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Author: Michal Olah

Overload and burn out syndrome in social and healthcare workers and their clients

Original Articles

✔ EDITORIAL: WE SHALL START HEALTH INTERVENTION AGAINST COLLATERAL EFFECT OF PANDEMIC TO METABOLIC, CARDIOVASCULAR AND MENTAL HEALTH IN MIGRANTS, CHILDREN AND CAREGIVERS

✔ POTENTIAL SOLUTIONS TO SELECTED CONSEQUENCES OF THE COVID-19 PANDEMIC ON MENTAL HEALTH RELEVANT ALSO FOR THE POST-COVID ERA

✔ PLAYING TO THE REGIONALITY OF PHARMACIES AS A STRENGTH IN THE SEARCH FOR SKILLED WORKERS

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Editorial

We shall Start Health Intervention against Collateral Effect of Pandemic to Metabolic, Cardiovascular and Mental Health in Migrants, Children and Caregivers

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From the guest Editors

This current issue of No 3 of Clinical Social work and Health Intervention vol. 12, is the first one after two covid HIV and other pandemic consequences (1), not to ignore collateral effect of those two largest viral epidemics in recent years. The articles focus within a group of German authors the need for emergency health and social worker intervention in catastrophes during pandemics, earthquakes and other special events affecting not only victims but also health care staff (Merkt *et al,* Fritzsch *et al*). Zacharova *et al* (2) discuss collateral effects of migrant and pandemic stress events, on rescue and nursing staff in Germany and Masan *et al*. on late consequences for mental health as well).

Kiann *et al*.and Merkt *et al*. emphasize not to forget dental and diabetes health as drivers of cardiovascular mortality largely ignored within last 2 years (Manoranjan *et al*. & Minarik *et al*.). Four German-Swiss group of authors: Osman *et al*., Wahl *et al*. and Changee *et al*. and Niemuth *et al*. focus on the important roles of pharmacies especially when first line e.g. general practitioners are overwhelmed with covid 19 (EU USA) or HIV (Sub-Saharan Africa) patients.

Apart from mental dental and cardiovascular health, please we shall not forgot female (mothers) children (families) heavily affected with pandemic related poverty such as in wake-up-call articles submitted and published with groups from Pakistan, Saudi Arabia but also the EU (Wahab *el al,*, Abdalllahi *et al*., Minarovicova & Popovicova *et al*.) (2).

We shall not ignore those health care interventions also to pharmacists, dental specialists, MD, rescuers and nurses, because they all have served within last 2 years, with collateral effects of Covid and HIV to mental, cardiovascular, endocrine and dental health which may destroy access to health care to vulnerable groups of women, children, refugees and exhausted health care providers of social rescue health and nursing services worldwide.

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Potential Solutions to Selected Consequences of the COVID-19 Pandemic on Mental Health Relevant Also for the Post-COVID Era

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Abstract:

This article is based on the results of a survey conducted during the period from December 2020 to May 2021 involving 300 respondents in different countries: Italy, Spain, Hungary, Great Britain, the USA, Poland, Slovakia, Romania, Serbia, Ukraine, and African countries. The research was carried out on the basis of narrative case studies. In order to obtain an adequate methodological answer in regard to the focus of the research, which showed the personal and subjective views of the respondents, a qualitative approach using in-depth online interviews was desirable. Each interview lasted 90 minutes. The aim of the survey was to find out how designing your own online intervention program can help respondents alle-

viate their difficulties. It is based on human-centered approaches; methods of reducing stress; methods of strengthening the presence-focused mode; the so-called 'here and now' approach; and some relevant theses of Christian missiology and non-radicalized Islam that promote human health and dignity. The condition for entry into the survey was the age of the participants (over 40) and experience of at least one of the psychological consequences of, or situations in, a long-term psychological burden due to the COVID-19 pandemic. Survey participants became infected with COVID-19 or had recovered from it before entering the survey. Many of them had other associated health problems, including COVID-19 and its psychological consequences, chronic illnesses, were at risk of poverty, social exclusion or insufficient professional health and social care. During the survey, the online intervention program focused on gradually accompanying survey participants towards their full autonomy (for example, in thinking, naming the feelings they experience), encouraging them to take responsibility for their lives and encouraging them by positively evaluating their achievements and the results they achieved over the course of the year. The participants in the survey showed a significant weakening of rumination, which is behind the psychological difficulties, especially mood disorders and anxiety disorders. The online intervention program worked intensively with survey participants in line with the need to activate their change process. The intention of the online intervention program was also to help them regain their inner balance and their full place in society they had before the pandemic. The survey showed that even in the post-COVID period, special online strategies aimed at promoting mental and physical health should not lose their relevance. The results of such research may provide relevant and inspiring stimuli for further and new specific research, studies and analyses in the field of the benefits of specialized online interventions aimed at strengthening physical and mental health. Especially during heightened critical periods, which global crises and their consequences bring into various areas of life for the entire population. These are, for example, crises in the form of other pandemics, such as the COVID-19 pandemic, which has had a far-reaching impact on today's society.

Introduction

Experience and recent knowledge gained during the COVID-19 pandemic have shown that some of the serious and wide-ranging negative effects of the pandemic include, in particular, those that affect mental health and resilience. Billions of people all over the world experienced anxiety; unease; stress; worries; social isolation; loneliness; a temporary state of depression; feelings of loss of control over the situation and over their emotions; various consequences of their worsening economic situation; the negative effects of isolation on their partnerships, intimacy and family life; anticipated anxiety caused by fake news related to the pandemic which often came from unauthoritative sources. Similar findings were presented in research carried out by Jiju Varghese *et al*. in 2020 (1), which focused

on negative consequences related to the COVID-19 pandemic, for instance: "anxiety and fear of danger; intense feelings of losing control over one's life; negative emotions; depression; disorientation; psychosomatic disorders; aggression; increased risk of being manipulated or controlled; reduced ability to distinguish and analyze information" (1). Long-lasting tense mental and emotional experiences characteristic for crisis periods or intense life situations can have a serious disruptive effect on one's thinking, behavior and actions, and the ability to function in everyday activities or events. Therefore, one of the major challenges of the post-COVID era is supporting mental and physical health by means of specialized strategies and methods.

Reported research as well as practice also shows that, in connection with the psychological consequences of the COVID -19 pandemic, acute depression and post-traumatic stress disorder are currently appearing in people from the medical and helping professions, who worked as the front line workers during the pandemic. There are predictions that COVID-19 will be classified as a diagnosis for many of its consequences in various areas of human health.

A relevant response may be a draft of a specialized online intervention program designed to guide people who are unable to handle the psychological, cognitive and social burden of the pandemic and its consequences.

A major international survey involving 300 respondents from different countries, namely Italy, Spain, Hungary, the UK, the USA, Poland, Slovakia, Romania, Serbia, the Ukraine, and African countries, was conducted from December 2020 until May 2021. Its results may yield meaningful incentives for research and exploration of specific Internet interventions to promote physical and mental health during serious global crises and their aftermath, which influence every aspect of life for each individual. The most severe effects were reported during the COVID-19 period as having been the most impactful pandemic event in the modern era.

Methods and results

The research was carried out from December 2020 until May 2021, during a period when people experienced mental problems as a result of the COVID-19 pandemic, accompanied by depression; long-term stress; chaos; fear; anxiety; frustration; feelings of loss of control over their life or emotions. As a result of such, symptoms of aggression and social phobia; also depression and post-traumatic stress disorder have appeared. The research was carried out on the basis of narrative case studies. To receive an adequate methodological response given the research's focus, which has shown respondents' personal and subjective views, it was necessary to opt for a qualitative approach by using detailed online interviews. Each interview lasted 90 minutes. The aim of the research was to find out how a draft of an online intervention program can help respondents mitigate their problems. The program is people-oriented and focused on stress reduction methods, methods to strengthen mindfulness of the here and now, and some of the relevant theses of Christian missiology and non-radicalized Islam which support human health and dignity.

The precondition for participation in this research was a minimum age of 40 yearsand the experience of at least one consequence of a mental health or long-term psychological burden as a result of the COVID-19 pandemic. Research participants were infected with COVID-19 before the research or they had already recovered from it. Many of them experienced additional health problems; chronic diseases; faced poverty, social exclusion or unprofessional health and social care.

Three hundred respondents took part in the research from various countries: Slovakia, Italy, Spain, Hungary, the UK, Ireland, USA, Poland, Romania, Serbia, the Ukraine, and African countries.

Respondents were contacted via various foreign interest and religious organizations; non-governmental organizations; self-help groups; international interest organizations focusing on providing support in difficult life situations; psychological support centers; rehabilitation centers; hospitals and healthcare facilities, including those, which have shown a poor level of care.

To ensure the legal protection of the participants and of the research, all respondents provided their consent to GDPR. After initial contact was established via these organizations, groups, centers and hospitals, participants were contacted by the authors of the research via email, various apps or, whenever possible, via the phone.

As for the African countries, respondents were contacted via community health volunteers and healthcare workers. Contact and participation in the online intervention program was performed in the form of specific consultations with active participation of community health volunteers and healthcare workers. As for respondents from African countries, it was particularly necessary to monitor their perception of demanding and stressful situations and the consequences of the COVID-19 pandemic.

The research team was composed of all the authors of the article. Research participants were contacted and all interviews were organized and a transcript and research notes were written down. The research results were discussed by the authors at a plenary meeting with special attention paid to unusual matters, prejudice and assumptions (e.g. cultural and religious differences). The research captured the respondents' unique experience; however, its limiting factor is the fact that the second part of the research started in May 2021 and, currently, the results cannot yet be applied to the entire world population.

Given the research authors' work and volunteering activities in certain hospitals or healthcare facilities, and given the pandemic situation, face to face contact was limited to a short period of time or completely impossible, and was therefore replaced mainly by phone calls. The research authors have long-standing experience in the area of methods supporting physical health and cognitive functions with an impact on mental health. They demonstrated their professional qualifications in a standard and trustworthy manner to all participants at the very beginning, so that the participants were certain that the contact and the research were reliable. At the first meeting, participants were presented with the research and details about the entire process and ways in which they could participate, and they were informed about their role and the objective and contribution of the research. Participants were also reassured that their anonymity would be guaranteed. At the following first lecture, participants were presented with the benefits of the online intervention program and how it could identify possibilities, which are at the client's disposal, and how it could help them recognize which option was the best for them in a given situation; how it could help the client carefully monitor situations and behavior patterns; which proved to be problematic; and find stimuli allowing them to start the change process. At the lecture, it was also pointed out that the fundamental goal was always the client's autonomy, which should allow them to independently choose among various possibilities and make their own decisions. The lecture explained the importance of the quality of the relationship between the counsellor and the client to make sure that the client feels heard, understood and accepted without prejudice. In addition, the lecture presented several real practical cases which helped the participants understand that the online intervention program could efficiently help clients deal with negative thoughts and emotions and provide them with objective guidance towards personal understanding and growth. Furthermore, the lecture included a presentation of specifics from the area of Christian missiology and non-radicalized Islam which the research authors appropriately adapted to religious differences between research participants. In the case of these specificities, the research authors' intervention is not limited to psychological and social areas; it also focuses on supporting the general inner balance of the client. The aim of these specificities is to promote the healing journey not just for the client but also the environment in which he or she lives.

After the initial lecture, the online intervention program itself was launched with the research participants in the form of 90-minute-long online interviews thrice weekly. The initial interviews within the online intervention program showed that research participants felt like failures because they couldn't handle their situation on their own; felt guilty about needing the help of a counsellor without whom they wouldn't be able to deal with various restrictions related to the pandemic, as well as certain sudden psychological, social and economic consequences of the pandemic which had had a direct impact on their lives. The research participants were also worried that it would be more difficult for them to handle their situation after the online intervention program had finished. In particular, due to negative economic consequences of the COVID-19 pandemic, they experienced great uncertainty and helplessness; many had lost their jobs; and they were afraid to make any plans for the future; as

a result, apathy could be seen in many of them. The aim of the interventions was not to tell the research participants what they should do or how they should do it, but to encourage them to talk about their worries; to discover the origin of their problems and their way of thinking.

In addition, interventions were based on an encouraging approach of accepting the research participants and an intellectual positive approach based on recognition and respect towards them as human beings (2) with a willingness to see their situation in a more tactful and human approach (2).

After the research participants had identified their biggest worries and uncertainties, they expressed a wish to feel these emotions and worries that had had a significant negative impact on them in a less intense way. At the same time, they wished to start thinking about them in such a manner that they stopped being a mental burden for them.

The research authors then rooted this objective with each of the participants individually based on their needs and, together, they started working on it – first by focusing on positive aspects from each participant's unique point of view, then by redirecting negative thoughts to other positive aspects. Subsequently, the research authors agreed with each participant on the fulfilment of two daily tasks to support the redirection of their negative thoughts into more positive aspects. These tasks were fulfilled by the research participants and assessed together with the research authors every three weeks. After three weeks, the research authors assessed the effect of these tasks with each participant individually and, based on this assessment, they reviewed the objective and modified it to keep it dynamic and motivating for the participant. Then they agreed on further work on this objective with the participant.

