 is a study supported by National Institutes of Health through the prevention trials network. The study is designed to examine several linked questions.

D. ART impact on sexual behavior

The impact of ART on sexual behavior among HIV-infected individuals remains critical, however, studies to date have produced variable results. A meta-analysis of the affect of ART on sexual behavior in developed countries did not find and increrase in high-risk sexual behavior between treated and untreated HIV-infected persons. Studies have also produced discrepant data on the association between HIV load suppression and risky sexual behavior. Some studies have suggested that undetectable viral loads were associated with increased sexual risk behaviors.

1) **Integrating HIV screening into routine health care in resource limited settings**
(Bassett, IV, Clin Inf Dis 2010, 50(S3): S77-S84)

On the basis of evidence of increased patient uptake and the opportunity to avoid missed HIV testing opportunities in health care facilities, in 2007, the World Health Organization recommended provider-initiated HIV testing as a standard part of medical care in settings with generalized HIV epidemics.

A. Public and individual health impact of voluntary counseling and testing

Table 1. Percentage of adults (age, 15-49 years) infected with HIV who underwent HIV testing and received a result before the serosurvey, selected countries, 2005-2007

Country	**Overall percentage of HIV-infected persons who underwent testing and received results**
Ethiopia	7,6
Rwanda	31,4
Haiti	24,5

B. Routine and opt-out HIV testing

The Botswana experience

Botswana established universal access to ART in 2002 for all eligible patients, however, by the end of 2003, attendance at VCT sites was still lower than expected.

The Uganda experience

More than 10 000 patient relatives and household members present in the hospital were also offered HIV testing, 93% accepted, and the prevalence of HIV infection among family members was 20%, nearly as high as that among the index patients.

The South Africa experience

Although there are >4000 VCT sites in the country, only 30% of South Africans report ever having been tested for HIV.

The Haiti experience

The Grupe Haitien d´Etude du Sarcome de Kaposi et des Infections Opportunistes (GHESKIO) has provided VCT in Haiti since 1985. GHESKIO reported a rapid increase in clients from 142 in 1985 to >8000 in 1999, 36% of patients presenting for VCT have benefitied from at least one other offered service. Despite these encouraging data, in 2007, only 12 (44%) of 27 countries with generalized epidemics had guidelines stating that health care providers should recommend HIV testing and counseling during all encounters.

C. Antenatal and intrapartum HIV testing

The United Nations Programme on HIV/AIDS has called for the elimination of mother-to-child HIV transmission in all countries by 2015. However, in 2007, only 18% of the total estimated number of pregnant women in low-and middle-income countries received an HIV test, which is the essential gateway to ART and other prevention of mother-to-child transmission services.

D. Home-based routine HIV testing

Home-based provision of HIV counseling and testing services has been recommended as a means of achieving universal HIV testing in Africa and increasing partner testing.

E. Pre-ART loss to follow-up

Pre-ART loss to follow-up is also increasingly recognized as a problem outside the prevention of mother-to-child transmission. Of those who were ART eligible, 20% died by 1 year, with 82% of deaths occurring before ART initiation or with unknown ART initiation status. Many HIV testing programs do not report outcomes of linkage to care after testing, particularly in home-based settings, this critical topic mandates futher study.

F. Costs

In Uganda, costs per client tested ranged from $8,29 for door-to-door testing to $11,68 for hospital-based testing, $13,85 for household member testing, and $19,26 for stand-alone testing.

2) **Prevention of HIV infection among injection drug users in resource-limited settings** (Vlahov D., Clin Inf Dis, 2010, 50(S3): S114-S121)

The prevalence of HIV infection among IDUs is high in many countries in Asia and eastern Europe and could exacerbate the HIV epidemic in sub-Saharan Africa.

A. The role of syringe exchange programs in prevention of HIV infection

Contaminated injection equipment, in which HIV can remain viable for several weeks, quickly became the focus of early efforts to prevent HIV transmission among IDUs.

B. The role of oat in prevention of HIV infection

Convincing scientific evidence supports treatment for substance use as a strategy for prevention of HIV infection for IDUs. Several decades before the HIV/AIDS epidemic emerged, OATs were developed to treat opioid dependence, a chronic medical disease involving long-lasting physiologickal and molecular adaptations in the brain.

3) **Prevention in neglected subpopulations: prevention of mother-to-child transmission of HIV infection** (Mofenson LM, Clin Inf Dis, 2010, 50(S3):S130-S148)

A. Prevention of MTCT of HIV infection and maternal health
B. Primary prevention of HIV infection in women and prevention of unintended pregnancy
C. Antenatal HIV testing and counseling
D. Comparison of antiretroviral drugs for maternal treatment and prophylaxis of MTCT of HIV infection

Antiretroviral drugs are now available in resource-limited countries. Women who meet the criteria for treatment have lower CD4 cell counts and higher viral load than do women who do not meet the criteria and thus, are the group at highest risk of transmission to their infant. A key issue in decisions related to which antiretroviral regimen to choose for an HIV-infected pregnant woman is whether the antiretroviral drugs are being provided for treatment or for prophylaxis of MTCT. Treatment in this context means that antiretroviral therapy is started during pregnancy and continued throughout life, in contrast, antiretroviral drugs given solely for prophylaxis would stop when the risk of MTCT is no longer present. In the 2006 WHO guidelines, the CD4 cell count threshold for starting treatment in individuals with WHO stage I or II disease was <200 cells/μl, whereas guidelines from resource-rich countries have a threshold of <350-500 cells/μl.

Data from Zambia indicate that 84% of maternal deaths and 82% of postnatal infant infections involve women whose CD4 cell count is <350 cells/μl, by contrast, only ~55% of maternal deaths and ~47% of postnatal infections involve women whose CD4 cell counts are <200 cells/μl. Therefore, a CD4 cell count threshold of <350 cells/μl seems to be a more effective threshold for starting treatment for pregnant women, as it has the potential to prevent substantially more maternal deaths and infant HIV infections than does initiation of treatment at a CD4 cell count <200 cells/μl. Recent data from Haiti also suggest significant decreases in morbidity and mortality when treatment is initiated at a higher CD4 cell count of <350 cells/μl in a resource-limited country.

E. Debate regarding optimal antiretroviral prophylaxis for prevention of MTCT of HIV infection

a) Provision of triple-drug antiretroviral prophylaxis to all pregnant and brestfeeding women has been suggested as way to simplify prevention of MTCT of HIV infection. However, in the United Kingdom, women with a CD4 cell count >350 cells/μl and an HIV RNA level <10 000 copies/ml may receive zidovudine (AZT) alone during pregnancy combined with elective cesarean delivery, in an analysis of data from the period 2000-2006 from the United Kingdom and Ireland, the rate of transmission among 464 women who received only AZT during pregnancy and elective cesarean delivery was 0%.
b) In the Thailand perinatal HIV prevention Trial-2 involving nonbreastfeeding women, AZT prophylaxis starting at 28 weeks of pregnancy plus single-dose nevirapine (NVP) prophylaxis resulted in infant infection rates of 1% among women with CD4 cell counts >200 cells/μl.
c) Finally, the Kesho Bora multicountry African study (Table 2) directly compared AZT prophylaxis starting at 28 weeks of pregnancy plus single-dose NVP prophylaxis (with 1-week postpartum prophylaxis with AZT and lamivudine [3TC]) with maternal triple-drug prophylaxis from 28 weeks of pregnancy through 6 months of breastfeeding in women with CD4 counts of 200-500 cells/μl. In a comparison of infection rates at birth between the 2 antepartum regimens in women in this CD4 cell count strata, transmission was 1,8% (95% confidence interval, 0,8-3,7%) with

maternal triple-drug prophylaxis and 2,2% (95% confidence interval 1,2-4,3%) with maternal AZT and single-dose NVP prophylaxis (the data are not statistically significantly different)

Table 2. Published and/or presented studies of infant antiretroviral prophylaxis to prevent postnatal HIV transmission through breast milk

Study (reference)	**Country (year)**	**Maternal antepartum and/or infant antiretroviral prophylaxis**	**Infant feeding**	**Rate of HIV transmission at 6-7 months**
Mashi (Thior et al)	Botswana (2006)	Mother: AZT 34 weeks Infant: AZT to 6 months if breastfeeding (with or without sdNVP)	Formula and breastfeeding	9%
Mitra (Kilewo et al)	Tanzania (2008)	Mother: AZT plus 3TC 36 weeks to 1 week postpartum Infant: AZT plus 3TC for 1 week, then daily 3TC to 6 months	Breastfeeding only	4,9%, increment between 6 weeks and 6 months 1,2%
Simba (Vyankandondera et al)	Uganda, Rwanda (2003)	Mother: AZT plus ddI 36 weeks to 1 week postpartum Infant: randomized at birth to daily 3TC or NVP to 6 months	Breastfeeding only	7,6%
SWEN (SWEN study group)	Ethiopia, Uganda, India (2008)	Mother: late presenter, no antepartum antiretrovirals Infant: sdNVP and randomized to daily placebo vs extended NVP from day 8 to 6 weeks	Breastfeeding only	11,6%
PEPI-Malawi (Kurnwenda et al)	Malawi (2008)	Mother: late presenter, no antepartum antiretrovirals Infant: sdNVP plus 1 week AZT, and randomized to daily placebo vs NVP vs NVP/AZT from day 7 to 14 weeks	Breastfeeding only	11,1%, extended NVP, 12,3% extended NVP/AZT, increment between 6 weeks and 6 months: 2,3% extended NVP, 3,6% extended NVP/AZT
Ban (Chasela et al)	Kenya (2009)	Mother: late presenter, no antepartum antiretrovirals Infant: sdNVP plus 1 week AZT/3TC, then daily NVP from day 7 to 6 months	Breastfeeding only	1,8%, increment between 2 weeks and 6 months: 1,8%

F. Infant feeding and prevention of postnatal transmission of HIV infection through breastfeeding

Table 3. Ongoing and planned studies on prevention of mother-to-child HIV transmission

Study (location)	**Design**	**Infant feeding**
BAN (Malawi)	Intrapartum/postpartum intervention to reduce postnatal MTCT in women with CD4 cell count >250 cells/µl, postpartum maternal triple drug vs infant NVP prophylaxis, includes randomization to maternal nutritional supplement or not for 6 months postpartum	Breastfeeding
Kesho Bora (Kenya, South Africa, Burkina Faso)	Antepartum/intrapartum/postpartum intervention to reduce MTCT in women with CD4 cell count of 200-500 cells/µl, maternal triple drug vs. short course AZT/sdNVP prophylaxis, observational cohorts for women with CD4 cell count < 200 cells/µl (receive triple-drug prophylaxis) and ≥500 cells/µl (receive AZT/sdNVP)	Breastfeeding (~ 77%) and formula feeding
Mma Bana (Botswana)	Antepartum/intrapartum/postpartum intervention comparing 2 triple drug prophylaxis regimens to prevent postnatal MTCT in women with CD4 cell count ≥ 200 cells/µl, observational cohort for women with CD4 cell count < 200 cells/µl (receive NVP-based combination treatment	Breastfeeding
HPTN 046 (Uganda, Zimbabwe, South Africa, Tanzania)	Postpartum intervention comparing infant NVP prophylaxis 6 weeks vs 6 months to prevent postnatal MTCT, 2-arm randomized, placebo-controlled	Breastfeeding
PHPT-5 (Thailand)	Antepartum/intrapartum/postpartum intervention evaluating whether maternal NVP is needed for efficacy of sdNVP, and comparing short course AZT/sdNVP to short course AZT/protease inhibitor	Formula feeding
ANRS-PEP (Burkina Faso, South Africa, Uganda, Zambia)	Pospartum intervention comparing infant prophylaxis during breastfeeding for 9 months to no prophylaxis	Breastfeeding
PROMISE-IMPACT 1077 (multiple countries in Africa, Asia, South America, United States)	For women who do not require treratment for own health (CD4 cell count >350 cells/µl)	Breastfeeding formula feeding
ANRS 12200 (Côte d´Ivoire)	Antepartum/intrapartum/postpartum intervention comparing 2 triple-drug prophylaxis regimens to prevent MTCT, randomized trial (noninferiority design)	Breastfeeding formula feeding

G. Revised December 2009 WHO guidelines for prevention of MTCT of HIV infection

The WHO recently revised their guidelines on use of antiretroviral drugs for prevention of MTCT of HIV infection, on the basis of the aforementioned studies, for the first time, these guidelines include recommendation for antiretroviral prophylaxis to prevent transmission through breastfeeding. These recommendations place increased emphasis on improving maternal health while providing maximal protection against HIV transmission to the infant. Lifelong treatment with combination antiretroviral therapy, started as soon as possible during prenancy, is recommended for all pregnant women with severe or advanced clinical disease or with a CD4 cell count <350 cells/µl, regardless of symptoms. For women with a CD4 cell count >350 cells/µl, earlier initiation of antiretroviral prophylaxis (at 14 weeks or as soon as possible thereafter) is recommended. Two different options are discussed for prophylaxis: (1) maternal antepartum AZT with intrapartum single-dose NVP, AZT plus 3TC continued for 7 days postpartum, and daily infant NVP from birth to the end of the breastfeeding period or (2) a 3-drug regimen given to the mother during pregnancy until the end of the breastfeeding period, with 6 weeks of infant antiretroviral prophylaxis after birth.

Infant feeding guidelines have also been revised to recommend that national or subnational health authorities should decide whether health services will principally counsel and support HIV-infected mothers to either avoid all breastfeeding or to breastfeed and receive infant or maternal antiretroviral prophylaxis. If the approach chosen is to recommend brerastfeeding, HIV-infected women should exclusively breastfeed their infants for the first 6 months of life and introduce complementary foods thereafter while continuing breastfeeding for the first 12 months of life, breastfeeding should stop after a nutritionally adequate and safe diet without breast milk can be provided. Gradual weaning over the course of 1 month is recommended, with infant or maternal antiretroviral prophylaxis continued until 1 week after breastfeeding is fully stopped.

H. Antiretroviral drug resistance

Selection of NNRTI-resistance mutations after use of single-dose NVP for prevention of MTCT of HIV infection in women and in infants who become infected despite prophylaxis is well documented and is attributable to the long half-life of NVP, coupled with the fact that a single mutation in the viral codon confers drug resistance. Women who require treatment for their own health are also at greatest risk for development of resistance after single-dose NVP treatment, identification of such women and initiation of lifelong combination antiretroviral therapy during pregnancy will avoid the development of resistance in this group.

However, administration of antiretroviral drugs for a period after single-dose NVP therapy (use of a "tail" regimen) can reduce the development of resistance to very low levels. Thus, use of a minimum of 7 days of a tail regimen after use of single-dose NVP (alone or with AZT) as prophylaxis for MTCT is recommended to reduce drug resistance in women. Resistance among infants who become infected despite single-dose NVP therapy can also be reduced by the addition of a short course of antiretroviral treatment (Table 5), rates of resistance were lower among infants who received 3-7 days of AZT or AZT plus s3TC therapy after single-dose NVP therapy.

Table 4. Published and presented studies of Maternal triple-antiretroviral drug prophylaxis to prevent postnatal HIV transmission through breast milk

Study (reference)	**Location (year)**	**Infant feeding**	**HIV transmission at 6-7 months**
Dream (Marazzi et al)	Mozambique (2007)	Formula and breastfeeding	Cumulative at 6 months: 5,3%
Dream (Palombi et al)	Mozambique (2007)	Formula and breastfeeding	Cumulative at 6 months: 2,0%
KiBS (Thomas et al)	Kenya (2008)	Breastfeeding only	Cumulative at 6 months: 5,0%
Mitra-Plus (Kilewo et al)	Tanzania (2009)	Breastfeeding only	Cumulative at 6 months: 5,0%
Amata (Peltier et al)	Rwanda (2009)	Formula and breastfeeding	Cumulative at 9 months: 1,8%
BAN (Chasela et al)	Kenya (2009)	Breastfeeding only	Cumulative at 7 months: 3,0%
Kesho Bora (de Vincenzi et al)	Kenya, South Africa, Burkina Faso (2009)	Formula and breastfeeding	Cumulative at 6 months: 4,9%
Mma Baba (Shapiro et al)	Botswana (2009)	Breastfeeding only	Cumulative at 6 months: 1,1%

Table 5. Studies of antiretroviral drug resistance in women and infants infected despite prophylaxis after single-dose maternal/infant (or extended infant) nevirapine for prevention of mother-to-child HIV transmission

Study	**Antepartum/intrapartum**	**Maternal or infant postpartum**	**Resistant, %, standard assay**	
Maternal drug resistance studies				
NVAZ, HIVNET 012	sdNVP		69 (subtype C) 36 (subtype D) 19 (subtype A)	70 (subtype C) 55 (subtype D) 42 (subtype A)
TOPS	sdNVP		57	
Mashi	AZT/sdNVP		45	
PHPT-2	AZT/sdNVP		32	
NCT 00204308	AZT/sdNVP (control arm)		25	
Repeat pregnancy study	sdNVP			23
PACTG 316	70% combination ARV/sdNVP		15	
ANRS 12109	AZT/sdNVP plus sdTDF/FTC	TDF/FTC for 7 days	0	
ANRS 1201.1	AZT plus 3TC/sdNVP plus 3TC	AZT/3TC for 3 days	1	
P 1032	AZT/sdNVP plus ddI/LPV-rtv	AZT/ddI/LPV-rtv for 7 days	0	
Infant resistance studies				
TOPS		sdNVP	56	
HIVNET 024		sdNVP	44	
Repeat pregnancy study		sdNVP		41
ANRS 1201.1		sdNVP plus AZT for 7 days	25	

5. **Preventing HIV infection in women: a global health imperative** (Karim Qaet al, Clin Inf Dis, 2010, 50(S3): S122-S129)

Women account for approximately one-half of all human immunodeficiency virus (HIV) infections worldwide. The majority of HIV infections in women are in sub-Saharan Africa, with a disproportionate burden in young women <25 years of age.

Behavior and risk of HIV infection

a) **Abstinence.** Abstinence is a strategy for prevention of HIV infection that is promoted for adolescents, especially adolescent women. Promotion of abstinence in young women is a key intervention (1) to enable young women to complete school and increase their economic opportunities, (2) to enable more-informed decision-making about when, with whom, and how to have sex, and (3) for acquisition of the skills to communicate desires about preventing HIV infection and unwanted pregnancies and about other issues to protect women´s rights as autonomous beings to life.
b) **Monogamy.** The practice of intergenerational sexual coupling between young women and older men, a common pattern of sexual networking in sub-Saharan Africa, has been shown to increrase the risk of HIV infection among women almost 7-fold when the age difference is 5-7 years.
c) **Condoms.** Numerous studies conducted over the past decade have demonstrated the steady increase in acceptability and use of male condoms by young persons, particularly in settings where consistent messages are promoted and support for continued use is provided through access to free condoms.
d) Counseling and testing. Voluntary counseling and testing has been shown to be efficacious in reducing risky sexual behaviour and is cost-effective as a prevention.
e) Medical male circumcision. Three independent randomized controlled trials conducted in Africa have consistently demonstrated a 50%-60% protective effect of medical male circumcision.
f) Microbicides. Use of micobicides, first proposed almost 2 decades ago represents a strategy for prevention of HIV infection that women can initiate. Currently, there are >50 candidate microbicide products in preclinical development, and 11 products are being tested in 21 ongoing trials. An additional 16 clinical trials are planned. PRO 2000 Gel (Endo Pharmaceutical Services) and tenofovir gel are in the most advanced stages of effectiveness testing.

6. Respiratory Cryptosporidiosis in HIV-seronegative children in Uganda: potential for respiratory transmission (Mor SM et al, Clin Inf Dis, 2010, 50(10): 1366-1372

Seventeen (35,4%) of 48 sputum samples tested from children with positive stool samples were positive for Cryptosporidium. Sixteen (94,1%) of the 17 children with confirmed respiratory cryptosporidiosis were HIV seronegative, and 10 (58,8%) of 17 children were not malnourished.

Respiratory cryptosporidiosis was documented in one-third of HIV–seronegative children who were tested. These novel findings suggest the potential for respiratory transmission of cryptosporidiosis.

7. Causes of death in HIV-1 infected patients treated with antiretroviral therapy, 1996-2006: collaborative analysis of 13 HIV cohort studies (The Antiretroviral Therapy Cohort Collaboration, Clin Inf Dis, 2010, 50(10): 1387-1396)

In 1597 (85%) of 1876 deaths, a definitive cause of death could be assigned. Among these, 792 deaths (49,5%) were AIDS related, followed by non-AIDS malignancies (189, 11,8%), non-AIDS infections (131, 8,2%), violence- and/or drug-related couses (124, 7,7%), liver disease (113, 7,0%), and cardiovascular disease (103, 6,5%).

Important contributors to non.AIDS mortality in treated HIV-1-infected individuals must be addressede if decreases in mortality rates are to continue.

8. Recognition of risk for clinically significant drug interactions among HIV-infected patients receiving antiretroviral therapy (Evans-Jones JG et al, Clin Inf dis, 2010, 50(10): 1419-1421)

We assessed the risk of clinically significant drug interactions in patients receiving antiretrovirals, and their recognition by physicians. Clinically significant drug interactions were recorded in 27% of 159 patients, with 15% of interactions potentially lowering antiretroviral concentrations. Risk of clinically significant drug interactions was significantly related to receipt of protease inhibitors. Only 36% of clinically significant drug interactions were correctly identified by physicians.

9. Male circumcision decreases acquisition and increases clearance of high-risk human papillomavirus in HIV-negative men: a randomized trial in Rakai, Uganda (Gray RH, The Journal of Inf Dis, 2010, 201(10): 1455-1462)

Uncircumcised human immunodeficiency virus (HIV)-negative men aged 15-49 years were randomized to immediate circumcision (intervetion arm, 441 subjects) or delayed circumcision (control arm, 399 subjects).

The clearance of preexisting HR-HPV infections was 215,8 cases per 100 PYs (205 cases per 95 PYs) in the intervention arm and 159,1 cases per 100 PYs (255 cases per 160,25 PYs) in the control arm.

Male circumcision reduces the incidence of multiple HR-HPV infections and increases clearance of HR-HPV infections in HIV-uninfected men.

10. Circumcision of HIV-infected men: effects on high-risk human papillomavirus infections in a randomized trial in Rakai, Uganda (Serwadda D, The Journal of Inf Dis, 2010, 201(10): 1463-1469

In Rakai, Uganda, human immunodeficiency virus (HIV)-positive men were randomized to undergo either immediate circumcision (intervention arm) or delayed circumcision (control arm). Circumcision did not affect the acquisition of single HR-HPV infections (RR 1,00, 95% CI 0,65-1,53) or clearance of HR-HPV infections (RR 1.09. 95% CI 0,94-1,27).

Circumcision of HIV-positive men reduces the prevalence and incidence of multiple HR-HPV infections.

11. Nevirapine resistance by timing of HIV type 1 infection in infants treated with single-dose nevirapine (Micek MA, Clin Inf Dis, 2010, 50(10): 1405-1414)

The detection and persistence of nevirapine-resistant HIV-1 in infants after single-dose nevirapine therapy vary by the timing of infection and the antiretroviral reginem. In infants with persistent high-level nevirapine-resistant HIV-1, nevirapine-based antiretroviral therapy is unlikely to ever be efficacious because of concentrations in long-lived viral reservoirs. However, the absence of decay of nevirapine-resistant HIV-1 in many infants suggest that nevirapine antiretroviral therapy may be effective if testing can identify these individuals.

12. Antiretroviral agents used by HIV-uninfected persons for prevention: pre- and postexposure prophylaxis (Grant, RM, Clin Inf Dis, 2010, 50(S3): S96-S101)

Prophylactic use of antimicrobial agents and microbicides has been proven for many infections, including surgical, gastrointestinal, upper respiratory, and meningococcal infections. Antiretroviral therapy for pregnant women prevents mother-to-child transmission of human immunodeficiency virus (HIV), which has become rare in settings where access to therapy is widespread. Postexposure prophylaxis after needlestick injury or significant sexual exposure is recommended on the basis of animal studies and case-control observational studies, although use of these interventions is limited to those who recognize exposure, have access, and have the power to use the interventions.

Chemoprophylaxis for human immunodeficiency virus (HIV) infection and AIDS

A. Prevention of mother-to child transmission

B. Postexposure prophylaxis (PEP)

PEP is recommended after substantial exposure to HIV because of needlestick injury or unprotected sexual intercourse.

Recommendations based on preclinical studies involving nonhuman primates are that PEP should be started as soon as possible after a substantial exposure (nolater than 72 h after exposure) and should be continued for 28 days after exposure. Use of PEP has been limited, because persons hav edifficulty recognizing exposure to HIV-1 as the result of incomplete information, anxiety, substance use, or preference to focus on goals other than aversion of acquisition of HIV infection during sexual conduct.

C. Preexposure prophylaxis (PrEP): oral and topical

PrEP has been proposed to address some of the limitation sof PEP. Clinical trials are currently evaluating whether daily oral tenofovir disoproxil fumarate (TDF)with or without emtricitabine preovides additional protection to persons who alrerady receive standard prevention care includin HI testing, counseling, condoms, and management of sexually transmitted infections.

A blinded and placebo-controlled randomized trial confirmed safety of daily oral receipt of TDF for African women at high risk of infection. Overall, 936 women were studied for periods as long as 12 months. Liver function tests and tests for kidney function were monitored. Microbiciude and PrEP studies have different historical roots but are now converging to evaluate similar concepts. The feasibility and tolerabolity of topical (vaginal) use of TDF gels has been evaluated in the short term (14 days) and the intermediate term (24 weeks), with acceptable results.

SEVERE MALARIA PATHOGENESIS AS A BASIS FOR UNDERSTANDING CLINICAL FEATURES AND TREATMENT AND PSYCHOSOCIAL SEQUELLE - REVIEW

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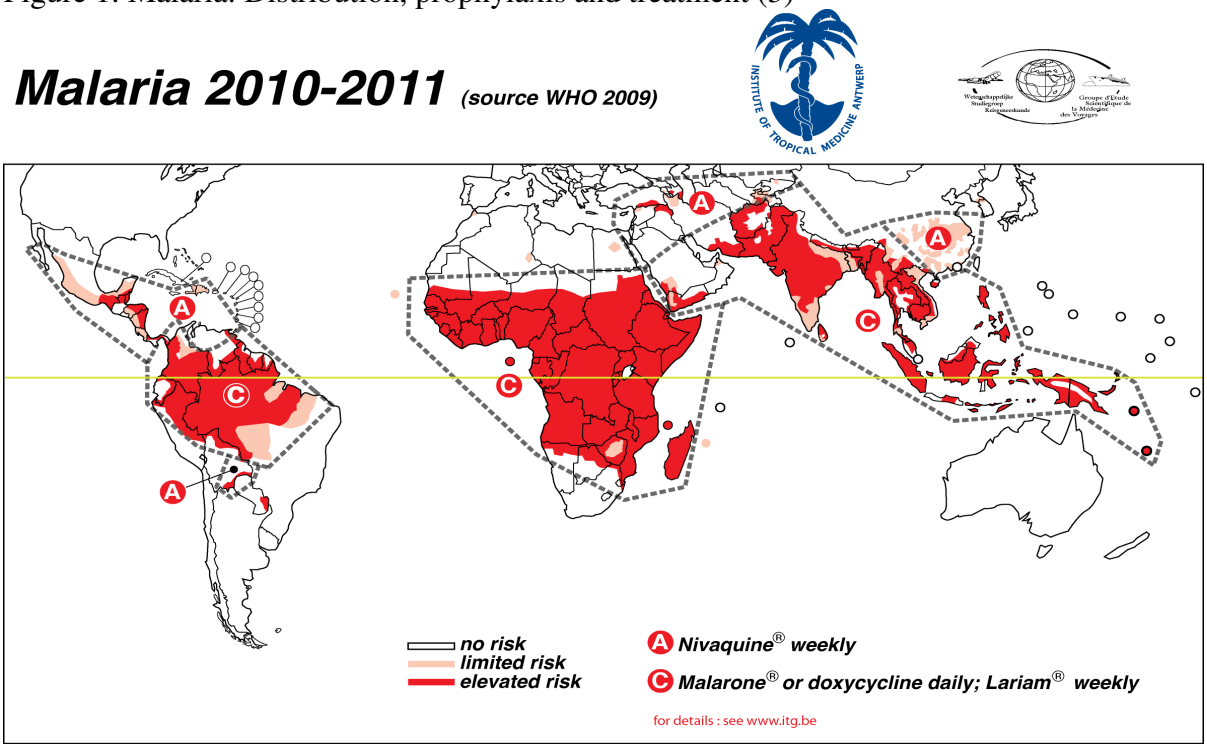
ABSTRACT

Malaria is a great mimic and must enter the differential diagnosis of several clinical presentations. It is treatable disease when the treatment is started in time and so a high index of suspision is the most important for diagnosis and treatment. The manifestations of malaria vary greatly (from self-limitting to life-threatening diseae), not only from geographical region to region, village to village, but also from person to person. These differences are due to many factors and include mosquito biting and breeding habits, the infecting parasite species (P. falciparum resulting in the most severe forms of disease), the state of both genetic and acquired resistance of the host, and compliance with drug treatment.

Epidemiology

About 3,3 billion people – half of the world´s population – are at risk of malaria.(1) Every year, this leads to about 300 - 800 million clinical cases. Between 1 and 3 million die annually, largely African infants and young children. People living in the poorest countries are the most vulnerable. Malaria is especially a serious problem in Africa, where one in every five (20%) childhood deaths is due to the effects of the disease. An African child has on average between 1.6 and 5.4 episodes of malaria fever each year. And every 30 seconds achild dies from malaria.(2)

Figure 1: Malaria: Distribution, prophylaxis and treatment (3)



Etiology

Although many species of malarial parasite exist, only Plasmodium falciparum, vivax, ovale, and malariae are classically associated with human infection (though occasionally other primate malaria species cause humans infections, e.g. P. knowlesi and P. simium); all of them are transmitted to humans by female Anopheles species mosquitoes. The former two species are most frequently associated with malarial disease in humans, with severe malarial disease almost exclusively associated with P. falciparum infection. Infection with P. vivax is rarely fatal, but is associated with considerable morbidity outside the African continent. It should also be recalled that malaria causes social and economic disruption on a uniquely large scale.(4)

Life cycle of P. falciparum

Understanding malaria is dependent on understanding the complex life cycle of the parasite in its definitive host in which sexual development occurs – the mosquito – and its intermediate host – the human.

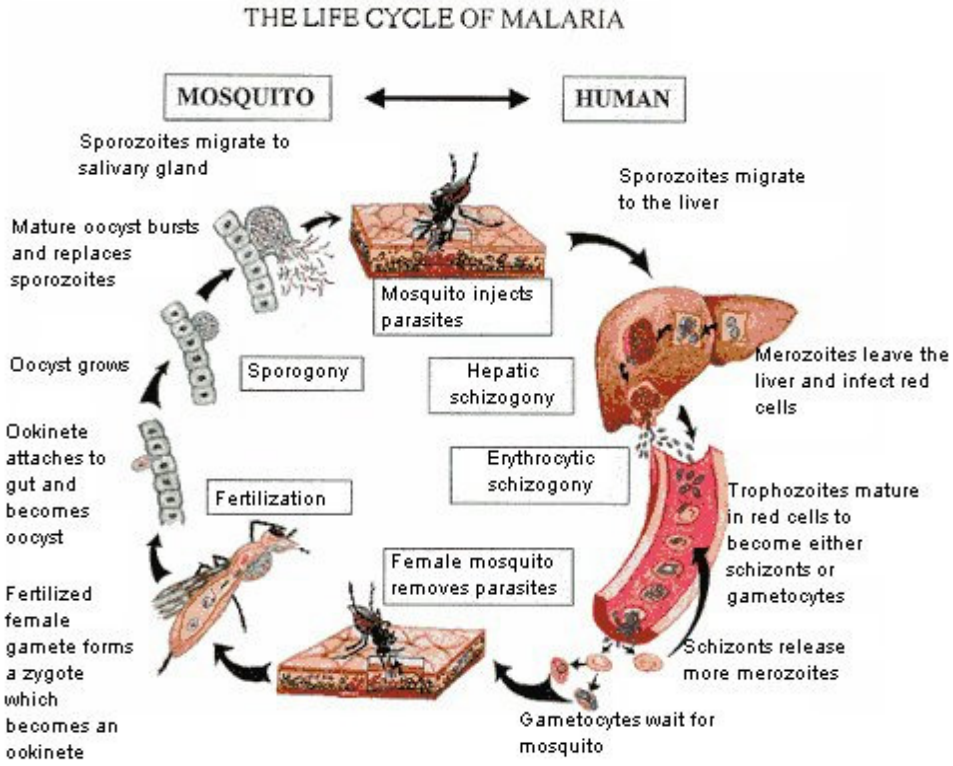
When an infected female Anopheles spp. mosquito feeds on a human, she is thought to inuculate an average of 5 – 10 and as many as 100 uninucleated sporozoites (approximatelly 1 x 7 μm) into the tissues or directly into the bloodstream.(5) The sporozoites rapidly pass through the bloodstream to the liver (probably within 2 minutes, but no more than 30 minutes). In the sinusoids they penetrate and pass through Kupffer cells(6) and invade hepatocytes through a specific receptor-ligand interaction.The primary receptor is thought to be sulfated heparanglycans on the hepatocyte surface, and the parasite ligands include the thrombospondin domains of at least two sporozoite proteins – the circumsporozoite protein and a protein known both as the thrombospondin-related anonymous protein (TRAP) and as sporozoite surface protein 2.(7) The sporozoites may invade several hepatocytes before

finding the correct hepatocyte in which to develop.(8) In the hepatocyte, host cell material is used to form a parasitophorous vacuole that separates the parasite from the cytoplasm of the hepatocytes. During a minimum 5,5 days, the uninucleated P. falciparum sporozoite develops to a mature liver-stage schizont with an average of 30 000 and range of 10 000 to 40 000 uninucleated merozoites. (7)

The mature liver-stage schizont ruptures, releasing the thousands of merozoites that are about 1,5 μm in diameter, each of which can invade a normal erythrocyte. There are a number of steps in this process, but there is unquestionably a specific interaction between receptors on the erythrocyte membrane and ligands on the merozoite surface. One of these receptor-ligand interactions is between sialic acid and peptides on erythrocyte glycophorin A and the 175-kd erythrocyte-binding antigen (PfEBA175) on the merozoite.(9) In the erythrocyte, the invading merozoite develops within a parasitophorous vacuole composed of host cell material. During the next 43 to 48 hours, the uninucleated merozoite develops to maturity within the parasitophorous vacuole. First, it becomes a trophozoite and begins to secrete proteins that pass through the parasite membrane and the parasitophorous vacuole membrane and form knobs in the erythrocyte membrane. The proteins in the knobs, especially one called P. falciparum erythrocyte membrane protein 1 (PfEMP1),(10) bind to receptors on endothelial cells in capillaries and postcapillary venulles, sequestering the infected erythrocyte in the microcirculation for the last 24 to 34 hours of its development cycle, when changes from an immature schizont to a mature asexual erythrocytic stage schizont with an average of 16 uninucleated merozoites. It is thought that the parasite has developed this mechanism to prevent the increasingly rigid infected erythocyte from being removed from the circulation when passes through the spleen. When fully mature, the infected erythocyte ruptures, releasing the merozoites, which then invade normal erythrocytes, initiating the cycle of intra-erythrocytic stage development, rupture, and reinvasion that leads to a 10- to 20-fold increase in the numbers of P. falciparum parasites in the bloodstream every 43 to 48 hours and to the clinical manifestations and pathology of malaria.