The research results can be synthesized into the following areas which should be focused on when providing intervention through specific online counselling even in the post-COVID era. The research participants said that they were trying hard to keep all and even "the smallest feelings of certainty", all positive emotions and the feeling of well-being, which they experienced and gained in online counselling through online interviews with a counsellor. They were worried about "losing these feelings again." Based on these findings, the approach taken by the research authors focused on creating an atmosphere of calm and acceptance during the online interviews in which each participant could think about their following decisions, behavior and actions, and set some important positive goals or activities for themselves; each participant was supposed to start with small goals and activities.

Discussion

The online intervention program focused on the fact that the research participants could not see an immediate possible solution to their problems. In their interviews with the participants, the research authors tried to identify potential possibilities for each research participant which could be achieved under certain circumstances. The research authors naturally tried to motivate each research participant in their efforts to mobilize their outer and inner resources by redirecting them towards a feeling of hope and by strengthening their feeling of control over their situation. Furthermore, the online intervention program focused on strengthening the research participants' hope and positive thinking and, for this purpose, the research authors agreed with each research participant on the fulfilment of certain special tasks and their subsequent monitoring, completing a general final prognosis of how the participant perceived their problem and the current situation, and how this perception would gradually change with the help of the assigned tasks. The research authors monitored the fulfilment of these tasks in subsequent online interviews every three weeks. After the interviews were over, the research authors assessed the effects of this specially created online intervention program. The aim of certain tasks within this program is to perceive the present moment, to look around oneself and notice what we normally cannot see. Learn to focus on colors, sounds and smells, which the participants had not noticed before. It is essential not to judge, assess or expect anything (Varghese *et al*. 2020). Based on the assessment, the research authors reviewed the problems with each participant. In the following online interviews, the research participants managed to gradually redirect their perception by focusing on some positive aspects of their situation and then by redirecting their

thoughts to other positive aspects, which they started to perceive and realize in their interviews with the research authors.

Conclusion

The international research carried out from December 2020 until May 2021 in Italy, Spain, Hungary, the UK, the USA, Slovakia, Poland, Romania, Serbia, the Ukraine, and African countries, included an online intervention program. Participants were gradually guided towards full autonomy (for example, in thinking and defining their emotions). The program emphasized motivating them to taking responsibility for their own lives and supporting them through a positive assessment of the results achieved in the process. It was proven that it has weakened rumination in the research participants, which was the underlying cause of their mental problems, especially for mood disorders and anxiety disorders, because the research participants focused intensely on the need to activate the process of change. The change process can happen only when stimuli are used to support healthy mental perception, and resulting healthy actions and behaviors replace the unhealthy ones. Moreover, the aim of the online intervention program was to help them find inner balance and a fully-fledged place in society as they used to enjoy before the pandemic. The research results have shown that, in the post-COVID era, special online strategies focused on supporting mental and physical health should not be discarded. Therefore, it is highly relevant for experts engaged in the academic and research fields as well as the practice of online counselling. IT and virtual reality can definitely be enriched with their experience from the COVID-19 pandemic. Professionals should continue taking part in defining, developing and guiding special online methods and strategies to improve quality of life as much as possible. Results show that one of the most important goals is to focus the activity on maximizing the benefits of online special methods and strategies while simultaneously mitigating their risks before, during and after their implementation.

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Playing to the Regionality of Pharmacies as a Strength in the Search for Skilled Workers

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Original Article

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Abstract:

The shortage of skilled workers is omnipresent today. In order to be able to fill vacancies with qualified staff, a pharmacy that only operates within a limited regional radius can use this regionality as a strength. The effect can then be used both regionally and supra-regionally by developing strategies IN or WITH the region.

Introduction

Pharmacies represent an important pillar of the German health care system by ensuring a nationwide supply of medicines and medical products. This supply network currently consists of 19,075 individual pharmacies, although this number has been declining since 2009.[1] In fact, the number of closures has been increasing every

[1] Vgl. ABDA, 2020, p.13.

year since then, so that regional undersupply may be imminent if this trend is not halted. However, nationwide supply is still guaranteed.[2]

In addition to the increasing competition from online pharmacies, the shortage of skilled workers poses major problems for the sector. On the one hand, existing pharmacies cannot find successors, on the other hand, the shortage of rural doctors is causing a drop in turnover in rural regions, so that village pharmacies can no longer operate profitably and have to close down.[3]

In addition to the increasing competition from online pharmacies, the shortage of skilled workers poses major problems for the sector. On the one hand, existing pharmacies cannot find successors, on the other hand, the shortage of rural doctors is causing a drop in turnover in rural regions, so that village pharmacies can no longer operate profitably and have to close down.[4] Especially for pharmacies that can only operate regionally, although there is freedom of establishment[5], It can be difficult to fill vacancies, because the shortage of skilled workers is particularly noticeable in rural regions.[6]

In order to be able to guarantee a nationwide supply of medicines and advice locally in the future, it is necessary to develop strategies to attract skilled workers to the region and to retain them there. Pharmacies have a decisive advantage over other businesses: They are small. Once they are there, small businesses can retain their skilled workers better than large companies.[7] This is primarily due to the better working atmosphere, which can be described as more of a family atmosphere in pharmacies that employ an average of 9 employees.[8]

Individual pharmacies operate within a limited regional radius. The respective region can be played out as a strength when it comes to finding new skilled workers. Demographic change is a driving force behind the ever-growing shortage of skilled workers, but the reasons are complex. Some of the reasons for a company's lack of attractiveness lie in the company itself, others in its environment, i.e. also in the region in which the company is located.[9] Now, a pharmacy is never independent of its region, as it has to serve a nationwide supply network. A holistic concept for the human resource management of a regionally operating small business, such as a pharmacy, should therefore always include the region. This can be done in different ways.

Human resource management in the region

In order to find new staff and retain existing employees in the long term, the attractiveness of a company is crucial. An important building block for increasing the attractiveness of the employer is a better placement of the company in the region. The more attractive a company is, the more attention it gets from potential applicants. This is where classic methods of employer branding come into play, which can be implemented at the regional level[10]:

1) Cooperation with educational institutions

Pharmacies can increasingly cooperate with local secondary schools and thus, for example, offer student internships. They are a simple but effective tool to present pharmacy professions to students in a positive way. These positive experiences can arouse the interest of the pupils to become enthusiastic about such a profession. In this way, such internships represent an opportunity to combat the shortage of skilled workers in a region in the long term.[11]

2) Corporate Social Responsibility

In this concept, the company becomes a 'cit-

[2] Vgl. ABDA ,2020, p. 15.
[3] Vgl. Behne et al., 2020, p. 5.
[4] Vgl. Arenberg, 2018, p. 1f.
[5] Vgl. ApBtrO, Stand 2018.
[6] Vgl. Dettman et al., 2019, p. 26.
[7] Vgl. Savov, 2020.
[8] Vgl. ABDA, 2020, p. 20.
[9] Kanning, 2017, p. 16.
[10] Schuhmacher & Geschwill, 2017, p. 37.
[11] Vgl. Neth, 2018.

izen' of society and assumes a certain social responsibility by acting with the aim of improving social problems.[12] A pharmacy can show social commitment in many different ways. It can organise self-help groups or contribute to general health education.[13] Pharmacies can support social projects of various kinds through donations or sponsoring. In principle, of course, this can apply equally to regional and supra-regional projects, but here, with a little skill, the effect on the local community can bring a decisive advantage. This does not necessarily have to be about health issues, rather it is about the aspect of benefit and the message that is transported through it. Social commitment indicates a high level of social competence and a fundamentally positive attitude towards people and always has a positive effect on the image of a company.[14]

3) Health networks and competence centres

Cooperative networking of pharmacies with other local actors in the health sector, such as doctors, nursing services or clinics, not only ensures the best possible health care for the local population, but also represents an important tool against the local shortage of skilled workers, as the professions concerned gain in value and attractiveness.[15]

All these measures have the best possible effect on the regional image of the pharmacy when they are reported in the media. Publicity can act as a door opener for skilled workers, as a positive media presence of a company increases a candidate's willingness to apply to that company. For this reason, it is always advisable to be in close contact with local media and to ensure that you are regularly mentioned there.[16]

Besides simply increasing the attractiveness and media presence of the company at the local level, a specific orientation of the company's branding towards the region can also be a powerful marketing tool. Even in times of globalisation, people identify primarily with 'their' region. A regional identification with the company can, for example, take place through the name or the additional logo of a pharmacy, in addition to the generally known 'pharmacy A'. The same can be achieved with the name of the pharmacy. Especially new pharmacies or pharmacies under new ownership can create a regional association here. This creates associations both with the customer and with (potential) employees, which promote an emotional bond and loyalty.[17] The company stands out from the crowd and can then fulfil the set expectations through other features that are positive but not unique. This measure should therefore also be seen more as a door opener, but not as a self-starter.

Personnel management with the region

If the pharmacy is well positioned in the region, it is possible to transfer its own branding with the region to the outside world in order to recruit new professionals there. Here, a company can never act alone, but is dependent on a network of various regional companies and the municipality. The key word here is 'place branding'. This term describes the collective efforts of various actors in a region to provide it with a certain image in order to increase its attractiveness for companies, skilled workers, tourism and the citizens themselves. Branding increases the reputation of the entire region and can have a positive impact on economic growth. Appropriate campaigns require actors from politics, industry or the service sector to work together to promote place branding. Every company in a region can thus contribute to the joint effort as part of this marketing community and benefit from the positive image of the region.[18]

In close cooperation with the municipality and or other companies in the region, conditions can also be created that make it easier for new skilled workers, trainees or interns from outside

[12] Vgl. Stoll & Herrmann, 2020, p. 15.
[13] Vgl. ABDA → About us → Social engagement.
[14] Vgl. Kanning, 2017, S. 105 & 152 (Tab. 9.5).
[15] Vgl. Munshi et al., 2017, p. 17.
[16] Vgl. Kanning, 2017, p. 178.
[17] Vgl. Kanning, 2017, p. 138.
[18] Vgl. Tauber, 2009.

to gain a foothold in the region. This includes, for example

- the uncomplicated provision of accommodation
- Bonus booklets to get to know the region
- integration into the local social community

Ultimately, it is not only the working atmosphere that is decisive for well-being, but also life in the employer's region. Particularly when skilled workers have been recruited from further away, the employer can play a significant role in making people feel at home outside of work.

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New Materials in Dentistry

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Original Article

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Abstract:

The use of an appropriate implant biomaterial significantly determines the success of implants. The biologic environment where implants are placed does not necessarily accept any material. Therefore, biologic performance can be optimized by selecting implants that reduce negative biologic response while at the same time functioning adequately. Besides, clinicians should be knowledgeable of different biomaterials used for purposes of dental implants. The purpose of this paper is to provide an overview on the issue of dental implants. Some of the implants discussed in the paper include titanium and zirconia implants. Furthermore, the paper discusses how physical properties of the materials influence the treatment outcome.

Introduction

Oral **implants** have become a reliable form of treatment to replace missing teeth since they were first introduced. The properties of materials used during implants, which can be either chemical or physical, determine the clinical outcome of the process. The properties are the implant microstructure, surface characteristics and composition, and other factors related to design. In addition, the implant material ought to be biocompatible, and have strength, corrosion, toughness, as well as be resistant to fracture and wear. Dental implants can be made from materials such as polymers, ceramics, and metals. The use of new materials in dentistry has helped to improve the quality of implants and dental health. Modern dentistry has begun to recognize, understand, and apply biotechnology.

Methods

The use of new materials in dentistry has led to significant improvements in the quality of implants and dental health. In European countries such as Germany, scientists have developed new materials for use during dental implants.[1] One of the most promising materials used in dentistry is Polyetheretherketone (PEEK). The material is preferred by dentists since it has excellent mechanical characteristics. When this material is used, bone-related cells might not recognize an implant as a foreign object, and this makes healing to happen faster and firmly.[2] Technological advancements such as the use of milling technology and three dimensional printing have contributed to cost-efficient imaging, thus maximizing the comfort of implants among patients. Besides, custom dental implants designed by Replicate Dental Implant System in Berlin, Germany, are more effective while doing implants than the traditional endosteal implants.

Other materials used during modern implants include titanium and Zirconium.[3] Titanium is preferred as a material of choice because of the typical properties it possesses such as resistance to doses of chemicals and high passivity. Additionally, it is possible for the material to repair on itself if damaged.[4] Titanium is also preferred because it has few drawbacks, but the use of this material has disadvantages because of the unaesthetic nature in the frontal area. However, the limitations of titanium are being overcome with the development of ceramic implants.[5] Zirconia has also become a material of choice during dental implants, and its preference emanates from the mechanical properties, which make the material suitable in fabricating dental implants.[6] The material has excellent mechanical properties such as superior wear resistance and corrosion, and high flexural strength. Moreover, zirconia has low values in terms of fracture strength for both the unloaded and loaded implants.

Results

Implant therapy has undergone tremendous progress due to the rise of modern innovations.[7] Bone-augmentation techniques have improved implant therapy. Some techniques such as sinus floor elevation and guided bone regeneration have been instrumental in correcting bone defects at implant sites. Furthermore, improvements in pre-surgical planning and preoperative analysis have been wit-

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nessed with the introduction of imaging techniques.[8] Germany is the leading nation in the manufacture of high quality dental implants. The dental implants associated with NDI Medical adhere to protocol and comply with high standards of quality. In addition to this, the dental implants manufactured in Germany facilitate the surgical process and result to positive outcomes for patients. The quality titanium used to manufacture German implants guarantees comfort, functionality, and restores aesthetics.

The shortcomings associated with dental implants have led to the use of new implant materials such as Hafnium, Niobium, and Tantalum.[9] These materials are preferable because they fulfill functional requirements and have pleasing esthetic features.[10] The use of Hafnium as a biochemical material in manufacturing implants is beneficial since it has improved mechanical properties such as high creep strength. Furthermore, tantalum (Ta) and niobium (Na) demonstrate improved mechanical properties when used in combination with Ti alloys.[11] The incorporation of alloys with titanium yields success when having dental implants. This is because the combination improves the mechanical properties such as pore size, corrosion resistance, and materials distribution.

Adverse reactions are likely to be witnessed when biomaterials are used to perform dental implants. The use of several strategies could help to improve the biocompatibility of dental materials manufactured and used in Germany.[12] One of the strategies that can help to improve the technical conditions includes developing in vitro tests. This way, it is possible to generate appropriate data on how the materials can be used while performing implants. Besides, research should be conducted on interactions between the material and tissues.[13] With this strategy, it is possible to come up with new and biocompatible materials. Also, the research on different types of patients and their susceptibility to exposure is crucial in defining high risk groups. Another strategy that can improve the biocompatibility of new dental materials is improved education among dentists on how to use the materials.

Discussion

The use of new materials in implant-supported **prosthetic restorations** is important in prosthetic dentistry.[14] Dental implants have high success rates and they provide many years of clinical service. However, biological and technical complications are common in restorations supported by implants. Some materials might contribute to technical complications such as abutment, implant fractures, and loosening of the fractures.[15] Prosthetic treatments are available to mitigate the negative clinical effects of implants. A common treatment option is the use of abutment material such as hybrid, zirconia, and titanium. Therefore, prosthetic treatment guidelines could be considered when planning for implants to yield positive outcomes after a dental implant.

Lithium disilicate ceramics are other types of new materials used for dental implants.[16] Lithium

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disilicate glass is one of the most common restorative materials during dental implants. The material is preferred for its outstanding optical properties such as ease of processing, minimal invasiveness, and its potential for adhesive bonding. Furthermore, the material has a survival rate of 71.4% percent when used within a span of 10 years, but could result to complications such as recessions, postoperative sensitivity, and marginal discolorations. Nevertheless, the anatomically shaped, monolithic lithium disilicate has been introduced, and it promises favorable outcomes when used for dental implants.

Apart from titanium, zirconia, lithium disilicate and other materials, dental implants are also done using carbon nanotubes.[17] Advancements in dental implant technology have led to reductions in cost and contributed to success of orthodontic procedures. CNT-based nanocomposites are materials used in the development of new materials with mechanical properties compatible with the bone. Currently, dentists use CNT nanocomposites because of their biocompatibility.[18] The composites used are those formed using glassy carbon, zirconia, titanium, and hydroxyapatite. Thus, nanocomposite materials that incorporate CNTs produce affordable and durable dental implant materials.

The biomaterial used for purposes of an implant should have several properties.[19] Some of the properties include elasticity, ductility, toughness and hardness, strength, tensile, shear, and **compressive strength**. The modulus of **elasticity** in the implant material should be comparable to the bone. This ensures uniform stress distribution during implant and minimizes movement at the bone interface. The minimum **ductility** required for the implant material is 8%, and this helps to contour and shape an implant.[20] Yield and fatigue strength is essential in preventing brittle fracture, especially when the implant experiences cyclic loading. In addition to this, hardness decreases wear of the implant material while the implant is prevented from fracture due to toughness. Also, an implant ought to have high compressive and tensile strength to improve functional stability and prevent the occurrence of fractures.

Conclusion

Dental implants refer to artificial prosthesis inserted into a patient's gum line to replace infected or damaged teeth. Successful replacement of a tooth is essential in improving and restoring a patient's quality of life through improved eating experience and bite, and can serve an individual for a long time. Some of the new materials used for dental implants in the German context include titanium, zirconia, and lithium, which are made of ceramic. Moreover, carbon nanotubes have emerged as advanced materials for use in dental implants. The new materials are preferred because of their outstanding properties, which make them to last long and serve patients as intended.

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Expansion of Health Networks as a Building Block of a Functioning Health Landscape

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Original Article

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Abstract:

A health network is made up of institutions and organizations, resources, and people whose main purpose is to promote and improve health. The health care system in Germany is self-administering and is managed by multiple institutions and stakeholders which entails different organizations involved in the running of the health care as well as the structure of the health care system. The health care system is composed of three main areas: 1) outpatient care services, 2) inpatient care, 3) rehabilitation institutions. Some of the organizations and institutions that are mandated to run the health system include associations and representatives of different professions and service providers, regulatory bodies, health insurance companies, the Federal Ministry of Health, self-help groups, and patient-centered organizations. The German health care system is made up of four main principles: 1) compulsory insurance, 2) the principle of solidarity, 3) financing through insurance premiums, 4) self-

governance. The goal of health care networks is to improve the overall performance of the health care systems concerning: 1) economic efficiency, 2) quality of health care services, 3) medical innovation, 4) as well as patient satisfaction.

Introduction

A health network is made up of institutions and organizations, resources, and people whose main purpose is to promote and improve health. These involve efforts to influence the determinants of health and direct health enhancement activities. The health system is mandated to deliver preventive, curative, promotive as well as rehabilitative interventions through a combined effort of the health care networks.[1] To perform its mandate, the health system also needs adequate staffing, finances, transport, and communication as well as the overall instructions and directions to effective functioning.

An effective health care system involves the following pillars in the health networks: 1) Delivery of health services, 2) enhancement of health workforce, 3) information systems in health, 4) improving access to essential medicines and vaccines, 5) leadership, 6) governance. These six factors are essential in the expansion and strengthening of health care systems in multiple ways.[2]

Service delivery is the immediate outcome of the investments made into the health system which include the workforce and supplies to the hospital financing. An increase in the inputs to the health system leads to improved access and quality of service delivery which forms the key role of the health care system.[3]

The effectiveness of a country's health care system depends directly on the skills, motivation, and competence of the people who are responsible to deliver health care services. The presence of a qualified and experienced workforce translates to improved outcomes in the management of patients and running of the facilities as well. Doctors, dentists, pharmacists, nurses, management, and other support staff form a very significant health network that aims to improve patient outcomes.[4]

The availability of reliable health information systems is the foundation of effective decision making on every health system. Information communication technology is used to improve health care processes as well as the creation of new medical innovations which purpose to address key issues in the health care system such as prevention of clinical and clerical errors, enhancing diagnosis techniques, and improvement in the management of new infectious diseases.[5]

For a health system to function well, there is a need for equitable access to medicine, vaccines, and technologies that guarantee safety and quality outcomes for the patients. Therefore, formulation of national policies and guidelines that regulate these practices is essential to the health system.[6] In addition to that, the purchase, storage, and supply of relevant materials in a system that

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[2] Oliver Razum and M. Luisa Vázquez, Strengthening Public Health In Germany: Overcoming The Nazi Legacy And Bismarck'S Aftermaths, International Journal Of Public Health 62, no. 9 (2017): 959-960, doi:10.1007/s00038-017-1038-6.

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minimizes leakage and mixing with other waste are considered the top priority.

Financing of the health system is critical to maintain and enhance patient welfare. Without the necessary funding, there will be minimal or no promotion of health or prevention of diseases. Health financing entails mobilization and accumulation of funds to cater to the health needs of the population both at individual levels and national levels. The role of financing, therefore, is to make funds available to ensure people have access to public health as well as personal health care services.[7]

Advantages for the patients and participants

The goal of health care networks is to improve the overall performance of the health care systems concerning economic efficiency, quality of health care services, medical innovation, as well as patient satisfaction. Nearly a third of all physicians in practice in Germany are working in various health care networks. These networks bring together general practitioners and medical specialists in cooperation with other partners such as nursing homes, hospitals and patients led organizations, to improve the quality of medical care as well as patient satisfaction by increasing the integration and communication between the doctors and other health care workers.[8]

The various health networks provide access to a lot of opportunities for patients and health care workers to communicate, interact with each other and collaborate effectively to improve the quality of health care services and improve health.[9] These networks also help health care providers to complete their day-to-day tasks such as monitoring patient's health, checking blood pressure, and offering patients advice in various capacities. In addition to that, there is an opportunity for a multidisciplinary approach to inpatient management for both Medical and surgical procedures that entail high levels of expertise and experience.[10]

Health networks present in German

The health care system in Germany is self-administering and is managed by multiple institutions and stakeholders which entails different organizations involved in the running of the health and the structure of the health care system.[11]

The health care system is composed of three main areas: 1) outpatient care services, 2) inpatient care, 3) rehabilitation institutions. Some of the institutions that are mandated to run the health system include associations and representatives of different professions and service providers, regulatory bodies, health insurance companies, the Federal Ministry of Health, self-help groups, and patient-centered organizations. The German health care system is made up of four main principle networks, 1) compulsory insurance, 2) the principle of solidarity, 3) financing through insurance premiums, 4) self-governance.[12]

The principle of compulsory insurance states that every citizen must have statutory health insurance as long as their overall gross salaries are below the set limit. However, people who earn more than the set limit can decide to have a pri-

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vate insurance cover.[13] The principle of financing via insurance premiums states that health care is funded by the insurance premiums paid by the insured employees and well as their employers. The principle of solidarity states that all citizens who are covered by the statutory insurance have equal rights to access health care services as well as continued payment of salaries and wages when they get ill regardless of the amount of income or premium level of the insurance.[14]

In self-governance, whereas the state establishes the protocols for health care in the country, organization and funding of individual health services are the roles of self-governing organizations within the health system.[15] Members of these organizations are made up of doctors, dentists, insured people, and various hospitals.

The structure and function of the health care system in Germany is managed by the Federal Ministry of Health whose task is to develop laws and coming up with guidelines for self-governing events within the health system. The Federal Joint Committee is the top governing body that makes decisions concerning matters of statutory health insurance. It is made up of members who represent doctors, psychotherapists, hospitals, insurers, and patients. The committee determines the health services that will be covered by the insurance company as well the form that will be taken by the insurance coverage.[16]

Some of the significant Medical services providers as well as institutions and associations that form important health networks in German include:

- The medical insurers. Statutory health insurance companies are needed to offer health insurance and make sure that the insured gets the needed medical care.
- Doctors and non-medical psychotherapists in German who bill their services to statutory insurers belong to the association of physicians under statutory insurance while dentists are under the statutory insurance for dentists.[17]
- The hospital federation of Germany. This federation represents both Central as well as regional associations of different bodies that run the health care facilities such as cities, religious organizations, and private sponsors.[18]
- The public health service. This body is mandated to protect the German citizens from the risks of getting sick. Health departments help in the regulation of hygiene in communal settings, protecting people from getting infections and promoting good and healthy habits. They also offer counseling services to the general population for example for people with various psychosocial problems.
- The pharmacy associations. Pharmaceutical companies are responsible for the distribution and supply of medications as well as offering information and guidelines about the medications.
- Patient-based associations and self-help groups. Different people join to form help groups and organizations that offer moral support and encouragement to patients in various capacities. They also advocate for the interests and rights of patients concerning health care policies in the country.

[13] "Germany | Commonwealth Fund, Commonwealthfund.Org, Last modified 2021, https://www.commonwealthfund.org/international-health-policy-center/countries/germany.

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Introduction

Outpatient care

In the German health care system, outpatient care is offered by doctors, dentists, and psychotherapists who are self-employed as well as other professionals in the health care system in their private practices. General practitioners, as well as medical interns and pediatrics, are considered to be family doctors in Germany, and part of their work is to refer the patients to the right specialist for advanced treatment.[19]

Inpatient care

Almost all hospitals in Germany treat their patients regardless of their insurance status, whether statutory or private insurance. Additional fees are however charged when the patient has been admitted, to cover meals and accommodation in the hospital. Hospitals also provide in-patient medical rehabilitation on top of usual inpatient treatment. Rehabilitation facilities offer interventions that help patients to regain their independence and improve their wellness after recovering from a serious illness or surgical procedure. The interventions include a psychological evaluation, physiotherapy as well as learning how to use medical appliances.[20]

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Drug Supply in the Penal System

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Abstract:

Common medical problems are normal in prisons, the quality of healthcare providers and the medication provided for prisoners has been a serious issue. Currently, the health policy has aimed to ensure that the National Health Services align with the prison health care services.[1] The medication practices of the patients and the health care providers in the prisons are the ones that determine the extent to which they align with the National Health Services.[2] This article focuses on

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the main health problems that prisoners in correctional facilities; the forms of treatment supplied in the prisons; what factors influence the supply of drugs in prisons. We collected data from various articles and journals with information on this topic. We also compare the situation in different correctional facilities across Europe, mainly focusing on the drug supply in Germany. In particular, we seek to understand; the common health problems in correctional facilities; the forms of medication supplied for their treatment; how the drug supply can be improved.