Alternatively, the erythrocytic stage parasites can develop to sexual stage parasites called gametocytes. In the gut of the mosquito, the gametocytes escape from the erythrocytes and form gametes. The male gamete fuses with the female, forming a zygote. At about 5 hours after blood-feeding, the zygote undergoes two-steps meiosis. By 18 to 24 hours, the zygote has transformed into an ookinete. The ookinete traverses the midgut wall by passing through epithelial cells and comes to rest adjacent to the basal lamina. Here it begins to transform into oocyst. From the 6th day onward, the oocyst undergoes cell division that eventually results in the formation of about 8000 daughter cells called sporozoites. By day 12, they are released into the hemocele of the mosquito and migrate to the salivary glands. In the salivary glands, they become infectious for humans and are released into the human host when the mosquito feeds.(7)

Figure 2: The life cycle of malaria (11)



Pathogenesis – mechanical and cytokine theory

Severe falciparum malaria is an acute systemic disease that can affect multiple organs, including those in which few parasites are found. The acute disease bears many similarities both clinically nad, potentially, mechanistically, to the systemic diseases caused by bacteria, rickettsia, and viruses. Traditionally the morbidity and mortality associated with severe malarial diseases has been explained in terms of mechanical obstruction to vasculra flow by adherence to endothelium (termed sequestration) of erythrocytes containing mature-stage parasites. However, over the past few decades an alternative cytokine theory of disease has alsoevolved, where malarial pathology is explained in terms of a balance between the pro- and anti-inflammatory cytokines. The final common pathway for this pro-inflammatory imbalance is believed to be a limitation in the supply and mitochondrial utilisation of energy to cells. Different patterns of ensuing energy depletion (both temporal and spatial) throughout the cells in the body present as different clinical syndromes. The influence of inflammatory cytokines on cellular function offers not only molecular framework to explain the multiple clinical syndromes that are observed during acute malarial illness, but also provides a fresh avenue of investigation for adjunct therapies to ameliorate the malarial disease process.(12)

One concept of pathogenesis consistently articulated has been the mechanical theory. Historically, this theory was developed from two fundamental differencies between P. falciparum and P. vivax infection. Firstly, erythrocytes parasited with P. vivax do not sequester. Secondly, death following P. vivax infection is rare. Consequently, pathogenesis is believed to be due to obstruction of micro-vascular flow by erythrocytes containing mature-stage falciparum parasites adhering to the endothelium (termed sequestration). More recently the cytokine theory of disease has also gained credence. This theory can be applied to disease following both falciparum and vivax infection. The lower mortality associated with P. vivax

being explained by a relatively milder degree of pro-inflammatory imbalance during the host´s response to P. vivax infection. The increased understanding of the functions of inflammatory cytokines gained over the past 15 years is changing attitudes in malarial disease research. As proposed, these two theories can be in fact complementary.

The presence of hyperlactataemia, hypoglycaemia, and metabolic acidosis, all three consistent with a patient being forced to rely on anaerobic glycolysis for energy production, have provided a consensus that hypoxia is central to disease pathogenesis in falciparum malaria. There are two main theories for cellular hypoxia during infection: insufficient oxygen delivery to cells and impaired oxygen utilization within cells. Both mechanisms may be governed by the host inflammatory cytokine response to infection.

Inflammatory cytokines and malarial disease

Tumour necrosis factor (TNF) is regarded as a major player, malaria being the first disease in which it was proposed to cause systemic illness and pathology.(13) Multiple TNF promoter polymorphisms have since been independently associated with severe malaria across several geographical populations.(14) A longitudinal study in Burkina Faso has also demonstrated several TNF promoter polymorphisms associated with the regulation of host-parasite density.(15) The TNF concept has since begun to dominate the sepsis literature (16), and the virulence of different strains of influenza, a disease that is a standard clinical misdiagnosis for imported malaria, has recently been expressed in terms of their capacity to induce TNF.(17) The critical role of TNF in both malaria and influenza pathogenesis is consistent with the clinical similarities between the diseases. Although TNF is the prototype pro-inflammatory cytokine linked with severe malaria, other cytokines (and mediators) including IFN-γ, its corresponding receptor IFN-γ receptor-1 and IFN-α receptor-1, IL-1, IL-4, and IL-10 have all be identified through genetic association analysis to be linked with their potential regulation of malarial disease severity.(18-23) All the above cytokines typically acta s homeostasis agents, but can cause pathology if produced excessively. When this happens they also induce a late-onset, but long-acting cytokine termed the high mobility group box 1 (HMGB1) protein, which prolongs and amplifies inflammation.(24,25) The excessive production of inflammatory cytokines underlies the pathology of illnesses including those caused by rickettsias, protozoas other than malaria, and viruses.Increased circulating levels of these cytokines have been detected in the serum very soon after onset of illness. When rTNF was under trial in volunteers as an anti-tumour agent,(26,27) the side effects included headache, fever and rigours, nausea and vomitting, diarrhoea, anorexia, myalgia, thrombocytopaenia, immunosuppression, and central nervous manifestations, all of which have been shown to be caused by a mechanism involving inflammatory cytokines.

Vascular occlusion

Mature erythrocytic forms of P. falciparum are not seen in peripheral blood smears, and cause the erythrocytes they inhabit to adhere to the walls of venules and capillaries. From this observation arose the widely held view that much of the pathology following malarial infection is explained through parasite sequestration causing impairment of microvascular flow. But erythrocyte cyto-adherence (irrespective of whether this adhesive process is directly or indirectly due to parasite sequestration) has repeatedly been shown to be mediated through a series of host-derived ligands. CD36 and thrombospondin were the first described endothelial receptors that bound infected red blood cells,(28,29) with most studied wild parasite isolates demostrating adhesion to CD36.(30) More recently, it has been shown that P. falciparum also interacts with other host adhesion receptors, i.e. ICAM-1 CD54, VCAM-1

CD106 and E-selectin.(31,32) Certain adhesive phenotypes, such as rosetting (the spontaneous tethering of infected and non-infected RBCs) and clumping (tethering of infected RBCs through platelets) have been preferentially associated with severe malarial disease.(33,34) CD36 is involved in both mechanisms of adhesion, and a non-sense mutation in the gene encoding for CD36 has also been associated with protection from severe malaria.(35) Polymorphisms in the gene encoding ICAM-1 have also been associated with susceptibility to severe disease.(36) Furthermore, ICAM-1, together with VCAM-1 and E-selectin, are up-regulated by TNF, with circulating levels of these ligands shown to be increased in severe malaria compared to uncomplicated infection.(37)

Sequestration during falciparum malaria appears to be concentrated in the brain and placenta. There is some evidence to suggest that the propensity of inflammatory cytokines to up-regulate cell adhesion molecules, secondary to local variation in the density of thrombomodulin, is potentially higher in the microvasculature of the brain and placenta compared to other tissues. TNF and IL-1 increase tissue factor expression on endothelial cells, thereby initiating pathways that generate thrombin.(38) When thrombin binds to thrombomodulin on the endothelial cell surface, protein C is activated, which in turn can lead to further downstream activation of the coagulation cascade. Therefore vasculature with lowest thrombomodulin densities on the endothelial cell surface (brain least, placenta next, and other organs more(39)) will have more unbound thrombin available for its other functions on activated endothelium. These other functions include up-regulation of adhesion molecules such as selectins, ICAM-1, VCAM-1 and MCP-1.(40,41) Therefore, up-regulation of adhesion molecules within the cerebral vessels may occur as a local endothelial response to systemic inflammation and may not necessarily be precipitated by parasite sequestration.

Anaemia

Anaemia is another obvious way in which too little oxygen reaches cells, and thus their mitochondria.(42) Critical illness associated with an inflammatory response causes multifactorial anaemia.(43) Obviously a high parasite load in malaria indicates that the infected RBCs will soon burst when the next generation of erythrocytic forms escapes, but anaemia does not correlate with parasitaemia, and sometimes is extreme when very few parasites are, or have been, present. The severe anaemia in transgenic mice expressing human TNF(44) incriminates the inflammatory response itself, so anaemia and mitochondrial dysfunction, both consequences of systemic inflammation, can be expected to coexist, and both contribute to total energy depletion.

The lifespan of an RBCs is, in part, limited by how long it can remain flexible enough to squeeze through fenestrations in specialised vessels in the red pulp of the spleen, and thus avoid phagocytosis by adjacent macrophages. Normally this loss is balanced by erythropoiesis, and hematocrit remains normal. If RBCs develop a premature loss of deformability they are removed from circulation earlier. This loss of deformability happens to both infected and non-infected red cells in malaria, whether caused by P. falciparum or P. vivax. Under physiological conditions, erythrocytes (and other cells) control the passive influx of osmotic active solutes (especially Na^+) via an active, energy-dependent elimination of these solutes using Na^+/K^+-ATP-ase. This prevents intracellular accumulation of osmotically active solutes, preventing a subsequent influx of water, cell swelling and loss of cell integrity. During human and monkey malaria infection, intracellular Na^+ accumulates within erythrocytes (both parasited and non-parasited) implying that this Na^+/K^+ pump is impaired during the disease process.(45,46) Parallel changes in the ionic content of erythrocytes have been documented in a sepsis model of infection.(47) Similarly, reduction in erythrocyte deformability was shown to be associated with increased NO, an inhibitor of this

membrane pump, in another sepsis model.(48,49) Since inhibition of the Na^+/K^+ pump in vitro correlates with both reduced red cell deformability and decreased red cell filterability(50), any factor that inhibits the Na^+/K^+ pump could potentially worsen anaemia. Identification of iNOS (inducible NO synthase) activity, as one factor influencing red cell deformability suggests that a pro-inflammatory milieu(51) may again govern the reduction in red cell deformability observed during malaria infection.

Originally observed in uraemic patients, poor red cell deformability was recognised in a small pilot study of malaria patients.(52) It was reported soon afterwards in sepsis (53,54), and subsequently studied in falciparum malaria with view to understanding both circulatory obstruction and anaemia.(55,56) It seems clear that a short life (poor deformability), and a slow replacement rate (dyserythropoiesis) can combine to cause severe anaemia in various diseases, particularly in chronic infections sucha s malaria.

When red cells have a shortened lifespan, e.g. secondary to reduced erythrocyte deformability, replacement by new recruits is vital to avoid anaemia. Unfortunatelly, the same inflammatory cytokines that shorten lifespan also retard replacement. Some years ago researchers began to stress the contribution of bone marrow dyserythropoiesis to the anaemia of falciparum malaria.(57,58) TNF was found to inhibit the growth and differentiation of erythroid progenitor cells. The number of cytokines, both pro-inflammatory (IL-12, FasL) and anti-inflammatory have also been investigated in this context. Another inflammatory cytokine, MIF that is increased in malaria, and induced by TNF, has been shown to cause dyserythropoiesis in in vitro studies on bone marrow cells.(59,60) Thus, inflammatory cytokines generated during malaria are a major determinant of the degree to which anaemia influences the amount of oxygen that reaches tissues in malaria.

Inflammatory cytokines acting directly to cause disease

Mitochondria are vital to energy (ATP) generation through cellular respiration. Cellular respiration requires oxygen and pyruvate, as well as multiple cofactors and active transport molecules. Within the matrix of the mitochondrial organelle, pyruvate is catabolised via Crebs cycle and oxidative phosphorylation (involving NADH and FADH2) to generate ATP. When this series of reactions are 100% efficient (unlikely in vivo), 1 molecule of glucose generates 2 molecules of pyruvate which are further catabolised to water and carbon dioxide with the concomitant generation of 36 molecules of ATP. In comparison, during anaerobic glucose catabolism, pyruvate is converted to lactate with the concomitant generation of 2 molecules of ATP, a process that also facilitates regeneration of NADH and FADH2.

Evidence is accumulating that inflammatory cytokines, as released in malaria, sepsis, and viral diseases, induce mitochondrial dysfunction and dysregulate cellular respiration, resulting in the incomplete catabolism of pyruvate. The process, termed cytopathic hypoxia, mimics cellular hypoxia, in that it results in the incomplete catabolism of pyruvate and accumulation of lactate. The observation that the inflammatory cytoines implicated in mitochondrial shutdown are prominent in both sepsis and malaria supports such organelle dysfunction being equally plausible in malaria. Beyond energy production, mitchondria also play a vital role in cell homeostasis through generation and detoxification of reactive oxygen species.(61) The accelerated oxidative damage that accompanies sepsis could be both a cause and a consequence of cytokine-induced mitochondrial dysfunction. Ultrastructural damage reported to accompany mitochondrial dysfunction in sepsis reflects observations in malaria.(62)

Definition of severe malaria

In a patient with P. faciparum asexual parasitaemia and no other obvious cause of symptoms, the presence of one or more of the following clinical or laboratory features classifies the patient as suffering from severe malaria: (63,64,65)

Clinical featutes:

- Impaired consciousness or unrousable coma
- Prostration, i.e. generalized weakness so that the patient is unable walk or sit up without assistance
- Failure to feed
- Multiple convulsions – more than two episodes in 24 h
- Deep breathing, respiratory distress (acidotic breathing)
- Circulatory collapse or shock, systolic blood pressure < 70 mm Hg in adults and < 50 mm Hg in children
- Clinical jaundice plus evidence of other vital organ dysfunction
- Haemoglobinuria
- Abnormal spontaneous bleeding
- Pulmonary oedema (radiological)

Laboratory findings:

- Hypoglycaemia (< 2,2 mmol/l)
- Metabolic acidosis (plasma bicarbonate < 15 mmol/l)
- Severe normocytic anaemia (Hb < 5 g/dl, packed cell volume < 15%)
- Haemoglobinuria
- Hyperparasitaemia (> 2% / 100 000 / µl in low intensity transmission areas or > 5% / 250 000 / µl in areas of high stable malaria transmission intensity)
- Hyperlactataemia (lactate > 5 mmol/l)
- Renal impairment (serum creatinine > 265 µmol/l)

Severe malaria in children compared to adults

In malaria-endemic regions, where the resident population have continuous exposure to malarial parasites, most of the severe cases are seen in children. In hypoendemic regions, where parasite exposure is more intermittent, cases of severe malaria are also common in adults.

Clinical features associated with malaria mortality vary between children and adults, but acidosis and coma are associated with malarial mortality in both populations.(66) Acute renal failure (ARF) and pulmonary oedema, a marker for adult respiratory distress syndrome (ARDS), are almost exclusivela reported among adults(67,68), whereas mortality associated with hypoglycaemia is frequently reported among children.(69)

Why malarial disease displays such age-related differences in pathophysiology is unclear. However, these differences are not exclusive to malaria. ARDS, which is more frequently observed as a complication of trauma in adults compared with children(70), is believed to reflect an exaggerated pro-inflammatory response within the lung.(67) A possible lead for future studies on these age-related differences in malaria is suggested by a report of peritoneal macrophages collected from healthy adults producing much less IL-10 (an anti-

inflammatory cytokine), but the same levels of pro-inflammatory cytokine, than those from healthy children, giving adults a much higher pro-inflammatory status.(71,72)

The mechanism of malarial ARF pathogenesis is postulated to be multifactorial, involving mechanical, haemodynamic, and immunological factors.(73) The observation that ARF is more frequently observed as a complication of trauma in adults than children(70) suggests that age-related variations in cytokine response may again influence pathogenesis.

Hypoglycaemia is regarded as a more frequent complication of sepsis in paediatric populations compared with adults.(74) Hypoglycaemia in children may, in part, be associated with a higher basal metabolic rate, and lower glykolytic(75) and gluconeogenic substrate reserves compared to adults.(76) However, these substrates are not always limiting during acute paediatric malaria, suggesting functional impairments of glucose metabolism may also occur.(77) Such functional impairments may, in part, be influenced by increases in inflammatory cytokines as the infection progresses.

Treatment objectives

The main objective is to prevent the patient from dying. Secondary objectives are prevention of disabilities and prevention of recrudescence. The mortality of untreated severe malaria (particularly cerebral malaria) is thought to approach 100%. With prompt, effective antimalarial treatment and supportive care the mortality falls to 15 – 20% overall; although within the broad definition there are syndromes associated with mortality rates that are lower (e.g. severe anaemia) and higher (metabolic acidosi). Death from severe malaria often occurs within hours of admission to hospital or clinic, so it is essential that therapeutic concentrations of a highly effective antimalarial are achieved as soon as possible. Management of severe malaria comprises four main areas: clinical assessment of the patient, specific antimalarial treatment, adjunctive therapy and supportive care.

Clinical assessment

Severe malaria is a medical emergency. An open airway should be secured in unconscious patients and breathing and circulation assessed. The patient should be weighed or body weight estimated, so that medicines, including antimalarials and fluids, can be given accordingly. An intravenous cannula should be inserted (if failed in emergency situation an intraosseal access should be administered) and immediate measuremets of blood glucose, haematocrit / haemoglobin, parasitaemia and, in adults, renal function should be taken. A detailed clinical examination should be conducted, including a record of the coma scale. Several soma scores have been advocated – the Glasgow coma scale is suitable for adults, and the simple Blantyre modification or children´s Glasgow coma scale are easily performed in children. Unconscious patients should have a lumbar puncute for cerebrospinal fluid analysis to exclude bacterial meningitis.

The degree of acidosis is an important determinant of outcome; the plasma bicarbonate or venous lactate level should , therefore, be measured, if possible. If facilities are available, arterial or capillary blood pH and gases should be measured in patients who are unconscious, hyperventilating or in shock. Blood should be taken for cross-match, full blood count, platelet count, clotting studies, blood culture and full biochemistry (wherever possible). The assessment of fluid balance is critical in severe malaria. Respiratory distress, in particular with acidotic breathing in severely anaemic children, often indicates hypovolaemia and requires prompt rehydration and, where indicated, blood transfusion

The differential diagnosis of fever in a severely ill patient is broad. Coma and fever may result from meningoencephalitis or malaria. Cerebral malaria is not associated with signs

of meningeal irritation (neck stiffness, photophobia or Kernig sign), but the patient may be opistotonic. As untreated bacterial meningitis is almost invariably fatal, a diagnostic lumbar puncture should be performed to exclude this condition. There is also considerable clinical overlap between septicaemia, pneumonia and severe malaria – and these conditions may coexist. In malaria endemic areas, particularly where parasitaemia is common in the young age group, it is often impossible to rule out septicaemia in a shocked or severely ill obtunded child. Where possible, blood should always be taken on admission for culture and, if there is any doubt about diagnosis, empirical antibiotic treatment should be started immediately along with antimalarial treatment.

Specific antimalarial treatment

It is essential that effective, parenteral (or rectal) antimalarial treatment in full doses is given promptly in severe malaria. Two classes of medicines are availbale for parenteral treatment of severe malaria: the cinchona alkaloids (quinine and quinidine) and the artemisinin derivates (artesunate, artemether and artemotil). Parenteral chloroquine is no longer recommended for the treatment of severe malaria, because of widespread resistance. Intramuscular sulfadoxine-pyrimethamine is also no recommended.

Various artemisinin derivates have been used in the treatment of severe malaria, including artemether, artemisinin (rectal), artemotil and artesunate. Randomized trials comparing artesunate and quinine from South-East Asia show clear evidence of benefit with artesunate. In the largest multi-centre trial, which enrolle 1461 (including 202 children < 15 years old), mortality was reduced by 34,7% in the artesunate group when compared to the quinine group.(78,79) The results of this and smaller trials are consistent and suggest that artesunate is the treatment of choice for adults with severe malaria. There are, however, still insufficient data for children, particularly from high transmission settings, to draw the same conclusion. An individual patient data meta-analysis of trials comparing artemether and quinine showed no difference in mortality in African children. There is currently an ongoing multi-centre study comparing artesunate versus quinine in the management of severe malaria in children in several African countries.

Quinine treatment for severe malaria was established before modern clinical trial methods were developed. Several salts of quinine have been formulated for parenteral use, but the dihydrochloride is the most widely used. Peak concentrations following intramuscular quinine in severe malaria are similar to those following intravenous infusion. Pharmacokinetic modelling studies suggest that a loading dose of quinine (i.e. 20 mg salt/kg body weight – twice the maintenance dose) reduces the time needed to reach therapeutic plasma concentrations.(80) The maintenance dose of quinine (10 mg salt/kg body weight) is administered at 8-h intervals, starting 8 h after the first dose. Rapid administration of quinine is unsafe. Each dose of parenteral quinine must be administered as a slow, rate-controlled infusion (usually diluted in 5% dextrose and infused over 4 h). The infusion rate should not exceed 5 mg salt/kg body weight per hour.

Quinidine commonly causes hypotension and concentration-dependent prolongation of ventricular repolarization (QT prolongation). Quinidine is thus considered more toxic than quinine and should only be used if no other effective parenteral drugs are available. Electrocardiographic monitoring and frequent assessment of vital signs are required if quinidine is used.

Following initial parenteral treatment, once the patient can tolerate oral therapy, it is essential to continue and complete treatment with an effective oral antimalarial using a full course of an effective ACT (artesunate plus amodiaquine or artemether plus lumefantrine or dihydroartemisinin plus piperaquine) or artesunate (plus clindamycin or doxycycline) or

quinine (plus clindamycin or doxycycline). Doxycycline is preferred to other tetracyclines because it can be given once daily, and does not accumulate in renal failure. But as treatment with doxycycline only starts when the patient has recovered sufficiently, the 7-day doxycycline course finishes after the quinine, artemether or artesunate course. Where available, clindamycin may be substituted in children and pregnant women; doxycycline cannot be given to these groups. Regimens containing mefloquine should be avoided, if the patient presented initially with impaired consciousness. This is because of an increased incidence of neuropsychiatric complications associated with mefloquine following cerebral malaria. The current recommendation from experts' opinion is to give parenteral antimalarials in the treatment of severe malaria for a minimum of 24 h, once started (irrespective of the patient's ability to tolerate oral medication earlier) or until the patient is about to tolerate oral medication, before giving the oral follow-up treatment.

The risk of death from severe malaria is greatest in the first 24 h, yet, in most malaria endemic countries, the transit time between referral and arrival at health facilities able to administer intravenous treatment is usually prolonged; this delays the commencement of appropriate antimalarial treatment. As during this time the patient may deteriorate or die, it is recommended that patients be treated with the first dose of one of the recommended treatments before referral (unless the referral time is less than 6 h). Recommended prereferral treatment options include intramuscular artesunate, artemether, or quinine, or rectal artesunate. Evidence from recent studies demonstrates that in situations where parenteral medication is not possible and intramuscular injection impractical, using a single dose of rectal artesunate as pre-referral treatment reduces the risk of death or permanent disability in young children.(82,83) The 10 mg/kg body weight single dose of artesunate suppository should be administered rectally as soon as the presumptive diagnosis of severe malaria is made. In the event that an artesunate suppository is expelled from the rectum within 30 min of insertion, a second suppository should be inserted and, especially in young children, the buttocks should be held together for 10 min to ensure retention of the rectal dose of artesunate.

Severe malaria is a medical emergency. After rapid clinical assessment and confirmation of the diagnosis, full doses of parenteral antimalarial treatment should be started without delay with any effective antimalarial first available. For adults, artesunate 2.4 mg/kg body weight IV or IM given on admission (time = 0), then at 12 h and 24 h, then once a day is the recommended treatment. Quinine is an acceptable alternative if parenteral artesunate is not available: quinine 20 mg salt/kg body weight on admission (IV infusion or divided IM injection), then 10 mg/kg body weight every 8 h; infusion rate should not exceed 5 mg salt/kg body weight per hour.

For children (especially in the malaria endemic areas of Africa) the following antimalarial medicines are recommended, as there is insufficient evidence to recommend any of these antimalarial medicines over another:

- artesunate 2.4 mg/kg body weight IV or IM given on admission (time = 0), then at 12 h and 24 h, then once a day;
- quinine 20 mg salt/kg body weight on admission (IV infusion or divided IM injection), then 10 mg/kg body weight every 8 h; infusion rate should not exceed 5 mg salt/kg body weight per hour;
- artemether 3.2 mg/kg body weight IM given on admission then 1.6 mg/kg body weight per day should only be used if none of the alternatives are available as its absorption may be erratic.

Give parenteral antimalarials in the treatment of severe malaria for a minimum of 24 h, once started (irrespective of the patient's ability to tolerate oral medication earlier), and, thereafter, complete treatment by giving a complete course of:

- artemether plus lumefantrine,
- artesunate plus amodiaquine,
- dihydroartemisinin plus piperaquine,
- artesunate plus sulfadoxine-pyrimethamine,
- artesunate plus clindamycin or doxycycline,
- quinine plus clindamycin or doxycycline.

Although artesunate has preferable pharmacokinetic properties to artemether or artemotil, as it is water-soluble and can be given either by intravenous or intramuscular injection. Artemether and artemotil are formulated in oil and are given by intramuscular injection. They are both absorbed erratically, particularly in very severely ill patients. There are rectal formulations of artesunate, artemether, artemisinin and dihydroartemisinin. The dosing of artemisinin derivatives has been largely empirical. The doses recommended here are those that have been most widely studied. The only recent change is the higher maintenance dose of parenteral artesunate recommended (2.4 mg/kg body weight), which is based on pharmacokinetic and pharmacodynamic studies, and by extrapolation from studies with oral artesunate. Expert opinion is that the previously recommended maintenance dose of 1.2 mg/kg body weight may have been insufficient in some patients. Artesunate is dispensed as a powder of artesunic acid. This is dissolved in sodium bicarbonate (5%) to form sodium artesunate. The solution is then diluted in approximately 5 ml of 5% dextrose and given by intravenous injection or by intramuscular injection to the anterior thigh. The solution should be prepared freshly for each administration and should not be stored. Artemether and artemotil are dispensed dissolved in oil (groundnut, sesame seed), and then given by IM injection into the anterior thigh.

Whereas many antimalarials are prescribed in terms of base, for historical reasons quinine doses are often recommended in terms of salt (usually sulfate for oral use and dihydrochloride for parenteral use). Recommendations for doses of this and other antimalarials should state clearly whether the salt or base is being referred to (doses with different salts must have the same base equivalents). Quinine must never be given by intravenous bolus injection, as lethal hypotension may result. Quinine dihydrochloride should be given by rate-controlled infusion in saline or dextrose solutions at a rate not exceeding 5mg salt / kg body weight per hour. If this is not possible, then it should be given by intramuscular injection to the anterior thigh not the buttock (to avoid sciatic nerve injury). The first dose should be split, 10 mg / kg body weight to each thigh. Undiluted quinine dihydrochloride at a concentration of 300 mg / ml is acidic (pH 2) and painful when given by intramuscular injection, so it is best either formulated or diluted to concentrations of 60–100 mg / ml for intramuscular injection. Gluconate salts are less acidic and better tolerated than the dihydrochloride salt when given by the intramuscular and rectal routes. As the first (loading) dose is the most important in the treatment of severe malaria, this should be reduced only if there is clear evidence of adequate pre-treatment before presentation. Although quinine can cause hypotension if administered rapidly, and overdose is associated with blindness and deafness, these adverse effects are rare in the treatment of severe malaria. The dangers of insufficient treatment (i.e. death from malaria) exceed those from excessive treatment initially.

Adjunctive treatment

In an attempt to reduce the unacceptably high mortality of severe malaria, various adjunctive treatments for the complications of malaria have been evaluated in clinical trials. These are just summarized in this table.

Table: Immediate clinical management of severe manifestations and complications of P. falciparum malaria

Manifestation/complication	**Immediate management**
Coma (cerebral malaria)	Maintain airway, place patient on his or her side, exclude other treatable causes of coma (e.g. hypoglycaemia, bacterial meningitis); avoid harmful ancillary treatment, such as corticosteroids, heparin and adrenaline; intubate if necessary.
Hyperpyrexia	Administer tepid sponging, fanning, a cooling blanket and antipyretic drugs. Paracetamol is preferred over more nephrotoxic drugs (e.g. NSAIDs).
Convulsions	Maintain airways; treat promptly with intravenous or rectal diazepam or intramuscular paraldehyde. Check blood glucose.
Hypoglycaemia	Check blood glucose, correct hypoglycaemia and maintain with glucosecontaining infusion.
Severe anaemia	Transfuse with screened fresh whole blood.
Acute pulmonary oedema	Prop patient up at an angle of 45°, give oxygen, give a diuretic, stop intravenous fluids, intubate and add positive end expiratory pressure/ continuous positive airway pressure in life threatening hypoxaemia.
Acute renal failure	Exclude pre-renal causes, check fluid balance and urinary sodium; if in established renal failure add haemofiltration or haemodialysis, or if unavailable, peritoneal dialysis.
Spontaneous bleeding and coagulopathy	Transfuse with screened fresh whole blood (cryoprecipitate, fresh frozen plasma and platelets, if available); give vitamin K injection.
Metabolic acidosis	Exclude or treat hypoglycaemia, hypovolaemia and septicaemia. If severe, add haemofiltration or haemodialysis.
Shock	Suspect septicaemia, take blood for cultures; give parenteral broad-spectrum antimicrobials, correct haemodynamic disturbances.