Introduction

Research suggests that half the prisoners in Europe take part in substance abuse. It is one of the major problems facing penal systems today. The use of injections for the drugs has been an issue. Most communicable diseases such as HIV, Hepatitis C and Tuberculosis are more common in the prisons than the outside and these diseases are usually related to injecting drug use. Research provides that in Germany and other European countries the prevalence of TB was 11-81 times greater than the usual; HPV was 17-100 times higher than usual; HIV was 5-24 times greater; opioid dependence prevalence had also increased in the correctional facilities. For communicable diseases such as TB, which is usually caused by close and prolonged contact. This explains why the prison setting facilitates its spread.[3]

Many prisoners use injections as the main source of administering drugs.[4] Drug use is the main problem affecting correctional facilities and it is probably the main cause of health care problems in the penal system. Common diseases such as HIV, Hepatitis B and C, and Tuberculosis are very high in correctional facilities as compared to the outside.[5] Most of these are caused by the close and prolonged contact of the inmates and the common use of injections for administering illegal drugs. The use of injections for drug use can lead to the transmission of HIV and Hepatitis B and C.

Sexually transmitted diseases such as HIV and Hepatitis C can be transmitted by sexual contact as well as the unsafe use of injections and tattoo needles. Transmission risks are greater in correctional facilities due to the lack of sterilizing drugs and lack of protective sexual materials such as condoms.[6]

However, the prison systems provide a solution to this problem. They provide counseling, testing equipment, providing condoms, and sterilizing drugs to be used for injection material. They also initiates the substitution and methadone treatment for patients with opioid addiction. Different screening methods are used to identify infections in the prisons. In German prisons, systematic screening for infectious diseases has not been implemented. In Germany, effective health care treatment for HIV, hepatitis C and TB are given to patients with medical insurance.[7] Nevertheless, according to the Prison Act. Healthcare in correctional facilities should take place with correspondence to the principle of equivalence of care and with the requirements stipulated in Statutory Health Insurance which provides that

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the healthcare measures taken in correctional facilities should correspond to those provided outside prisons.[8] The treatment of prisoners getting outside and inside the prison should also be facilitated. Healthcare in the prisons is provided by the prison healthcare providers who are under the supervision of the prison administration who are both supervised by the Federal states.

Tuberculosis Treatment

Research conducted in Germany clearly shows how common TB is in the various penal institutions.[9] In Saarland, it was observed that there was no medication supply of TB medication because TB isn't prevalent in the correctional facilities. In Bavaria, Berlin, and Thuringia, it was discovered that there was resistant and severe TB prevalence among the prisoners. Therefore, more medication has to be sent for the treatment. In Berlin, Bremen, and Hamburg, there has been high and continuous treatment in those correctional facilities. In Berlin, it has been observed that there's a high prevalence of TB in newly admitted prisoners.[10] Most of the assessment tests are done using chest X-ray examinations. The treatment rates in Berlin are usually consistent with the TB prevalence in the penal institution. In Berlin, Bavaria, and Thuringia, prisoners are suffering from severe TB. Which was caused by the transfer of patients from one prison to the other. In Saarland, no treatments for TB are usually provided. Therefore, patients have to be transferred to other correctional facilities like Bavaria to receive treatment. This leads to increased transmission and severity of the disease.

HIV Treatment

Bremen, Hamburg, and Berlin have the highest treatment prevalences of HIV. Research provides that HCV is more common than HIV in the correctional facilities.[11] The HIV treatment offered in the prisons is a combination of two Nucleoside reverse transcriptase inhibitors with NNRTI, PI or INI, which are used for the first therapy. Substances from standard therapy like the older NRTI- didanosine and the least common PI – Fosamprenavir, are usually administered. Sometimes newer substances are usually administered; however, the prison health care providers are usually hesitant to apply them. The new substance which is commonly used is the Rilprivin which is one of the substance group of the NNRTI. In the states of Bavaria, Hamburg, and Saarland, the continuous and recurrence of the disease of previously treated prisoners is usually common.[12] Therefore, in such states, etravirine is supplied to counter this problem, to treat antiretroviral treatment-experienced patients.

Hepatitis C Virus Treatment

Research shows that only 0.12% of the prisoners with HCV are able to receive treatment in a day.[13] The treatment supplies are too low con-

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sidering that over 21% of the prisoners are infected with HCV.[14] In Germany, Bremen is the only state with adequate medical supplies in correctional facilities for the treatment of HCV; followed by Saarland and Schleswig-Holstein. Berlin and Hamburg have the lowest treatment prevalence. Berlin has the largest number of prisoners infected with HCV. It is, therefore, ironic that this is the state that has the lowest prevalence of treatment. However, the prevalence of HPV and its treatment are different in all the states' prisons, depending on the number of prisoners in the states infected with HCV, the number of Persons Who Inject Drugs (PWID) among prisoners, and the number of prisoners who are from countries where HCV is common.[15] Studies have also shown HCV prevalence among prisoners is higher than HIV prevalence. However, the HCV medical supplies offered is much less as compared to the HIV medical supplies.

According to the recent guidelines, in prisons, HCV is treated by combining PEG-IFN and RBV. Sometimes they use a combination of three substances using one of the protease inhibitors BOC and TVR, combining it with PEG-IFN and RBV. This treatment is, however, very expensive and has a lot of side effects, therefore, very few correctional facilities use it. Other correctional facilities have chosen to use triple therapies containing BOC and TVR. States like Berlin, Bremen, Lower Saxony, and Saxony, have commonly used triple therapies for the treatment of HCV virus. In 2013, Direct Acting Antivirals (DAAs) were introduced but have not been released yet into the market for treatment.[16] In Germany, the low prevalence of treatment may be related to the long waiting for the upcoming treatments. Also, due to the side effects caused by the treatment, the prisoners are not willing to undergo the treatment. Moreover, the medication required for the treatment of HPV is costly.

Opioid Dependence Treatment

Substance abuse might lead to opioid dependency. It is usually associated with consequences such as HIV and Hepatitis B and C in prisoners because of using of non-sterilized injections. In Europe, an estimate of one-third of the total prisoners has an opioid disorder. Different forms of treatment are used for the treatment of opioid disorder. They include; substitution therapy (OST) and abstinence programs. Substitution therapy refers to the supervision of prescribed medical substance.[17]

OST treatment was established for the people outside prison, however with time it was internationally endorsed by the UN and the World Health Organization,[18] to be used in the prisons.[19] OST is commonly used in the German correctional facilities; however, its implementation greatly depends on the rules and regulations provided by each state, the rules of the prisons and the health care providers in the various correctional facilities.

Conclusion

Substance abuse is the main cause of all the health issues experienced in correctional facilities. The government and the international rules have put in place strategies to ensure that the health care provided in the healthcare facilities is similar to the ones provided outside.

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Strategies for Improving Metabolic Control to Reduce Cardiovascular Disease in Type 2 Diabetes Mellitus

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Original Article

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Abstract:

In the recent past, T2DM has emerged as one of the chronic illnesses that has compromised the quality of life leading to reduced life expectancy. However, numerous studies conducted over the years has demonstrated that cardiovascular disease is one of the major causes of deaths among T2DM patients. That raised concerns prompting further research on how it can be handled to ensure improved quality of life. This study was conducted with the aim of determining the relevant strategies that can be used to improve metabolic control and reduce cardiovascular diseases among T2DM patients. The study was conducted by reviewing several relevant pieces of literatures on this topic. The obtained information was analyzed through narrative analysis and a quantitative research approach used to eliminate researcher bias. In the research, it has been revealed that improving metabolic control is an important factor because it reduces cardiovascular disease in T2DM. The research has

further revealed that strategies such as regular physical activity, weight loss, blood pressure control, and change of diet can be used to enhance metabolic control leading to a significant reduction in cardiovascular disease among T2DM patients across the globe.

Introduction

In the 21st century, diabetes mellitus is one of the fastest growing pandemics because of the number of individuals who have been diagnosed with the disease. According to Poretsky (2013), most medical research refers to diabetes mellitus as "a metabolic disease with vascular complications because of the builtup plaque in the arteries anywhere in the human body." On the other hand, Croniger (2015) assert that some researchers refer to it as "a group of metabolic disorders that is characterized by high levels of blood sugar over a prolonged time." It is characterized by increased appetite, increased thirst and frequent urination. Furthermore, Croniger (2015) indicates that there are different types of diabetes and each is determined by the symptoms that a patient exhibits. Ashavaid (2012) also argues that there are different ways that can be used to handle the different types of diabetes. One of the most popular ways that is medically recommended in the reduction of diabetes mellitus is the improvement of metabolic control. The regulation of the metabolic pathways according to Sobel & Schneider (2002) involves the "regulation of enzymes in pathways through a decrease or increase of their response to signals." On the other hand, Poretsky (2013) states that control entails "the monitoring the impact that the changes in the activity of enzymes have on the overall rate of the pathway."

Methodology

In this chapter: the research philosophy that was used for the study; the selected research design; methods of research; research philosophy; limitations of the chosen methodology; data collection techniques; the ethical considerations will be extensively highlighted.

Research philosophy

According to Novikov & Novikov (2013), research philosophy is a general belief of a researcher on the guidelines that are supposed to be used during the analysis, interpretation, usage and collection of research data. Rezaul (2018) agrees with Novikov & Novikov (2013) and adds that there are numerous guidelines and assumptions that a researcher can use, but the choice is dictated by the nature of the required data and the study. In this case, the study is about the strategies for improving metabolic control with an aim of reducing cardiovascular disease in T2DM. Consequently, the epistemology philosophy will be the most relevant in this study because it supports both qualitative and quantitative research methods which are the research methodologies popularly used in research. The above philosophy also compliments the collection of relevant data for the completion of this study. For this study, most of the data that will be used is what is known to be true because there exist strategies that can be used to improve metabolic control and they are well documented. In this regard, since the study is supposed to focus on what is known to be true, the epistemology philosophy is the most suitable for this study.

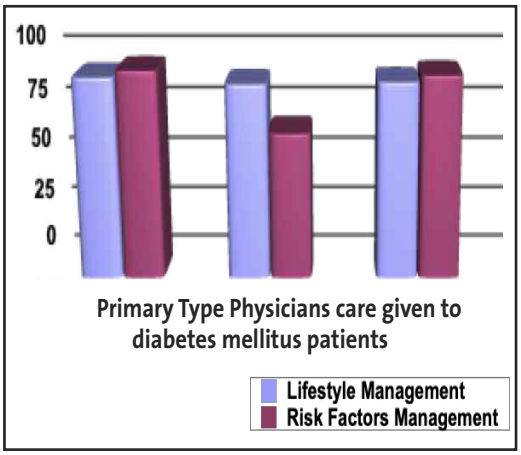
Methodology

The main purpose of this research is to determine the various strategies that can be used to improve metabolic control and to reduce the cardiovascular disease in T2DM. Consequently, based on the nature of the study and the data required for the completion of this study, aquantitative research approach will be the most suitable to ensure the completion of a quality study. According to Cazeaux (2017), a qualitative research approach is considered as "a technique of research that uses the analysis of numerical data using the statistical tools to ensure the attainment of the objectives of a research." For this study, the quantitative approach will be applied to ensure the collection of adequate numerical data that can be used to determine the numerous strategies that can be used to improve metabolic control and lead to the reduction of cardiovascular disease among T2DM patients across the globe.

Findings

From the several pieces of literatures that were reviewed, several results were obtained as illustrated below.

Figure 1: An illustration of the impacts of the various strategies (Davidson, 2008)



From the reviewed pieces of literatures, around 92% of the primary caregivers stated that lifestyle management is one of the relevant strategies that can be used to improve metabolic control significantly and ensure a reduction in the cardiovascular disease in T2DM, while around 93% of physicians and 90% of T2DM patients supported the same according to the reviewed pieces of literatures. Secondly, according to the reviewed literature, around 93% of primary caregivers believe that the management of the risk factors was the most appropriate way to enhance metabolic control and minimize cardiovascular disease in T2DM. Also, according to the literature, around 93% of physicians and 62% of T2DM patients agreed.

Conclusion

In the contemporary world, the quality of life has significantly decreased because of chronic illnesses such as T2DM. Chronic illnesses have compromised the quality of life because they have significantly decreased life expectancy and increased mortality rates across the globe. However, over the years consistent research conducted by medical practitioners, several strategies have been developed to minimize the effects of chronic illnesses and improve the quality of life. T2DM is one of the chronic illnesses that has compromised the quality of life and several studies are being conducted to establish methods that can be used to handle it. Cardiovascular disease is one of the common illnesses among T2DM patients, but there are strategies that can be used to reduce it. In this study, the main focus was the establishment of the various strategies that can be used to improve metabolic control and subsequently reduce cardiovascular disease among T2DM patients across the globe. The study was conducted by reviewing several pieces of literatures relevant to the topic.

For instance, in T2DM, research has shown that improving metabolic control is one of the strategies that can be used to reduce cardiovascular disease leading to improved quality of life. It is an indication that improving metabolic control of T2DM patients decreases cardiovascular disease. There are several strategies that can be used to enhance metabolic control but all do not lead to a reduction in cardiovascular disease. Consequently, some of the strategies that have been found to enhance metabolic control and significantly contribute to the reduction of cardiovascular disease in T2DM include: regular physical activities; controlling blood pressure; losing weight; changing diet. These strategies have been found important because they regulate factors that cause cardiovascular disease in T2DM patients across the globe.