Treatment of severe P. vivax malaria

Although P. vivax malaria is considered to be benign malaria, with a very low case fatality ratio, it may still cause a severe and debilitating febrile illness. It can also occasionally result in severe disease, as in P. falciparum malaria. Severe P. vivax malaria manifestations that have been reported are cerebral malaria, severe anaemia, severe thrombocytopenia and pancytopenia, jaundice, splenic rupture, acute renal failure and acute respiratory distress syndrome. Severe anaemia and acute pulmonary oedema are not uncommon. The underlying

mechanisms of severe manifestations are not fully understood. Prompt and effective treatment and case management should be the same as for severe and complicated falciparum malaria

REFERENCES

1. Eddleston, M., Davidson, R., Brent, A., Wilkinson, R.: Oxford handbook of tropical medicine. Oxford, Oxford University Press, 2008, 3rd edition, P. 32
2. WHO: 10 facts on malaria. March 2009
http://www.who.int/features/factfiles/malaria/en/index.html (accessed August 2010)
3. Carte OMS, Institute de Médecine Tropical: Malaria: distribution, prophylaxie et traitement
http://www.itg.be/itg/GeneralSite/MedServ/pg/Fmalaria.htm (accessed August 2010)
4. Teklehaimanot, A., Mejia, P.: Malaria and poverty. Annals of the New York Academy of Sciences. 2008; 1136: 32 – 37
5. Beier, J. C., Davis, J. R., Vaughan, J. A. et al.: Quantitation of Plasmodium falciparum sporozoites transmitted in vitro by experimentally infected Anopheles gambiae and Anopheles stephensi. The Ameriacn journal of tropical medicine and hygiene, 1991; 44: 564 – 570
6. Mota, M. M., Rodriguez, A.: Migration through host cells: the first steps of Plasmodium sporozoites in the mammalian host. Cellular Microbiology, 2004; 6: 1113 – 1118
7. Guerrant, R. L., Walker, D. H., Weller, P. F.: Tropical Infectious Diseases: Principles, Pathogens and Practice. Churchill Livingstone Elsevier, USA, Second Edition, 2006, P. 1027
8. Mota, M. M., Hafalla, J. C., Rodriguez, A.: Migration through host cells activates plasmodium sporozoites for infection. Nature Medicine, 2002; 8: 1318 – 1322
9. Jaśkiewicz, E.: Glycophorins of human erythrocytes as receptors for the malaria parasite Plasmodium falciparum. Postępy higieny i medycyny doświadczalnej, 2007; 61: 718 – 724
10. Horrocks, P., Pinches, R., Christodoulou, Z. et al.: Variable var transition rates underlie antigenic variation in malaria. Proceedings of the National Academy of Sciences of the USA, 2004; 101: 11129 – 11134
11. WHO Regional Office for the Eastern Mediterranean: Roll Back Malaria
http://www.emro.who.int/rbm/AboutMalaria-QuickOverview.htm (accessed August 2010)
12. Clark, I. A., Griffiths, M. J.: The molecular basis of paediatric malarial disease. In: Schroten, H., Wirth, S.: Pediatric Infectious Diseases. Birkhäuser Verlag, Basel, 2007. P. 239
13. Clark, I. A., Virelizier, J. L., Carswell, E. A., Wood, P. R.: Possible importance of macrophage-derived mediators in acute malaria. Infect Immun, 1981; 32: 1058–1066
14.Kwiatkowski, D. P.: How malaria has affected the human genome and what human genetics can teach us about malaria. Am J Hum Genet, 2005; 77: 171–192
15. Fernandez-Reyes, D., Craig, A. G., Kyes, S. A. et al.: A high frequency African coding polymorphism in the n-terminal domain of ICAM-1 predisposing to cerebral malaria in Kenya. Hum Mol Genet, 1997; 6: 1357–1360
16. Beutler, B., Kronchin, N., Milsark, I. W. et al.: Induction of cachectin (tumor necrosis factor) synthesis by influenza virus: deficient production by endotoxin-resistant (C3H/HEJ) macrophages. Clin Res, 1986; 34: 491A
17. Cheung, C. Y., Poon, L. L. M., Lau, A. S. et al.: Induction of proinflammatory cytokines in human macrophages by influenza A (H5N1) viruses: a mechanism for the unusual severity of human disease. Lancet, 2002; 360: 1831–1837
18. Stevenson, M. M., Riley, E. M.: Innate immunity to malaria. Nat Rev Immunol, 2004; 4: 169–180
19. Koch, O., Awomoyi, A., Usen, S. et al.: IFNGR1 gene promoter polymorphisms and susceptibility to cerebral malaria. J Infect Dis, 2002; 185: 1684–1687

20. Aucan, C., Walley, A. J., Hennig, B. J. et al.: Interferon-alpha receptor-1 (IFNAR1) variants are associated with protection against cerebral malaria in the Gambia. Genes Immun, 2003; 4: 275–282
21. Walley, A. J., Aucan, C., Kwiatkowski, D., Hill, A. V. S.: Interleukin-1 gene cluster polymorphisms and susceptibility to clinical malaria in a Gambian case-control study. Eur J Hum Genet, 2004; 12: 132–138
22. Luoni, G., Verra, F., Arca, B. et al.: Antimalarial antibody levels and IL-4 polymorphism in the Fulani of West Africa. Genes Immun, 2001; 2: 411–414
23. Wilson, J. N., Rockett, K., Jallow, M. et al.: Analysis of IL10 haplotypic associations with severe malaria. Genes Immun, 2005; 6: 462–466
24. Wang, H. C., Bloom, O., Zhang, M. H. et al.: HMG-1 as a late mediator of endotoxin lethality in mice. Science, 1999; 285: 248–251
25. Andersson, U., Wang, H. C., Palmblad, K. et al.: High mobility group 1 protein (HMG-1) stimulates proinflammatory cytokine synthesis in human monocytes. J Exp Med, 2000; 192: 565–570
26. Spriggs, D. R., Sherman, M. L., Kufe, D. W. et al.: Tumour necrosis factor and related cytokines. Ciba Found Symp, 1987; 131: 206–227
27. Creagan, E. T., Kovach, J. S., Moertel, C. G. et al.: A phase 1 clinical trial of recombinant human tumor necrosis factor. Cancer, 1988; 62: 2467–2471
28. Barnwell, J. W., Asch, A. S., Nachman, R. L. et al.: A human 88-kD membrane glycoprotein (CD36) functions in vitro as a receptor for a cytoadherence ligand on Plasmodium falciparum-infected erythrocytes. J Clin Invest, 1989; 84: 765–772
29. Roberts, D. D., Sherwood, J. A., Spitalnik, S. L. et al.: Thrombospondin binds falciparum malaria parasitized erythrocytes and may mediate cytoadherence. Nature, 1985; 318: 64–66
30. Newbold, C., Warn, P., Black, G. et al.: Receptor-specific adhesion and clinical disease in Plasmodium falciparum. Am J Trop Med Hyg, 1997; 57: 389–398
31. Berendt, A. R., Simmons, D. L., Tansey, J. et al.: Intercellular adhesion molecule-1 is an endothelial cell adhesion receptor for Plasmodium falciparum. Nature, 1989; 341: 57–59
32. Ockenhouse, C. F., Tegoshi, T., Maeno, Y. et al.: Human vascular endothelial cell adhesion receptors for Plasmodium falciparum-infected erythrocytes: roles for endothelial leukocyte adhesion molecule 1 and vascular cell adhesion molecule 1. J Exp Med, 1992; 176: 1183–1189
33. Carlson, J., Helmby, H., Hill, A. V. S. et al.: Human cerebral malaria: associated with erythrocyte rosetting and lack of anti-rosetting antibodies. Lancet, 1990; 336: 1457–1460
34. Pain, A., Ferguson, D. J. P., Kai, O. et al.: Platelet-mediated clumping of Plasmodium falciparum-infected erythrocytes is a common adhesive phonotype and is associated with severe malaria. Proc Natl Acad Sci USA, 2001; 98: 1805–1810
35. Pain, A., Urban, B. C., Kai, O. et al.: A non-sense mutation in Cd36 gene is associated with protection from severe malaria. Lancet, 2001; 357: 1502–1503
36. Fernandez-Reyes, D., Craig, A. G., Kyes, S. A. et al.: A high frequency African coding polymorphism in the n-terminal domain of ICAM-1 predisposing to cerebral malaria in Kenya. Hum Mol Genet, 1997; 6: 1357–1360
37. Jakobsen, P. H., Morris-Jones, S., Hviid, L. et al.: Increased plasma concentrations of sICAM-1, sVCAM-1 and sELAM-1 in patients with Plasmodium falciparum or P. vivax malaria and association with disease severity. Immunology, 1994; 83: 665–669
38. Levi, M., van der Poll, T., ten Cate, H.: Tissue factor in infection and severe inflammation. Semin Thromb Hemost, 2006; 32: 33–39
39. Bajaj, M. S., Kuppuswamy, M. N., Manepalli, A. N. et al.: Transcriptional expression of tissue factor pathway inhibitor, thrombomodulin and von Willebrand factor in normal human tissues. Thromb Haemost, 1999; 82: 1047–1052

40. Kaplanski, G., Marin, V., Fabrigoule, M. et al.: Thrombin-activated human endothelial cells support monocyte adhesion in vitro following expression of intercellular adhesion molecule-1 (ICAM-1 CD54) and vascular cell adhesion molecule-1 (VCAM-1 CD106). Blood, 1998; 92: 1259–1267
41. Marra, F., Grandaliano, G., Valente, A. J. et al.: Thrombin stimulates proliferation of liver fat storing cells and expression of monocyte chemotactic protein-1: potential role in liver injury. Hepatology, 1995; 22: 780–787
42. English, M., Muambi, B., Mithwani, S. et al.: Lactic acidosis and oxygen debt in African children with severe anaemia. Q J Med, 1997; 90: 563–569
43. Scharte, M., Fink, M. P.: Red blood cell physiology in critical illness. Crit Care Med, 2003; 31: S651–S657
44. Taverne, J., Sheikh, N., Desouza, J. B. et al.: Anaemia and resistance to malaria in transgenic mice expressing human tumour necrosis factor. Immunology, 1994; 82: 397–403
45. Overmann, R. R., Hill, T. S., Wong, Y. T.: Physiological studies in the human malarial host. J Nat Malaria Soc, 1949; 8: 14–31
46. Dunn, M. J.: Alterations in red blood cell sodium transport during malaria. J Clin Invest, 1969; 48: 674–684
47. Illner, H., Shires, G. T.: Changes in sodium, potassium, and adenosine triphosphate contents of red blood cells in sepsis and septic shock. Circ Shock, 1982; 9: 259–267
48. Guzman, N. J., Fang, M. Z., Tang, S. S. et al.: Autocrine inhibition of Na+/K+-ATPase by nitric oxide in mouse proximal tubule epithelial cells. J Clin Invest, 1995; 95: 2083–2088
49. Bateman, R. M., Jagger, J. E., Sharpe, M. D. et al.: Erythrocyte deformability is a nitric oxide-mediated factor in decreased capillary density during sepsis. Am J Physiol, 2001; 280: H2848–H2856
50. Wambach, G., Overhoff, U., Hossmann, V.: Sodium transport and red cell deformability. Klin Wochenschr, 1985; 3: 35–37
51. Scharte, M., Fink, M. P.: Red blood cell physiology in critical illness. Crit Care Med, 2003; 31: S651–S657
52. Lee, M. V., Ambrus, J. L., DeSouza, J. M. et al.: Diminished red blood cell deformability in uncomplicated human malaria. A preliminary report. J Med, 1982; 13: 479–485
53. Rogers, F., Dunn, R., Barrett, J. et al.: Alterations of capillary flow during sepsis. Circ Shock, 1985; 15: 105–110
54. Hurd, T. C., Dasmahapatra, K. S., Rush, B. F. Jr. et al.: Red blood cell deformability in human and experimental sepsis. Arch Surg, 1988; 123: 217–220
55. Dondorp, A. M., Angus, B. J., Hardeman, M. R. et al.: Prognostic significance of reduced red blood cell deformability in severe falciparum malaria. Am J Trop Med Hyg, 1997; 57: 507–511
56. Dondorp, A. M., Angus, B. J., Chotivanich, K. et al.: Red blood cell deformability as a predictor of anemia in severe falciparum malaria. Am J Trop Med Hyg, 1999; 60: 733–737
57. Srichaikul, T., Panikbutr, N., Jeumtrakul, P.: Bone marrow changes in human malaria. Ann Trop Med Parasitol, 1967; 61: 40–51
58. Dormer, P., Dietrich, M., Kern, P. et al.: Ineffective erythropoiesis in acute human P. falciparum malaria. Blut, 1983; 46: 279–288
59. Martiney, J. A., Sherry, B., Metz, C. N. et al.: Macrophage migration inhibitory factor release by macrophages after ingestion of Plasmodium chabaudi-infected erythrocytes: Possible role in the pathogenesis of malarial anemia. Infect Immun, 2000; 68: 2259–2267
60. McDevitt, M. A., Xie, J., Shanmugasundaram, G. et al.: A critical role for the host mediator macrophage migration inhibitory factor in the pathogenesis of malarial anemia. J Exp Med, 2006; 203: 1185–1196

61. Nicholls, D. G.: Mitochondrial dysfunction and glutamate excitotoxicity studied in primary neuronal cultures. Curr Mol Med, 2004; 4: 149–177
62. Brealey, D., Karyampudi, S., Jacques, T. S. et al.: Mitochondrial dysfunction in a long-term rodent model of sepsis and organ failure. Am J Physiol, 2004; 286: R491–497
63. WHO: Severe falciparum malaria. Transactions of the Royal Society of Tropical Medicine and Hygiene, 2000: 94 (Suppl. 1): 1 – 90
64. WHO: Management of severe malaria: a practical handbook. 2nd ed. Geneva, 2000
65. WHO: Guidelines for the treatment of malaria – 2nd edition. Geneva, 2010, P. 35
66. Day, N. P., Phu, N. H., Mai, N. T. et al.: The pathophysiologic and prognostic significance of acidosis in severe adult malaria. Crit Care Med, 2000; 28: 1833–1840
67. Taylor, W. R. J., White, N. J.: Malaria and the lung. Clin Chest Med, 2002; 23: 457– 468
68. Robinson, T., Mosha, F., Grainge, M. et al.: Indicators of mortality in African adults with malaria. Trans R Soc Trop Med Hyg, 2006; 100: 719–724
69. Newton, C. R., Krishna, S.: Severe falciparum malaria in children: current understanding of pathophysiology and supportive treatment. Pharmacol Ther, 1998; 79: 1–53
70. Calkins, C. M., Bensard, D. D., Moore, E. E. et al.: The injured child is resistant to multiple organ failure: a different inflammatory response? J Trauma, 2002; 53: 1058– 1063
71. Barsness, K. A., Bensard, D. D., Partrick, D. A. et al.: Endotoxin induces an exaggerated interleukin-10 response in peritoneal macrophages of children compared with adults. J Pediatr Surg, 2004; 39: 912–915
72. Barsness, K. A., Bensard, D. D., Partrick, D. A. et al.: IL-1 beta induces an exaggerated pro- and anti-inflammatory response in peritoneal macrophages of children compared with adults. Pediatr Surg Int, 2004; 20: 238–242
73. Eiam-Ong, S.: Current knowledge in falciparum malaria-induced acute renal failure. J Med Assoc Thai, 2002; 85: S16–S24
74. Parker, M. M., Hazelzet, J. A., Carcillo, J. A.: Pediatric considerations. Crit Care Med, 2004; 32: S591–S594
75. Pagliara, A. S., Karl, I. E., Haywood, M. et al.: Hypoglycemia in infancy and childhood. J Pediatr, 1973; 82: 365–379
76. Dekker, E., Romijn, J. A., Ekberg, K. et al.: Glucose production and gluconeogenesis in adults with uncomplicated falciparum malaria. Am J Physiol, 1997; 35: E1059–E1064
77. White, N. J., Marsh, K., Turner, R. C. et al.: Hypoglycaemia in African children with severe malaria. Lancet, 1987; 1: 708–711
78. Jones, K. L., Donegan, S., Llloo, D. G.: Artesunate versus quinine for treating severe malaria. Cochrane Database System Reviews, 2007, Issue 4 (Article No. CD005967). doi: 10.1002/14651858
79. Artemether Quinine Meta-analysis Study Group: A meta-analysis using individual patient data of trials comparing artemether with quinine in the treatment of severe falciparum malaria. Transactions of the Royal Society Tropical Medicine and Hygiene, 2001, 95:637–650
80. Lesi, A., Meremikwu, M.: High first dose quinine for treating severe malaria. The Cochrane Library, 2003, Issue 2
81. Assimadi, J. K. et al.: Traitement du paludisme cerebral de l'enfant africain par les sels de quinine : comparaison d'un schema avec dose de charge a un schema classique sans dose de charge. Archives de Pediatrie, 2002, 9:587–594.
82. Krishna, S. et al.: Bioavailability and preliminary clinical efficacy of intrarectal artesunate in Ghanaian children with moderate malaria. Antimicrobial Agents and Chemotherapy, 2001, 45:509–516.

83. Barnes, K. I. et al.: Efficacy of rectal artesunate compared with parenteral quinine in initial treatment of moderately severe malaria in African children and adults: a randomized study. Lancet, 2004, 363:1598–1605.
84. J. Bordacova, M. Cervenkova, V. Krcmery, J. Adamcova, J. Sokolova, J. Bozik, J. Kiwou, Nursing, Social and public health aspects of virus diseases in tropics, Trop. Publ. Health 3/2010. Vol. 6. pp 49-50
85. A. Doktorov, 2009. Development of new educational programs in vocational education for automotive industry. 7th int. Conference on Emerging e learning technologies and Applications ISBN 978-800-8086-128-5
86. M. Mackinova, The social work methods with the unaccompanied migrants in the Slovak republic, Journal Clinical Social Work No 3-4-, 2010 ISSN 2076-9741, pp 104-118
87. S. Krupa, Diakonia, Evang. Jour. Theol., 2001. 1. 81
88. S. Krupa, Integration, Bratislava, ISSN1336-21. 2003. 1-2, 31
89. M. Jankechova, Education of nurses at the St. ladislav Faculty of health Care and social Work in Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 118-126 ISBN978-80-8082-393-1
90. M. Jankechova, The history of nursing education in town Nove Zamky, Zbornik odbornych prispevkov z konference 375 vyrocia TU FZSP Trnava 2010, 110-118, ISBN978-80-8082-393-1
91. M. Jankechova, Examination of the knowledge and skills parents of children with epilepsy, Zbornik VIII. Mezinarodni symposium osetrovatelstvi OU FZS 2010, 131-136, ISBN 978-80-7368-694-9
92. M. Jankechova, Healthcare of chool – age children with diabetes and their parents, Zbornik z odbornej conference "pedagogika v osetrovatelstvi,Zlin 2010, 164, ISBN 978-80-7318-995-2
93. M. Jankechova, Nursing metaparadigm – in the Nightingale environmental model, Sbornik k IV. Mezinarodni konf. Vseob sester, Brno 2011, 115-121, ISBN 978- 80- 7399 – 196 – 8
94. M. Jankechova, The function of nursing in prevention of Lung Tuberculosis, Zbornik z vedeckej conference, FZSP TU 2007
95. M. Jankechova, Nursing Education leadership and Competences of nurses in Slovakia, Pflegekongress der Osterreichischen Gesellschaft, Wien 2009

AIDS/HIV – VCT ANNUAL REPORT – MUKURU 2010

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ABSTRACT

The year 2010 came with new challenges. First the challenge to upscale the VCT services base by nature and type of activities and secondly the challenge of creating room for these new activities without necessarily changing or diluting the quality of previous strategies. This in turn has been very successful. There is marked increase in both the numbers of clients seen and new activities incepted. There is urgent need for repairs and rehabilitation of some parts of the VCT /NUTRITION building

INTRODUCTION

Mary Immaculate VCT was initiated with the objectives of creating awareness about the spread of HIV/AIDS and how to prevent the spread within Mukuru population and its environs. Being the entry point to HIV/AIDS prevention and care, the centre has strived to objectively provide with care, the under mentioned activities.

OBJECTIVES OF THE CENTRE

1. To offer Voluntary counseling and testing of HIV to its clients;
2. To provide Information and education on HIV/AIDS
2. To offer Referral services for further management to designated referral points;
3. To increase Couple counseling and testing in the VCT; and
4. To provide ongoing counseling to those clients who not be necessary looking for the testing services

ACTIVITIES FOR THE YEAR 2010

1. To create HIV/AIDS awareness through health education to the school and institutions of higher learning in and around Mukuru .(Ongoing)
2. To provide Voluntary counseling and testing for HIV at the site and in schools and institutions that allow this to be done.(Ongoing)
3. To create awareness on the issue of discordance among the couples there by encouraging many couple to test together. (Partner notification-ongoing)
4. To offer capacity building to our VCT staff counselors to equip them with emerging new information on HIV/AIDS.(on going)
5. Networking with affiliated partners and reassessing our network directory with the aim of strengthening the network partnership.
6. Rehabilitation and repairs to the centers infrastructure (Ongoing)
7. Team building for staff members.

MERITS

VCT OUTREACH TO YOUTHS IN LEARNING INSTITUTIONS

Since late last year, the Centre has been implementing its Outreach programme to Learning institutions in and around Mukuru. This was in part as a result of increased invitations by respective learning institutions on the same and also as an internally felt need by members of staff from their experiences while in practice.

At the beginning of February (5th and 12th), we held two HIV-AIDS awareness talks with students at the vocational skills training centre (SKILLS), and followed up these awareness exercises with Mobile VCT on the same venue on 19th March. More than 65 Students participated in the awareness campaigns and 44 knew their HIV statuses. **(See appendix 4).** This was enabled through Heads of departments for both Mukuru skills and Health departments. Plans are in place to hold similar activities in the second half of this year for the same target groups upon new enrollments.

Thus in February, we rolled out our first college outreach to The Kenya Railways Training Institute. This was done in conjunction with the resident health centre at railways (RAILWAYS HEALTH CENTRE) and in full consultations with the dean of student's office. Written and signed Permission for conduction of a health talks to students and HIV counseling and testing was obtained from the Directors office through the Dean of student's office. These were scheduled for 22nd (health talk) and 25th and 26th FEBRUARY 2010(VCT). **(See appendix 3)**

In the month of March, we held a health talk and mobile VCT for both staff and students of the Kenya Water Institute (South C). A total of 42 students attended the talk and 30 were tested for HIV. These activities were made possible through the dean of students' office. Permission was got and the activity held on 17th March 2010. **(See appendix 5)**

In the weekend of August 14th and 15th, the center joined an outreach (Medical camp) organized by the Slovak mission's social work department and ST. Raphael clinic in Kayole. This targeted street families in "bases" around Eastlands. During the exercise, 136 people were counseled and tested for HIV. 91% of these were from street families. This was done at St. Teresa Secondary school in Eastleigh.

Since late last year, the Centre has been implementing its Outreach programme to Learning institutions in and around Mukuru. This was in part as a result of increased invitations by respective learning institutions on the same and also as an internally felt need by members of staff from their experiences while in practice.

Owing to its success in February, the Kenya Railways Corporation through its Training school, (RTI) invited the VCT for a second phase HCT WEEK. This was held at the training school between 19th and 22nd October 2010. During this week an official launch was held involving the management, senior staff and students at the institution. This was followed by a health talk on "EMERGING CHALLENGES FACING THE YOUTH AND HIV/AIDS" which was done by two VCT staff members. A total of 199 clients attended the counseling and testing sessions.

Upon invitation by the health department (MPC), the center was also involved in two HIV counseling and testing activities at the Skills center and at the Mary Immaculate Rehabilitation centre on 19th and 23rd November respectively. These involved special preparations with the counselors and social workers at the Rehabilitation centre. Both events were very successful. 40 students were served at the skills department and 21 residential students at the MIRC.

VCT SERVICES

As mandated by NASCOP the VCT has always been keen in providing voluntary counseling and testing services at the site. This was noted to be increased at the beginning of the year and has lowered in consecutive months that have followed. It presents a clear annual VCT service consumption trend typical of most urban centers. It is important to note that the centre has managed to get to its first half year target of 1500 clients. (3000 clients are being targeted for 2010). The center also continues with monitoring of its services and advocating for PARTNER NOTIFICATION to enable an all inclusive approach in HIV prevention within relationships. (**See appendix 5**)

The second half of the year has also seen an increase in site specific service acquisition by voluntary drop in clients. The center took full advantage of this by having all counselors and volunteer counselors (2) on standby. This reduced the waiting time at the reception. Fulltime sessions were held even during lunch times. Occasionally, some sessions would spread beyond 4.00 O'clock. It was also within plans that quality be maintained during the sessions and in record keeping.

FOOTBALL TOURNAMENT

In conjunction with Mukuru promotion centre (Clinic), the VCT organized a football tournament funded by MPC as a community outreach strategy of HIV-AIDS awareness. The response was very outstanding /successful. A total of 18 youth teams (between 13-18 years attended) One hundred and ninety six (196) participants, both boys and girls, were given general health education. They represented all villages in the nine major slums of Mukuru.

CHILD COUNSELLING AND TESTING

Child counselling and testing has also been integrated in VCT services in Kenya since 2007. The Mary Immaculate VCT and Care has been working closely with the Mary Immaculate Clinic's laboratory in implementing the testing component of this approach. In April, the Mary Immaculate VCT Centre in collaboration with Community Implementation Initiatives (CII), the District AIDS and STIs Coordinator (DASCO-Makadara and the APHIA II programme-Nairobi and Central Kenya), held a 3 day children counselling and testing camps at the Makadara and Mary Immaculate VCT (on 6th,7th and 8th April2010. The children involved in this process are have parents in CII, are either partially or fully orphaned. This exercise was targeting a total of 960 eligible children. A total of 388 children were attended to at our VCT alone. This involved invitation of other VCT counselors from other centers to help in the exercise. The process also engaged community health workers from the respective villages. Parental/Guardian informed consent was a mandatory obligation for the testing component.

CAPACITY BUILDING

The VCT staff members embarked on an internal staff capacity building programme aimed at sharing and improving internal staff experiences, boosting staff working morale/staff to-staff peer support and improving staff internal communication. The process is a spear-headed by three staff members and involves two staff capacity building exercises every month. Each of these takes 2-3 Hours and involves **researched** presentations on challenges and best practices in various departments and a common plenary on lessons learnt and where possible how these can be emulated internally between departments. These have also been

shared with the current management as recommendations on monthly reports. So far the programme has held 12 internal staff capacity building sessions. The topics covered involved Diabetes and its management, Monitoring and Evaluation, management of work related stress, both childhood and adult growth and experiences and responses elicited among others.
So far the programme is running as was planned.

Networking

Mary Immaculate clinic remains the main source of referrals for Mother and Child Health on PMTCT profile and physician referrals for the VCT. So far the VCT attended to 48 clients from the clinic between July and Dec 2010. Most of which were mothers seeking PMTCT services. Mater hospital has been the most opted referral point for most comprehensive care services. Seventy nine clients were referred to mater hospital CCC in the past six months. Other service referral points included Kenyatta national hospital, IDH mbagathi, Nairobi remand, Reuben health center and Lungalunga health center. As usual all referrals were given an on-going counseling option or return option if not helped at the next point of referral. This is in line with our objective of restructuring strengthening our referral system.

CHALLENGES

1. From the beginning of this year, the centre has been experiencing shortage in supply of HIV Testing KITS. Many of our network partners have been useful in lending/borrowing us their stocks but in small amounts and this has resulted in uncertainty with planned outreach exercises that involve testing. A back supplies system was created by DASCOs office. This has helped in holding the backflow of shortages experienced in many centers since November.
2. All these mobile outreach activities have been having financial implications in relation to logistical parameters (i.e. transportation of training and testing equipment to and from the centre, support staff involvement, organization for refreshments, lunch and miscellaneous expenses i.e. power and water supply in certain areas within the slum hinder use of Public address system and effective necessary hand washing during HIV testing)
3. The number of staff members is not flexible to allow conduction of mobile outreaches easily. This happens when most invitations to external institutions falls on weekdays. A division of the current staff means **overwork** for either of the teams on site or outside for outreach. This has been noted to cause a lot of burnout and thus slow progress in subsequent days of normal operations. One possible help is for MPC to help the centre hire external VCT counselors on particular Outreach days. The center fully involved the current volunteers in helping manage the outreach activities. This was successful, although future options of doing the same in large scale, is still elusive.

Conclusion

- The Centre has been able to achieve both numerical and programmatic targets set by the VCT steering committee for the year 2010.
- The centre is in dire need for rehabilitation of the building in use for VCT services, and making of the reception to be more consumers friendly/lively.

Recommendations

- ✓ We recommend that ST.Elizabeth management supports the rehabilitation of the VCT/NUTRITION building (Areas noted for repairs include cupboard locks/doors, 1 fire extinguisher poll at the VCT reception needs replacement, reception area needs a brighter colour (Clients suggestions), need for addition of a wire mesh to secure the reception top wall, two of the counselling rooms were made but are not lockable, need to have a blackboard at the reception. The floors within the building are in a very bad state and cleaning has become a challenge). We believe these repairs will go along way in helping the center provide better services.

VCT ANNUAL REPORT FORM

JANUARY TO DECEMBER 2010

UTILIZATION
AGE GROUP

										Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+	
Male	224	744	465	304	175	90	67	30	27	2126
Female	362	781	379	205	119	70	39	13	11	1979
Total	586	1525	844	509	294	160	106	43	38	4105

HIV Seroprevalence by age group and gender

Male	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+	Total
Tested	221	743	463	273	175	89	68	30	27	2089
HIV Positive	0	5	10	11	12	8	7	0	2	55
HIV Positive (%)	0	0.6	2	4	6	8.9	10	0	7	2.6

Female	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+	Total
Tested	362	776	377	202	115	70	39	13	11	1965
HIV Positive	4	36	26	21	12	8	5	2	3	117
HIV Positive (%)	1	4	6	10	10	11	12	15	27	5.9
HIV Positive (%)	1	4	6	10	10	11	12	15	27	5.9

Total	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55+	Total
Tested	583	1519	840	475	290	159	107	43	38	4054
HIV Positive	4	41	36	32	24	16	12	2	5	172
HIV Positive (%)	0.6	2.6	4	6.7	8	10	11	4	13	4.2

APPENDIX 2

Date	**Place**	**Activity**	**Target group**	**Objective**	**REMARKS**
05/02/10 And 12/02/10	Mukuru Skills Training	Creating HIV/AIDS Awareness	Youth In Vocational Training	Passing this year's HIV-AIDS theme message. "Universal access and human rights"	Done. All the boys and girls attended the health talk.
13/02/10	St Catherine Play Ground	Foot Ball Tournament And VCT Services	Youth Within Mukuru Slams	Creating HIV/AIDS Awareness	19 teams participated and rewarded
20/02/10	South B Shopping center	VCT Services	General Public	To Encourage The Public To Know Their HIV Status	In conjunction with CII. Two VCT volunteers involved.
22/02/10	Railway Training Institute	Health talk. theme "Youths and upcoming challenges in HIV/AIDS today"	Students	To Encourage The students To Know Their HIV Status	Done and was extremely successful both by sensitization and attendance
25th and 26 /02/2010	Railway Training Institute	Voluntary counseling and testing	Staff and students	Counseling and testing	Was done and was very successful
25th and 26 /02/2010	Railway Training Institute	Voluntary counseling and testing	Staff and students	Counseling and testing	Was done and was very successful
17th03/10	Kenya Water Institute	Health talk and VCT	staff and students	To Encourage The students To Know more about HIV and know Their HIV Statuses	Was done and extremely successful in terms of attendance for health talk and tests.
19/03/10	Mukuru promotion center Skills training	Health and motivational talk by a PLWHA talk and VCT	Vocational students	Help students demystify HIV give a testing opportunity	Was done and recorded as very successful.
14-15/08/10	St. Teresa's Girls school Eastleigh	Medical Camp/ V.C.T Services	Street Family/ general Public that lives around mlango kubwa	To Get Free Medical Services and VCT Services Too.	Considered generally successful. Over 100 clients counseled and tested

21/09/10	Kenya Institute of Mass Communication	Health Talk/VCT Services	First Year students	To create HIV/AIDS Awareness and Encourage student To Know Their HIV Status	Over 199 staff and students attended to
18/10/10	Railways Training Institute	Health Talk	Staff and Students	To give them general knowledge on HIV-AIDS	Launched by management and attended by over 20 students
19 - 21/10/10	Railways Training Institute	Health talk and VCT Services	Staff and students	To Know Their HIV Status	Over 230 staff and students attended to. 199 counselled and tested
23/10/10	St. Catherine Primary School Compound	Neighbours Against AIDS In Collaboration with MIC and VCT Medical Camp/ VCT services	To the general public that lives around Mukuru Slums	Get free medical services /VCT	0ver 70 cleints attended to for VCT

12/11/10	Mary Immaculate Boys Centre	Voluntary Counseling and Testing	Boys in the Rehab Center	To know their HIV Status too.	DONE. 22 Boys counseled and tested
25th 26th /11/10	Kenya railways headquarters	HIV Conference, PLWHIV testimonial and VCT	Senior Staff	Evaluate existing HIV/AIDS workplace policy. Cooperate in referral and work based staff counseling and follow-ups	DONE. 34 clients attended to.
19/11/10	Mukuru Skills Centre{Head Office}	Voluntary Counseling and Testing	Vocational Training Students.	Helping them to know their HIV Status.	DONE. 39 students accessed VCT.

Appendix 3

Railways Training Institute.

SPONSOR: Government								
		15-19 years		***20 -24 years***		25 -years		***Totals***
		M	***F***	***M***	***F***	***M***	***F***	
VCT Clients	*Health education*							***13***
	Counseled							***288***
	Tested	*10*	*25*	*153*	*92*	*8*	*0*	*288*
	HIV+	*0*	*0*	*0*	*2*	*0*	*0*	*2*

Appendix 4

Mukuru skills Training

SPONSOR: Faith based organization								
		< 15 -19years		-24 years		***>25 +years***		***Totals***
		M	***F***	***M***	***F***	***M***	***F***	
VCT Clients	*Health education*	***6***	***38***	***8***	***26***	***1***	***0***	***64***
	Tested	***3***	***23***	***4***	***14***	***0***	***0***	***44***
	HIV+	***0***	***0***	***0***	***0***	***0***	***0***	***00***

Appendix 5

Kenya Water Training Institute.

SPONSOR: Government								
		< 15-19 years		-24 years		***25 –years***		***Totals***
		M	***F***	***M***	***F***	***M***	***F***	
VCT Clients	***Health education***							***42***
	Tested	***0***	***1***	***13***	***10***	***6***	***0***	***30***

The VCT team

1. Vitalis Okoth(VCT counselor)
2. Jennifer Munuve(VCT counselor)
3. Jared Omondi(VCT counselor)
4. Victor Namulanda (VCT counselor)
5. James Keya(Support staff)
6. Jacinta Mwende (volunteer)
7. Mildred Aduma(volunteer)

UPDATE IN AIDS: SOCIAL AND NURSING ASPECTS

I. Beldjebel, I. Kmit, A. Doktorov, M. Mackinova, V. Rusnakova, J. Bozik, M. Palun, M. Philippe

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ABSTRACT

Update of AIDS concerning health, social and nursing aspects is critically reviewed from sources in 2009-2010

Key words: update in AIDS

Maravoric versus Efavirenz, Both in Combination with Zidovudine-Lamivudine, for the Treatment of Antiretroviral-Naive Subjects with CCR5-Tropic HIV-1 Infection
David A. Cooper
The Journal of Infectious Diseases 2010, 201:803-813

Twice-daily maraviroc was not noninferior to efavirenz at<50 copies/mL in the primary analysis.

Risk of Myocardial Infarction in Patients with HIV Infection Exposed to Specific Individual Antiretroviral Drugs from the 3 Major Drug Classes: The Data Collection on Adverse Events of Anti-HIV Drugs
Signe Westring Worm
The Journal of Infectious Diseases 2010, 201:318-30

Of the drugs considered, only indinavir, lopinavir-ritonavir, didanosine and abacavir were associated with a significantly increased risk of MI.

Macronutriend Supplementation for Malnourished HIV-Infected Adults: A Review of the Evidence in Resource-Adequate and Resource-Constrained Settings
John R. Koethe
Clinical Infectious Diseases 2009, 49:787-98

Analyses of patient outcomes have identified a low body mass index the start of ART as an independent predictor of early mortality, but the causes of a low body mass index are multifactorial (eg, normal anthropometric variation, chronic inadequate food intake, and/or wasting associated with HIV infection and other infectious diseases).
Although there is much information on population-level humanitarian food assistance, few data exist to measure the effectiveness of macronutrient supplementation or to identify individuals most likely to benefit. In this report, we review the current evidence supporting macronutrient supplementation for HIV-infected adults, we report on clinical trials in resource-adequate and resource-constrained settings and we highlight priority areas for future research.

Table 2. Comparison of the 3 Major Types of Macronutrient Supplements Proposed for Use in Sub-Saharan Africa

Parameter	Ready-to-use therapeutic food [89]	Corn-soya blend [90]	Fortified blended foods [91]		Common sub-Saharan African staple foods		
			Corn soya	Wheat soya	Cornmeal (yellow) [75]	Rice (white) [75]	Green banana (matooke, cooked) [76]
Grams	100	100	100	100	100	100	100
Calories	557	376	380	370	366	365	351
Grams of protein (% kcal)	14 (10)	17 (18)	18 (19)	20 (21)	8.5 (9)	7.1 (8)	5.0 (6)
Grams of fat (% total calories)	35 (59)	7.0 (17)	6.0 (14)	6.0 (15)	1.7 (4)	0.7 (2)	0.6 (2)
Carbohydrate, % kcal	31	65	67	64	87	90	92
Packaging	Jar or sachet	Sack	Sack or sachet	Sack or sachet	Sack	Sack	Plant
Indication	Moderate to severe malnutrition	Mild to moderate malnutrition	Mild to moderate malnutrition	Mild to moderate malnutrition	Staple food	Staple food	Staple food
Preparation	None	Hydration and heating	Hydration and heating	Hydration and heating	Hydration and heating	Hydration and heating	Hydration and heating
Ingredients	Vegetable fat, peanut paste, skimmed milk powder, whey powder, maltodextrin, sugar, and mineral and vitamin complex[a]	Corn and soy blend flour, soybean oil, mineral and vitamin complex	Cereals,[b] chickpeas or soybeans, oil seeds or vegetable oil, sugar, and mineral and vitamin complex	Cereals,[b] chickpeas or soybeans, oil seeds or vegetable oil, sugar, and mineral and vitamin complex			

[a] Plumpy'Nut.
[b] Maize, sorghum, millet, and wheat.

Table 3. Trials of Macronutrient Supplementation for Adults with Human Immunodeficiency Virus (HIV) in Resource-Constrained Settings

Study	Location	Study population	Mean baseline BMI, kg/m^2	Intervention	Duration of treatment	Major findings[a]
Cantrell et al [24]	Zambia	636 food-insecure HIV-infected patients starting ART and meeting local criteria for home-based food support	Experimental group: 19.6 (males) and 21.0 (females); control group: 19.7 (males) and 20.8 (females)	Experimental group: 442 patients in 4 clinics received an individual ration of micronutrient-fortified CSB and vegetable oil (970 kcal/day) or, if the patient was a primary income earner, a family ration of CSB, oil, maize meal, and beans (1571 kcal/day); control group: 194 patients enrolled in 4 control clinics received no intervention	6–12 months[b]	70% of patients in the experimental group achieved a medication possession ratio of 95% (indicative of 95% monthly ART adherence) or greater, compared with 48% of patients in control group (RR, 1.5; 95% CI, 1.2–1.8). No significant differences between experimental and control groups in weight gain at 6 months (5.4 vs. 5.1 kg; $P = .68$) or 12 months (6.3 vs. 5.4 kg; $P = .34$), or CD4$^+$ lymphocyte response at 6 months (154 vs. 171 cells/mm^3; $P = .50$) or 12 months (182 vs. 180 cells/mm^3; $P = .96$).
Ndekha et al [103]	Malawi	491 HIV-infected adults with a BMI of <18.5 kg/m^2 at the start of ART	16.5 for both experimental and control groups	Experimental group: 245 patients received 260 g/day (1360 kcal/day) of peanut-based RUFS, and 246 patients received 374 g/day (1360 kcal/day) of CSB; control group received nothing.	3.5 months	After 3.5 months, patients receiving RUFS, as compared with patients receiving CSB, had a greater increase in BMI (2.2 ± 1.9 vs. 1.7 ± 1.6 kg/m^2 [difference, 0.5 kg/m^2; 95% CI, 0.2–0.8 kg/m^2]) and fat-free mass (2.9 ± 3.2 vs. 2.2 ± 3.0 kg [difference, 0.7 kg; 95% CI, 0.2–1.2 kg]). No significant difference in mortality, immune reconstitution, HIV suppression, adherence to ART, or quality of life was observed between the groups.

NOTE. A P value of <.05 was considered to be statistically significant. ART, antiretroviral therapy; BMI, body mass index; CI, confidence interval; CSB, corn-soya blend; RR, relative risk; RUFS, ready-to-use fortified spread.
[a] Some of the values are expressed as mean values (± standard deviation).
[b] Depending on interim assessment; total of 12 months of follow-up.

Treatmentof Active Tuberculosis in HIV-Coinfected Patients: A Systematic Review and Meta-Analysis
Faiz A. Khan
Clinical Infectious Diseases 2010, 50(9):1288-1299

Relapse was more common with regimens using 2 months rifamycin than with regimens using rifamycin for at least 8 months.
This review raises serious concerns regarding current recommendations for treatment of HIV tuberculosis coinfection.The data suggest that at lest 8 months duration of rifamycin therapy, initial daily dosing, and concurrent antiretroviral therapy might be associated with better outcomes, but adequately powered randomized trials are urgently needed to confirm this.

Initial Response to Protease-Inhibitor-Based Antiretroviral Therapy among Children Less than 2 Years of Age in South Africa: Effect of Cotretment for Tuberculosis
Cordula Reitz
The Journal of Infectious Diseases 2010, 201:1121-1131

Children who were not cotreated for tuberculosis were more likely to achieve viral suppression (94,8%) than were children who were receiving cotreatment at ART initiation (74,2%) or who started tuberculosis cotreatment after ART initiation (51,6%, P<.001).
High rates of viral suppression can be achieved among infents and young children who initiate protease-inhibitor-based ART. Cotreatment for tuberculosis reduced viral suppression. How best to treat HIV-infected children who require tuberculosis treatment warrants urgent investigation.

High Frequency of Clinically Significant Mutations after First-Line Generic Highly Active Antiretroviral Therapy Failure: Implications for Second-Line Options in Resource-Limited Settings
N. Kumarasamy
Clinical Infectious Diseases 2009, 49:306-9

Continuation of failed highly activeantiretroviral therapy regimens can lead to the accumulation of mutations that may limit options for second-line treatment. We studied the pattern of drug resistance mutations among 138 Indian patients who experienced failure of nonnucleotide reverse-transcriptase-containing first-line highly active antiretroviral therapy. This study demonstrates a high frequency of drug resistance mutations in human immunodeficiency virus-infected Indians who experience immunologic treatment failure and suggests the need for viral load monitoring.

Table 1. Characteristics and patterns of mutations in 138 patients at the time of treatment failure

Variable	Value
First-line HAART regimen	
Lamivudine plus stavudine plus nevirapine	46
Zidovudine plus lamivudine plus efavirenz	7
CD4 cell count	
Reasons for tratment failure	
50% Decrease in CD4 cell count from peak value	37
>1 Major mutation with drug resistance to NRTIs	90
>1 Major mutation with drug resistance to NNRTIs	65
≥2 major NNRTI and/or NRTI mutations	88
Major NRTI reistance mutations	
M184V	79
T69D	4
L74V	7
K65R	5
Q151M	11
TAMS1 pathway	
M41L	40
T215Y/F	39
L210W	7
TAMS2 pathway	
D67N	32
K70R	18
K219E/Q	12

Major NNRTI resistance mutation	
Y181C	33
K103N	27
G190A	26

Misclassification of first-line antiretroviral treatment failure based on immunological monitoring of HIV infection in resource-limited settings.
Kantor R
Clin Infect Dis. 2009 Aug 1;49(3):463-5.

The monitoring of patients with human immunodeficiency virus (HIV) infection who are treated with antiretroviral medications in resource-limited settings is typically performed by use of clinical and immunological criteria. The early identification of first-line antiretroviral treatment failure is critical to prevent morbidity, mortality, and drug resistance. Misclassification of failure may result in premature switching to second-line therapy.
Misclassification of treatment failure was defined as a 25% decrease in CD4 cell count with a VL of <400 copies/mL. Logistic and tree regressions examined relationships between VL and 4 variables: CD4 T cell count, percentage of T cells expressing CD4 (hereafter CD4 cell percentage), percentage decrease in the CD4 T cell count and percentage decrease in the percentage of T cells expressing CD4.
There were 149 patients who were treated for 23 months; they were identified as having a 25% decrease in CD4 cell count (from 375 to 216 cells/microL) and a CD4% percent decrease (from 19% to 15%); of these 149 patients, 86 (58%) were misclassified as having experienced treatment failure. Of 42 patients who had a 50% decrease in CD4 cell count, 18 (43%) were misclassified. In multivariate logistic regression, misclassification odds were associated with a higher CD4 cell count, a shorter duration of therapy, and a smaller CD4% percent decrease. By combining these variables, we may be able to improve our ability to predict treatment failure. Immunological monitoring as a sole indicator of virological failure would lead to a premature switch to valuable second-line regimens for 58% of patients who experience a 25% decrease in CD4 cell count and for 43% patients who experience a 50% decrease in CD4 cell count, and therefore this type of monitoring should be reevaluated. Selective virological monitoring and the addition of indicators like trends CD4% percent decrease and duration of therapy may systematically improve the identification of treatment failure. VL testing is now mandatory for patients suspected of experiencing first-line treatment failure within the Academic Model Providing Access to Healthcare (AMPATH) in western Kenya, and should be considered in all resource-limited settings.

Monitoring HIV Antiretroviral Therapy in Resource-Limited Settings: Time to Avoid Costly Outcomes
Frederick K. Sawe
Clinical Infectious Diseases 2009,49:463-5

There has been a dramatic and commendable rapid scale-up of human immunodeficiency virus (HIV) prevention and care services in resource-limited settings, including sub-Saharan Africa in the past 5 years, thousands of lives have been saved and>3 million people are now receiving antiretroviral therapy (ART). A growing body of evidence is demonstrating that clinical and immunological monitoring misclassifies virologic failure in almost one-half the cases and results in premature switches to second-line regimens. The cost of this, to programs and individuals, is immense. In 2008, Smith and Schooley (18) referred to managing ART without viral load monitoring as „running with scissors“. The emerging data on the high

levels of unnecessary treatment switches in ART programs in resource-limited settings suggest that i tis more akin to throwing these programs onto drawn swords. The time has come to work toward the progressive introduction of appropriate viral load monitoring technology in these programs with the same sense of urgency and commitment as the world approached ART Access. To do less is to abandon the global success of ART to an early collapse.

Meta-Analysis: Increased Mortality Associated with Hepatitis C in HIV-Infected Persons Is Unrelated to HIV Disease Progression
Ting-Yi Chen
Clinical Infectious Diseases 2009, 49:1605-15

HCV coinfection didnot increase mortality among patients with HIV infection before the introduction of HAART. In contrast, in the HAART era, HCV coinfection, compared with HIV infection alone, increases the risk of mortality, but not the risk of AIDS-defining events. Future studies should determine whether successful treatment of HCV infection could reduce this excess risk of mortality in coinfected patients.

Prenatal Protease Inhibitor Use and Risk of Preterm Birth among HIV-Infected Women Initiating Antiretroviral Drugs during Pregnancy
Kunjal Patel
The Journal of Infectious Diseases 2010, 201:1035-1044

No evidence of an association between use of combination ARV with PI during pregnancy and preterm birth was found. Our study supports current guidelines that promote consideration of combination ARV for all HIV-infected pregnant women.

HIV testing in a high-incidence population: is antibody testing alone good enough?
Joanne D. Stekler
Clinical Infectious Diseases 2009, 49:444-53

The Centers for Disease Control and Prevention recently recommended the expansion of human immunodeficiency virus (HIV) antibody testing. However, antibody tests have longer "window periods" after HIV acquisition than do nucleic acid amplification tests (NAATs).
Public Health-Seattle & King County offered HIV antibody testing to men who have sex with men (MSM) using the OraQuick Advance Rapid HIV-1/2 Antibody Test (OraQuick; OraSure Technologies) on oral fluid or finger-stick blood specimens or using a first- or second-generation enzyme immunoassay. The enzyme immunoassay was also used to confirm reactive rapid test results and to screen specimens from OraQuick-negative MSM prior to pooling for HIV NAAT. Serum specimens obtained from subsets of HIV-infected persons were retrospectively evaluated by use of other HIV tests, including a fourth-generation antigen-antibody combination assay. OraQuick may be less sensitive than enzyme immunoassays during early HIV infection. NAAT should be integrated into HIV testing programs that serve populations that undergo frequent testing and that have high rates of HIV acquisition, particularly if rapid HIV antibody testing is employed. Antigen-antibody combination assays may be a reasonably sensitive alternative to HIV NAAT.

Effects of vitamin D supplementation to children diagnosed with pneumonia in Kabul: a randomised controlled trial.
Tropical Medicine and International Health
Volume 15 no 10 pp 1148-1155 october 2010

Conclusion: A single high-dose oral vitamin D3 supplementation to young children along with antibiotic treatment for pneumonia could reduce the occurence of repeat episodes of pneumonia.

High failure rate of the dissolution tests for 500-mg amoxicillin capsules sold in Cambodia: is it because of the product or the test method?
J. Okumura, M. Taga, S. Tey, Y. Kataoka, N. Nam and K. Kimura
Medicine and International Health

Objectives During the survey of substandard medicines in Cambodia in 2007, it was found that more than 90% of 500-mg amoxicilin (AMPC) capsules failed the United States Pharmacopeia (USP) 30 Test 1 dissolution test, In the USP, several monographs provide mutiple methods for performing the dissolution test.
Results All 500-mg AMPC capsules used for the comparison passed the quantitative test. Samples that passed the USP 28 and USP 30 TESTS 2 dissolution tests were identical and the pass rate was 97,1% (34/35) whereas the pass rate with the USP 30 TEST 1 was 8,6% (3/35). The difference in the dissolution results betwen the three methods was significant ($P<0.0001$).

Barries to starting ART anh how they can be overcome:
Individual and operational factors associated with early and late start of treatment
Rosalind Parkes- Ratanshi, Leonard Bufumbo, Barbara Nyanzi-Wakholi , Jonathan Levin, Heiner Grosskurth, David G Lalloo and Anatoli Kamali

Conclusions This study provided novel information abolut factors encouraging people to start ART early, positive beliefs about ART were the most important. Whilst side effects of ART must not be downplayed, programmes should provide information in a balanced way to prevent unnecessary fear of staring ART. Those already receiving ART were found to be good advocates and should be utilised by ART programmes to educate others.

Virologic outcomes of first- line HAART and associted factors among Chinese patients with HIV in three sentinel antiretroviral treatment sites
Yuhua Ruan, Hui Xing, Xia Wang, Heng Tang, Zhe Wang, Hongwei Liu , Bin Su , Jianjun Wu, Hanping Li, Lingjie Liao, Jingyun Li, Julia Wei Wu and Yiming Shao

Objective
To evaluate HIV drug resistence (HIVDR) among Chinese patients with HIV receiving first line highly active antiretroviral therapy (HAART).
Conclusion
Our study demonstrated that the community-based ART had significant effects on viral suppression and imune recovery. HIVDR should be monitored in the long term to guide informed decisions on preventing HIVDR and choices of first- and second- line regimens.

Growth of infants born to HIV-infected women in South Africa according to maternal and infant characteristics
Kartik K. Venkatesh, Mark N. Lurie, Elizabeth W. Triche, Guy De Bruyn, Joseph I. Harwell, Stephen T. McGarvey and Glenda E. Gray

HIV – infected infants were more likely to be stunded and wasted than uninfected infants, which often occured within 3 months after birth. Infants who were born to mothers with

advanced HIV disease, formula- fed and co-infected with HIV and gastrointestinal infections were at greater risk for growth disturbances.

Cryptococca meningitis in HIV-infected patients: a longitudinal study in Cambodia
Emmanuelle Espié,Loretxu Pinoges, Suna Balkan, Ngeth Chanchhaya,Lucas Molfino, Prak Narom and Mar Pujades- Rodriguez

Conclusions
Cryptococcal meningitis remains an important cause of morbidity and mortality in Cambodian HIV-infected patients. Our findings highlight the importance of increasing early access to HIV care and cryptococcal meningitis prophylaxis and of improving its diagnosis in resource-limited settings.

UPDATE IN MALARIA - SOCIAL AND NURSING ASPECTS

M. Subally, M. Cervenkova, I. Kmit, E. Gazikova, M. Olah, V. Rusnakova, V. Krcmery, J. M. Muli, J.Bozik, A. Doktorov

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ABSTRACT

Current social and nursing aspects of tropical diseases published in 2010 is reviewed and abstracted. Majority of papers world wide have been published on malaria.

Key words: malaria, tropical infectious disease

A Phase III, Randomized, Non-Inferiority Trial to Assess the Effiyacy and Safety of Dihydroatemisinin – Piperaquine in Comparsion with Artesunate – Mefloquine in Patients with Uncomplicated Plasmodium falciparum Malaria in Southern Laos.

Mayfong Mayxay
Am. J. Trop. Med. Hyg., 83(6), 2010, pp, 1221-1229

We conducted an open, randomized clinical trial of oral dihydroartemisinn-piperaquine (DP) versus artesunate-mefloquine (AM) in 300 patients in Laos with uncomplicated Plasmodium falciparum malaria as part of a multicentre study in Asia. Survival analysis and adjustment for re-infection showed that the 63-day cure rates (95% confidence interval CI) were 100 % for AM and 99,5% (96,4-99,8%) for DP. The 63-day cure rates per protocol were 99% (97 of 98) for AM and 99,5 % (196 of 197) for DP (P=0,55).
Dihydroartemisinin-piperaquine is not inferior to AM in the treatment of uncomplicated P. falciparium malaria in Laos and is associated with fewer adverse effects. That results of this study were similar to those of the larger multicentre study.

Efficacy and safety of artemether-lumefantrine compared with quinine in pregnant women with uncomplicated Plasmodium falciparium malaria: an open-label, randomised, non-inferiority trial.

Patrice Piola
Lancet Infect Dis 2010, 10, 762-69

Malaria in pregnancy is associated with maternal and fetal morbidity and mortality. In 2006, WHO recommended use of artemisinin-based combination treatments during the second or third trimesters, but data on efficacy and safety in Africa were scarce. We aimed to assess whether artemeter-lumefantrine was at least as efficacious as oral quinine for the treatment of uncomplicated falciparum malaria during the second and third trimesters of pregnancy in Mbarara, Uganda.

304 women were randomly assigned, 152 to each treatment group. By day 42, 16 patients were lost to follow-up and 25 were excluded from the analysis. At day 42, 137 (99.3%) of 138 patients taking artemeter-lumefantrine and 122 (97.6%) of 125 taking quinine were cured-difference 1.7% (lower limit of 95% CI- 0.9)

Artemisinin derivatives are not inferior to oral quinine for the treatment of uncomplicated malaria in pregnancy and might be preferable on the basis of safety and efficacy.

Ecological transition from natural forest to tea plantation: effect on the dynamics of malaria vectors in the highlands of Cameroon.

M. C. Tanga
Transactions of the Royal Society of Tropical Medicine and Hygiene 104 (2010) 659-668

Malaria transmission was very high and perennial, with an estimated annual EIR of 460.1 infective bites per person per year. These results confirm that in high agricultural activity areas. A. funestus can be by far the mayor malaria vector responsible for malaria transmission.

Dose – Dependent Ris of Neutropenia after 7-day courses of Artesunate Monotherapy in Cambodian Patients with Acute Plasmodium falciparum Malaria.

Delia Bethell

Fears of emerging artemisinin resistance in western Cambodia have prompted a series of clinical trials investigating whether slow responses to antimalarial treatment can be overcome by increasing doses of drug.

Artesunate remains a crucial drug for the treatment of malaria, and determining optimal dosing regimens i svital to overcome emerging resistant parasite strains along the Thai-Cambodian border. However, future experimental dosing studies must be designed with care, because the safety of such regiments can no longer be assumed.

Diagnostic performance of rapid diagnostic tests versus blood smears for malaria in US clinical practice.

Stauffer WM, Cartwright CP, Olson DA, Juni BA, Taylor CM, Browers SH, Hanson KL, Rosenblatt JE, Boulware DR
Clin Infect Dis. 2009 sep 15, 49(6): 908-13. PubMed PMID: 19686072, PubMed Central PMCID, PMC2912215

Background: Approximately 4 million US travelers to developing countries are ill enough to seek health care, with 1500 malaria cases reported in the United States annually. The diagnosis of malaria is frequently delayed because of the time required to prepare malaria blood films and lac of technical expertise. An easy, reliable rapid diagnostic test (RDT) with high sensitivity and negative predictive value (NPV) particulary for Plasmodium falciparum, would be clinically eseful. The objective of this study was to determine the diagnostic performance of a RDT approved by the US food and Drug Administration compared with traditional thick and thin blood smears for malaria diagnosis.

Methods: This prospective study tested 852 consecutive blood samples that underwent thick and thin smears and blinded malaria RDTs at 3 hospital laboratories during 2003-2006. Polymerase chain reaction verified positive test results and discordant results.
Results: Malaria was noted in 95 (11%) of the 852 samples. The RDT had superior performance than the standard Giemsa thick blood smear (p - .003). The RDTs sensitivity for all malaria was 97% (92 of 95 samples), compared with 85% (81 of 95) for the blood smear , and the RDT had a superior NPV of 99.6%, compared with 98.2 % for the blood smear (p-.001). The P. falciparum performance was excellent with 100% rapid test sensitivity, compared with only 88% (65 of 74) by blood smear (p-.003.
Conclusions: This operational study demonstrates that the US Food and Drug Administration-approved RDT for malaria is superior to a single set of blood smear performed under routineUS clinical laboratory conditions. The most valuable clinical role of the RDT is in the rapid diagnosis or the exclusion of P. falciparium malaria, which is particulary useful in outpatient settings when evaluating febrile travelers.

Type 2 Diabetes Mellitus and Increased Risk for Malaria Infection

In Sub-saharian africa infectious diseases remain the predominant cause of illness and death. Plasmodium falciparum malaria alone causes and estimated 1 milion deaths annually (1). At the same time, sub-saharian Africa faces the worlds highest increase in type 2 diabetes mellitus, adaptation to western lifestyles and genetic prodispositions may accelerate this trend (2,3). A decade ago, type 2 diabetes mellitus prevalance in Urban Ghana was 6,3% (4) By 2030 – 20 milion affected persons may live in sub-saharan Africa (2) Type 2 diabetes mellitus increases susceptibility to common infections (5) In sub-Saharan Africa, the emerging co-occurrence of type 2 diabetes mellitus and tropical infectious diseases thus may have substantial implications. We describe prevalance of malaria infection in adults with and without type 2 diabetes mellitus residing in Kumasi, Ghana. Malaria transmission in Kumasi is low but patchy, mosquito breeding sites also occur in Urban agricultural areas.

Severe Plasmodium vivax Malaria, Brazilian Amazon.

Marcia A. Alexandre
Emerging infectious Diseases . www.cdc.gov/eid . Vol 16, No 10, October 2010

We describe a case series of 17 patients hospitalized in Manaus (western Brazilian Amazon) with PCR- confirmed Plasmodium vivax infection who were treated with chloroquine and primaquine. The major complications were jaundice and severe anemia. No in vivo chloroquine resistance was detected. These data help characterize the clinical profile of severe P. vivax malaria in Latin America.

Artesunate Misuse and Plasmodium falciparum Malaria in Traveler Returning from Africa.

Dea Shahinas
Emerging Infectious Diseases. Vol. 16, No. 10, october 2010

Plasmodium falciparum malaria developed in an African-born traveler who returned to Canada after visiting Nigeria. While there, she took artesunate prophylactically. Isolates had an elevated 50% inhibitory concentration to artemisinin, artesunate, and artemether, compared

with that of other African isolates. Inappropriate use of artemisinin derivatives can reduce P. falciparum susceptibillity.

Adult and child malaria mortality in India: a nationally representative mortality survey.

Neeray Dhingra
Lancet 2010, 376, 1768-74

Of all coded deaths at ages 1 month to 70 years 2681 (3.6%) of 75342 were attributed to malaria.
The adjudicated results ahow 205 000 malaria deaths per year in India before age 70 years childhood, 30 000 at ages 5-14 years, 120 000 at ages 15-69 years) 1.8% cumulative probability of death from malaria before age 70 years.

Despite uncerftainty as to which unattended febrile deaths are from malaria, even the lower bound greatly exceeds the WHO estimate of only 15 000 malaria deaths per year in India (5000 early childhood, 10 000 thereafter) This low estimate should be reconsidered, as should the low WHO estimate of adult malaria deaths worldwide.

Rapid Detection of Lactate Dehydrogenase and Genotyping of Plasmodium falciparum in Saliva of children with Acute Uncomplicated Malaria.

Grace O. Gbotosho
Am. J. Trop. Med. Hyg. 83(3), 2010, pp, 496-501

The diagnosis of malaria in biological fluids other than blood using non-invasive, rapid diagnostic techniques provides a valuable approach in case management and epidemiological studies of malaria. Rapid detection of Plasmodium falciparum lactate dehydrogenase (pLDH) in saliva samples from 130 of 144 children with microscopically confirmed P. falciparum infection was evaluated using Optimal – IT dipsticks. Genotyping of parasities was also performed in saliva and blood samples from a cohort of patients by polymerase chain reaction (PRC) The sensitivy of the dipstick in whole blood, whole saliva or supernatant of spun saliva samples was 97,2%, 77,9% and 48,4% respectively.

Evulation of Recurrent Parasitemia after Artemether-Lumefantrine Treatment for Uncomplicated Malaria in Children in Western Kenya.

Joseph V. Woodring
Am. J. Trop. Med. Hyg. 83(3), 2010,pp, 458-464

From April 2005 to April 2006, a phase 2 malaria vaccine trial in Kenya enrolled 400 children agen 12-47 months. Each received mixed supervised and unsupervised artemeter-lumefantrine for uncomplicated malaria, using a standard six-dose regimen, by weight. Children were followed for detection of parasitemia and clinical malaria. A median of two negative malaria blood films occurred during every recurrent parasitemia (RP) episode, suggesting reinfection over late recrudenscence.

Cost Saving with Rapid Diagnostic Tests for Malaria in Low- Transmission Areas: Evidence from Dar es Salaam, Tanzania.

Joshua Yukich
Am. J. Trop. Med. Hyg. 83(1), 2010,pp, 61-68

Rapid diagnostic tests (RDTs) for malaria may help rationalize antimalarial drug use. Howaver, the economic effects of these tests may vary. Data on costs were collected from 259 patients in 6 health facilities by using exit and in-charge interviews and record reviews during a trial of RDT rollout in Dar es Salaam, Tanzania. The RDTs decreased patient expenditure on drugs (saving – U.S. $ 0.36, P=0.002) and provider drug costs (saving = U.S. $ 0.43, P= 0.034) compared with control facilities. However, RDT introduction did not significantly reduce patients overall expenditures (U.S. $ 1.02, 95% confidence interval (CI) = $ 0.76-$1.36 versus U.S. $ 1.33 95% CI = $0.99-$1.77) and may increase total provider costs (U.S. $ 3.63, 95% CI = 3.40- $ 3.89 versus U.S. $2.32, 95% CI = $1.99-$2.69) compared with control facilities. Clinicians compliance with test results was higher with RDTs than with routine microscopy (95% versus 82%, P= 0.002) The RDTs reduced drug costs in this setting but did not ofset the cost of the tests although they also resulted in non-monetary benefits, including improved management of patients and increased compliance with test results.

Comparative Diagnosis of Malaria Infections by Microscopy, Nested PCR, and LAMP in Northern Thailand.

Am. J. Trop. Med. Hyg. 83(1), 2010, pp, 56-60

Three methods , microscopy, nested polymerase chain reaction (nPCR), and loop-mediated isothermal amplification (LAMP) have been applied for malaria diagnosis in 105 human blood samples collected in Northern Thailand.

Intravenous Ibuprofen (IV- ibuprofen) Controls Fever Effectively in Adults with Acute Uncomplicated Plasmodium falciparum Malaria but Prolongs Parasitemia.

Srivicha Krudsood
Am. J. Trop. Med. Hyg. 83(1) 2010, pp 51-55

Because some febrile patients are unable to swallow or retain oral antipyretic drugs, we carried out a doubleblind, placebo-controlled trial in which intravenous ibuprofen (IV-ibuprofen) was given to adults hospitalized with fever associated with acute uncomplicated falciparum malaria treated with oral artesunate plus mefloquine. Thirty patients received IV-ibuprofen 400 mg and 30 received placebo every 6 hours for 72 hours. Reduction in the area above 37.0 o C versus time curve was significantly greater for IV- ibuprofen than for placebo during the first 72 hours after first administration. No patients developed severe malaria, parasite clearance was delayed in the patients whose fevers were controlled by IV-ibuprofen (median 37,3 hours versus 23, 7 hours in the placebo grolup P=0,0024). This difference did not appear to be clinically important Adverse events none considered severe occured equally in both groups IV-ibuprofen was effective and well tolerated in reducing fever in febrile inpatients with malaria.

The Platent Count in Celebral Malaria , Is It Useful to the Clinician?

Am. J. Trop. Hyg. 83(1) 2010, pp, 48-50

We conducted this study to determine the prognostic significance of the platent count in children with cerebral malaria. We studied children with celebral malaria admitted to the pediatric research ward at queen Elisabeth Central Hospital, Malawi. We analysed 1,811 children with cerebral malaria and compared them with 521 children with bacterial meningitis. There was a significant difference in platent counts between children with cerebral malaria and those with meningitis. Among children with cerebral malaria , there was no relationship between the platent count and either the admission coma score or the eventual outcome. Those with malarial retinopathy were more thrombocytopenic than those without. Our results suggest than the platent count is not prognostic in Malawian children with cerebral malaria.

A Comparison of Iron and Folate with Folate Alone in Hematologic Recovery of Children Treated for Acute Malaria.

Samuel N. Gara
Am. J. Trop. Med. Hyg. 83(4) 2010 pp, 843-847

For acute malaria we randomized 82 children 6-60 months of age from Nigeria with smear positive malaria and anemia (hematocrit < 33%) to receive iron (2 mg/kg/day) plus folate (5 mg/day) or folate alone in addition to antimalarial drugs. The mean SD hematocrit at baseline was 28.5% - 2.9%. At four weeks, the mean hematocrit increased by 2.5% - 1.6 % in the iron plus folate group and by 1.4% - 1.0% in the folate alone group (P=0.001) baseline hematocrit, iron supplementation, weight for height, and weekly meat intake were significant predictors of final hematrocrit. The effect of iron was not significantly modified by baseline hematrocrit, weekly meat intake, nutritional sgtatus, mother s education, sex, or age of the child. Iron supplementation improved hematologic recovery in children with malarial anemia.