Based on the findings of the study, T2DM patients should regulate their weights to ensure a reduction in cardiovascular diseases because obesity is one of the causes of cardiovascular diseases among T2DM patients. The study has also revealed that regulation of blood pressure is also a significant strategy that T2DM patients can use to regulate their metabolic control and reduce cardiovascular diseases because high blood pressure is a major cause of cardiovascular diseases among the T2DM. The study has also revealed that changing diet is also a strategy that can help T2DM patients to improve their metabolic control and reduce cardiovascular diseases. The diet if an individual determines the functionality of their metabolism which plays a pivotal role in cardiovascular diseases. When an individual consumes foods that leads to weight gain, they are likely to increase chances of contracting cardiovascular diseases while individuals who consume healthy foods reduce

their chances of contracting cardiovascular diseases.

Furthermore, the study has revealed that engaging in regular physical activities and exercise is also another important strategy T2DM patients can use to improve their metabolic control and minimize chances of contracting cardiovascular diseases. However, the research has further revealed that although engaging in regular physical activities and exercise are important for T2DM patients in minimizing cardiovascular diseases, it is not advisable to engage in regular intense physical exercises. The study revealed that regular intense physical exercises is dangerous because it has caused deaths since it can lead to higher blood pressure which exposes individuals to cardiovascular diseases.

Recommendations

The research topic was about the strategies that can be used to improve metabolic control and reduce cardiovascular disease in T2DM. The research has highlighted the various relevant strategies that can be used to control the causes of cardiovascular disease leading to its reduction in T2DM. Various findings of the research revealed several recommendations that can be useful for future research on the topic or other related topics as highlighted here:

- One of the strategies that can be used to improve metabolic control and reduce cardiovascular disease in T2DM is regular physical activity. However, the research has also shown that continuous intense physical activity is detrimental because it can compromise cardiovascular health. Limited research is available on the extent of physical exercise that individuals should engage in to ensure that they do not compromise their cardiovascular health in the process of trying to improve their metabolic control and reduce cardiovascular disease. Consequently, it is necessary to conduct research on the levels of physical activities that T2DM patients should engage in to improve their metabolic control and reduce cardiovascular disease without compromising their cardiovascular health. Most T2DM patients do not have medical knowledge and conducting this research and making this information available can help them to understand that although regular physical exercises is important in the improvement of their metabolic control, it is not advisable to engage in regular intense exercises.
- Secondly, in review of the literature, aspirin was stated as one of the cardiovascular disease risk factors in T2DM although it is sometimes used as a primary prevention of cardiovascular disease. Consequently, it is important to conduct research on the extent to which aspirin compromises cardiovascular health. The research will be important in revealing the frequency that is helpful in the management of cardiovascular disease and the frequency that can compromise the cardiovascular disease in T2DM.
- Finally, research has revealed that physical activity, diet change, blood pressure control, and weight loss are some of the important strategies that can be used to improve metabolic control and ensure a reduction in cardiovascular disease in T2DM. Consequently, it is important to ensure that relevant medical practitioners encourage T2DM patients to adopt these strategies and ensure a reduction in the risks of cardiovascular disease which is one of the major causes of deaths in the modern world. Engaging in physical activity is a challenge to many people in the modern world but the T2DM patients should be enlightened on its importance to ensure that they engage in it and enhance the quality of their lives by significantly reducing cardiovascular disease prevalence.

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Hypovitaminosis D in Child Population

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Original Article

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Abstract:

Introduction: Hypovitaminosis D is a global problem in both, children and adults. At low vitamin D levels bone deformities, growth retardation; as well as increased susceptibility to infectious and autoimmune diseases have been observed in children. Due to its multiple systemic effect, the importance of vitamin D is irreplaceable in development of a child´s organism.
The sample and aim of the research: We approached parents of 181 children who visited endocrinological and osteological outpatient clinics in Eastern Slovakia. The aim of the research was to determine the status of hypovitaminosis D in pediatric patients. We investigated the relationship between the lifestyle of a child and the occurrence of hypovitaminosis D. At the same time, we mapped parents' knowledge regarding preven-

tion of hypovitaminosis D development being conducted at pediatric outpatient clinics.
Methods: To verify the hypotheses, we used inductive statistical tools – the independent T-test and Chi - square test. Based on the calculated value and the significance level of 0.05, we made decisions about the significance of the differences.
Results: By deeper analysis we found that hypovitaminosis D is more common in children with endocrine disorders. The relationship between the incidence of hypovitaminosis D and metabolic disease was not statistically significant. Parental knowledge of appropriate ways of hypovitaminosis D prevention is related to the occurrence of the disease. No significant relationship between the child's lifestyle and the occurrence of hypovitaminosis D has been confirmed.
Conclusion: The occurrence of vitamin D deficiency has an adverse effect on human health. It is important to pay particular attention to this issue at the primary prevention level. We also consider it important for the parent to lead the child to an active lifestyle and to responsibility for their own health.

Introduction

„A house not seen by the sun is seen by the doctor."

This well-known folk proverb, historically proven and concise, conceals a great wisdom. As early as 1822, Dr. Sniadecki noticed for the first time the relationship between the effects of sunlight and the occurrence of rickets. He pointed out the benefits of sunbathing and the need for vitamin D (1). However, nowadays experts´ opinion on this topic is divided. On the one hand there are the beneficial effects of sunlight on the synthesis of vitamin D in the fight against the vitamin D deficiency pandemic, and on the other hand, the negative effect of excessive sunlight and the need for protection using products with high sun protection factor are pointed out. Since long ago, the effects of Vitamin D apply to the skeletal muscle system. This view is refuted by numerous studies which, in addition to the main role of vitamin D - the regulation of calcium and phosphorus metabolism - confirm its other effects on the body. These include the beneficial effects of vitamin D on the immune system; on the incidence of autoimmune diseases; on insulin secretion; on the effect on the incidence of obesity and vascular disease.

Due to its multiple systemic effect, the importance of vitamin D is irreplaceable in development of child´s organism. At a low vitamin D level, bone deformities, growth retardation as well as increased susceptibility to infectious and autoimmune diseases have been observed in children.

By adapting to a modern way of life, when one spends a significant part of the day indoors and leads not very active lifestyle, globally, we have come to the pandemic of vitamin D deficiency over the past 20 years, both in the adult population and in children, which is confirmed by numerous international studies. lAs reported by Furkova (2010), up to 77.7% of Slovak children have vitamin D deficiency. A sensitive period for the development of a low level of vitamin D due to a period of rapid and intensive growth is the neonatal period, infancy and puberty. Currently, children over 1 year of age and adolescents are the most sensitive population for the occurrence of low vitamin D levels (2).

Hypovitaminosis D

The influence of modern times, which brought about a change of lifestyle and ways of eating has left its signature in form of an epidemic and even a pandemic of low vitamin D levels in adults and in children in both, developed and developing countries. It has been estimated that about one billion people worldwide have hypovitaminosis D. A Boston study conducted at the end of winter shows the occurrence of low

vitamin D concentrations in two thirds of the healthy young population (3). As Furková stated in her study, hypovitaminosis D was found in up to 77.7% of the Slovak pediatric population. Rickets has also started to reoccur (4). Due to the increased requirements of the body during the period of growth and development, children present a sensitive group at risk of developing hypovitaminosis D. Prevention of vitamin D deficiency seems to be important not only in infants, but especially in older children.

Table 1: Criteria for the evaluation of serum vitamin D concentrations (2).

Vitamin D status	Serum calcidiol concentration		
	According to Bordelon		According to IOM
	ng/ml	nmol/l	ng/ml
Severe deficiency	≤10	<25	≤10
Deficiency	<30 (10 – 20)	<75	≤20
Insufficiency	21 – 30	50 – 75	21 – 29
Optimal values	≥43	≥75 (100)	≥40
Toxic concentrations	≥150 (100)	≥340	

A reduction in serum calcidiol concentrations below 30 ng / ml (75 nmol / l) is therefore assessed as hypovitaminosis D - vitamin D deficiency in general (5).

Aim of the research

The main aim of the research was to point to an increased incidence of hypovitaminosis D in the pediatric population. We examined the relationship between the lifestyle of the child and the occurrence of hypovitaminosis D. We mapped parents' knowledge regarding prevention of hypovitaminosis D development that is being conducted at pediatric outpatient clinics. We focused on finding associations between the incidence of hypovitaminosis D in pediatric patients with endocrine and metabolic diseases. We also wanted to determine the incidence of hypovitaminosis D in connection with BMI index values.

Research sample and methodology

Our research was performed on a sample of patients from two specialized outpatient clinics – a pediatric endocrinology outpatient clinic and an osteological outpatient clinic. The data on vitamin D levels and information about decreased bone density measurements were obtained from a secondary source from the parents of children. The primary data are the measured values given in the patient's medical records. The survey included 181 respondents. In 56 children of the respondents the vitamin D value was normal; 63 respondents reported insufficiency; 62 respondents reported hypovitaminosis D. The hypotheses were verified by inductive statistics - statistical tests - Chi - square test and unpaired t - test. We used a significance level of 0.05.

Results

We assumed that there was a significant relationship between the parent's knowledge regarding the prevention of hypovitaminosis D and its occurrence. Between information on the hypovitaminosis D prevention and decreased levels of vitamin D in the child's blood, a statistically significant difference was found which means that the awareness of the child's parents regarding hypovitaminosis D prevention is associated with the occurrence of the disease. The validity of the hypothesis that there is a significant relationship between the lifestyle of the child and the occurrence of hypovitaminosis D was verified by several sub-hypotheses. Exercise improves overall blood flow in the body, function of the respiratory system, cardiovascular system, vascular system of lower limbs, and last but not least, of the nervous system (6). No statistically significant relationship between regular sporting / physical activity and the presence of hypovitaminosis D was found. No statistically significant difference between children with a dairy rich diet and children with a low dairy intake and the presence of hypovitaminosis D was confirmed. However, between the amount of time spent in fresh air and daylight and the presence of hypovitaminosis D a statistically significant relationship was confirmed. We also tested the relationship between the child's gender variable and the incidence of hypovitaminosis D. The calculated value is less than the significance level of 0.05. This means that there is a significant relationship between the

occurrence of hypovitaminosis D and the gender of the child. The incidence of hypovitaminosis D is more common in girls than in boys. The relationship of hypovitaminosis D in relation to the occurrence of endocrine disorders is not statistically significant. In terms of endocrine disorders, we observed the presence of any one or more of the diseases: primary hyperparathyroidism, thyroiditis or diabetes mellitus. The occurrence of metabolic disorders was also significantly represented in respondents without the presence of hypovitaminosis D. Under metabolic disorders, we observed the presence of any one or more of the diseases: obesity, elevated cholesterol levels or chronic inflammatory bowel disease. We assumed that the incidence of hypovitaminosis D was associated with higher BMI levels. This relationship was confirmed, so the incidence of hypovitaminosis D is related to higher BMI values. In addition, we tested the relationship between hypovitaminosis D and measured decreased bone density in children. We confirmed the relationship between the occurrence of decreased bone density and hypovitaminosis D.

Discussion

Recently, the topic of vitamin D has been frequently mentioned due to the high prevalence of its deficiency in the population. Decreased levels of vitamin D are a problem in children in developed and developing countries. Vitamin D is a trigger and regulator of hormonal processes essential for life. There are scientific publications pointing at a significant relationship between the occurrence of certain diseases and lowered vitamin D levels.

181 respondents from 2 specialized outpatient clinics – a pediatric endocrinology and an osteological outpatient clinic - were included in the research. The main aim of our research was to detect the incidence of hypovitaminosis D in pediatric patients. 62 respondents reported hypovitaminosis D; 63 respondents reported insufficiency. A statistically significant relationship was found between the amount of time spent in the fresh air and daylight and the presence of hypovitaminosis D. We also found a link between parental awareness of the prevention of hypovitaminosis D development and the incidence of the disease in children. BMI values are associated with hypovitaminosis D. We also tested the relationship between hypovitaminosis D and the detected decreased bone density in children. This assumption has been confirmed.

According to the results of a Chinese study, half of the Chinese healthy population had low levels of vitamin D (25-50 nmol / l). The most represented category was the group of females of age 18-39 years (66.3% vs. males 45.3%, p ‹0.01). Low levels were associated with higher concentrations of parathyroid hormone, phosphates and lower calcium levels. A cross-section of several recent European studies has indicated that vitamin D supplementation in infants during the first year of life may prevent the development of type 1 diabetes. A dose of 50 μg / day was associated with a reduced risk of diabetes in Finland, but the efficacy of lower doses has not been studied. The recommended dietary intake of vitamin D for children in the United States is 5 μg / day and the upper level is 25 μg / day. There is no evidence that intake between 5 and 25 μg / day would reduce the incidence of diabetes, but it seems beneficial to ensure that infants reach at least a lower vitamin D intake per day. Experimental studies have shown that vitamin D supplementation is associated with a decrease in fasting blood glucose as well as with an improvement in insulin sensitivity in patients with pre-diabetes.

Hypovitaminosis D has been associated with the development of obesity glucose intolerance; progressive development of metabolic syndrome. In deficiency of vitamin D the apoptosis of β cellsin i*slets* of *Langerhans has beenproved*. Vitamin D deficiency inhibits insulin secretion (2). In 489 people, Kayaniyl (2011) found that higher concentrations of vitamin D, independent of other factors, improved pancreatic beta cell function and the glycemic curve.