Cese report: Combinated Intravenous Treatment with Artesunate and Quinine for Severe Malaria in Italy.

Alessandro Bartoloni
Am. J. Trop. Med Hyg 83(2), 2010, pp, 274-276

We report a series of eight imported severe falciparum malaria cases treated with IVA combined with intravenous quinine (IVQ).

An Outbreak of Plasmodium falciparum Malaria in U.S. Marines Deployed to Liberia

Timothy Whitman
Am. J. Trop. Med. Hyg., 83(2), 2010, pp. 258-265

In 2003, 44 U.S. Marines were evacuated from Liberia with either confirmed or presumed Plasmodium falciparum malaria. An outbreak investigation showed that only 19 (45%) used insect repellent, (12%) used permethrin-threated clothing, and none used bed netting. Adherence with weekly mefloquine (MQ) was reported by 23 (55%). However, only 4 (10%) had serum MQ levels high enough to correlate with protection (> 74 ng/mL), and 9 (22%) had

evidence of steady-state kinetics (MQ carboxy metabolite/MQ > 3.79) Tablets collected from Marines met USP identity and dissolution specifications for MQ. Testing failed to identify P. falciparum isolates with MQ resistance. This outbreak resulted from under use of personal protective measures and inadequate adherence with chemophrophylaxis. It is essential that all international travellers make malaria prevention measures a priority, especially when embarking to regions of the world with high transmission intensity such as west Africa.

„Good doctors are of no use without good discipline. More than half the battle against disease is not fought by doctors, but by regimental officers. It is they who see that the daily dose of mepacrine (anti-malarial chemoprophylactic drug used in WW II) is taken...if mepacrine was not taken, I sacked the commander. I only had to sack three; by then the rest had got my meaning."

-Lieutenant Ggeneral William Slim (1891-1970),
Burma compaign, 1943

Frequency Distribution of Antimalarial Drug Resistance Alleles among Plasmodium falciparum Isolates from Gezira State, Central Sudan, and Gedarif State, Eastern Sudan

Michela Menegon
Am. J. Trop. Med. Hyg. 83(2), 2010, pp. 250-257

In 2004, Sudan adopted artesunate + sulfadoxine/pyrimethamine (SP) combination as the first-line drug, in response to the high level of falciparum resistance to antimalarials. The MARK III in vitro test for chloroquine sensitivity in 45 P. falciparum isolates showed that 37,8% of the isolates were low resistant and 6,7% were fully resistant and underlines the importance of the analysis of SP resistance evolution to monitor the efficacy of ACT therapy in endemic areas.

Use of nutritional and water hygiene packages for diarrhoeal prevention among HIV exposed infants in Lilongwe, Malawi: an evaluation of a pilot prevention of mother to child transmission post-natal care service.
Jiayin Xue, Zenabu Mhango, Irving F. Hoffman, Innocent Mofolo, Esmie Kamanga, James Campbell, Greg Allgood, Myron S. Cohen, Francis E. A. Martinson, William C. Miller and Mina C. Hosseinipour.
Medicine and International Health
Vol 15 No 10 pp 1156-1162 october 2010

Objective: To evaluate a pilot prevention of mother to child transmission post-natal programe in Lilongwe, Malawi, through observed retention and infant diarrhoeal rates.
Conclusion: The majority of participants adhered to their scheduled visits and retention was favourable, possibly because of the introduction of hygiene and nutrition incentives. The infant diarrhoeal rate was low, suggesting benefits of regular medical care with hygiene package usage and reliable replacement feeding options. Continuation and expansion of the programe would allow further studies and improve the post-natal care of HIV – exposed infants in Malawi and in other resource-constrained countries.

Comparison of artesunate and quinine in the treatment of Sudanese children with severe Plasmodium falciparum malaria

Hatim G. Eltahir
Transactions of the Royal Society of Tropical Medicine and Hygiene 104 (2010) 684-686

Sixty-six children presenting to Singa hospital, Sudan with different manifestations of severe Plasmodium falciparum malaria were randomly divided into two well-matched groups (33 in each arm) to receive either intravenous artesunate 2.4 mg/kg at 0, 12, and 24 hours, then daily, or intravenous quinine 20 mg/kg initially then 10 mg/kg three times a day. There was no significant difference in the fever, parasite clearance, and coma resolution times. Three patients died, one in artesunate and two in quinine groups. One patient developed hypoglycaemia following quinine infusion. Thus, artesunate can be used for the treatment of severe falciparum malaria.

Use of nutritional and water hygiene packages for diarrhoeal prevention among HIV exposed infants in Lilongwe, Malawi: an evaluation of a pilot prevention of mother to child transmission post-natal care service.
Jiayin Xue, Zenabu Mhango, Irving F. Hoffman, Innocent Mofolo, Esmie Kamanga, James Campbell, Greg Allgood, Myron S. Cohen, Francis E. A. Martinson, William C. Miller and Mina C. Hosseinipour.
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The effects of a pre-season treatment with effective antimalarials on subsequent malaria morbidity in under five-year-old children living in high and seasonal malaria transmission area of Burkina Faso

Alphonse Ouédraogo
Tropical Medicine and International Health, Volume 15, No. 11, pp. 1315-1321, November 2010-12-23

To evaluate the effects of pre-season treatment with single dose of sulfadoxine-pyrimethamine (SP) or artemether-lumefantrine (AL) on subsequent malaria morbidity in under-fives.
The meantime to the first malaria infection was 36 days in the SP arm and 26 days in the AL arm ($P = 0.006$). The incidence density of malaria infection was similiar in both groups (86.5% vs. 92.3%, $P = 0.52$). The mean time to the first malaria episode was 47 days in the SP arm and 32 days in the AL arm ($P < 0.001$). The incidence of malaria episodes was significantly higher in the group pretreated with AL (45.7 per 1000 child days-at-risk CI 95%

[35-56]) than in the control group (10.7 per 1000 child days-at-risk CI 95% [7-15]; P < 0.001).

Our findings suggest that the radical clearance of parasitemia with AL may increase susceptibility to malaria infection and clinical malaria episodes.

ANTIRETROVIRAL THERAPY FOR HIV INFECTION IN ADULTS AND ADOLESCENTS

Recommendations for public health approach
2010 revision, HIV/AIDS Programme, WHO (Review)

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ABSTRACT
Recommendations for public health approach from 2010 revision of HIV/AIDS program of the WHO and extensively review.

Key words: ART, HIV, adults

D. Summary of changes

2. Earlier initiation of ART (antiretroviral therapy)

ART initiation is recommended for all PLHIV (people living with human immunodeficiency virus) with:

- a CD4 count of ≤350 cells/mm^3 and for those with WHO clinical stage 3 or 4 irrespective of CD4 account (Tab. 2).
- It is recommended that all patients with WHO clinical stage 1 or 2 should have access to CD4 testing to decide when to initiate treratment.

3. **Simplified, less toxic antiretroviral drugs for use in first-line and second-line therapy**

While current options have permitted rapid ART scale-up, the cost in terms of side-effects has been considerable. There is a clear demand both from PLHIV and health-care providers to phase in less toxic ARVs while maintaining simplified fixed-dose combinations. The available evidence indicates that initial ART should contain:

- An NNRTI (non-nucleoside reverse transcriptase inhibitors), either NVP or EFV (*nevirapin* or *efavirenz*) plus two NRTIs (nucleoside/and nucleotide analogue reverse transcriptase inhibitors), one of which should be 3TC (*lamivudine*) or FTC (*tenofovir*) and the other AZT (*zidovudine*) or TDF (*emtricitabine*)

Countries are advised to choose one second-line regimen for individuals with first-line failure.

4. Promoting the initiation of ART for all those with HIV/TB coinfection

The data demonstrate a reduction in all-cause mortality among individuals provided with TB therapy and ART

5. Promoting improved HBV diagnosis and more effective treatment of HIV/HBV coinfection

Evidence supports the initiation of ART, irrespective of WHO disease stage or CD4 cell count, for all those with HIV/HBV coinfection and chronic active hepatitis B when treatment is indicated for hepatitis B.

However, there is no agreed definition of chronic active hepatitis in resource-limited settings. There is an urgent need to develop diagnostic criteria to identify individuals with HIV/HBV coinfection who need treatment in situations where HBV DNA and liver biopsy are not routinely available.

6. More strategic monitoring for antiretroviral efficacy and toxicity

While laboratory monitoring should not be a barrier to initiating ART, the newly recommended ARV regimens may require more laboratory monitoring than current regimens, especially in individuals at higher risk for adverse events.

A phased-in approach to the use of viral load testing, if feasible, will improve the identification of treatment failure.

In resource-limited settings, plasma viral load (HIV-RNA) measurement is not required before the initation of ART. However, expanded access to viral load testing is needed to improve the accuracy of diagnosing treatment failure. Earlier detection of virological failure allows both targeted adherence interventions and better preservation of the efficacy of second-line regimens.

E. Recommendations at a glance

Table 1. Current recommendations

When to start ART	All adolescents and adults including pregnant women with HIV infection and CD4 counts of ≤350cells/mm^3, should start ART, regardless of the presence or absence of clinical symptoms. Those with severe or advance clinical disease (WHO clinical stage 3 or 4) should start ART irrespective of their CD4 cell count
What to use in first-line therapy	First-line therapy should consist of an NNRTI + two NRTIs, one of which should be zidovudine (AZT) or tenofovir (TDF). The other is FTC or 3TC, + EFV or NVP Countries should take steps to progressively reduce the use of stavudine (d4T) in first-line regimens because of its well-recognized toxicities.
HIV + pregnant women	AZT + 3TC + NVP, AZT preferred but TDF acceptable, EFV included as a NNRTI option, but do not initiate during first trimester, benefits of NVP outweigh risk where CD4 count is 250-350 cells/mm^3
HIV/TB coinfection	AZT or TDF + 3TC or FTC + EFV, ART should be initiated irrespective of CD4 cell counts as soon as possible in all HIV/TB-coinfected patients with active TB (within 8 weeks after the start of TB treatment)
HIV/HBV coinfection	TDF + 3TC or FTC + EFV Irrespective of CD4 cell counts or WHO clinical stage, patients who require treatment for HBV infection shoud start ART. First-line and second-line regimens for these individuals should contain TDF and either emtricitabine (FTC) or lamivudine (3TC) NVP or triple NRTIs are acceptable options if EFV cannot be used

What to use in second-line therapy	Second-line ART should consist of a ritonavir-boosted protease inhibitor (bPI) + two NRTIs, one of which should be AZT or TDF, based on what was used in first-line therapy. Ritonovir-boosted atazanavir (ATV/r) or lopinavir/ritonavir (LPV/r) are the preferred bPIs If d4T or AZT in 1st-line therapy: TDF + 3TC or FTC + ATV/r or LPV/r If TDF was used in first-line therapy: AZT + 3TC + ATV/r or LPV/r ABC (abacavir) and ddI (didanosine) can be considered as backup options in case of AZT or TDF toxicity or if AZT or TDF are contraindicated
HIV/TB coinfection	If rifabutin available (150mg 3 times/week) + same regimens If not – same NRTI backbones recommended for adults + LPV/r or SQV/r with adjusted dose of RTV (LPV/r 400mg/400mg twice a day or LPV/r 800mg/200mg twice a day or SQV/r 400mg/400mg twice a day)
HIV/HBV coinfection	AZT + TDF + 3TC (or FTC) + ATV/r or LPV/r TDF + 3TC (or FTC) failed in the first-line regimen should be continued for anti-HBV activity and to reduce the risk of hepatic flares
Laboratory monitoring	All patients should have access to CD4 cell-count testing to optimize pre-ART care and ART management. HIV-RNA (viral load) testing is recommended to confirm suspected treratment failure. Drug toxicity monitoring should be symptom-directed.
NRTIs not to be used together	d4T + AZT (proven antagonism), d4T + ddI (overlapping toxicities), 3TC + FTC (interchangeable, but should not be used together)

F. Clinical considerations

Clinical stageing is intended for use where HIV infection has been confirmed by HIV antibody testing. It is used to guide decisions on when to start cotrimoxazole prophylaxis and when to start ART.

Both stages 3 and 4 are independently predictive of HIV-related mortality. Assessing the need for ART in those with WHO clinical stage 2 presents challenges. Some stage 2 conditions may be considered more indicative of HIV disease pregression than the others. For example, papular pruritic eruptions (PPEs) typically occure with CD4 counts of <200 cells/mm^3, and most physicians would recommend the initation of ART in the presence of PPEs and the absence of a CD4 count. Conversely, recurrent oral ulceration or a fungal nail infection generally would not be considered triggers to start ART.

Given the uncertainty with which stage 2 conditions predict mortality and disease progression, HIV-infected individuals with WHO clinical stage 2 whould have priority access to CD4 testing to decide if treatment should be initiated and the same applies to asymptomatic individuals (WHO stage 1).

Table 2. WHO clinical staging of HIV disease in adults and adolescents. (Source: Revised WHO clinical staging and immunological classification of HIV and case definition of HIV for surveillance, 2006).

Clinical stage 1
Asymptomatic Persistent generalized lymphadenopathy
Clinical stage 2
Moderate unexplained weight loss (under 10% of presumed or measured body weight) Reccurent respiratory tract infections (sinusitis, tonsillitis, otitis media, pharyngitis) Herpes zoster Angular cheilitis Recurrent oral ulcerations Papular prurutic eruptions Seborrhoeic dermatitis Fungal nail infections
Clinical stage 3
Unexplained severe weigh loss (over 10% of presumed or measured body weight) Unexplained chronic diarrhoea for longer than 1 month Unexplained persisstent fever (intermittent or constant for longer than 1 month) Persistent oral candidiasis Oral hairy leukoplakia Pulmonary tuberculosis Severe bacterial infections (e.g. pneumonia, empyema, meningitis, pyomyositis, bone or joint infection, bacteraemia, severe pelvic inflammotory disease) Acute necrotizing ulcerative stomatitis, gingivitis or periodontitis Unexplained anaemia (below 8g/dl), neutropenia (below 0,5 x 10^9/l) and/or chronic thrombocytopenia (below 50 x 10^9/l)
Clinical stage 4
HIV wasting syndrome Pneumocystis jirovci pneumonia Recurrent severe bacterial pneumonia Chronic herpes simplex infection (orolabial, genital or anorectal of more than 1 month´s duration or visceral at any site) Oesophageal candidiasis (or candidiasis of trachea, bronchi or lungs) Extrapulmonary tuberculosis Kaposi sarcoma Cytomegalovirus disease (retinitis or infection of other organs, excluding liver, spleen and lymph nodes) Central nervous system toxoplasmosis HIV encephalopathy Extrapulmonary cryptococcosis including meningitis Disseminated nontuberculous mycobacteria infection Progressive multifocal leukoencephalopathy Chronic cryptosporidiosis Chronic isosporiasis Disseminated mycosis (histoplasmosis, coccidiomycosis) Recurrent septicaemia (including nontyphoidal Salmonella) Lymphoma (cerebral or B cell non-Hodgkin) Invasive cervical carcinoma Atypical disseminated leishamaniasis Symptomatic HIV-associated nephropathy or HIV associated cardiomyopathy

D. When to switch ART to second-line regimens

1. Where available, use viral load (VL) to confirm treratment failure.
2. Where routinely available, use VL every 6 months to detect viral replication.
3. A persistent VL of >5000 copies/ml confirms treatment failure.
4. When VL is not available, use immunological criteria to confirm clinical failure.

An individual must be taking ART for at least 6 months before it can be determined that a regimen has failed. Viral load measurement is considered a more sensitive indicator of treatment failure compared to clinical or immunological indicators. VL may be used in a targeted or routine strategy.

The objective of *the targeted strategy* is to confirm suspected clinical or immunological failure, maximizing the clinical benefits of first-line therapy and reducing unnecessary switching to second-line therapy. Targeted VL may also be used earlier in the course of ART (within 4 to 6 months of ART initiation) to assess adherence and introduce an adherence intervention in at-risk patients before viral mutations start to accumulate.

The objective of *the routine VL strategy* is to detect virological failure early, leading to adherence interventions or changes in therapy that will limit ongoing viral repliations, reduce the risk of accumulation of resistance mutations and protect the drug susceptibility of second-line and subsequent therapies.

VL has the potential to save the cost of expensive second-line drugs by confirming that they are needed.

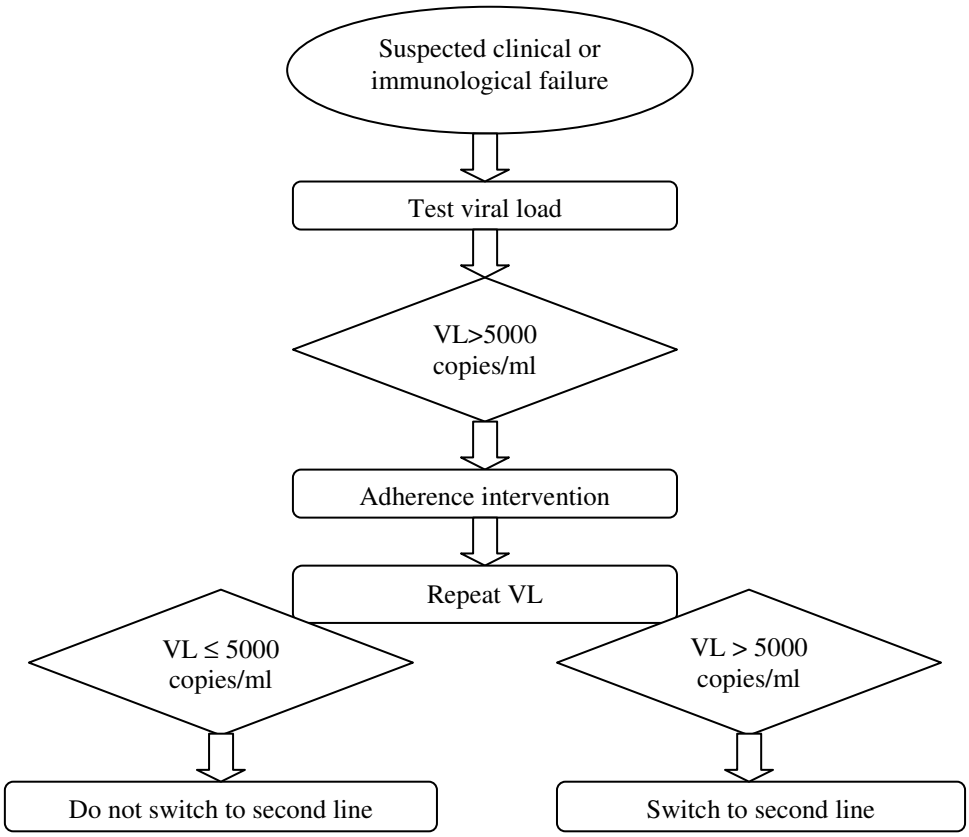
ART switching has occured at lower than expected rates in resource-limited settings, and the limited use of virological monitoring has been identified as an important factor. Many countries are considering employing VL to optimize the use of expensive second-line drugs. The same rationale applies when third-line drugs are available. Physicians and PLHIV consider clinical and immunological monitoring insufficient to promote a timely switch and want VL monitoring. The initial and ongoing cost is high. The use of VL to confirm clinical-immunological switch (targeted approach) will cost less than the routine use of VL monitoring (Fig. 1).

Table 3. ART switching criteria

Failure	**Definition**	**Comments**
Clinical failure	New or recurrent WHO stage 4 condition	Condition must be differentiated from immune reconstitution inflammatory syndrome (IRIS) Certain WHO clinical stage 3 conditions (e.g. pulmonaary TB, severe bacterial infections), may be an indication of treatment failure
Immunilogical failure	Fall of CD4 count to baseline (or below) OR 50% fall from on-treatment peak value OR Persistent CD4 levels below 100 cells/mm^3	Without concomitant infection to cause transient CD4 cell decrease
Virological failure	Plasma viral load above 5000	The optimal viral load threshold for defining virological failure has not been determined. Values of

	copies/ml	>5000 copies/ml are associated with clinical progression and a decline in the CD4 cell count

Figure 1. Targeted viral load strategy for failure and switching



E. Third-line regimens

Recommendations

- National programmes should develop policies for third-line therapy that consider funding sustainability and the provision of equitable access to ART
- Third-line regimens should include new drugs likely to have anti-HIV activity, such as integrase inhibitors and second-generation NNRTIs and PIs
- Patients on a failing second line regimen with no new ARV options should continue with a tolerated regimen

The criteria for diagnosing second-line failure are the same as those used for diagnosing first-line failure. However, many countries have financial constraints that might limit the adoption of third-line regimens. There is limited evidence to guide third-line strategies in resource-limited settings, with few studies of newer agents in these settings. Data from RCTs, predominantly in developed countries, are available for **boosted darunavir (DRV/r), etravirine (ETV) and raltegravir (RAL)**. Taken together, these data support the effifacy of these agents in highly ART-experienced patients. Many studies are still in progress and for that there is still uncertainty about what third-line drugs should be provided.

F. Cotrimoxazole prophylaxis

Cotrimoxazole prophylaxis is recommended for all symptomatic individuals (WHO clinical stages 2, 3, or 4) including pregnant women. Where CD4 testing is available, cotrimoxazole prophylaxis is recommended for individuals with a CD4 cell count of <350 cells/mm^3, particularly in resource-limited settings where bacterial infection and malaria are prevalent among PLHIV. If the main targets for cotrimoxazole prophylaxis are Pneumocystis jiroveci pneumonia and toxoplasmosis infection, a CD4 threshold of <200 cells mm^3 may be choosen. Data from an observational analysis in the DART trial showed that the use of cotrimoxazole prophylaxis reduced mortality by 50% in severely immune-suppressed HIV-infected adults initiating ART, with benefits continuing for at least 72 weeks. Futhermore, cotrimoxazole prophylaxis reduced malaria incidence in these patients.

G. Laboratory monitoring

Guiding principles

1. Laboratory monitoring is not a prerequisite for the initiation of ART.
2. CD4 and viral load testing are not essential for monitoring patients on ART.
3. Symptom-directed laboratory monitoring for safety and toxicity is recommended for those on ART.
4. If resources permit, use viral load in a routine approach, measured every 6 months, with the objective of detecting failure earlier than would be the case if immunological and/or clinical criteria were used to define failure.

Table 4. Laboratory monitoring before, during and after initiating ART

Phase of HIV managment	**Recommended test**	**Desirable test**
At HIV diagnosis	CD4	HbsAg
Pre-ART	CD4	
At start of ART	CD4	Hb for AZT (low CD4 or BMI) Creatinine clearance for TDF, ALT for NVP (for high risk patients)
On ART	CD4	Hb for AZT, creatinine clearance for TDF, ALT for NVP (for high risk patients)
At clinical failure	CD4	Viral load
At immunological failure	Viral load	
Women exposed to PMCT interventions with sd-NVP with a tail within 12 months and without a tail within 6 months of initiating ART	Viral load 6 months after initiation of ART	

H. Dosages of recommended antiretrovirals

Table 5. Dosages of antiretrovirals

Generic name	Dose
Nucleoside reverse transcriptase inhibitors (NRTIs)	
Abacavir (ABC)	300 mg twice daily or 600 mg once daily
Didanosine (ddI)	400 mg once daily (>60 kg) 250 mg once daily (≤60 kg)
Emtricitabine (FTC)	200 mg once daily
Lamivudine (3TC)	150 mg twice daily or 300 mg once daily
Stavudine (d4T)	300 mg twice daily
Zidovudine (AZT)	250-300 mg twice daily
Nucleotide reverse transcriptase inhibitors (NtRTIs)	
Tenofovir (TDF)	300 mg once daily (dosage adjustment for individual with altered creatinine clearance)
Non-nucleoside reverse transcriptase inhibitors (NNRTIs)	
Efavirenz (EFV)	600 mg once daily
Etravirine (ETV)	200 mg twice daily
Nevirapine (NVP)	200 mg once daily for 14 days, followed by 200 mg twice daily (in the presence of rifampicin, or when patients switch from EFV to NVP, no need for lead-in dose of NVP)
Protease inhibitors (PIs)	
Atazanavir + ritonavir (ATV/r)	300 mg + 100 mg once daily
Darunavir + ritonavir (DRV/r)	600 mg + 100 mg twice daily
Fos-amprenavir + ritonavir (FPV/r)	700 mg + 100 mg twice daily
Indinavir + ritonavir (IDV/r)	800 mg + 100 mg twice daily
Lopinavir/ritonavir (LPV/r)	Fixed dose Combination tablets (LPV 200 mg/RTV 50 mg) Two tablets (400mg/100 mg) twice daily (LPV/r can be administered as 4 tablets once daily, i.e. LPV 800mg + RTV 200 mg once daily in patients with less than three LPV resistance-associated mutations on genotypic testing. Once-daily dosing is not recommended in pregnant women or patients with more than three LPV resistance-associated mutations)
	Considerations for individuals on TB therapy In the presence of rifabutin, no dose adjustment required In the presence of rifampicin, use ritonavir superboosting (LPV 400 mg + RTV 400 mg twice daily) or LPV 800 mg + RTV 200 mg twice daily, with close clinical and hepatic enzyme monitoring
Saquinavir + ritonavir (SQV/r)	1000 mg + 100 mg twice daily

	Considerations for individuals on TB therapy In the presence of rifabutin, no dose adjustment required In the presence of rifampicin, use ritonavir superboosting (SQV 400 mg + RTV 400 mg twice daily) with close clinical and hepatic enzyme monitoring
Integrase strand transfer inhibitors (INSTIs)	
Raltegravir (RAL)	400 mg twice daily

I. Prevention and assessment of HIV drug resistance

The emergence of HIV drug resistance (HIVDR) is of increasing concern in countries where ART and ARV prophylaxis is widely used, and represents a potential impediment to the achievement of long-term success in treatment outcomes. The rapid or uncontrolled emergence of HIVDR could lead to and increrase in therapeutic failures, transmission of resistant virus, and a decrease in therapeutic options, treatment programme effectiveness and survival.

Implementing programme elements that minimize the emergence of HIVDR, including optimizing access to ART, supporting appropriate ART prescribing and adherence, and ensuring adequate and continuous drug supplies, is essential for preserving the efficacy of the limited number of ARV drugs available in many countries. Transmission of resistant virus is minimized through support for prevention programmes for HIV positive individuals.

J. Some important questions (review of different studies)

1. When to start ART?

Table 6. Early ART versus standard or deferred ART (CD4 ≤200 or CD4 ≤250 cells/μl) for asymptomatic, HIV-infected, treatment-naive adults

	Early ART		Deferred ART	RR
Deaths	1,1%	vs	4,6%	0,26
Tuberculosis	3,5%	vs	6,8%	0,54

2. What ART to start?

Table 7. Should EFV vs NVP be used for initial ART?

Initial ART	EFV		NVP	RR
Mortality (randomized trials)	5%	vs	5,7%	0,89
Mortality (observational trials)	9,3%	vs	4,2%	1,47

Table 8. Should TDF vs ABC be used for initial ART? (randomized clinical trials)

Initial ART	TDF	ABC	RR
Mortality – not reported	0%	0%	-
Clinical response	0,3%	0%	2,98

Table 9. Should TDF vs d4T or AZT be used for initial ART? (randomized clinical trials)

Initial ART	TDF	d4T or ZDV	RR
Mortality	2%	1,7%	1,18

Table 10. Should AZT vs d4T be used for initial ART? (observational studies)

Initial ART	AZT	d4T	RR
Mortality	9,4%	13,1%	0,72
Virological response	38,8%	58,3%	0,67

3. Monitoring strategies for quiding when to swich.

Table 11. Should clinical monitoring vs immunological and clinical monitoring be used in guiding when to switch first-line antiretroviral therapy in adults in low-resource settings?

Monitoring	Clinical	Immunological and clinical	HR
AIDS-defining illness or mortality	26,9%	20,4%	1,33

Table 12. Should clinical monitoring vs virological, immunological and clinical monitoring be used in guiding when to switch first-line antiretroviral therapy in adults in low-resource settings?

Monitoring	Clinical	Virological, immunological and clinical	HR
AIDS-defining illness or mortality	19,1%	12,8%	1,88
Unnecessary switch (switch to second line therapy with undetectable viral load)	4%	0%	RR 30,3
Virological treatment failure	5%	4,3%	1,16

Table 13. Should clinical and immunological monitoring vs virological, immunological and clinical monitoring be used in guiding when to switch first-line antiretroviral therapy in adults in low-resource settings?

Monitoring	Clinical and immunological	Virological, immunological and clinical	HR
AIDS-defining illness or mortality	15,6%	12,8%	1,28

Table 14. Should virological, immunological, and clinical monitoring vs immunological and clinical monitoring be used in guiding when to switch first-line antiretroviral therapy in adults in low-resource settings?

Monitoring	Virological, immunological and clinical	Immunological and clinical	HR
Mortality	-	-	2,28
Rate of switching	3,7%	2,5%	RR 1,6

4. What to use in second-line?

Table 15. Should PI monotherapy be used for patients failing first-line therapy?

Therapy	PI monotherapy	cART	RR
Mortality	1,4%	0,7%	1,46

Table 16. Should darunavir/ritonavir vs. Lopinavir/ritonavir be used for patients failing first-line therapy?

Therapy	Darunavir/ritonavir	Lopinavir/ritonavir	RR
Mortality	0,3%	1,4%	0,2
Severe adverse events	9,9%	15,9	0,62

EMERGING ISSUES IN PUBLIC HEALTH, NURSING AND SOCIAL WORK IN WESTERN PACIFIC AREA

I.Beldjebel, V. Krcmery, J. Benca, A. Stanova, E. Gazikova, M. Mackinova, A. Doktorov, J. Bozik, J. Palun, J. Sokolova, R. Selveraj Salvaburian, P. Fiala, J. Vallova, M. Jankechova, V. Kozon

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ABSTRACT
Emerging issues in Public Health, Nursing and Social work in Western Pacific area reviewed and discussed.

Key words: public health, western pacific region

A Dengue

a) - dengue
- epidmology/travels
- increasing epidemic
- hyperdemicity
- emergence of DHF – 1960-15000, 2008 – 1,2 mil. cases
- from 5 to 60 countries in 1960-2010 are endemic

b) clin. Dg. Dg and therapy: fever plus dengue rash day 6-7, bleeding joint pain, headache, myalgia
c) lab. 7, 0 + 7 d, day 0-7 is Ig M. posit., Ig A from day 7, Ig G – 14d, Ig M – 7 days (Ig G – late)
d) vaceins (Jeremy Favvar, HochiMinh) Phase III –vacine, dengue – against VHK
e) complications: hemoptol capillary leak sy

B) Hepatitis C

- Epidemiolgy deadth causes of 23441 HAART -30% AIDS, 14% liver disease, 9% cardiovascular, 8% cancer (in rich countries – during related toxicity)

350 mil. HbsAg, 35 mil. AIDS, abut 5-15% bene both
Hep. B has more rapid fibrosis pregression and more resistance

- Lamivudin, FTC, adefovir entecrir, itabin, tenoforir, viral load of HIV is increasing the risk of cirrhosis.
- HBV genotypes – A – Scandinavia, Bc – Asia (suscept to IFN), D- Mediteran, poor subs. To IFN, E-Africa, F-Latin america, G-West Europe (poor sus. To IFN), I-India, J-Japan
- Diagnosis: Fibroscan, serology, genotyping, otx: IFN, Lanindin, Entecarir, Tenoforir, Emticitasin. Resistance in HIV – within 5 years – Telbicedin 40% (3g). (Hep. B – DNA virus, Hep.C-RNA virus - may select resistance. More expensive.
- RR resist. of cinlosis) Hep.B +HIV – 16%, but HIV plus Hep.C – 55% has cirrhosis

C) P. vivax

Vivax dogmas: Limited buden
Benijn Infection
Primaquine effective
Chloroquine Ok

Never is true now. No new drugs for virax malaria for 60 year, new dg in pipline – tafenoquin. So called „beng...“ teeliana – 3 deaths during pls or 448 deaths 8354 (5%), 5% case fatality rate from past studies, 22% have dispost, 20% inpatids – meli drug resist. 50% and 7% in mixed falciparum - vivax + malaria we see now: coma, ARDS – all can accelerate Rate 7 – 100%!
For therapy – antimalial, relepse 7-60days
pld drugs – pamaquin orguinacine tx is standard therapy: radical tx plus antimalacial suppression Tx (primaquine). Chloroquin resistance is emerging.

D) Chicunqunia

2mil. cases 2005, Reunion 300 000 cases, Keny 200 000, 2009 – Malaysia, Thailand 50 000 cases, Indonesia, Madagascar are going epidemises attac rate in (India -45%, Reunion 35% - very high). They cannot walk economic effect. First epidemia 1779 in Java, Rash, Sudden aust. muscal and joint pain. Viremia for 7 days Dengue has not joint pain, other symptoms are like dengue.

E) Syplilis

Kills 1 mil. babies from every year. In Ste – every horu 1 baby. 64% is MSM – and HIV coinfection. The rates in UK within last 5 years. HSV, rash can be like any viral rash, 1st. stage PEN high dose 1 dose in HIV 3X, in pregnancy 2x.