Hypothesis four has been confirmed. We assume that there is significant relationship between the incidence of hypovitaminosis D and the incidence of endocrine disease. Relationship between vitamin D and obesity has been confirmed by several studies in which a correlation between higher body fat levels at higher serum vitamin D levels and low dietary calcium intake has been proved. Increased levels of vitamin D can stimulate lipogenesis and suppress lipolysis and consequently increase body fat mass. Recent studies point to an inverse relationship between

calcium and vitamin D and body fat content. The study confirmed a negative relationship between BMI and vitamin D. Participants with BMI higher than 39.9 were shown to have up to 24% lower levels of 25 (OH) D; up to 18% lower levels of vitamin D compared to survey participants whose BMI values were up to 25.46. PTH activity can be suppressed by a high supply of calcium and vitamin D; a lower supply of salt and phosphorus. Such suppressed PTH activity may affect insulin sensitivity and the amount of adipose tissue, which affects body weight regulation (8). A study on the effect of vitamin D and calcium on an adipocyte suggests that low calcium intake increases vitamin D level, which subsequently stimulates calcium and is a signal for insulin release. Eventually, fatty acid synthesis is activated and lipolysis is suppressed, leading to weight gain and an increase in adipose tissue. By supplying calcium into the diet, this process is altered in favor of fat mass reduction. Changes in lipid profile occur due to insufficient levels of vitamin D, calcium and vitamin D significantly affect lipid metabolism (2).

Based on the research, it would be appropriate to search for risk groups of patients, especially those with the presence of autoimmune chronic diseases. It would also be appropriate to educate and encourage parents to increase responsibility for the health of their children, informing them about the recommended way of tanning, which is effective for the synthesis of provitamin D and for penetration of UVB rays into the subcutaneous tissue.

Conclusion

Currently, vitamin D deficiency is a frequently discussed topic worldwide. The extensive effects of vitamin D on the body at its insufficient concentration in the body are associated with the occurrence of diseases. Due to modern times, new lifestyle, diet, and the obesity epidemic, the deficiency of vitamin D has developed into a pandemic of vitamin D deficiency over the past 20 years. Its effects were underestimated only to the level of effects on the musculoskeletal system and locomotor apparatus in the fight against rickets.

At present, there is available surprising new knowledge about the effect of vitamin D on immunity, the incidence of cardiovascular diseases, theeffect on autoimmune diseasesdevelopment, the beneficial effects on weight reduction and many other effects. Due to the prevalence of lifestyle diseases, on which vitamin D has beneficial effects, we can regret that it has been forgotten, and currently we must face its deficiency in both, children and the elderly. Especially the period from birth to infancy and the period of adolescence is at risk for the occurrence of hypovitaminosis D.

To ensure a sustainable optimal concentration of vitamin D, it is most important to bring daylight and physical activity back to our lives. Within prevention we have to search for risk groups of patients and in children cultivate a relationship to regular physical activity from their early age.

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Reflection on Family Support Through Early Intervention Service

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Abstract:

A child's disability is one of the specific events in a family. A family experiences a special, stressful situation and needs immediate, accessible assistance. The present study focuses on family support through the social service at the early intervention centre. The impact of adversity is manifested in family life in multiple contexts – health, social, psychological, pedagogical, and economic. The objective of the presented study was to identify and evaluate the progress and effectiveness of the early intervention service for a family. The study brings the case studies of families which were conducted on the basis of several methods and techniques of working with the family. Using the case studies, we monitor and evaluate its effectiveness as the assistance process.

Introduction

Supporting families with children is one of the important tasks in the performance of a helping profession. One of the types of directed support for families focuses on childcare assistance. In the case of a child with disabilities aged between 0 and 7 years, the family should have a possibility to access adequate social services, including the early intervention service. "Families with young children often state that after leaving a medical facility, they have no one to turn to, no one to address a package of their questions … who should we continue to seek support at?" (Matej, 2015:18)). Furthermore, the author draws attention to the importance of early intervention centres which act as a "resource centres" for families with disabled children. It is necessary to facilitate cognitive, emotional, and social development of the children, improve their state of health and set their life chances inclusively. The early intervention service is a form of professional assistance to a family with a disabled child.

Systemic approach in family support

As one of the important human systems, the family shows the interconnectedness of all its members. Family stability is an important prerequisite for fulfilling its individual functions. "An unstable family system does not allow the family to understand the situation it finds itself in…" (Ticha, 2015:20; translated by the author of the study). Classic social paradigms used in the early intervention services include Virginia Satir's Family Therapy (2011). In order to establish the necessary changes, she emphasises the importance of its essential element which is hope. Assistance to the family which is a recipient of the early intervention service includes the possibility of applicability of various social paradigms, both therapeutic and counselling, with the use of a systemic approach. The systemic approach may be used by a social worker to work directly with the family with an accent on its specificities. There is a diversity of social work in the form of various activities, but they must have a common objective to promote and develop human potential, and social protection with a humanising aspect, as stated by: Greenslade, Vos, (2008); Hettes (2015); Rusnakova (2015); Olah (2020). The systemic approach allows for the interconnection of paradigms (social and health) of individual professionals. The following experts may cooperate with the family in early intervention in the field and ambulatory forms of social service: a special pedagogue, a therapeutic pedagogue, a physiotherapist, a speech therapist, a psychologist, a social therapist, a counsellor, a social worker, or other specialists. In such cooperation, the social worker may use verified methods and techniques such as crisis intervention, family rehabilitation, family conferences, etc.

Methods, data analysis, results

We present data from the study conducted from 11/2020 to 02/21 in the form of case studies of three families. Individual case studies were conducted on the basis of a number of methods and techniques: family and personal history of a child, interviews, observation, study of the child's documentation, and accompanying the family. We evaluated the case reports using qualitative analysis (with categorization and coding).

Case study No. 1 Zdenko (1-KZ) – analysis of 108 lines of text – number of codes: 30, No. 2 Julia (2-KJ) – analysis of 115 lines of text – codes: 28, No. 3 Davidko (3-KD) – analysis of 50 lines of text – codes: 12.

Content categories

Medical and family history

Zdenko: The first contact with the early intervention centre was when Zdenko was one year old. Now, Zdenko is four years old. Mother´ s adverse intuition already during the pregnancy (1-KZ/4-6) Diagnosis: Zdenko has Down's syndrome (1-KZ/11). The mother copes with Zdenko's diagnosis, the father does not (1-KZ/12). The diagnosis was reported only to the mother; she had to inform the father (1-KZ/14). The mother also supported the father, strengthening the belief that the family would make it (1-KZ/16-18). Manifold adversity, another diagnosis: Zdenko cannot hear (1-KZ/18-20). Problems in marital communication, the parents retreated within themselves (1-KZ/25-27). The father also thought about suicide; the religious family was helped by a priest (1-KZ/28-29).

Julia: Six-year-old Julia and her family have been visiting the early intervention centre since

she was two years old (2-KJ/3-5). Multiple health issues with Julia (2-KJ/5). Considering of and decision making on further surgical procedures (2-KJ/17-18).

Davidko: Four-year-old Davidko has been attending the early intervention centre from the age of two. Autism diagnosed (3-KD/5-7). A change in health, diagnosis of malignant lung cancer, a two-year battle with the disease (3-KD/8-12). A significant deterioration in the condition, Davidko did not communicate (3-KD/12-16). Escape to the virtual world (a tablet computer) (3-KD/16-17). Mother's exhaustion; limited alternation of parents during Davidko's stay in hospital, as the father had to work (3-KD/17-21).

Professional family support

Zdenko and his family: Zdenko's mother herself attended the early intervention centre (1-KZ/31). Before, she used rehabilitation (Vojta method, swimming, sauna, improving hearing with a Baha headband) (1-KZ/31-33). The early intervention centre provided network of experts (1-KZ/34-36). The centre performed a field form of service (1-KZ/38). Counselling on space arrangement at home (1-KZ/44).

Julia and her family: Julia started walking on her own at the age of three, hesitancy in movement but she manages without aiding… (2-KJ/19-22). Exercising in rehabilitation centres (2-KJ/24-25). Limited Julia´s physical progress due to other diagnoses: memory problems, communication problems (2-KJ/27-32). The concentration and activity of the mother focused only on Julia (2-KJ/48-52). A change in mother's behaviour (she focused also on the other daughter; the father helped Julia at the time) (2-KJ/52-55). Mother´s burnout syndrome, which she openly admitted to the key early intervention centre… (2-KJ/55-60). Mother´s self-doubt, remorse for losing her strength (2-KJ/61-65). Difficulty of daily duties (2-KJ/66-74). Organization of household chores (cooking, helping the older daughter with homework, strolls with Julia, games in the yard, evening hygiene, full body massage, stimulating therapy) (2-KJ/75-78, 81-83). Assistance by the early intervention centre to Julia's mother: rationalisation of a day schedule (2-KJ/85-88).

Davidko and his family: Assistance by the early intervention centre to the family: psychological support, therapy at the centre during the stay outside the hospital (3-KD/24-28). The centre also advised the parents to pay attention to Davidko's older sister, the family was also helped by a wider family (3-KD/32-35). The mother was in the hospital with Davidko most of the time (3-KD/34). The centre felt connected with the family (3-KD/39-41).

Service evaluation

Zdenko and his family: The early intervention centre is evaluated as an "ally" of the family. Open communication and trust are appreciated; thanks to cooperation (1-KZ/60). School inclusion of Zdenko after a year of intensive preparation for admission to the ordinary kindergarten, Zdenko's mother could go to work (1-KZ/70-74). Zdenko's mother was informed about the social network (1-KZ/82-83). Resumed cooperation of the family with the early intervention centre – in the family, Asperger's syndrome was diagnosed in the daughter (1-KZ/95-99). Benefits of family's cooperation with the early intervention centre: assisting the family to find their place and prevent its breakdown (1-KZ/106, 108).

Julia and her family: The early intervention centre supports the mother, her self-realization (2-KJ/89). The pandemic situation increased the difficulty of mother's care for Julia: isolation from external therapies, the mother becomes a "home assistance expert" (2-KJ/93-94). Functionality of the family as a whole: the family finds time for each other and for relaxation activities (2-KJ/107-109). Positive evaluation of the early intervention centre cooperation (2-KJ/110-115).

Davidko and his family: Unfortunately, Davidko lost his battle with the disease, and the early intervention centre said last goodbye to him. The center helps the family even in such the most difficult life situations, which the family greatly appreciated (3-KD/43-44).

Discussion

In relation to the evaluation of the early intervention centre's cooperation with the family, the data resulting from the conducted case studies suggest the following:

- The importance of establishing trust with the family.
- Providing the network of experts in the provi-

sion of assistance (medical, rehabilitation, surdopedic, speech therapy).
- Support for the whole family.
- Sensitive perception of needs of the whole family.
- Recommendation of social and cultural life for the whole family, not to focus only on health issues.

At the time of the pandemic, continuity of the service was maintained, and it was moved to the online space for the necessary time. During the period of restricted movement, parents appreciated assistance through regular lending of stimulation devices and instructions for their proper use for the child's development.

Conclusions

The reflection on interventions in the early intervention service allows its improvement and management of further challenges in its provision. In Slovakia, the early intervention service is a new, dynamically developing form of assistance for families and the reflection on the effectiveness of its provision thus becomes both legitimate and current research aspiration.

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Integrative Health Policy for Migrants in Germany

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Abstract:

It is not a new topic for Germany in receiving immigrants from various nations. However, it is thought-provoking how German integration policy is criticized to be exclusionist based on its immigration policies.[1] In Germany, efforts to integrate the current demand and needs of the migrant population into the healthcare system have proved uncoordinated and scattered as much as diversity in policy is slowly under the implementation process. Frequently, immigrants are not facing any complicated legal restrictions but it is reported that they experience extremely challenging access with barriers resulting in the worst results trying to utilize healthcare services.[2] Equal access to health care services is a crucial aspect of Germany's national he-

[1] Goodman, Sara Wallace. 2007. “”The Politics And Policies Of Immigration In Germany: A Rearview Look At The Makings Of A & Quot; Country Of Immigration&Quot;”. German Politics And Society 25 (4): pp. 99-110. doi:10.3167/GPS.2007.250406.

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alth policy. Factors contributing to access barriers to healthcare are said to be: cultural differences; education; political issues; the absence of complementary voluntary health insurance. Therefore, this paper will explore the migrants' health and barriers to healthcare access in Germany.

Germany is a country of immigration

As pointed out by historians, Germany is known to be a country for immigration for many years. Various types of immigration have been experienced by Germany for several decades.[3] For example, after the end of World War II, displaced people, German re-settlers, and refugees contributed to a big increase in the immigrant population. During the 1950s the relocation of purported visitor laborers from southern Europe and Turkey began. The privilege of opportunity of development inside the European Union prompted an expansion or relocation to Germany from other parts of EU states. Later, their families followed as a component of family reunification. The relocation of ethnic German re-pilgrims proceeded. Since the 1980s, the relocation of evacuees and refuge searchers expanded and now comprises a huge piece of movement to Germany.[4] Toward the finish of and after World War II, ethnic German and expellees re-pioneers principally from Eastern European nations fled or relocated to Germany.

Integration of migrants seems very cumbersome

The information policy associated with migrants in Germany is intensively integrated into a framework of policy to tackle health inequality problems. As explained by experts, the national policymakers are focusing more on the impacts of health exclusion on broader health inequalities in Germany. The status of migration health in Germany is challenged by several academic findings for its inactive participation in being sensitive to the current demands and needs of the multicultural migrant population. Germany is a country of immigration and pushing for the concepts of integration on migrant access to healthcare services are vital essentials of German national policy.[5] In Germany, the issues of healthcare and migrant health currently have commenced to be incorporated within the regional and national plans to promote immigrant integration. As reported by various studies, there exists more than one reason explaining the difference between non-immigrant and immigrant health actions and health status in Germany. To gain a better comprehension of these health status dimensions, exposure for multicultural health care services must be reviewed. The information policy intends to develop a health condition and opportunities which will support health equity. The national government in coordination with the health care sector are looking forward to germinate an integration approach to arrange the healthcare services in a style that supports the health of refugees in Germany.[6] Equal opportunities for immigrants to access healthcare services are being supported by the national health program to galvanize newly arrived immigrants from health exclusion.

Where are the problem areas for a more intensive and comprehensive integration into the health system?

The use of national policy to address immigrant health equity is limited by several factors. The Government of Germany has generated a co-

[3] Kogan, Irena. 2010. "New Immigrants – Old Disadvantage Patterns? Labour Market Integration Of Recent Immigrants Into Germany". International Migration 49 (1): 91-117. doi:10.1111/j.1468-2435.2010.00609.x.

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ordinated approach to harmony and embraces the incorporation of the needs of migrant workers within the health system. However, as suggested by some academic reports, it is not yet clear how successful the Government of Germany has carried out its implementations.[7] Some of the challenging areas cited to cause slow-down of the implementation process are: interculturality of the information base; education in educational institutions; education of adults. Therefore, it is the obligation of the national health plan to iron out these problems in order to create a more intensive and comprehensive integration into the health system.

Interculturality of the information base

Setting up health and culture programs to accommodate multicultural immigrants in Germany is not proactive.[8] The cultural belief system affects patients' approach to treatment and the healing process. Immigrants streaming into German territory originate from diverse cultural backgrounds where they got unique ways of approaching health needs. Indeed, the absence of language translation capacities and culturally sensitive services within the German health system to capture the multicultural migrant groups could probably generate crucial obstacles to the prevention of HIV.[9] As pointed out by previous studies, creating and implementing theories linked with diversity management within the health system will promote intensive and comprehensive integration. The need for interculturality of the information base must recognize the heterogeneity of migrant groups. This should be executed by considering the diverse migration language, age, gender, religion, and experience through healthcare services provision.

Health administrations should attempt to look for contrasting requirements, all things considered, similarly as is conceivable. In clinical experiences, language and education are by a long shot the most clear social deterrents to giving maximal quality consideration. For instance, there ought to be recovery benefits explicitly for migrants of Turkish starting point, with Turkish-talking staff and Turkish food.[10] Classification and ideas utilized by transients to clarify medical conditions may vary fundamentally from Western understanding, as the field of clinical human studies has since quite a while ago illustrated. As an outcome, there is no requirement for uniquely custom fitted projects or administrations, yet rather of a requirement for transparency towards variety and expanding heterogeneity of migrant groups.

Education in educational institutions

More skilled teachers and schools are required to integrate migrant children in German. As pointed out by scholars, German require several educational experts and institutions to integrate migrants through education.[11] The education system of Germany is different from the rest of the other systems where the refugees originated. Most refugee children are allowed to learn and adopt the system of German as it accelerates integration more quickly. Children are in the capacity to teach their older parents German ways and the health records of children are taken and saved

[7] Knesebeck, O., and Klein, J., (2018). Inequalities in health care utilization among migrants and non-migrants in Germany: a systematic review. Retrievable at: https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-018-0876-z

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into the database hence it is easy for intensive and comprehensive integration within the healthcare system. In most cases, adult migrants migrating into Germany lack legal documents hence they avoid reporting to the hospitals due to fear.

The process of the national healthcare system of Germany to accumulate an integrated record for adult migrants is nearly inaccurate ate due to missing identities. But early registration of children in schools is not only a moral obligation for the Government of Germany, but it is also an avenue of collecting clean data records of migrant populations.[12] Building extra classrooms and deploying more professional teachers will make room for easier integration of the migrant population through education. As indicated by many studies, the lack of time and opportunity for the adult migrants to learn language is what is costing the healthcare service many resources to allocate translation programs for these patients. Therefore, early education of migrant children will be a future benefit to the health and economic sector of Germany as children will no longer require intensive orientation and translation at the clinic centers.[13]

Education of adults

A huge population of German migrants lack basic language skills to understand the healthcare programs.[14] Some of the social care homes for adults offer programs in a language that most adult migrants are not in a capacity to properly digest. From the perspective of the national healthcare programs, lack of education capacity is causing distrust and inconveniencies for migrant groups to access healthcare services in Germany. Most of the healthcare institutions in Germany have not invested in language training and translation programs to educate adult migrants. Education of adult migrants is an easier way of solidifying an intensive and comprehensive integration within the German healthcare systems. Apart from that, fear of not knowing the health concepts of German healthcare is making several cases of health issues to go unnoticed. This is forcing adults' migrants only to report emergency health cases which seems to be inevitable.[15] But if the capacity to educate the adults can be implemented by the Government, it will probably reduce the cost of emergency cases which seems to be a little bit expensive.

Conclusion

Migration has played an influential role in shaking and shaping the health, social and demographic in Germany. Regardless of the health inequalities and discrimination, both immigrants and non-immigrants feasibly can suffer from a similar category of illness. Practically, immigrants can face challenges in accessing health services due to a lack of enough resources to cope with sickness. It is more feasible that the utilization of integrated approaches are proving to be more effective both economically and clinically compared to vertical programs. Therefore, the existing immigrant health inequalities and diversity health services programs should be fixed in both public health practice and research.

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Stress as a Workload in Intensive Care Units

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Abstract:

Stress is one of the significant workloads in intensive care units. This survey examines the relationship between the level of stress experienced, gender, age, length of practice and the degree of the workplace. It maps the factors that lead to the emergence of stress in intensive care units and examines its impact on work performance. Results from 121 respondents working in intensive care units show that the level of stress correlates with age and is typical for certain stages of life. Work stress is mostly created by load, where the physical and mental component is applied. Total physical activity corresponded to moderate load and the most important physical factors represented increased demands on the musculoskeletal system and disturbance of sleep rhythm. The level of mental stress was also in the moderate values. The most important psychological stressors were identified as a high degree of responsibility and increased demands on cognitive functions.

Introduction

Long-term stress is one of the main causes of many chronic diseases. Stress does not cause a specific disease but increases the risk that an individual will develop a disease for which he has a predisposition. It acts on the body either *directly* or *indirectly*. Directly in this sense means that it affects the immune, endocrine or nervous system. Indirectly, on the contrary, means that it affects an individual's behavior, which can then lead to damaging to their health, such as an unhealthy lifestyle (smoking, overeating, etc.). Stress has also been proved to affect mental health. In particular, chronic stress can also cause serious mental health problems, such as depression, post-traumatic stress disorder, anxiety states, or burnout syndrome.[1] Some degree of stress in the work place is a positive incentive for many individuals to perform better but excessive load and chronic stress has a negative effect. Work in healthcare is generally associated with a higher level of stress, which is associated with: high demands on performance; responsibility; ability to make quick decisions; an assumption for high levels of personal commitment. Factors that influence resistance to load include, in particular: biological factors such as health; age; gender; genetic predisposition to perceive level of stress experienced. Individuality is underlined by confidence in one's own strength and the possibility of influencing events in one's surroundings. A very significant source of work stress is interpersonal relationships in the workplace. Positive relationships evoke a sense of support and belonging, while bad relationships are considered one of the stressors. Both of these opposites are then reflected in how the individual responds to other stressors.[2]

Goal

The aim of the work was to determine the level of stress experienced by respondents in intensive care units, to map the most important physical and mental stressors and to determine their impact on work performance.

Methodology

To obtain the data, a custom-designed and non-standardized questionnaire containing 22 items was chosen. The respondents were general nurses, general nurses with specialized qualifications and paramedics working in intensive care units of various levels. The degree of stress and perception of physical and mental stressors were assessed using the Likert scale 1 - 5 (1 - no stress, 5 - overload stress). The numerical data was analyzed in IBM SPSS 25 Statistics software. The following statistical methods were used in the analysis: proportions (frequencies) of variables; contingency tables; arithmetic averages; standard deviations of variance (ANOVA); chi-square test; correlation coefficient. The significance level for verifying the hypotheses was set at $\alpha = 0.05$.

Results

The survey was conducted in the period from November 2019 to the end of January 2020 in 2 university hospitals and 1 city hospital. A total of 150 questionnaires were distributed, which were evenly distributed according to the levels of intensive care units (the highest, III. degree of the ICU). The results were processed from 121 respondents, of which 18 respondents (15%) were men and 103 (85%) were women. In terms of the position held, 47 (39%) respondents worked as a general nurse, 60 (50%) as a nurse with specialized qualifications and 14 (11%) as a paramedic.

The first hypothesis tested whether the reported level of stress depends on gender, age, length of work experience of the respondent and the type of intensive care unit. The average stress rate, regardless of any other characteristics, was 3.066 in our sample, which corresponds to the moderate stress rate. Women suffer from higher stress on average (average 3.278) than men (average 3.029), but this difference is not statistically significant (T-test $p = 0.1379$). There is no linear relationship between age and stress. The lowest levels of stress were reported by respondents aged 40–49 years (average 2.806); the highest by groups between 30–39 years (average 3.250) and 50–59 years (average 3.250). With the exception of the group with the shortest length of work experience (0-5 years), which reported an average stress rate of 3.061; the right-hand rule applies, that the reported stress rate gradually decreases with the increased length of work experience. Respondents with 26 to 30 years of work experience reported an average stress rate of 2.875. This dependence is not statistically significant (ANOVA $p = 0.1669$).

For all types of intensive care units, the average reported stress level was around level 3 which means a medium level of stress. The highest level of stress was reported by respondents in the ICU I workplace (average 3.231); the lowest level of stress was reported by respondents in the ICU II workplace (average 3,120) but the differences were not statistically significant (ANOVA p = 0,8430).

The second hypothesis tested the relationship between the level of stress in the workplace and physical stressors. A Summation Index was created, which showed how many stress factors the respondent stated. Higher numbers meant that the respondent was stressed by several factors at the same time. Furthermore, the correlation coefficient between the number of stress factors and the degree of physical activity was calculated. Pearson's coefficient r = 0,2448 indicated a slight but pre-existing dependence. As the number of stress factors increased, so did the level of reported physical activity. A similar approach was chosen to determine the relationship between information on perceived stress levels and reported levels of physical activity. Pearson's correlation coefficient r = 0.1756 indicated a weak but existing dependence. Since both correlations were statistically significant, there is a statistically significant relationship between the level of stress in the workplace and physical stressors.

The third hypothesis tested the relationship between the level of stress experienced by respondents in the workplace and psychological stressors. A Summation Index was also created, which showed how many psychological stressors the respondent stated. Furthermore, the correlation coefficient between the number of psychological stress factors and the degree of psychological stress was calculated. Pearson's correlation coefficient r = 0.2644 indicated a slight but pre-existing dependence. As the number of stress factors increased, so did the level of reported psychological stress. A similar approach was chosen to determine the relationship between information on perceived stress levels and reported levels of mental strain. Pearson's correlation coefficient r = 0.5719 indicated a strong dependence. Since both correlations were statistically significant, there is a statistically significant relationship between stress levels and psychological stressors.

Discussion

50 (41%) respondents in our sample stated excessive stress; 46 (38%) respondents stated marginal stress levels; 8 (7%) reported moderate stress levels; 12 (10%) feel mild stress; 5 (4%) stated that they do not feel any stress. Svobodová[3] also states in her bachelor's thesis that work in intensive care units is stressful, where 93.9% of the 83 nurses interviewed who work in intensive care units are under the influence of stress. Clearly most respondents, 82 (68%) of our sample, stated that the share of both stressors (physical and mental) is in balance; 30 (25%) stated that mental stress is predominant; 9 (7%) stated the physical stress as being dominant.

Statistical testing confirmed only the relationship between age and stress levels. The relationship between age and stress was also addressed in a foreign study from 2016, which included a total of 82 employees (nurses and doctors) working in intensive care units. It has been shown that ICU staff under the age of 35 have a high prevalence of stress compared to staff over the age of 35.4 These results could to a large extent correlate with the experience gained by nurses during their professional lives. The relationship between gender, type of intensive care unit and stress level could not be confirmed. The greatest physical stress for respondents is a disruption of sleep rhythm - 80 (23%). The second most common response was increased demands on the musculoskeletal system - 78 (22%), especially joints, muscles and spine. And the third most frequently reported response was that they do not have enough time to eat regularly - 68 (19%). Vévoda *et al*. state that completing night shifts demonstrably disrupts physical and mental processes in the body.

Sleep deprivation, as a physical stressor, is also one of the main causes of mental health problems, especially the emergence of anxiety.[5] There were 66 (17%) respondents, who reported that the greatest mental stress in intensive care units was due to a a high degree of responsibility. 48 (13%) respondents reported that the second largest mental stress is an increase in the requirements for cognitive functions, especially for memory and concentration.