F) Leptospirosis.

Most despread nosis in the world. 20 different genomes, vodents, cattle, dog. More than 10 per 1000, Bangladesh, Fiji, Cambodia, 1-10, China, India more than 10: Singapore, Malaysia. Risk groups miner sewage cleaners, farmers, fishman, rafting, triatlon, water sports case fatality rate is 10%. 5-40% all have had failure, fever 100%, conjunctivitis 50% cough 50%, jaundice 50%.

G) Influenza

- 3 500 – 50 000 annual deaths a year and 200 000 hospitalizations in US/year.
- Preparing for a pandemic virus H5N1 – this is a vaccine developed and stock pilling is prepared
- H1N1 – 1918, H1N1 – 2009 pig. Virus
- Human – 1957-H2N2
  1966 H2N2
- A-flu – human 2004 H5N1 – Hawai, Jakarta – 508 cases, 302 deaths, Asian-human dismission
- Human-human – 2009 H1N1-H5N5 spread

H) Resistance to Gramnegatives – MDR supeebugs

J1. Metalobetalactamses producing gramnegative bacteria
1999 – Japan - MBL
1999 – VIM-Verona
2002 – SPM-1 Sao Paolo

2004 – GIM – Germany
2005 – SIM – Seoul, Korea
2005 – AIDI – Australia
2009 – NDM-1- India
2010 – DIM – Amsterdam
2010 –NDM-1 Australia – Vienna, Graz

J2. What is in pipeline? Pipeline (only 1 is in Phase 3, why?)

1) ATB do not pay back
2) Plus they are destroyed very rapidly
3) NXL – 104 – BLA inhibitor – not for MBL and MDR-R PA, AB
4) Pfizer 489, LEK 157, MelDI 1071, BAL 30376 sideephore betalactemol
5) Cubist CXA-101, CXA 201. Phase II. second-for study complicated UTI
6) ACUN – 490 neoglycoside, sisomycin derivate, phase II, UTI not for PA
7) TP-434 tetracycline, not achive against Ps. Aeqiosa Inhalation for cystic fiborsis-antacin, cipro, levo
8) BIS indoles 1962 quotes 200 oxalidonimoun 2002 no new drugs within 10 years
9) BAL- Basilea 30072, Sideroptore betalacterame/monobactam
10) MC Series- Pfizer, preclinical
11) GSK-052-AN 3655- boronic acid compound (ANACOR GSK)
12) Efflux Pump inhibitor –GSK
13) NX-105, novexel, non-BLA ATB
14) RIB-X 04, enzyme ribozome inhibitor S-50 submit (onclusin: untill 2015, new against (PA, A.baumain) Lixin Thang: when no new drugs – why not surgery screening natural products in one way, symposium of nonactive drugs- and their possibility.

I) Pneumococcal disease

Risk facts: alcohol, COPD, Cancer, Blood malignancy, HIV, Splneectony, Sickle disease, Transplabalin
Mortality: China 16%, Taiwan 30-4%, Thailand 42% Pneumoccocal bacteria 19C,9N6,7,23F,19F- Taiwan have higher mortality
Economics: hospitalization, absenteesm, school ab. Church in US for 502 000 cases 3,7 bil. USD and indirect 1,8 bil. USD (50 000 bacteremic). Pneumonia is leading cause of death (13mil.)
Etiology: 20% MSSA + MRSA 70%
1) transmissibility
2) high cost to society
3) few health care attenalines
4) decrease mortality

Death reals are higher than in MRSA and AIDS
Resistance: PEN 1967, ER 1968, QUIN 1998, high specialy in Asia, India, Philippinas 5-15%, Thailand 44%, Vietnam, Taiwan, Korea 70-90%.
PEN-R 1-8% (MIC from 2 to 8R and 0,5 – 4 IM), China -9%, Korea, Vietnam – 2%
Multi R Pneuoces – more than 3 drugs resistance – RSA 33%, USA 25%, Europe 10-20%.
WPAC-Asia 60%, 19F, 23F, 19A, 6B, 14 = 60% of all in children – 19A, 6A in children less than 5 years. In children – 3 in patients more than 65 years. Hyast MPR resistance is 19A, 6A, 3 – increase after PCV-7 vaccine was introduced.

J) Thuberculosis

J1 Resistance in TB – XDR TB

- high mortality
- INH+RIF+QUIN+A6L

1) 6-12 months – EM, PAS, MFX, INH-High dose, CFZ, AMO/CLAV initial phase
Cefoxilim – 3-4 drugs
2) main – with 12-18 months, 2-3 drugs
3) surgical adjuct tx, 2 months before surgery and after 12 months
4) new drugs – moxi (phase 3), TMC 207 (Johnson Johnson) Phase II., SQ 333- phase 1

J2 Epidemiology of latent TB- LTB

Epi. 9,4 mil. new cases of TB
Reliable test, only dg is TST (TB skin.test) or IFN – gama test
Influsia more than 7 years of age
Testing: TST, Quantiferon–IFN gamma velose assay.
5 mil. positive in HIV, close TB and RTG emid of healed TB
5 – 10 mil. in other than HIV, high rist of TD more than 10-in others.
IFN Gamma – QFT specify is 96%, T-Spot sensitivity 70-94%, T-spot better than quantifern
TST is performed screening method if TST is negative T spot will (GRA(T-SPOT) plus include active TB. Diffical is small children with blood in Europe-TST replaced by GRA, to 2 step approach.

J3 TB Meningitis

95% is SE Asia (2,5bil. People) in Hoch Minh 600 cases/year related with high mortality

EMERGING ISSUES IN TROPICAL DISEASES - SOCIAL AND HEALTH ASPECTS

N. Konwa, E. Gazikova, M. Mackinova, A. Doktorov, J. Bozik, M. Palun, J. Sokolova, M. Olah, D. Hes, J. Kafkova, J. Suvada , M. Meciakova, L. Oswald, K. Badanic, T. Olnick, K. Kvokackova, L. Bendikova, J. Kohutiar, T. Benson Alumbasi, M. Jankechova, J. Vallova, P. Fiala, L. Alumbasi, V. Kozon

SEUC, UOT and SMU Tropic Programme, Nairobi, Kibre ,Mengise, Ethiopia

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ABSTRACT

Emerging issues in tropical diseases apart from HIV is thoroughly reviewed and abstracted

Key words: tropical diseases

1. Parasitology (Malaria, Helmints)

Albendazole and Mebendazole Administered Alone or in Combination with Ivermectin against Trichuris trichiura: A Randomized Controlled trial
Stefanie Knopp
Clinical Infectious 2010, 51(12):1420-1428
Addition of ivermectin improves the therapeutic outcomes of both albendazole and mebendazole against T. trichiura and may be considered for use in soil-transmitted helminth control programs and individual patient management.

Long-term effect of aspirin on colorectal cancer incidence and mortality: 20-year follow-up of five randomised trials
Peter M. Rothwell
Lancet 2010,: 376: 1741-56
Aspirin taken for several years at doses of at least 75mg daily reduced long-term incidence and mortality due to colorectal cancer. Benefit was greatest for cancers of the proximal colon, which are not otherwise prevented effectively by screening with sigmoidoscopy or colonoscopy.

Can urine dipstick tests detect renal impairment in Plasmodium falciparum malaria in a rural setup?
Sudhansu S Pati
Tropical doctor 2010, 40. 106-107
There was a positive correlation of plasma urea and creatinine with haematuria ($r=0.56$, $P<0.001$, $r=0.46$, $P<0.01$) but not with proteinuria. The detection of haematuria using a dipstick seems to be a highly specific and sensitive method of observing renal impairment in malaria. This is probably the first study which utilizes a commonly available tool that can be easily adopted for early recognition in rural areas.

Mantoux test reactions among children managed for tuberculosis in Maiduguri, Nigeria., Gofama MM
We conducted a study of Mantoux reactions in children managed for tuberculosis (TB) at the University of Maiduguri Teaching Hospital (UMTH) over a period of 4 y. Of the 97 eligible

children managed for various forms of TB on whom a Mantoux test was conducted, 82 (84.5%) had a negative Mantoux reaction and 15 (15.5%) had a positive reaction. No statistically significant difference was found in relation to age groups and sex between the patients with positive and negative Mantoux reactions (p = 0.602 and p = 0.484, respectively). No significant difference in Mantoux reaction was observed among BCG-vaccinated and non-vaccinated children (p = 0.321). Although malnutrition and HIV infection were significantly associated with a negative Mantoux reaction, disseminated TB was not associated. We therefore recommend proper clinical assessment and other investigations for the diagnosis of TB in children in settings with a high prevalence of HIV infection and malnutrition, as Mantoux reaction results may be unreliable.

Foodborne Illness Acquired in the United States—Major Pathogens

Elaine Scallan,Emerging Infectious Diseases. www.cdc.gov/eid. Vol. 17, No. 1, Jan 2011

Estimates of foodborne illness can be used to direct food safety policy and interventions. We used data from active and passive surveillance and other sources to estimate that each year 31 major pathogens acquired in the United States caused 9.4 million episodes of foodborne illness (90% credible interval [CrI] 6.6–12.7 million), 55,961 hospitalizations (90% CrI 39,534–75,741), and 1,351 deaths (90% CrI 712– 2,268). Most (58%) illnesses were caused by norovirus, followed by nontyphoidal Salmonella spp. (11%), Clostridium perfringens (10%), and Campylobacter spp. (9%). Leading causes of hospitalization were nontyphoidal Salmonella spp. (35%), norovirus (26%), Campylobacter spp. (15%), and Toxoplasma gondii (8%). Leading causes of death were nontyphoidal Salmonella spp. (28%), T. gondii (24%), Listeria monocytogenes (19%), and norovirus (11%). These estimates cannot be compared with prior (1999) estimates to assess trends because different methods were used. Additional data and more refined methods can improve future estimates.

Echinostoma revolutum Infection in Children, Pursat Province, Cambodia

Woon-Mok Sohn, Emerging Infectious Diseases. www.cdc.gov/eid. Vol. 17, No. 1, Jan 2011

To determine the prevalence of helminthic infections in Pursat Province, Cambodia, we tested fecal specimens from 471 children, 10–14 years of age, in June 2007. The prevalence of infection with echinostome flukes ranged from 7.5% to 22.4% in 4 schools surveyed. Adult worms were identified as Echinostoma revolutum.

Clinical profile of women with severe anaemia in the third trimester of pregnancy

Sharda Patra, Tropical doctor 2010, 40: 85-86

Anaemia, the most common medical disorder associated with pregnancy, is a silent killer. Most severely anaemic pregnant women are asymptomatic and present late in the third trimester with medical and obstetric complications.

Rhabdomyolysis in falciparum malaria – a series of twelve cases (five children and seven adults)

Saroj K Mishra MD, Tropical doctor 2010, 40: 87-88

There are very few reports in the literature of rhabdomyolysis in falciparum malaria and they mostly consist of single case studies. A report from Sri Lanka described a single patient with myoglobinuria and skeletal muscle necrosis. Taylor and Prosser reported a single case of rhabdomyolysis with renal failure. We report on 12 patients with evidence of skeletal muscle injury in severe malaria from Rourkela, Orissa State, India.

Effect of single-dose anthelmintic treatment during pregnancy on an infant's response to immunisation and on susceptibility to infectious diseases in infancy: a randomised, double-blind, placebo-controlled trial

Dr Emily L Webb PhD., Lancet 2011, 377: 52-62

With a computer-generated random number sequence in blocks of 100, we assigned patients to 440 mg albendazole and 40 mg/kg praziquantel (n=628), 440 mg albendazole and a praziquantel-matching placebo (n=625), 40 mg/kg praziquantel and an albendazole-matching placebo (n=626), or an albendazole-matching placebo and praziquantel-matching placebo (n=628). All participants and hospital staff were masked to allocation. Primary outcomes were immune response at age 1 year to BCG, tetanus, and measles immunisation; incidence of infectious diseases during infancy; and vertical HIV transmission. Analysis was by intention-to-treat. This trial is registered, number ISRCTN32849447. The rate per 100 person-years of malaria was 40·9 (95% CI 38·3—43·7), of diarrhoea was 134·1 (129·2—139·2), and of pneumonia was 22·3 (20·4—24·4). We noted no effect on infectious disease incidence for albendazole treatment (malaria [hazard ratio 0·95, 95% CI 0·79—1.14], diarrhoea [1·06, 0·96—1·16], pneumonia [1·11, 0·90—1·38]) or praziquantel treatment (malaria [1·00, 0·84—1·20], diarrhoea [1·07, 0·98—1·18], pneumonia [1·00, 0·80—1·24]). In HIV-exposed infants, 39 (18%) were infected at 6 weeks; vertical transmission was not associated with albendazole (odds ratio 0·70, 95% CI 0·35—1·42) or praziquantel (0·60, 0·29—1·23) treatment. These results do not accord with the recently advocated policy of routine antenatal anthelmintic treatment, and the value of such a policy may need to be reviewed.

Epidemiology of parasitic co-infections during pregnancy in Lambaréné, Gabon
Ayôla A. Adegnika, Michael Ramharter, Selidii T. Agnandji, Ulysse Ateba Ngoa, Saadou Issifou, Maria Yazdanbahksh and Peter G. Kremsner

Conclusion This study shows a high burden of parasitic infections with substancial degree of parasitic co-infections in pregnant women in a Central African region. This may have implications for immunological studies and operational research involving pregnant women.

Freshwater Aquaculture Nurseries and Infection of Fish with Zoonotic Trematodes, Vietnam.

Van Thi Phan, Annette Kjar Ersboll, Than Thi Nguyen, Khue Viet Nguyen, Ha Thi Nguyen, Darwin Murrell, and Anders Dalsgaard.

Emerging Infectious Diseases. www.cdc.gov/eid. vol 16, No. 12, December 2010

FZT prevalance in in juveniles was 14.1% , 48.6% and 57.8% after 1 week, 4 weeks, and when overwintered in ponds, respectively, FZT prevalance was highes in grass carp ($p<0.001$) than in other carp species. Results show that nursies are hot spots for FZT infection in fish.

Difficulties in the Treatment of Intestinal Amoebiasis in Mentally Disabled Individuals at a Rehabilitation Institution for the Intellectually Impaired in Japan.

Tsukasa Fujishima

Chemotherapy 2010, 56, 348-352 DOI: 10.1159/000320187

Background: A mass Entamoeba histolytica infection recurred despiteated treatments with metrodinazole at a rehabilitation institution for individuals with intellectual impairments. Methods: Diloxanide furoate was administered to improve intractable intestinal infected with E. histolytica at an institution (the prevalance rate and positive serology rate were 38.2 and

67.1%, respectively) The therapeutic effectt' of the drugs was judged by microscopic stool examination and an E. histolytica antigen detection kit.

2. Virology

Seasonal Influenza A (H1N1) Infection in Early Pregnancy and Second Trimester Fetal Demise
Richard W. Lieberman , Emerging Infectious Diseases. Vol. 17, No. 1, Jan 2011
A second trimester fetal demise followed influenza-like illness in early pregnancy. Influenza A virus (H1N1) was identified in maternal and fetal tissue, confirming transplacental passage. These findings suggested a causal relationship between early exposure and fetal demise. Management of future influenza outbreaks should include evaluation of products of conception associated with fetal loss.

Pandemic (H1N1) 2009 Outbreak at Canadian Forces Cadet Camp
Rhonda Y. Kropp

Conclucted a case-control study to describe clinical and epidemiologic characteristics of an outbreak of pandemic (H1N1) 2009 at a Canadian military cadet training center. We found that asthma and obesity confer greater risk for infection. Viral shedding was detected by PCR up to 18 days after symptom onset.

Pandemic (H1N1) 2009 Infection in Patients with Hematologic Malignancy.
Catherine Liu

The assess outcomes of patients with hematologic malignancy and pandemic (H1N1) 2009 infection, we reviewed cases during June – December 2009 at the University of California San Francisco Medical Center. Seventeen (63%) and 10 (37%) patients had upper respiratory tract infection (URTI) and lower respiratory tract infection LRTI) respectively. Cough (85%) and fever (70%) were the most common signs, 19 % of patients bhad nausea, vomiting, or diarrhea. Sixty-five percent of URTI patients were outpatients, 35% recovered without antiviral therapy. All LRTI patients were hospitalizated, half requuired intensive care unit admission. Complications included acute respiratory distress syndrome, pneumomediastinum, myocarditis, and development of oseltamivir-resistant virus, 3 patients died.

Proportion of Deaths and Clinical Features in Bundibugyo Ebola Virus Infection, Uganda
Adam MacNeil

The first known Ebola hemorrhagic fever (EHF) outbreak caused by Bundibugyo Ebola virus occurred in Bundibugyo District, Uganda in 2007. Fifty-six cases of EHF were laboratory confirmed. Although signs and symptoms were largely nonspecific and similar to those of EHF outbreak caused by Zaire and Sudan Ebola viruses, proportion of deaths among those infected was lower. (40%)

Possible Interruption of Measles Virus Transmission, Uganda, 2006–2009
Frederick N. Baliraine, Emerging Infectious Diseases. Vol. 17, No. 1, Jan 2011
To determine what measles virus genotype(s) circulated in Uganda after strategic interventions aimed at controlling/eliminating measles, we examined samples obtained during

2006–2009 and found only genotype B3.1, which had not been previously detected. Kenya was the likely source, but other countries cannot be excluded.

Effect of circumcision of HIV-negative men on transmission of human papillomavirus to HIV-negative women: a randomised trial in Rakai, Uganda
Prof Maria J Wawer MD , Lancet 2011, 377: 209-18
Our findings indicate that male circumcision should now be accepted as an efficacious intervention for reducing the prevalence and incidence of HPV infections in female partners. However, protection is only partial; the promotion of safe sex practices is also important.

3. NDM and other ATB resistance

New Delhi Metallo-β-Lactamase in Klebsiella pneumoniae and Escherichia coli, Canada
Michael R. Mulvey, Emerging Infectious Diseases. No. 1, Jan 2011
Multidrug-resistant Klebsiella pneumoniae and Escherichia coli isolates harboring New Delhi metallo-b-lactamase (NDM-1) were isolated from a patient who had returned to Canada from India. The NDM-1 gene was found on closely related incompatibility group A/C type plasmids. The occurrence of NDM-1 in North America is a major public health concern.

Bacterial aetiology and antimicrobial resistance of community-acquired pneumonia in the elderly and younger adults
Seyyed Hamid Hashemi, Tropical doctor 2010, 40: 89-91
This study was undertaken in order to compare the frequency of bacterial agents of community-acquired pneumonia (CAP) and their antimicrobial resistance in the elderly and younger adults admitted to a teaching hospital in Hamedan, Iran. A total of 150 cases of CAP, including 81 elderly and 69 younger adults, were evaluated. The most frequently identified pathogens in younger adults were Moraxella catarralis (11.5%), Streptococcus pneumonia (10.1%) and Staphylococcus aureus (10.1%); while in the elderly the most frequent were S. pneumonia (12.3%), S. aureus (6.1%) and Pseudomonas aeruginosa (6.1%). No significant differences were observed between the frequency and antimicrobial resistance pattern of isolated pathogens in either age group. We concluded that the cause of CAP in the elderly follows the general trend of infection in the younger population. Increased resistance of isolated bacteria to the current antibiotics highlights the need for further investigation of newer antibiotics for the treatment of CAP.

Emergence of New Delhi Metallo-ß-Lactamase, Austria
Emerging Infectious Diseases. www.cdc.gov/eid. Vol. 17, No. 1, Jan 2011 Carbapenemase-producing K. pneumoniae has been detected in 26 isolates obtained during September 2007 through August 2010 from 6 patients at the University Hospital, Graz, Austria.. Eight isolates from 2 patients were found to carry the plasmid NDM-1.

Carbapenemases in Enterobacteria, Hong Kong, China, 2009
Class D OXA-48 Carbapenemase in Multidrug-Rresistant Enterobacteria, Senegal
Rising mother-to-child HIV transmission in a resource-limited breastfeeding population
Felicity Zvanyadza Gumbo, Tropical doctor 2010, 40., 70-73
The objective of this study was to determine mother to child HIV transmission rates at different time points in a breastfeeding cohort enrolled in a single dose nevirapine program in Harare, Zimbabwe. Between 2002–2004, 434 HIV-positive mothers and their infants were recruited and followed up from delivery to 15 months. The overall HIV transmission rate was 21.8% (17.8–25.8). Receiving single dose nevirapine was protective against HIV vertical

transmission although statistically insignificant (relative risk: 0.76; 95% CI: 0.49–1.19). Breastfeeding was not found to be associated with HIV vertical transmission (P = 0.612). In this resource-limited setting, HIV transmission rates are high.

Postmortem findings in patients in a tertiary care hospital in rural South Africa
Mirta Garcia-Jardon , Tropical doctor 2010, 40: 81-84
The major postmortem findings were related to infections, with 38% of the patients having had some form of tuberculosis, followed by pyogenic infections – pneumonias (21.5%), meningitis (10.1%) and septicemias (5.1%). Other important infections included opportunistic fungi like cryptococcosis (7.6%) and pneumocystis pneumonia (8.9%).

Escherichia coli O25b-ST131: a pandemic, multiresistant, community-associated strain.
Rogers BA, Sidjabat HE, Paterson DL. J Antimicrob Chemother 2011, 66: 1-14
Escherichia coli sequence type 131 (ST131) is a worldwide pandemic clone, causing predominantly community-onset antimicrobial-resistant infection. Its pandemic spread was identified in 2008 by utilizing multilocus sequence typing (MLST) of CTX-M-15 extended-spectrum β-lactamase-producing E. coli from three continents. Subsequent research has confirmed the worldwide prevalence of ST131 harbouring a broad range of virulence and resistance genes on a transferable plasmid. A high prevalence of the clone (~30%-60%) has been identified amongst fluoroquinolone-resistant E. coli. In addition, it potentially harbours a variety of β-lactamase genes; most often, these include CTX-M family β-lactamases, and, less frequently, TEM, SHV and CMY β-lactamases. Our knowledge of ST131's geographical distribution is incomplete. A broad distribution has been demonstrated amongst antimicrobial-resistant E. coli from human infection in Europe (particularly the UK), North America, Canada, Japan and Korea. High rates are suggested from limited data in Asia, the Middle East and Africa. The clone has also been detected in companion animals, non-companion animals and foods. The clinical spectrum of disease described is similar to that for other E. coli, with urinary tract infection predominant. This can range from cystitis to life-threatening sepsis. Infection occurs in humans of all ages. Therapy must be tailored to the antimicrobial resistance phenotype of the infecting isolate and the site of infection. Phenotypic detection of the ST131 clone is not possible and DNA-based techniques, including MLST and PCR, are described.

Can urine dipstick tests detect renal impairment in Plasmodium falciparum malaria in a rural setup?
Sudhanshu S Pati, Tropical doctor, 2010, 40: 106-107
Renal impairment in falciparum malaria leads to poor prognosis. Serum creatinine is the mainstay of diagnosis. However, the serum creatinine concentration is only observed when the glomerular filtration rate falls below 50%. We evaluated the use of the urine dipstick method to predict renal impairment in 77 patients. Twenty-three (29.8%) had haematuria and 52 (67.5%) had urinary protein ≥300 mg/L. Renal impairment (plasma creatinine ≥1.2 mg/dL) was observed in 17 patients. The sensitivity and specificity of haematuria in the detection of renal impairment was 94.1% and 90.8%, but for proteinuria it was 88.2% and 62.7%, respectively. There was a positive correlation of plasma urea and creatinine with haematuria ($r = 0.56$, $P < 0.001$; $r = 0.46$, $P < 0.01$) but not with proteinuria. The detection of haematuria using a dipstick seems to be a highly specific and sensitive method of observing renal impairment in malaria. This is probably the first study which utilizes a commonly available tool that can be easily adopted for early recognition in rural areas.

I never thought that this baby would survive, I thought that it would die any time: perceptions and care for preterm babies in eastern Uganda.
Tropical Medicineand International Health
Volume 15 no 10 pp 1140-1147 october 2010

Conclusion: In this setting, care for preterm babies in inadequate at both health facility and community level. However, acceptence of the recommanded newborn care practices iniciated by the community is a windodow of opportunity for introducing programmes for preterm babies. In doing so, consideration needs to be given to the care provided at health facilities as well as to the gaps in community care that are largely influenced by belifs, perceptions and lack of awareness.

4. Emergencies, injuries, accidents, life styles events

Epidemiology of needle stick injuries among health-care workers in Awassa City, Southern Ethiopia

Amputation and disability following snakebite in Nigeria
S B Abubakar MD, Tropical doctor 2010, 40: 114-116
This report describes 16 snakebite victims who had amputations, including two who had above-knee amputations. The patients presented with limb swelling (16), gangrene (15), ischaemia (4) and three had possible compartment syndrome. All the patients used ineffective time wasting remedies that were potentially harmful as first-aid. The median delay to hospital following bite was 2.5 days. In order to prevent disability, efforts should be made to: reduce delay before hospital presentation; improve the knowledge of first-aid; provide effective antivenoms; improve wound and clinical care in communities; and improve facilities.

Hair dye poisoning – an emerging problem in the tropics: an experience from a tertiary care hospital in South India

Anugrah Chrispal, Tropical doctor 2010, 40: 100-103
Super-Vasmol, a cheap, freely-available hair dye is emerging as a major cause of suicidal poisoning in India. It contains potential toxins including paraphenylene diamine, resorcinol, sodium ethylenediaminetetraacetic acid and propylene glycol which can result in multiorgan dysfunction. A retrospective study was conducted over 3.5 years (January 2006 – July 2009) of 13 consecutive patients with Super-Vasmol poisoning admitted to a tertiary care, referral hospital in South India. A chart review including records of clinical presentations, laboratory findings and treatment details was carried out. Eleven of the patients were women and the mean age was 27.2 years. The predominant clinical features were cervico-facial oedema and pain, cola-coloured urine and oliguria. Laboratory investigations revealed elevated hepatic transaminases (100%), leucocytosis (92.3%), elevated creatinine phosphokinase (92.3%), metabolic acidosis (84.6%), hypocalcaemia (61.5%), hyperphosphataemia (46.2%) and renal failure (38.5%). Eight of the patients were discharged with complete recovery.

Bilateral blindness following snakebite

S K Mustapha MBBS FWACP, Tropical doctor, 2010, 40: 117-118

Snakebite is an important cause of morbidity and mortality in Nigeria, as in many parts of the tropics. However, blindness is a rare complication. Reported cases have usually followed bites by neurotoxic snakes such as the cobra. Reports of blindness produced by the bite of haematotoxic snakes are extremely rare. We report the case of bilateral blindness following a bite from a carpet viper. The literature on the subject matter is reviewed and the possible

mechanisms of snakebite-induced blindness are discussed. Over the next month the subgaleal haematoma subsided; the proptosis, conjunctival chemosis and retinal haemorrhage all resolved. However, the optic atrophy persisted and the perception of light was absent in both eyes. No specific treatment could be offered.

Managing scorpion stings in the tropics: chloroquine as an effective drug
Edwin M T Yenli MD

We report on a fairly familiar alternative use of injection chloroquine in district hospitals in Ghana. Within a period of three years, pain control among six patients with scorpion sting was achieved successfully on an outpatient department basis with injection chloroquine at the Holy Family Hospital, Techiman, Ghana. The case-fatality approaches 20% when the victims are children.

Hepatic pregnancy managed conservatively
S R Ramphal FCOG, Tropical doctor 2010, 40: 121-122
We present a case of hepatic pregnancy and discuss expectant management, use of newer imaging techniques and approaches to management, such as leaving the placenta in situ, the use of magnetic resonance imaging and sonography in the follow-up of placental involution. This case report illustrates that conservative management is feasible.

Green banana – supplemented diet in the home management of acute and prolonged diarrhoea in children: a community- based trial bin rural Bangladesh.
G. H. Rabbani, C. P. Larson, R Islam, U. R. Saha and A. Kabir
Tropical Medicine and International Health
Volume 15 no 10 pp 1132-1139 october 2010

Results: The comulative probability of cure was significantly (P<0,001) different in children receiving GB for both acute (hazard ratio (HR) = 0,63 (95% CI: 0.56-0,67) and prolonged diarrhoea (HR=0,38 (95% CI: 0,26-0,59). The recovery rates of children with acute diarrhoea receiving GB (vs. Control) were significantly more by day 3: 79,9 % vs. 53,3% (RR = 0,47, 95% CI: 0,41-0,55, (P<0,001) and day 7: 96,6% vs. 89,1% (RR=0,32, 0.22 – 0.46), (P<0.001). Children with prolonged diarrhoea receiving green banana and significantly higher recovery rates by day 10: 79,8% vs. 51.9% (RR= 0.42, 0.23-0.73), (P<0.001) and day 14, 93.6% vs. 67.2% (RR = 0.22, 0.08-0.54), (P<0.001).
Conclusion: A green banana – supplemented diet hastened recovery of acute and prolonged childhood diarrhoea managed at home in rural Bangladesh.

Systematic review on the health effects of exposure to radiofrequency electromagnetic fields from mobile phone base stations
Martin Röösli, Patrizia Frei, Evelyn Mohler & Kerstin Huga, Bull World health Organ 2010, 88: 887-896G
To review and evaluate the recent literature on the health effects of exposure to mobile phone base station (MPBS) radiation. Methods We performed a systematic review of randomized human trials conducted in laboratory settings and of epidemiological studies that investigated the health effects of MPBS radiation in the everyday environment. The evidence for a missing relationship between MPBS exposure up to 10 volts per metre and acute symptom development can be considered strong because it is based on randomized, blinded human laboratory trials. At present, there is insufficient data to draw firm conclusions about health effects from long-term low-level exposure typically occurring in the everyday environment.

Acupuncture-related adverse events: a systematic review of the Chinese
Zhang J, Shang H, Gao X, Ernst E.Bull World Health Organ 2010, 88
To systematically review the Chinese-language literature on acupuncture-related adverse events. We searched three Chinese databases (the Chinese Biomedical Literature Database, 1980-2009; the Chinese Journal Full-Text Database, 1980-2009; and the Weipu Journal Database, 1989-2009) to identify Chinese-language articles about the safety of traditional needle acupuncture. Case reports, case series, surveys and other observational studies were included if they reported factual data, but review articles, translations and clinical trials were excluded. the inclusion criteria were met by 115 articles (98 case reports and 17 case series) that in total reported on 479 cases of adverse events after acupuncture. Fourteen patients died. Acupuncture-related adverse events were classified into three categories: traumatic, infectious and "other". The most frequent adverse events were pneumothorax, fainting, subarachnoid haemorrhage and infection, while the most serious ones were cardiovascular injuries, subarachnoid haemorrhage, pneumothorax and recurrent cerebral haemorrhage. Many acupuncture-related adverse events, most of them owing to improper technique, have been described in the published Chinese literature. Efforts should be made to find effective ways of monitoring and minimizing the risks related to acupuncture.

Clostridium difficile infection in Europe: a hospital-based survey
Dr Martijn P Bauer MD. Lancet 2011, 377: 63-73
Little is known about the extent of Clostridium difficile infection in Europe. Our aim was to obtain a more complete overview of C difficile infection in Europe and build capacity for diagnosis and surveillance. We set up a network of 106 laboratories in 34 European countries. In November, 2008, one to six hospitals per country, relative to population size, tested stool samples of patients with suspected C difficile infection or diarrhoea that developed 3 or more days after hospital admission. A case was defined when, subsequently, toxins were identified in stool samples. Detailed clinical data and stool isolates were collected for the first ten cases per hospital. After 3 months, clinical data were followed up. The incidence of C difficile infection varied across hospitals (weighted mean 4·1 per 10 000 patient-days per hospital, range 0·0—36·3). Detailed information was obtained for 509 patients. For 389 of these patients, isolates were available for characterisation. 65 different PCR ribotypes were identified, of which 014/020 (61 patients [16%]), 001 (37 [9%]), and 078 (31 [8%]) were the most prevalent. The prevalence of PCR-ribotype 027 was 5%. Most patients had a previously identified risk profile of old age, comorbidity, and recent antibiotic use. At follow up, 101 (22%) of 455 patients had died, and C difficile infection played a part in 40 (40%) of deaths. After adjustment for potential confounders, an age of 65 years or older (adjusted odds ratio 3·26, 95% CI 1·08—9·78; p=0·026), and infection by PCR-ribotypes 018 (6·19, 1·28—29·81; p=0·023) and 056 (13·01; 1·14—148·26; p=0·039) were significantly associated with complicated disease outcome. PCR ribotypes other than 027 are prevalent in European hospitals. The data emphasise the importance of multicountry surveillance to detect and control C difficile infection in Europe. European Centre for Disease Prevention and Control.

Burden of endemic health-care-associated infection in developing countries: systematic review and meta-analysis
Benedetta Allegranzi MD, Lancet 2011, 377: 228-41
Of 271 selected articles, 220 were included in the final analysis. Limited data were retrieved from some regions and many countries were not represented. 118 (54%) studies were low quality. In general, infection frequencies reported in high-quality studies were greater than those from low-quality studies. Prevalence of health-care-associated infection (pooled prevalence in high-quality studies, 15·5 per 100 patients [95% CI 12·6—18·9]) was much

higher than proportions reported from Europe and the USA. Pooled overall health-care-associated infection density in adult intensive-care units was 47·9 per 1000 patient-days (95% CI 36·7—59·1), at least three times as high as densities reported from the USA. Surgical-site infection was the leading infection in hospitals (pooled cumulative incidence 5·6 per 100 surgical procedures), strikingly higher than proportions recorded in developed countries. Gram-negative bacilli represented the most common nosocomial isolates. Apart from meticillin resistance, noted in 158 of 290 (54%) Staphylococcus aureus isolates (in eight studies), very few articles reported antimicrobial resistance. The burden of health-care-associated infection in developing countries is high. Our findings indicate a need to improve surveillance and infection-control practices.

5. Bacterial Infections Diseases and ATB Social Policy

To give is better than to receive: compliance with WHO guidelines for drug donations during 2000-2008.

Bero L, Carson B, Moller H, Hill S. Bull World Health Organ 2010, 88: 922-929

To assess drug donations in terms of their adherence to the drug donation guidelines put forth by the World Health Organization (WHO). In 2009 we searched the academic and lay literature - journal articles, media articles and industry and donor web sites - to identify reports about drug donations made from 2000 to 2008. Publications focusing on molecular mechanisms of drug action, general descriptions of guidelines or specific one-time drug donations before 2000 were excluded. For cases with sufficient information, we assessed compliance with each of the 12 articles of WHO's guidelines. We found 95 articles describing 96 incidents of drug donations between 2000 and 2008. Of these, 50 were made in response to disaster situations, 43 involved the long-term donation of a drug to treat a specific disease and 3 were drug recycling cases. Disaster-related donations were less likely to comply with the guidelines, particularly in terms of meeting the recipient's needs, quality assurance and shelf-life, packaging and labelling, and information management. Recipient countries were burdened with the costs of destroying the drugs received through inappropriate donations. Although long-term donations were more likely to comply with WHO guidelines related to quality assurance and labelling, they did not consistently meet the needs of the recipients. Furthermore, they discouraged local drug production and development. Drug donations can do more harm than good for the recipient countries. Strengthening the structures and systems for coordinating and monitoring drug donations and ensuring that these are driven by recipient needs will improve adherence to the drug donation guidelines set forth by WHO.

Survey of non-prescribed use of antibiotics for children in an urban community in Mongolia

Ganchimeg Togoobaatar, Nayu IkedaI; Moazzam Ali, Munkhbayarlakh Sonomjamts, Sarangerel Dashdemberel, Rintaro Mori, Kenji Shibuya Bull World health Organ 2010, 88: 930-936

To estimate the prevalence and identify the determinants of non-prescription use of antibiotics for children in Mongolia. Of 503 participating caregivers, 71% were mothers; 42.3% (95% confidence interval, CI: 37.8-46.9) of caregivers had used non-prescribed antibiotics to treat symptoms in their child during the previous 6 months. Symptoms commonly treated were cough (84%), fever (66%), nasal discharge (65%) and sore throat (60%). Amoxicillin was the most commonly used antibiotic (58%). Pharmacies were the main source (86%) of non-prescribed antibiotics. Non-prescribed use by mothers was significantly associated with keeping antibiotics at home (odds ratio, OR: 1.7; 95% CI: 1.04-2.79), caregiver self-medication (OR: 6.3; 95% CI: 3.8-10.5) and older child's age (OR: 1.02; 95%

CI: 1.01-1.04). Caregivers with a better knowledge of antibiotics were less likely to give children non-prescribed antibiotics (OR: 0.7; 95% CI: 0.6-0.8). The prevalence of non-prescribed antibiotic use for young children was high in Ulaanbaatar. Because such use leads to the spread of bacterial resistance to antibiotics and related health problems, our findings have important implications for public education and the enforcement of regulations regarding the sale of antibiotics in Mongolia.

Comparative activity of ceftobiprole against Gram-positive and Gram-negative isolates from Europe and the Middle East: the CLASS study.

Rosso Dr Emily L Webb PhD., Lancet 2011, 377: 52-62

TO assess the in vitro activity of ceftobiprole and comparators against a recent collection of Gram-positive and Gram-negative pathogens, in order to detect potential changes in susceptibility patterns, and to evaluate the Etest assay for ceftobiprole susceptibility testing.

contemporary Gram-positive and Gram-negative isolates (excluding extended-spectrum β-lactamase-producing. Csolates from across Europe and the Middle East were collected, and their susceptibility to ceftobiprole, vancomycin, teicoplanin, linezolid, ceftazidime and cefepime was assessed using the Etest method. Quality testing [using Etest and broth microdilution (BMD)] was conducted at a central reference laboratory. Rome 5041 Gram-positive and 4026 Gram-negative isolates were included. Against Gram-positive isolates overall, ceftobiprole had the lowest MIC50 (0.5 mg/L), compared with 1 mg/L for its comparators (vancomycin, teicoplanin and linezolid). Against methicillin-resistant Staphylococcus aureus, all four agents had a similar MIC90 (2 mg/L), but ceftobiprole had a 4-fold better MIC90 (0.5 mg/L) against methicillin-susceptible strains. Only 38 Gram-positive isolates were confirmed as ceftobiprole resistant. Among Gram-negative strains, 86.9%, 91.7% and 95.2% were susceptible to ceftobiprole, ceftazidime and cefepime, respectively. Pseudomonas aeruginosa was less susceptible to all three antimicrobials than any other Gram-negative pathogen. There was generally good agreement between local Etest results and those obtained at the reference laboratory (for ceftobiprole: 86.8% with Gram-negatives; and 94.7% with Gram-positives), as well as between results obtained by BMD and Etest methods (for ceftobiprole: 98.2% with Gram-negatives; and 98.4% with Gram-positives).

Ceftobiprole exhibits in vitro activity against a wide range of Gram-positive and Gram-negative pathogens, including multidrug-resistant strains. No changes in its known susceptibility profile were identified.

Effect of statins on outcomes in immunosuppressed patients with bloodstream infection

Viasus D., Eur J Clin Microbiol Infect Dis (2011) 30:77-82

Although it has been suggested that statins have a beneficial effect on the outcome of bloodstream infection (BSI) in immunosuppressed patients, prospective studies testing this hypothesis are lacking. We performed an observational analysis of consecutive cancer patients and transplant recipients hospitalized at two tertiary hospitals in Spain (2006-2009). The first episode of BSI occurring in statin users was compared with those occurring in non-statin users. During the study period, 668 consecutive episodes of BSI in 476 immunosuppressed patients were recorded. Underlying diseases were solid tumor (46.2%), hematologic malignancy (35.1%), and transplantation (18.7%). Fifty-nine (12.4%) patients were receiving statins at the onset of BSI. Comparing with statin non-users, patients on statin treatment were older (67.3 vs. 58.7 years; $p < 0.001$) and had higher frequency of comorbidities (74.6% vs. 40.6%; $p < 0.001$). There were no significant differences in intensive care unit admission (6.8% vs. 7.7%; $p = 1$) and overall mortality (15.3% vs. 24%; $p = 0.13$) between groups. In a multivariate analysis, prior statin use was not associated with increased survival (odds ratio [OR], 0.52; 95% confidence interval [CI], 0.22-1.23; $p = 0.14$). In

conclusion, prior statin use is not associated with increased survival in immunosuppressed patients with BSI. Caution is warranted in attributing beneficial effects to statin use in infections among immunocompromised patients.

Clinical characteristics and outcomes of patients with vancomycin-susceptible Enterococcus faecalis and Enterococcus faecium bacteraemia in cancer patients.
Conde-Estévez D., Eur J Clin Microbiol Infect Dis (2011) 30:103-108
The purpose of this investigation was to compare the risk factors, clinical features and outcomes in cancer patients with bacteraemia caused by vancomycin-susceptible Enterococcus faecalis and E. faecium. A retrospective, observational 7-year study was carried out in a 450-bed, acute-care university-affiliated hospital. We performed univariate comparisons between the two groups and then multivariate analysis to identify patient risk factors for E. faecium isolation. Seventy-three patients were included in the analysis: 54 (74.0%) with bacteraemia caused by E. faecalis and 19 (26.0%) by E. faecium. The Simplified Acute Physiological Score (SAPS) value was significantly greater in E. faecium isolates (40.7 vs. 35.2; $p = 0.009$). Diabetes mellitus was more frequently diagnosed in patients with E. faecium bacteraemia (52.6% vs. 24.1%; $p = 0.021$). Prior penicillin exposure was more frequent in patients with E. faecium bacteraemia (68.4% vs. 29.6%; $p = 0.003$). There was a trend toward higher mortality in E. faecium bacteraemia patients (47.4% vs. 25.9%; $p = 0.084$). Independent patient risk factors for E. faecium isolation were prior penicillin exposure (odds ratio [OR], 6.479; $p = 0.003$) and SAPS > 34 (OR, 6.896; $p = 0.009$). When compared to E. faecalis bacteraemia, E. faecium bacteraemia in cancer patients is independently associated with more severe illness and prior use of penicillins; therefore, empiric treatment which would cover E. faecium should be considered in cancer patients suspected of having bacteraemia.

Long-term effectiveness and safety of didanosine combined with lamivudine and efavirenz or nevirapine in antiretroviral-naive patients: a 9-year cohort study in Senegal.
Laurent C., Tropical Medicine and International Health, Vol. 16. No2, PP217-222, feb 2011
The use of didanosine (ddI) in first-line antiretroviral therapy Objective has been recently promoted for resource-limited settings. We therefore compared the long-term effectiveness and safety of the regimen combining ddI, lamivudine, and efavirenz or nevirapine with that of the WHO-recommended regimen of zidovudine (ZDV), lamivudine, and efavirenz or nevirapine in Observational cohort study of antiretroviral-naïve patients in Senegal. Methods patients enrolled between January 2000 and April 2002 in the Senegalese antiretroviral drug access initiative. Multivariate analyses were performed to compare, between the ddI and ZDV groups, the proportion of patients with a viral load <copies/ml during follow-up; the increase in the CD4 cell count; 500 Of 151 patients, survival; treatment changes and severe adverse events. Results 71 received the ddI-based treatment and 80 received the ZDV-based treatment. copies/ml in Throughout follow-up, 80-95% of patients had a viral load below 500 0.5). The CD4 cell count increased after = both the ddI and ZDV groups (P treatment initiation from 176 to 497 cells/mm(3) in the ddI group and from 176 to 567 cells/mm(3) in the ZDV group (P>0.3). The rate of death tended to be 0.06). ddI was less commonly discontinued than ZDV = higher in the ddI group (P The combination of ddI, lamivudine, and efavirenz or 0.03). Conclusion = (P nevirapine resulted in sustained viral suppression and immunological recovery.

Susceptibility of community-acquired pathogens to antibiotics in Africa and Asia in neonates - an alarmingly short review.

Lubell Y., Tropical Medicine and International Health, Vol. 16. No2, PP145-151, feb 2011
To assess the susceptibility of community-acquired pathogens in Objective neonatal sepsis to commonly prescribed antibiotics in sub-Saharan Africa and Literature review in PubMed and Embase. Susceptibility Asia since 2002. Methods was estimated for pathogens individually and stratified by region. Isolates were also classified into Gram positive and Gram negative pathogens to estimate their Only nine studies met the pooled susceptibility. Results and conclusions inclusion criteria. The available data indicated poor susceptibility to almost all commonly used antibiotics in pathogens such as Staphylococcus aureus and Klebsiella spp. Only Streptococcus pneumoniae exhibited good susceptibility to all drugs other than cotrimoxazole. The extreme scarcity of data prevents drawing any firm conclusions beyond the urgent need for more studies to identify the best treatments for neonatal sepsis in the developing world.

6. Tuberculosis and RTI

Comparison of two active case-finding strategies for community-based diagnosis of symptomatic smear-positive tuberculosis and control of infectious tuberculosis in Harare, Zimbabwe (DETECTB): a cluster-randomised trial
Dr Elizabeth L Corbett PhD., Lancet 2010,376:1244-53
Control of tuberculosis in settings with high HIV prevalence is a pressing public health priority. We tested two active case-finding strategies to target long periods of infectiousness before diagnosis, which is typical of HIV-negative tuberculosis and is a key driver of transmission. Clusters of neighbourhoods in the high-density residential suburbs of Harare, Zimbabwe, were randomised to receive six rounds of active case finding at 6-monthly intervals by either mobile van or door-to-door visits. Randomisation was done by selection of discs of two colours from an opaque bag, with one disc to represent every cluster, and one colour allocated to each intervention group before selection began. In both groups, adult (≥16 years) residents volunteering chronic cough (≥2 weeks) had two sputum specimens collected for fluorescence microscopy. Community health workers and cluster residents were not masked to intervention allocation, but investigators and laboratory staff were masked to allocation until final analysis. The primary outcome was the cumulative yield of smear-positive tuberculosis per 1000 adult residents, compared between intervention groups; analysis was by intention to treat. The secondary outcome was change in prevalence of culture-positive tuberculosis from before intervention to before round six of intervention in 12% of randomly selected households from the two intervention groups combined; analysis was based on participants who provided sputum in the two prevalence surveys. This trial is registered, number ISRCTN84352452. 46 study clusters were identified and randomly allocated equally between intervention groups, with 55 741 adults in the mobile van group and 54 691 in the door-to-door group at baseline. HIV prevalence was 21% (1916/9060) and in the 6 months before intervention the smear-positive case notification rate was 2·8 per 1000 adults per year. The trial was completed as planned with no adverse events. The mobile van detected 255 smear-positive patients from 5466 participants submitting sputum compared with 137 of 4711 participants identified through door-to-door visits (adjusted risk ratio 1·48, 95% CI 1·11—1·96, p=0·0087). The overall prevalence of culture-positive tuberculosis declined from 6·5 per 1000 adults (95% CI 5·1—8·3) to 3·7 per 1000 adults (2·6—5·0; adjusted risk ratio 0·59, 95% CI 0·40—0·89, p=0·0112).

Financing of HIV/AIDS programme scale-up in low-income and middle-income countries
Dr Robert Hecht PhD., Lancet 2010, 376: 1254-60

As the global HIV/AIDS pandemic nears the end of its third decade, the challenges of efficient mobilisation of funds and management of resources are increasingly prominent. The aids2031 project modelled long-term funding needs for HIV/AIDS in developing countries with a range of scenarios and substantial variation in costs: ranging from US$397 to $722 billion globally between 2009 and 2031, depending on policy choices adopted by governments and donors. We examine what these figures mean for individual developing countries, and estimate the proportion of HIV/AIDS funding that they and donors will provide. Scenarios for expanded HIV/AIDS prevention, treatment, and mitigation were analysed for 15 representative countries. We suggest that countries will move in increasingly divergent directions over the next 20 years; middle-income countries with a low burden of HIV/AIDS will gradually be able to take on the modest costs of their HIV/AIDS response, whereas low-income countries with a high burden of disease will remain reliant upon external support for their rapidly expanding costs. A small but important group of middle-income countries with a high prevalence of HIV/AIDS (eg, South Africa) form a third category, in which rapid scale-up in the short term, matched by outside funds, could be phased down within 10 years assuming strategic investments are made for prevention and efficiency gains are made in treatment.

Tuberculosis burden in households of patients with multidrug-resistant and extensively drug-resistant tuberculosis: a retrospective cohort study.
Becerra MC., Lancet 2011, 377: 147-52
During the 4-year follow-up, 242 contacts developed active tuberculosis-the frequency of active tuberculosis was nearly two times higher in contacts of patients with XDR tuberculosis than it was in contacts of patients with MDR tuberculosis (hazard ratio 1·88, 95% CI 1·10-3·21). In the 359 contacts with active tuberculosis, 142 (40%) had had isolates tested for resistance against first-line drugs, of whom 129 (90·9%, 95% CI 85·0-94·6) had MDR tuberculosis. In view of the high risk of disease recorded in household contacts of patients with MDR or XDR tuberculosis, tuberculosis programmes should implement systematic household contact investigations for all patients identified as having MDR or XDR tuberculosis. If shown to have active tuberculosis, these household contacts should be suspected as having MDR tuberculosis until proven otherwise.

High-dose vitamin D3 during intensive-phase antimicrobial treatment of pulmonary tuberculosis: a double-blind randomised controlled trial
Dr Adrian R Martineau , Lancet 2011, 377: 242-50
Administration of four doses of 2·5 mg vitamin D3 increased serum 25-hydroxyvitamin D concentrations in patients receiving intensive-phase treatment for pulmonary tuberculosis. Vitamin D did not significantly affect time to sputum culture conversion in the whole study population, but it did significantly hasten sputum culture conversion in participants with the tt genotype of the TaqI vitamin D receptor polymorphism.

Continuing challenge of infectious diseases in India
Prof T Jacob John PhD., Lancet 2011, 377: 252-69
In India, the range and burden of infectious diseases are enormous. The administrative responsibilities of the health system are shared between the central (federal) and state governments. Control of diseases and outbreaks is the responsibility of the central Ministry of Health, which lacks a formal public health department for this purpose. Tuberculosis, malaria, filariasis, visceral leishmaniasis, leprosy, HIV infection, and childhood cluster of vaccine-preventable diseases are given priority for control through centrally managed vertical programmes. Control of HIV infection and leprosy, but not of tuberculosis, seems to be on

track. Early success of malaria control was not sustained, and visceral leishmaniasis prevalence has increased. Inadequate containment of the vector has resulted in recurrent outbreaks of dengue fever and re-emergence of Chikungunya virus disease and typhus fever. Other infectious diseases caused by faecally transmitted pathogens (enteric fevers, cholera, hepatitis A and E viruses) and zoonoses (rabies, leptospirosis, anthrax) are not in the process of being systematically controlled. Big gaps in the surveillance and response system for infectious diseases need to be addressed. Replication of the model of vertical single-disease control for all infectious diseases will not be efficient or viable. India needs to rethink and revise its health policy to broaden the agenda of disease control. A comprehensive review and redesign of the health system is needed urgently to ensure equity and quality in health care. We recommend the creation of a functional public health infrastructure that is shared between central and state governments, with professional leadership and a formally trained public health cadre of personnel who manage an integrated control mechanism of diseases in districts that includes infectious and non-infectious diseases, and injuries.

Prereferral rectal artesunate for treatment of severe childhood malaria: a cost-effectiveness analysis
Yesim Tozan
Lancet 2010, 376: 1910-15
At low intervention uptake and referral compliance (25%), the intervention was estimated to avert 19 disability-adjusted life-years (DALYs, 95% CI 16-21) and to cost I$1173 (95%CI 1050-1297) per DALY averted. Under the full uptake and compliance scenario (100%), the intervention could avert 967 DALYs (884-1050) at a cost of I$77 (73-81) per DALY averted. Prereferral artesunate treatment is a cost-effective, life-saving intervention, which can substantially improve the management of severe childhood malaria in rural African settings in which programmes for community health workers are in place.

Extensively drug-resistant tuberculosis (XDR-TB) among health care worker in South Africa.
Tropical Medicine and International Health
Volume 15 no 10 pp 1179-1184 october 2010

Julie Jarand, Karen Shean, Max O Donell, Marian Loveday, Charlotte Kvasnovsky, Martie Van der Walt, Shahieda Adams, Paul Willcox, Justin O Grady, Alimuddin Zumla and Keertan Dheda.
Conclusion: In the Estern and Western Cape provinces of south Africa XDR-TB affects HCWs is diagnosed rather late, does not appear to be related to HIV status and carries a high mortality. There is an urgent need for the South African government to implement WHO infection to control recommendation and make available rapid drug susceptibility testing for HCWs with suspected multidrug-resistant (MDR)/XDR-ZB. Further studies to establish the actual sources of infection (nosocomial or community) are required.

Mycobacterium tuberculosis Infection of Domesticated Asian Elephants, Thailand
Four Asian elephants were confirmed to be infected with Mycobacterium tuberculosis by bacterial culture, other diagnostic procedures, and sequencing of 16S-23S rDNA internal transcribed spacer region, 16S rRNA and gyrase B gene sequences. Genotyping showed that the infectious agents originated from 4 sources in Thailand. To identify infections a combination of diagnostic assays is essential.

References: Included in text

SOZIALKOMMUNIKATION ALS EIN WICHTIGES INSTRUMENT IM MANAGEMENT IN DER SOZIALARBEIT

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ABSTRAKT

Wesentlicher Bestandteil der Wechselwirkungen in der Verwaltung der Kommunikation. Es ist ein Prozess zu unterrichten und erhalten bestimmte Informationen. "Soziale" Kommunikation sollte als eine der Bedingungen bei der Verwaltung anzusehen ist, weil der Link von ihrer Strukturen, die Effizienz der Verwaltung, Koordination und Feedback sorgt für die Vernetzung der Kommunikation. Das Ziel unserer Arbeit ist näherer Betrachtung der sozialen Kommunikation im Management. In dem Papier beschäftigen wir uns mit einem "teilweise" auf die positiven und negativen Faktoren, die die Kommunikation betreffen im Management zu berühren.Miteinander kommunizieren, um Beziehungen zu anderen Form, bereichern wir unser Leben in anderen Ansichten, die ihre Erfahrungen und versuchen durchzusetzen, nicht nur im Management, sondern auch in der Gesellschaft.

Schlüsselworte: Interaction. Interview. Kommunikation. Management. Soziale Kommunikation.

Einleitung

Das menschliche Bedürfnis mit den anderen Menschen im Kontakt zu sein, mit ihnen verschiedene Informationen, Ideen, Meinungen und Haltungen auszutauschen, gehört zu den wichtigsten Voraussetzungen seiner Existenz. Die Interaktion ist ein Prozess, in dem mehrere Personen sich gegenseitig stimulieren, sie reagieren also aufeinander. Bei der Interaktion bedeutet das Verhalten einer Person die Reaktion auf die andere Person. Zum Beispiel, wenn sich zwei Menschen treffen, einer spricht den anderen an und dieser reagiert darauf. Damit wird zwischen den beiden der Sozialkontakt hergestellt. Die Auskunftserteilung bei der Interaktion, Mitteilung irgendwelcher Angaben bei dem direkten oder indirekten Sozialkontakt nennen wir Kommunikation. Auch bei den Leuten im Management in der sozialen Arbeit gilt die Kommunikation als ein wesentlicher Interaktionsbestandteil. Damit die Kommunikation zwischen den Menschen möglich wäre, braucht man einen bestimmten und allgemein bekannten Bedeutungsvorrat.

Kommunikation im Management in der Sozialarbeit

Die Kommunikationsfähigkeit entfaltet sich innerhalb der phylogenetischen und ontogenetischen Entwicklung. Nicht nur die Menschen, sondern auch die Tiere haben die Fähigkeit und den Bedarf sich die Informationen zu übermitteln. Die menschliche Kommunikation ist im Vergleich zu der Verständigungssprache zwischen den Tieren reicher und hat mehrere Formen. Die Tiere übermitteln vor allem die Informationen über die Gefahr, Menge und über das Ernährungsvorkommen etc. Sie kommunizieren zum Beispiel mittels der Geräusche, Gerüche, bzw. mit der Körperhaltung. Der Mensch überreicht kompliziertere

Angaben, wie Gedanken, Meinungen oder Bedürfnisse. Er kann mittels der Bewegung, Mimik aber auch durch ein Wort, Musik entweder Bild etwas mitteilen. Die Kommunikation gilt als ein biologisches Bedürfnis jedes Körpers und die Aufnahmemangel beliebiger Informationen hat negative Auswirkungen auf die menschliche Psychik. Mit steigendem Niveau der Kommunikationskompetenzen verbessert sich die Sozialkompetenz. Aus der psychologischen Seite sind es in der Sozialinteraktion die, von den Menschen selbstverständlich erwarteten gegenseitige Begreifen und Verständnis am wichtigsten. Im Gespräch mancher Menschen kann man sehen, dass sie sich gegenseitig überhaupt nicht verstehen. Auch wenn sie die gleiche Sprache sprechen, begreifen sie das Gesagte nicht. Die Frage der gegenseitigen Verständigung und Begreifen ist für die guten zwischenmenschlichen Beziehungen sehr wichtig, besonders im Management der Sozialarbeit.

Die sozio- politischen Veränderungen nach dem Sturz des totalitären Regimes haben erheblich die Zugänge zur Lösung von Sozialproblemen der Bevölkerung beeinflusst. Es sind neue Sozialprobleme wie Arbeitslosigkeit, Obdachlosigkeit, Bettelei, verschiedene sozial-pathologischen Erscheinungen usw. vorgekommen. Die soziale Lage von den einzelnen Bürgern hat sich allmählich verschlechtert. Sie begannen auf die staatliche Sozialhilfe in der Form von den Sozialleistungen oder anderen sozialen Diensten angewiesen zu sein. In dieser Situation war ein neuer Zugang zum sozialen Bereich nötig. Das Bedürfnis neuer Sozialformen und Methoden, die dem Klienten, der Familie oder einer Gruppe ihre anspruchsvollen Lebenssituationen überwinden helfen können, mit dem Ziel optimal in der eigenen Sozialumgebung zu existieren, ist erforderlich worden. Diese Hilfe leistet das Management in der Sozialarbeit.

Das Management, das für die Sozialarbeit geeignet ist, ist das so genannte Bildungs- und Erhaltungsprozess der Umgebung, in der die Einzelpersonen gemeinsam arbeiten und wirkungsvoll die ausgewählten und festgelegten Ziele erreichen. *„Management ist das Optimierungsprozess des Einsatzes von den menschlichen, materiellen und finanziellen Mitteln zur Zielerreichung.“*[1] Dies erfordert eine gute Kommunikation im Management in der Sozialarbeit. Die Kommunikation ist ein wesentliches Bindeglied zwischen den Menschen in allen Bereichen, nicht nur im Management der Sozialarbeit. In jeder Organisation können die Menschen als eine Einheit nur mittels einer guten Kommunikation effektiver arbeiten.

Die Sozialkommunikation ist ein Prozess, im Rahmen dessen die Informationen mitgeteilt und ausgetauscht werden. Sie wird als eine Bekanntgabe von Informationen im Sozialverhalten und der sozialen Beziehungen von Menschen charakterisiert. Seit langem ist das Wort Information mit den menschlichen Kommunikationsprozessen, mit der Berichtübertragung und der Bekanntgabe verbunden worden. In der Auffassung der Sozialkommunikation als einer Informationsübermittlung im Sozialverhalten und der Übermittlung von den sozialen Beziehungen taucht die Interaktion, d. h. die gegenseitige Wirkung der Menschen auf sich selbst, als ein Kommunikationsbestandteil auf. Aus der Akzeptanz der Interaktion als eines Vorganges, der organisch mit der Kommunikation verbunden ist, ergibt sich eine andere Definition. In dieser wird die nächste Seite des Kommunikationsprozesses in den Vordergrund gestellt, und zwar die Kommunikationsfähigkeit die andere Person zu beeinflussen. Der Ausgangspunkt von der Bildung dieser Definitionen ist die interpersonale Kommunikation. Sie entsteht und wird vor allem in den Kommunikationsforschungen verwendet, die im Rahmen der psychologischen Wissenschaften realisiert, und später in der Kommunikation im Management gebraucht werden. Die Sozialkommunikation ist ein Prozess, in dem *„das Individuum (der Kommunikator) die Impulse (meistens durch die verbalen Symbole) übermittelt, um das*

[1] VETRÁKOVÁ, M.: *Komunikácia v práci manažéra.* Banská Bystrica: Univerzita Mateja Bela, 2002, S. 75.

Verhalten anderer Individuen - Adressaten zu modifizieren.“[2] Die Kommunikation entsteht dann, wenn ein System - die Quelle die Zustände und Aktivitäten eines anderen Systems – des Empfängers durch einen Auswahl zwischen den alternativen Signalen beeinflusst, die durch die Verbindungskanäle übermittelt werden können. Die Kommunikation beinhaltet alle Prozesse, mit denen die Menschen auf sich wirken. Kommunikation ist also eine gemeinsame Teilnahme der Menschen an jeder Tätigkeit im gegenseitigen Kontakt. Der Mensch kann in Anwesenheit einer anderen Person nicht wortlos bleiben. Diese Definition umfasst die Tatsache, dass die Kommunikation nicht nur die Informationsübermittlung sei, sondern auch die Teilnahme anderer Menschen an der Kommunikation bedeutet. Ob auch nur damit, dass sie bei der Kommunikation anwesend sind. Kommunikation bedeutet also beliebige Interaktion zwischen den Menschen, besonders zwischen denjenigen, die im Management der Sozialarbeit tätig sind, wo man ziemlich intensiv kommuniziert.

Einerseits vereint die soziale Kommunikation im Management der Sozialarbeit die Menschen, die arbeiten und im verschiedenen Maße an dem Erfolg teilnehmen, anderseits tritt sie in alle Leitungsprozesse ein und bedingt ihre Qualität und Effektivität. Sie ist ein wirklicher Träger des Gesellschaftsprozesses. Die erwähnte Sozialkommunikation ermöglicht die Sozialinteraktion, die von einem Menschen ein Gesellschaftswesen macht.

Die Kommunikation zwischen den Menschen ist schon immer da gewesen. Der Aufmerksamkeitsbegriff kam in die Kommunikation erst viel später. Jedoch, was kann leichter als Reden sein! Natürlich gibt es nichts Schwierigeres. Zu den grundlegenden menschlichen Aktivitäten gehören: Kommunikation zwischen den Menschen, gegenseitige Interaktion, Verständigung oder Bekanntgabe einer Information an jemanden. Die Menschen verständigen sich mittels der Kommunikation. Fast 70% ihrer Zeit widmen sie im wacher Zustand der Kommunikation – d. h. dem Lesen, Schreiben, Sprechen und Hören. Dabei die meisten Missverständnisse quellen aus der mangelhaften Kommunikation. Das Kommunikationswesen beruht auf der gegenseitigen Informierung, die auf der Informationsabgabe und -aufnahme gegründet ist. Obwohl die Informationen die Kommunikationsgrundlage bilden, gibt es zwischen ihnen ein grundsätzlicher Unterschied. Der Ausgangspunkt des Informationsgewinnungsprozesses sind die Daten, die verarbeitet werden, um eine Sollwirkung zu bieten. Der Informationslieferungsprozess stellt durch seinen Benutzer die eigentliche Kommunikation dar. Die Informationen bilden alles Immaterielles, was für den Menschen nutzbar und sinnvoll ist. Es geht um einen geordneten und zweckmäßig bearbeiteten Datenbestand. Die Kommunikation ist auch im Management der Sozialarbeit eine Art der Informationsbereitstellung und – aufnahme.

Klassisch teilen wir die Kommunikation auf die verbale und nonverbale Kommunikation. Der Sozialkommunikation im Management der Sozialarbeit wird die unterschiedliche bewusste und unbewusste Bedeutung zugeschrieben. Bewusst schätzen wir als wichtiger die verbale Kommunikation, unbewusst wird aber bei der Menschenbewertung mehr Gewicht auf die nonverbale Kommunikation gelegt. Wenn sich die Beziehungen verschlechtern, wird dadurch in der ersten Reihe die Kommunikation betroffen. Und wenn eine Person mit der anderen nicht mehr gut (oder überhaupt) kommunizieren kann, hat sie keine Chance, die Beziehungen zu retten. Es ist wichtig, dafür zu sorgen, damit die Kommunikation im Management der Sozialarbeit problemlos ist. Ein guter Zuhörer zu werden, ist einer der Basisschritte, der dazu hilft.

Der Sinn jeder Kommunikation, einschließlich der Sozialkommunikation im Management der Sozialarbeit, besteht darin, dass sie:

[2] GABURA, J., GABURA, P.: *Sociálna komunikácia.* Bratislava: Občianske združenie Sociálna práca, 2004, S. 28.

1. ein Mittel ist, mithilfe dessen sich die Menschen in beliebiger Organisation vereinen, um das gemeinsame Ziel zu erreichen. Ohne Kommunikation würde keine Menschengruppe fungieren, weil man ihre Tätigkeit nicht koordinieren könnte;
2. die Einigung der Tätigkeiten in der Organisation gewährleistet;
3. in unserem Falle den Sozialarbeitern ermöglicht, die Einzelpersonen und Gruppen zu beeinflussen, ihr Verhalten zu modifizieren, die effektiven Veränderungen und damit auch die entsprechenden Ziele, die gestellt wurden, zu erreichen.

„Das moderne Management verlangt, die Kommunikationssysteme auf allen Leistungsebenen zu optimalisieren, die Forderungen der flexiblen Informationsstrukturen zu realisieren und das Stimulationspotenzial der Kommunikationsprozesse zu erhöhen.“[3] Obwohl die Personen im Management der Sozialarbeit der Kommunikation ihren überwiegenden Arbeitsteil widmen, kann man nicht sagen, dass den Kommunikationsprozessen die genügende Beachtung geschenkt wird. Oft werden die empirischen, alltäglichen Erfahrungen absolutisiert und die theoretischen Kenntnisse bleiben unterschätzt. Solche Zugänge reichen vielleicht in den bestimmten konkreten Situationen, sie sind aber im Prinzip nicht perspektiv und oberflächlich. Deshalb ist es wichtig, von der Verkündigung der Kommunikationswichtigkeit zur Verwendung der modernen Erkenntnisse der Kommunikationstheorie und –praxis zu übergehen.

Die Bewältigung der theoretischen und praktischen Kommunikationsbasis stellt die erste Voraussetzung für die richtig ausgewählte Sozialkommunikation im Management der Sozialarbeit dar, die in vielen Institutionen als eine Voraussetzung des richtigen Zuganges zu den Menschen und auch Klienten gilt. Das primäre Attribut der Sozialkommunikation ist die Interaktion, die als ein Prozess wahrgenommen wird, in dem die Menschen unmittelbar auf sich gegenseitig reagieren und auf die menschliche Tätigkeit und das Verhalten der Menschen, mit denen sie in Kontakt kommen, die Antwort geben. Ähnlich ist es auch in der Sozialkommunikation im Management der Sozialarbeit, in dem zur laufenden menschlichen Wechselwirkung (Interaktion) kommt. Wir betrachten sie als *„ein die Steuerungskundgaben und Informationen Übermittlungs- und Empfangsprozess, in dem die geleiteten Menschen so geführt werden, damit sie sich so benehmen und handeln, wie es ihr Manager in seiner Anordnung verlangt.“*[4] Die soziale Kommunikation im Management der Sozialbeziehungen entsteht als ein Produkt der formellen und informellen Beziehungen, sowohl als ein Produkt des Ganges der Organisationsstruktur und des – systems. Durch das Kommunikationsnetz nehmen daran differenziert alle, die im Organisationsbaustein wirken, teil. Es wird vor allem im Bereich der formellen Beziehungen, im Formalisierungs- und relativ genau festgestellten Kommunikationsvorgang realisiert.

Damit der Kommunikationsprozess im Management der Sozialarbeit erfolgreich wird, müssen wir die Gleichwertigkeit der einzelnen Beteiligten voraussetzen. Einen solchen Prozess beeinflussen einige Faktoren. Viele von ihnen sind dank der sozialen Intelligenz, die wir in ein Gespräch bringen, instinktiv. Es ist wichtig, bei den Gesprächen in der sozialen Kommunikation, die ein bedeutendes Glied im Management der Sozialarbeit ist, sich an den folgenden Prinzipien halten, die bei der Verwirklichung der konkreten Situationen notwendig sind.

Widmen Sie Ihrem Partner volle Aufmerksamkeit – wenn Ihr Partner das Interesse für das Sprechen zeigt, legen Sie alles beiseite, was Sie ausgestaltet haben. Leeren Sie Ihren Kopf und konzentrieren Sie sich auf das Einzige – auf den Sprechenden und darauf, was er sagt.

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[3] SZARKOVÁ, M. A KOL.: *Komunikácia v manažmente.* Vybrané problémy. Bratislava : EKONÓM, 1996, S. 17.
[4] KHELEROVÁ, V.: *Komunikační dovednosti manažera. Praha : Grada Publishing, 1995, S. 36.*

Hören Sie zu, was genau Ihr Partner sagt – dies ist sehr wichtig, vor allem bei den Konflikten und unterschiedlichen Meinungen. *„Es ist sehr einfach, sich daraus, was der Partner sagt nur solche Dinge auszuwählen, die man ihm hinterher „um den Kopf schlagen kann.“ Hilft es aber?“*[5] Hier geht es um keinen Diskusionszirkel, in dem man die Punkte dafür gewinnt, wie man den Gegner witzig und hart niederwirft! Sie brauchen seine Beweggründe zu erfahren, um gemeinsam den Ausweg suchen zu können.

Schauen Sie ihn solange an, bis er zu Ihnen spricht – haben Sie schon jemals mit jemandem gesprochen, der Ihnen den elementaren Augenkontakt vorenthalten hat? Es ist sehr frustrierend, besonders in dem Falle, wenn das, was Sie sagen wollen, Sie für sehr wichtig halten. Wenn Sie dem Partner den Augenkontakt vorenthalten, erhöhen Sie die Wahrscheinlichkeit, dass seine Feindseligkeit zu Ihnen während des Gesprächs zunimmt.

Beobachten Sie den versteckten Hintersinn von Emotionen – Ihr Partner sagt sehr oft nicht direkt und genau, was er auf dem Herzen hat. Er ist in die Emotionen versenkt. Wenn Sie eine Lösung finden wollen, müssen Sie ihm helfen, ihn aus den Emotionen zu „ziehen“. Beobachten Sie seinen emotionalen Zustand durch seine Körpersprache, Positionierung der Stimme, Augenbewegungen und Sie werden ganz gut einschätzen können, welche Situationen Ihren Partner emotional belasten.

Anerkennen Sie den Partner und seine Gefühle – die wirkliche Anerkennung kann das Problem gleich am Anfang lösen. Erweisen Sie vor allem dem Partner, dass Sie das, was er Ihnen sagt, gehört und verstanden haben, und es wird gleichzeitig emotionale Ladung der Situation abgebaut. Der einfachste Weg, dem Partner die Anerkennung zu zeigen, ist es – mit eigenen Worten das wiederholen, was Ihnen der Partner gerade gesagt hat. (Natürlich man soll nicht übertreiben – Sie sind ein Mensch, kein Papagei!)

Bewahren Sie einen kühlen Kopf – das ist nicht immer einfach. Wenn der Mensch wütend ist, beginnt er oft auf Sie herumzuhacken schon deswegen, dass Sie sich dort befinden und kein anderer Mensch, auf dem man den Ärger auslassen könnte. Vielleicht ist es gerade nicht am angenehmsten und auf jeden Fall handelt es sich um keine faire Situation, man sollte sie aber aushalten. Mit der Zeit gibt die Wut nach, der verärgerte Mensch hat sich ausgewütet, er ist müde geworden und so wird er dann den vernünftigen Argumenten zugänglicher. Jedenfalls nehmen Sie die Sachen nicht persönlich, auch wenn sie persönlich klingen – sonst geraten auch Sie in Zorn und die Situation endet mit der gegenseitigen Beschuldigung und mit dem offenen Konflikt. Lösen Sie die Situation, nehmen Sie Ihre Beziehung nicht auseinander!

Jede Kommunikation, einschließlich der Sozialkommunikation ist gezielter, persönlicher, wenn wir in sie die Anreden hineinbringen. Wir benutzen **den Eigennamen des Menschen, mit dem wir sprechen, den wir anreden.** Der Eigenname bedeutet für den Menschen das süßeste Geräusch. Je mehr Anreden in der Kommunikation, desto ist die Rede dynamischer, emotionaler und expressiver. Man sollte auch beim Telefongespräch an die Anrede denken. Zur Anrede gehören der Titel, Rang und Status. Beschränken wir uns bei der Anrede nicht nur auf „Du-“ oder „Sie - Anrede“. Noch schlechter wirkt es, wenn wir über den Menschen, der anwesend ist, in der dritten Person – er, sie sprechen. Dies ist sogar unhöflich. Allgemein gilt es, dass dort, wo die Anreden fehlen, gibt es oft auch keiner innigeren Beziehung zwischen der einzelnen Partnern. Denn *„die Kommunikation stellt eine Harmonie zwischen dem Verwirklichten von der Seite des Agens (Kommunikators)und die Auffassung von der Seite des Paciens (Angesprochenen).“*[6] Aus der Geschichte ist es bekannt, dass eine der Errungenschaftsquellen von Strategen Napoleon auch seine Kenntnis der großen Zahl seiner Soldaten nach ihren Namen war, wobei sie aufgrund dieses individuellen Zugangs eine größere Vertrauensbeziehung zu ihm gebildet haben.

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[5] FORET, M.: *Komunikace s veřejností.* Brno : Masarykova univerzita, 1994, S. 34.
[6] Škvareninová, O.: *Rečová komunikácia. Bratislava : SPN, 1995, S. 23.*

Erwägen wir bei der Kommunikation jedes einzelne Wort, das wir aussprechen. Das ausgesprochene Wort wirkt auf die Persönlichkeit des Menschen. Man sagt, dass auch die Wahrheit eine Droge sei, der Verträglichkeit individuell ist. Gerade in der Situation der negativen Gefühlsregung, wenn die falschen Bewertungen und Beleidigungen in den Mund drängen, ist es wichtig, nachdrücklich alle Wörter zu bedenken. Seit alters gilt das, was Bernardh Show gesagt hat: *„Die Wunde, die durch ein Wort verursacht wird, reicht tiefer als die durch ein Schwert.“*

Nachwort

Die Kommunikation präsentiert den Leitaspekt in dem zwischenmenschlichen Beziehungsbestandteil des soziokulturellen Systems einer bestimmten Gesellschaftsumgebung. In der gegenwärtigen Konsumgesellschaft kommt es zu den grundlegenden Kommunikationsänderungen, sowohl in der Familie, als auch in der Arbeit. Man könnte sagen, es handelt sich um eine Kommunikationskrise, der wir uns nicht bewusst werden. Eine wesentliche Erfolgsvoraussetzung jedes Menschen im Management der Sozialarbeit, aber auch in der Beziehung zu den anderen Menschen außer der Arbeitsstelle, sind seine Kommunikationsfähigkeiten. Durch sie können wir täglich unsere Lebens- und Arbeitsqualität verbessern.

Man trifft sich in der Praxis mit den verschiedenen alternativen Arten der Sozialkommunikation, wobei es oft vergessen wird, dass die Kommunikation ein gesellschaftlicher Prozess auch im Management der Sozialarbeit ist, der auf unser Dasein Einfluss hat. Sie ist also ein Bestandteil jedes Individuums. Unsere Kommunikationsart beeinflusst sehr die Menschen, mit denen wir täglich entweder privat oder am Arbeitsplatz in Kontakt kommen. Gerade im Arbeitsbereich Management der Sozialarbeit, der ein sehr breites Spektrum hat, treten die Arbeiter in den verschiedenen Rollen auf, in denen auch die Kommunikationsart jedes von ihnen auf dem verschiedenen Niveau ist. Deshalb legen wir einen großen Wert auf diese Problematik.

LITERATURVERZEICHNIS

1. GABURA, J., GABURA, P.: *Sociálna komunikácia.* Bratislava : Občianske združenie Sociálna práca, 2004, 128 Seiten, ISBN 80-968927-7-0.
2.HUČÍK,J. - HUČÍKOVÁ, A. Kazuistika v sociálnej práci. II.vydanie, s.203. Bratislava: VŠZaSP sv.Alžbety, 2010. ISBN 978-80-89271-66-5
3.HUČÍK, J. - HUČÍKOVÁ, A. Paradoxy náhradnej výchovy. In:*Detské práva na konci tisícročia : Zborník.* Bratislava: Iuventa, 1999. s.58-63 [Hučík, J.(50%), Hučíková A.(50%)]
4. FORET, M.: *Komunikace s veřejností.* Brno : Masarykova univerzita, 1994, 204 Seiten, ISBN 80-251-1041-9.
5. KHELEROVÁ,V.: *Komunikační dovednosti manažera.* Praha : Grada Publishing 1995, 225 Seiten, ISBN 80-7169-223-9.
6.SZARKOVÁ, M. A KOL.: *Komunikácia v manažmente.* Vybrané problémy. Bratislava : EKONÓM 1996. ISBN 80-225-0796-2.
7. ŠKVARENINOVÁ, O.: *Rečová Komunikácia.* Bratislava : SPN 1995, 165 Seiten, ISBN 80-08-02228.

ACTUAL TRENDS IN SOCIAL JUSTICE (ETHICAL ASPECT)

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ABSTRACT

Actual trends in addressing social justice are based on discursive-ethical reflection on its principles. Current concepts of social justice are essential to the methodology based on critical analysis of liberal and communitarian theories. Through analytical and comparative methodological approach we assume that the current European theorists conceptualized in terms of ethical justice construed primarily as a basic concept of ethics and social ethics. We analyze the issue from the perspective of justice. Ethical reflections on social justice should take place from the perspective of the theory of action and the theory of institutions. From the perspective of the individual and is therefore not always so, create consistency between the benefits and considerations of justice, i. e. act so that in pursuing its own goals as not to conflict with the postulates of justice.

Key words : Justice. Social justice. Ethics.

Introduction

What differences can, the notion, concept and concepts of justice, still refer to the division of labour, cooperation and exchange on social status of the assets and other characteristics common to people and their relationships within society. The expression of justice includes the historical changes and contexts. Justice is always a relationship to that of people in society and people between them. Ideas of justice also stem from the search for common principles of life, coexistence, the evaluation criteria, patterns of behaviour and laws individually, laws and government acts, the gauges adequacy, proportionality and equal treatment, as well as the goals of creating social, interpersonal and team REALTIONS ALSO.

Discursive-ethical model of justice reasoning

Elementary rules of coexistence have become part of laws and stabilized as at least unquestioned moral imperatives. Many of them automatically adhere to the full course. They are part of our culture reflect the values that we accept. But some of us are not taking for granted, we are not quite clear why we observe them, thinking about them, challenges them, even if they knowingly accept. Automatism linked long filled, life experiences reviewed, often unwritten rules of behaviour. Manifested as stereotypes, conventions and traditions. Moment prudent fulfilment of moral standards is often linked to short-term rules, which tend to be gradually supplemented by certain official regulations, typical for the current stratified society. "Ethics is reflected in everyday human life and therefore we should assist in decision making and action in difficult complex situations. Ethics regulates our behaviour so that it is morally right. Ethics can thus be seen as a tool to explore what is human in real life is precious and also morally right. " (Facuna, 2010, p. 138)

Really need of moral standards, the activity involves a certain limited area of human activity, are unquestionable. New situations that arise in fields such as genetics OR medicine and many other sections, are moral dilemmas, which require the formation of certain regulative, which takes the form of moral standards and become part of codes of ethics, are often procedures supported by the legislative form. Here, however, involved the creation of moral standards especially conscious rationality. The ethical reflection theory there are essentially three ways of reasoning moral standards:

(1) The descriptive part draws conclusions. Hume drew attention for this theoretical problem. Hume principle says that we can derive the standards of the facts. From what is, we do not have a chance to get what should be, since there is no rational transition from real to the right, which would ensure fair court moral force.

(2) If we can not derive normative descriptive phrases from the courts, which are stating facts, it is possible to derive standards from other standards through deduction. Inference, however, never reach the current standards, if any, compelling and most current standards is not expected. Thus we come to a situation where we are forced to accept and adopt standards deductively derived from already existing, which we recognize. So even in the deductive proof of the fact we have assumed the existence of the applicable standards.

(3) The last option, how can we justify intersubjectively valid norms, the analysis capabilities of human rationality, resulting in the creation and identification of moral standards as a recognizable and acceptable rules. Discursive ethics is moving in this way.

The founder and creator of discursive ethics, as is generally accepted, is Jürgen Habermas. Habermas returns to Kant and analyzes the role of reason in different areas of our world. Its European inspiration, Kantian tradition, embodying the ambition to grasp the evolution of thinking critically, it leads to finding and revealing the relationship between the functioning of the theoretical and practical reason. His efforts in the field of ethics is designed to transform Kant's moral theory through communication and pragmatic means. Habermas bases his approach on the theory of communicative action. It seeks to redefine the categorical imperative of Kant's position of moral principle, character monologue into a form of public dialogue. Habermas sees the main problem of the categorical imperative monologue just in the nature of moral principle, which leaves unanswered questions of the possibility of intersubjective moral courts. Kant's categorical imperative is the moral law, which makes sense of determination to act like moral imperative that obeyed the call. But what sense the moral law commands, are not specific standards. Categorical imperative can be understood as a formal procedure to determine the will. "Act only according to that maxim, which you also want to become a general law ",... respectively. "Act as if the peak of your procedure should be based on your will to become universal law of nature." (Kant, 1976, p. 62)

Categorical imperative required to live up to the role of the legislature for themselves and for others, and act according to such rules, which I want as laws, t. j. generally accepted maxim of action. But how to guarantee that what one person may want to applicable standards, will want another, and that therefore the standard in question actually valid maxim intersubjective procedure? In the case of Kant's theory can rely only on the order of reason. The controversy with Horkheimer and Adorno, who, through their interpretation of Kant's radical challenge real possibility of functionality and universal Kantian categorical standards and interpret the whole of the traditionalist position, which actually dissolves otherness, as a premise where there is a kind of ideal, but this is not demonstrated (Habermas's referred to as a myth), Habermas is back to Kant. Believes that "cleansing" of Kant's ethics metaphysical residue may be justification for the normative assumptions of morality on the basis of theoretical and communicative means. Deontological dimension of moral phenomena is no longer here is derived from Kant as the functioning of goodwill, but of rational subordinations inherent in the communication process into which all participants as equal partners. In his

work Habermas theory of communicative procedure stresses that communicative reason is directly included in the processes of social life, acts as an understanding of mutual coordination mechanism play a role in the proceedings. Habermas sees the specific competence of the human race is not in the capacity of knowledge, but the ability to use language, to participate in communication (Habermas, 1998, p. 156-157). According to T. Machalová "man we have here is not being presented as monologues, blessed with good free will, but as a being whose essence consists in the process of communication. Communication ... ceases to be the only medium of information transmission and becomes the means of interaction that is mediated by the language of the proceedings. Structuring the proceedings as a form of human being. "(Machalová, 1998, p. 117)

One participant is not only speech but also unconditionally accepts the universal validity of its requirements, such as: clarity, accuracy, reliability and accuracy. Habermas attaches to the principles of ethical communication and considers their relevance for the minimum basis of morality (see Habermas, 1984, p. 354, 355). The language is in fact covered by Habermas understanding as "telos" process of the human race as a social human life possible processes, which is always the understanding.

Acceptance and recognition of the principles of communication presupposes the existence of a certain magnitude, which can be seen as a sign of moral obligation. Normative force moment is anchored in the language and there is transmitted to all the structures which reproduce the communication. Communicative action, oriented to communication, takes the form of discourse.

Discourse procedure itself is problematic nature of validating claims of communication statements participants. It is not about exchanging information, as it is inherent in the process of cognition, but the exchange of arguments, which seeks to promote understanding and consensual solutions. Understanding requires the establishment of such a concept, which gives the possibility of eliminating forced consensus. Habermas characterizes the discourse as a form of communication, which is characterized argument thematize validity claims that are problematic and examined their capacity. Habermas points out that if we keep discourse, we need some way to withdraw from the case context and experience, here they do not exchange any information, but arguments that serve to justify (or reject) the problematic validity claims (see Habermas, 1984, p. 138).

Validity and accuracy of claims are secured, where the discourse participants respect the five basic requirements of discursive ethics:

- general requirement: no party, which affects it, what is discussed can not be excluded from discourse;
- autonomy requirement: all participants should have an equal opportunity to submit proposals and criticize the validity of claims that present the other in the process of discourse;
- requiring the adoption of the ideal roles: participants must be willing and able to empathize with all claims hovering over the discourse;
- neutrality requirement of power: power differences existing between the parties must be neutralized, and thus ultimately have no influence on the formation of consensus;
- Transparency requirement: participants must openly explain their goals and objectives and give up the strategic costs.

Moral qualities of man are then Habermas in understanding the result of its ability to be participants in the discourse, it means being able to adopt and apply principles of communication. The basic conditions are equality, mutual respect, credibility and sincerity. Valid consensual solution, which mature ethical discourse participants must meet the "principle of universalisation. Sufficient condition for any valid norm is that all participants in

the discourse will voluntarily accept all the direct and side effects resulting from joint efforts to meet the interests of each individual. (Habermas, 1996, p. 75-76) Habermas introduces the principle of universalisation as a rule of argumentation, which then allows the understanding of practical discourse. Consensual agreement becomes normative human condition of their real costs. At that moment, people explicitly express their moral qualities, and therefore justify the generally applicable principle as follows: "The discursive ethics is attributed to the validity of the standard only if those involved in this standard relates in any way possible as a practical discourse, participants agree to This standard is applied." (Habermas, 1996, p. 76)

Justice as a result of ethical procedures

Discursive ethics is ethics procedures. Habermas rejects the possibility Substance basis of ethics. His theory is based on the possibilities of understanding assumptions. In many work emphasizes the idea that moral courts must have enough ability to find every possible party to the agreement - and not just as ethical courts, but also in terms of our self-understanding and understanding of the world. One is, no matter how the process of reasoning would have to itself, is always part of the universal context.

Many critics accuse Habermas formalistic character of its conception. But the discourse procedure itself prevents absolutization specific content of moral values and uncritical promotion of ideas on just one well. In this context one can only agree with the opinion of T. Machalová that formality and universality of discourse is thus presented as a condition of the preservation of pluralism and the correction of its borders (Machalová, 1998, p. 121).

Reason of ethical standards show to a man why should act morally. The moral dilemma we ask why we have recognized, standard, and we want to hear a decisive reason to really convince us. Substance and traditional justifications have a limited effect. The pursuit of universal justification for example through the Aristotelian notion of virtue and good life in a harmoniously functioning polis in the current situation of people's lives, completely legitimate plural individual life schedules must inevitably fail. Reliance on metaphysical structure also lost in actuality. Metaphysical truth, although mostly positive, but given the currently prevailing pragmatism, as Habermas says, the lack of "good reasons".

Most attractive at first glance see empirical method of ethical justification, and hence moral standards. Empirical grounds, such as happiness, peace, peace, etc., motivate earthly interests that we can explain, and to strive to meet. With such reasoning, however, show problems with a range of standards. If morality is understood, depending on the external interest in which is very difficult to legitimize it in its context as a relevant and ethically correct, then moral action out-moral we set the values that can be easily in perspective and ethics, respectively moral standards are merely a means to achieve them. Classical ethical theory of intersubjectively not guarantee the validity of moral principle, what is claimed by discursive ethics. For example, for many people, peace is a sufficient motive for moral action, but not necessarily the general theme for each. There will always be people motivated by the prospect of profit from the sale of weapons and food in war zones who want to respect others preferred the opposite values, and therefore justify not recognize. Normative moral order is rooted in the ground outside, which denies itself the phenomenon of morality at all. In the case of classical ethics, the morality is reduced to practical wisdom, in which standards are valid because they are useful. In the published interview with T. Hviidom Nielsen Habermas states: "In modern conditions of life will no longer competing traditions can claim prima facie general application. Even in practically relevant issues so we can not base its arguments on the incontestable authority of tradition. If you do not want to normative questions elemental cohabitation rule by direct or disguised violence, pressure, use of influence or power of a

stronger interest, but non-violent persuasion by rational motivated conformity, then we should focus on range of issues, which are open to non-partisan assessment. We can not wait universally binding response when we ask what is good for me or for us or for them. Rather, we must ask, what is equally good for all. This "moral perspective" ... highlights issues that can be addressed with respect to generalized interest are questions of justice." (Habermas, 1999, p. 107) Practical discourse is in fact seen as a discursive ethic of reciprocity, public practice perspectives. The procedure takes the perspective of discourse each other and to persuade, whether it is acceptable to others. Moment of empathy gives the possibility to reproduce the relations of reciprocal recognition, and thus also ensures the identity of each individual. D. Horster in the monograph Jürgen Habermas analyzes the process of practical discourse as follows: "discursive reached agreement depends on the unrepresentable 'Yes' or 'No' to each individual, as well as overcoming the egocentric perspective. Unlimited individual freedom without comment on criticism of claims can not be effectively reached agreement with the generally true, without solidarity empathy for each other in all situations is not even possible to reach a solution that deserves a general consent. Discursive framing procedure will take into account the internal connection of two aspects - the autonomy of individuals and their irreplaceable membership of intersubjectively shared forms of life. Individuals equal rights and equal respect for their personal dignity are supported network of interpersonal relations and relations of recognition." (Horster, 1995, p. 49)

In the process of discourse to the reasoning adopted by the addressee with the standards that as a rational entity must necessarily act in accordance with reason. In a situation of moral problems one wonders, will that lead to a rational solution. Reasonable solution means a consensual solution in an equal meaningful argumentation in which arguments are accepted equally without taking into account each person, from which they originate. Good will to find the right solution in terms of the agreement between the consensual community is constitutive of rational entity as what makes rational body just what it is, if he wants to maintain its own, human dignity. Each issue of opening a dialogue in which the discursive rules should accept that consensus was possible. Efforts to search for truth is dialogical proves essential to the extent that it no one can meaningfully be rejected because the rejection of the argument and the actual act of refusal has the form of argument. Even when we think and argue, only in its own plane of consciousness, the only discourse, which would be eligible dialogic finding solutions. So while a priori argument, we recognize the fact the communication rules, without which the argument is not a meaningful argument.

Acceptance of discursive reasoning justify moral standards we see as meaningful. Purposive rationality, which often dominates discussions on solutions to moral problems, it is actually quite easy and questionable in perspective.

Moral standards are created by man and values, which become discourse through their mediated substantiated content corresponding skills and capabilities of man. The functionality of moral standards depends on the ability of man to understand their meaning, identify with them so that they become part of his own moral position. Ethical discourse is, in our view and in agreement with Habermas way that creates such a possibility.

Conclusion

Ethical reflections on justice should take place from the perspective of the theory of action and the theory of institutions. From the perspective of the individual and is therefore not always so, create consistency between the benefits and considerations of justice, t. j. act so that in pursuing its own goals as not to conflict with the postulates of justice. The social aspect should be sought about social justice with functionality ways ruling within the meaning of the main ideas of the institution. In both perspectives into account means of

justice to limit the possible means of permissible and critical analysis of real conditions and programs.

Each person and each community develops a consciousness of justice. According institutional's concept of justice is not a priori givenness and forever immutable, but is relative to life forms individuals and communities. While acting mostly as a relatively stable concept, but nevertheless subject to evolution. In my view, justice is a characteristic of consciousness that encourages cultural man, to develop and clarify its own principles of justice and considerations, as well as inter-personal discourse. These processes are influenced by the idea of justice prevailing in society.

One of the important issues of justice in an institutional perspective, the problem of justice functions. The institutions are created types of problems associated with the competencies, tasks, spaces for the conduct, duties and rights, as well as with specific value and ideas of justice.

Balance of roles - multiple roles are often coordinated with each other - is an important issue of justice. Generally clear when it is possible task relationships regarded as fair and as such ever to be reformed, it is a difficult question that would require a very extensive research. It seems to me clear that the institution must take into account the performance and protivýkon, work and wages, as well as the functionality of task relationships. Some critical aspects are easy to state: it does not matter that one gets a job, another benefit is that one has a responsibility, a different prestige, one has to risk another gain of interaction tasks. The types of tasks when you install that particular session assignments (eg business start-up, when entering into marriage, a football team preparing for a particular match ...) make appearances in the specification of tasks. This is often followed by consensus or by a unilateral determination (if the task relationships unilaterally constructed authoritative). Although this convention is necessary to ascertain what in justice and functionality. In assessing the fairness of tasks there is further evaluation of specific tasks in relation to defilujúcemu type tasks, which determines the expectation, and therefore the aspect of activities in the role as fair or unfair.

Code of Ethics for professional occupations has extensive function: to determine the legitimate expectations and assessment tasks. From a solicitor, for example expected to advise and act in the interests of the client, not with regard to higher fees, the judge is expected to try to be impartial and consider that in the spirit of the law.

Normative-institutional justice theory is an evolutionary concept of justice. Notes variability notions of justice than historical facts, and ideas about the supposed adaptation justice institutions, as well as other development institutions cleansing notions of justice. If under some theory of justice assume that justice postulates one period depends on the situation of institutionalized, which also marks the consciousness of justice, and that in a given era and social situation come to the forefront specific role of justice, then we inevitably leads to reflection, as it looks with the current justice issues of our time. Moments that the current conditio humana determine the most urgent requirements of the justice of our world? Moments, which gave priority, are perhaps only what corresponds to my subjective image of the world; otherwise directed by a man also saw other key areas. Elements of subjective perspective, however, these issues can not be excluded. We live in a giant spiral arms, in a world unimaginably high military spending and military and - it seems to me perhaps most importantly - we live in a world of nuclear weapons tests of nuclear bombs, nuclear disaster and multiple nuclear death. The danger of this situation underscores the fact that in many areas of the world, there are virulent outbreaks of crisis, which often are not only conflicts of interest but is associated with destruction and slaughter of ideologies.

We are facing deep economic problems: problems of unemployment - one expressed by the slogan "two-thirds of Danger"; problem poverty and hunger due to the gradient between the economic areas, but in quite a drastic extent, within some affluent societies; almost unfettered power of wealth (large corporate groups and other transnational economic monopolies).

There are very serious problems of democracy, both in theory and in practice. Instead of consistent functionalist analysis draws attention to yourself Thinking succinct, demoralizing impact model competition of elites is evident, since the growing relevance of the image gives way to marketing. Personal structure can receive priority over the development of ideas of democracy.

Fundamentalist and conservative tendencies in the development of various religious communities have become highly topical two problems: (1) the relationship between church and state, and (2) the relationship between freedom of religious communities and freedom of conscience of individual personalities in established religious communities. Replies to this troubled situation here I can only suggest.

Ethos is the essence of humanity so that purposeful orientation to community interests - however defined - is characterized by moral good and fair. Ideals of the nation, religious community and other collectives or communities of interest are as follows. The fact of pluralism communities in which our modern world in every one, and the fact of coexistence of different communities, which is also a reality show this attitude in a whole new light. The current problem is not the only community in demeanour, but the constitution of relations between communities. It is currently in large and small, this is the first condition for the survival of humanity in the face of modern weapons and the current social constellations in the world. Ideals of justice of our time must be put into service this problem. Opening of communication between cultures, political systems and communities, tolerance and attempts to achieve understanding between communities, it should be our most important ideals. In the world of the threat of atomic death is not enough discussion. Towards a fairer world pacific leads only through the reduction and arms control. Nuclear deterrence as a means to avoid war, is a fallacy: even after 1945 there are still wars, although not between superpowers.

Be bound by the idea of two-thirds of the company is deeply inhumane and contrary to our most basic notions of justice, as unemployment means exclusion from society (although with the support of unemployed looking for). Changing this developmental trend, it appears achievable as the transformation of life forms and basic economic concepts. Ideals of solidarity and justice postulates here get in line. To find adequate solutions in this complex material is very difficult. But eg. eliminated dual employment is in the world a wide range of skills, postulate indefinable.

Institutional concept comes from historically - empirically well-justified argument that a democratic society can be built only on the formalism of the will of democratic processes, but also needs a system of content ideas, as well as democratic practices established by usage.

Face - to developments in the field of faith and churches become important current problems of justice. Postulates the separation of church and state seem necessary to ensure democracy and spiritual freedom. Even in relation to the religious communities are certain democratic requirements: the requirement of internal and external tolerance, recognition of freedom of individual conscience (free entry into the religious community and speeches from him, recognizing the existential rights to other religion). State should guarantee religious freedom, but also the freedom of individual conscience against intolerance in the churches.

REFERENCES

[1] FACUNA, J. 2010. Moral principles of teaching and field social worker (Morálne princípy učiteľa a terénneho sociálneho pracovníka.) In: Mátel, A. et. al. (Eds.) 2010. Applied Ethics in social work. (Aplikovaná etika v sociální práci) Brno: Institut meziodborových studií, 2010. p. 138-145. ISBN 978-80-87182-13-0.
[2] HABERMAS, J. 1984. Preliminary studies and additions to the theory of communicative action. (Vorstudien und Ergänzungen zur Theorie des komunikativen Handelns.) Frankfurt am Main: Suhrkamp. 1984. 605 p. ISBN 3518576518.
[3] HABERMAS, J. 1996. Moral consciousness and communicative action. (Moralbewusstsein und komunikatives Handeln.) Frankfurt am Main: Suhrkamp, 1996. 207 p. ISBN 3-518-28022-8.
[4] HABERMAS, J. 1998. Theory of communicative action. (Teória komunikatívneho konania.) In: BURAJ, I. et al. 1998. Social philosophy. Bratislava: FF UK, 1998. p. 150-180. ISBN 80-223-1284-3.
[5] HABERMAS, J. 1999. Phasing-out revolution. (Dobiehajúca revolúcia.) Bratislava: Kalligram, 1999. 205 p. ISBN 80-7149-280-9.
[6] HORSTER, D. 1995. Jűrgen Habermas. Praha: Svoboda, 1995. 102 p. ISBN 80-205-0467-2.
[7] KANT, I. 1976. Fundamentals of metaphysics of morals. (Základy metafyziky mravů.) Praha: Svoboda, 1976. 135 p.
[8] MACHALOVÁ, T. 1998. Discursive ethics. (Diskurzívna etika.) In: GLUCHMAN, V. – DOKULIL, M. (Ed.) 1998. The current ethical theory. (Súčasné etické teórie.) Prešov: LIM, 1998. p. 111-121. ISBN 80-967778-8-2.
[9] VELEK, J. (Ed.) 1996. The dispute on liberalism and communitarianism. (Spor o liberalismus a komunitarismus.) Praha: Filosofický ústav AV ČR - Filosofia, 1996. 152 p. ISBN 80-7007-089-7.

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