The mental stress of working under time pressure was reported as being the same - 48 (13%) respondents. The relationship between psycho-

logical stressors and the increasing level of perceived stress was confirmed. In the research part of her work, Svobodová states that nurses in acute medical units perceive the greatest cause of work stress to be in workplace conflicts and in interpersonal relationships. Especially in bad relationships at the level of nurse – doctor and nurse – nurse.[3] In our sample, 58% of respondents stated that they had already experienced signs of work overload; 35% stated that signs of work overload occurred only occasionally; 7% indicated that they have not yet shown any signs of work overload.

The most common manifestations of work overload include exhaustion - 83 (17%). The second most common manifestation is lack of concentration - 59 (12%) and forgetfulness - 59 (12%). Most respondents - 75 (62%) stated that they sometimes feel that they are more demanding than they are able to handle, 39 (32%) of respondents do not feel that they are more demanding than they would be able to they were able to handle. Most respondents - 75 (62%), stated they ocassionally feel that greater demands are placed on them than they are able to handle; 39 (32%) respondents do not feel that greater demands are placed on them than they would be able to handle. Only 7 (6%) respondents feel that greater demands are placed on them than they are able to handle. When there is a disproportion between the demands placed and the ability to manage them, it leads to internal tension in the individual and a critical disruption of homeostasis.[5] Our survey revealed that the vast majority encounter this feeling only occasionally. This fact could also be due to the sudden nature of the work which is typical for intensive care units.

Recommendations for practice

Prevention of stress factors in the work environment can be divided into 3 basic levels: the first level is leadership (employee management) for leadership positions; the second level takes place at the level of the organization; the third level represents the level of the individual. The art of a team manager is to create an environment in which employees are able to perform at their best, are not under pressure and see meaning in their work. Modern research shows that in such a work environment, people are satisfied.[6,7]

Conclusion

It is evident that stress cannot be completely avoided in everyday life and working life, and it is also understandable that there are professions in which the level of stress is higher than in others. Studies clearly show that the higher an individual's responsibility, the higher the level of stress he or she feels. A healthy work environment with an acceptable level of stress, with care for mental and physical health, should be one of the main priorities of all organizations.

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Poverty, Migration and the Transmission of HIV/AIDS in District Dir Lower, Khyber Pakhtunkhwa, Pakistan

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Abstract:

Poverty, a multifaceted concept has been defined as: hunger; lack of shelter; being sick and not being able to see a doctor; having no access to a job; lack of freedom: fear for the future. Historically, people have migrated from one place to another to increase their livelihood and improve the living standards of their left behind families, while the process of globalization has intensified the movement of people across the world. Although, migration has been an important source of remittance and help in socioeconomic uplift of migrant families, however; it has also negatively impacted migrants and their families. Migrants are exposed to different risks and vulnerabilities at their

destinations, which exposes them to many other health problems including their exposure of contracting HIV/AIDS. This study was conducted in the District Lower Dir of Khyber Pakhtunkhwa province of Pakistan with the objectives to know the relationship between poverty, migration and transmission of HIV/AIDS. The study was qualitative in nature while the selection of the sample has been made under the purposive sampling technique. Primary data was collected from 12 respondents through in-depth interview using interview guide. The collected information was analyzed thematically in order to clarify the issue under study. The study concluded that migrants: face unsafe environments; lesser access to information and health services; precarious working and living condition; exposure to risky behaviors which put them at risk of contracting the disease.

Introduction

In general terms poverty is the inability to attain a minimum standard of living and a person who is unable to meet his basic needs is poor. However, poverty is a multidimensional and complex phenomenon and refers to hunger, lack of shelter, being sick and not being able to see a doctor, having no access to job, fear for the future, sense of deprivation and lack of freedom and participation in everyday activities of society (World Bank, 2008; Duy, Erikson, Nguyen Phuong, Hojer and Diwan, 2003; Simonen, 2005). Literary evidences indicate that approximately 1.3 billion people around the world are poor living on less than US $1.90 per day (World Bank, 2019, Hughes & Avoke, 2016), while approximately 70% of the world poor, deprived and vulnerable people are living in rural areas lacking basic necessities and services of life (Moghadam, 2005). The absences of basic necessities compel people to migrate in search of better economic opportunities (Castles, 1998). Thus, economic factors remain the key determining factor behind migration at global level.

Migration refers to the movement of people from one place to another and taking permanent or semi-permanent residence. The process of globalization and modern communication has radically altered the process and volume of migration, and has made people more aware of the opportunities elsewhere around the world and within national borders (Castles, 2002), and has also made traveling easier and faster than in the past (Castles, 2002). Each year, millions of people travel within and outside their countries in search of work, better life opportunities, to avoid poverty and to acquire better education. In 2014, there were about 1 billion people living outside their original places of birth or residence (UN Report, 2015; Suliman, 2017), while nearly 150 million of these migrants were economically active (Martin, 2013). In this context, a significant increase was reported in number of migrants. In 2019, there were an estimated 272 million international migrants, comprising almost 3.5% of world population (Standing, 2008; ILO, 2019). Migration has been a significant source of livelihood for many rural households unable to support themselves through agriculture and local income (Pham & Hill, 2008).

In developing countries migratory movements are usually between rural and urban areas, and recent estimates have found that in 2020 the major portion of population in developing countries are living in urban areas (Singh, 2009). Further, it is estimated that by 2025 poor countries would earn over US $140 billion as remittances in a year from migration (World Bank, 2006). In Pakistan, the patterns of both international and internal migration are highly fluid and frequent. labor migration has been regarded as an alternative livelihood opportunity; a source of poverty alleviation; improved life standards for many Pakistani families (Duckett, 2001, Siddiqui, 2005; Piotrowski, 2009). Although, migration is a source of earning and socioeconomic uplift but and not a risk factor in itself for HIV or negative health outcomes, but many factors associated to migration such as: poor living

condition; poor and dangerous working; social exclusion; lesser or not access to services; exploitation; discrimination; sexual abuse; violence may increase migrants' exposure to HIV and other health related vulnerabilities. In addition, in migrant communities social control is often limited and sexual relationships that are prohibited at home are possible abroad (Davies, Basten, & Frattini, 2009). The present study is based on the argument that migration is a critical factor in the export and import of HIV, as many migrants return with HIV infection from Europe, Middle East and Gulf Countries (Connell, 2006). Although, migration has significant contributions in the transmission of the infection, however; relatively little research work has been done on this aspect of the disease. The current study is broadly investigating the relation between poverty, migration and transmission of HIV/AIDS, however; the study will focus on the following objectives:

Study Objectives

- To investigate the relationship between poverty and migration
- To find migrants exposure to various health risks at destination
- To know about occurrence of HIV/AIDS transmission among migrants

Theoretical Framework of the Study

This study utilized varied theories such as Diana Livelihood Theory (1998); Ravenstein (1885) The Law of Migration Lee's (1966) Push and Pull Theory, Oded Stark & David Bloom New Economics of Labor Migration Theory (1985) in order to develop broader understanding of the issue. Generally, livelihood means social and material capabilities, endowment, abilities, assets, properties and activities (Carney, 1998). Poor people have limited access to accumulation of natural and financial resources as compared to rich people and such conditions expose them to develop risky trends and further compound their poverty (Sherbinin, 2008). The absence of life standard parameters among poor people put them at risks of diseases including HIV/AIDS. And, they are least capable to survive the impact of the disease (Cohen, 2006). *Ravenstein Theory of Migration* primarily considers migration as the result of economic needs both at place of origin and destination (Skeldon, 1997) and see migration in terms of economic dimensions (Wood, 1982). The push - pull model of migration assumes that migration was mostly based upon rational choice and utilitarian principle both at micro and macro levels (Massey & Parrado, 1998) and it is argued that variation in wages and capital across countries attracts people from some countries to others (Arango, 2004). In addition, the new economics of labor migration (Massey et al., 1993) see migration as a complex phenomenon and recognize migration not an individual decision phenomenon, rather a combination of rational choice decision making in the family (Stark & Bloom, 1985). This theory sees migration as a means of mitigating the risks of: a financial shock; to search for diverse and better economic opportunities; to gain access to better economic opportunities; o expand income generation resources. Both international and internal migration is a source to cover the cost of basic needs of life such as food, health, cloths, education etc. In current context, people move from one place to another mostly in search of finding better economic opportunities, which in turn places them in risks of acquiring other disease including HIV/AIDS.

Methods and Procedures

This study was qualitative in nature and primary data was collected from 12 respondents while applying purposive sampling technique (Adler and Adler, 2012; Patton, 2002). Data was collected from those HIV/AIDS patients who remained migrants (internal, international, & circular) during their life and have acquired the infection. Further, primary data was collected from 3 Tehsil's of District Dir Lower, i.e. Tehsil Adenzai, Tehsil Timargara, and Tehsil Samarbagh equally (4 respondents from each Tehsil), through in-depth interview using interview guide. For ensuring anonymity of respondents coding was used and their names were not disclosed; while considering the ethical aspect of the study an informed consent form was signed from the respondents in advance (Shamoo & Resnik, 2009). Collected information were transcribed and presented as primary quotes under various themes in data analysis section supported by secondary data.

Thematic Discussion

Data was analyzed qualitatively under various themes. Data was passed from various stages such as: transcription of data; coding interesting features; producing potential themes within data; checking these themes; defining or naming these themes; producing a research report in line with study statement and objectives ((Braun & Clarke, 2006).

Poverty, Migration and Health Vulnerabilities among Migrants

In general terms, a person who is unable to meet his/her basic needs or maintain a minimum standard of living is poor. Poverty, a multifaceted concept means:hunger, lack of shelter; having no access to a job; being sick and not able to see a doctor (World Bank, 2008). Poverty also includes social, economic and cultural dimensions, the fear of future and lack of freedom (Deleeck *et al*., 1992). Literary evidence indicates that at global level nearly 1.3 billion people are poor, living on less than US $1.9 per day (Hughes et al, 2004). In addition, nearly 70% of the world poor, deprived and economically vulnerable people are living in rural areas (Moghadam, 2005), who lack basic necessities and services of life. Usually, people migrate in order to obtain better livelihood opportunities. In this context, poverty and migration are closely related and in economically poor countries and societies, migration is a result of poverty and unsustainable livelihoods. In this way, migration mostly takes place in search of better economic opportunities (Kenkel, 1997 & Parveen, 1993). An extract from a field interview:

> *"I belong to a poor family and migrated Karachi in search of employment. Migration was a difficult and troublesome experience for me. In the absence of family control I was involved in drugs and also used injectable drugs. After doing it for several years, I was diagnosed as HIV infected in a routine check up for a minor infection. The curse of poverty, illiteracy and of migrant life ruined my life forever. It is also agonizing that I also infected my wife"(*1-S-2)

Migration is a significant source of livelihood and unlocks doors of many opportunities and benefits for poor people in developing countries. Each year, millions of people travel within and outside their countries in search of work, better life opportunities, to avoid poverty, to escape conflict and to acquire quality education (Ratha, 2005). In many developing countries, workers' remittances has been an important source of income generation, poverty alleviation and improved life standard for migrants and their households (Cuillier & Piotrowski, 2009). Many households use migration as a livelihood strategy for reducing the economic risks in areas where insurance and capital markets are not present or are imperfect. An extract from field interview:

> *"In absence of proper employment opportunities at my village I migrated to Lahore in order to earn a livelihood. It is indeed an alternate livelihood opportunity and source of income for me. I had no livelihood opportunities in the hard and barren areas of rural life. But sometime migration proves more consequential and I borrow difficulties instead of amenities"* (3-H-7)

Generally, migration has been seen as a flight from poverty and people migrate to other parts of the country or visit abroad in order to find better employment. Although, migration is a source of earning remittances and socio-economic uplift, however, it is also associated with many risks and vulnerabilities. In many cases, migrants are: deceived in the name of jobs; are denied grant of job contract; face confiscation of documents. While in many instances they are exposed to: harassment; discrimination; derogatory working condition; health issues; violence; exploitation (Arif, 2005; Rogers, Anderson & Clark, 2009). An extract from a field interview:

> *"Being an elder son of my parents I got married at 18 years. I was responsible for providing financial support to the family. After one year of marriage I left for Malaysia for work in order to fulfill financial requirements of my family. It was during my migrant life in Malaysia that I maintained illegal sexual relation with a prostitute and acquired the infection" (*4-S-1)

Although, migration has been recognized as a significant livelihood strategy, and people mostly migrate in order to escape poverty, however, migrants face certain problems such as exploitation, deprivation, absence of social protec-

tion and exposure to health vulnerabilities including exposure to HIV/AIDS.

Migrant's Dangerous Working Condition and Risks of HIV/AIDS Transmission

In their destinations, migrants are exposed to insecure living and working condition that increase their exposure to adverse health conditions (Parrado & Flippens, 2010). Besides, majority of migrants are concentrated in the dirty, dangerous and difficult jobs, with little or no occupational and physical safety and protection. Also, a large number of migrant workers live and work in geographically isolated areas, such as construction sites, mining, seaports, or in rural agricultural areas in the destination areas or countries, where health facilities and services are non-existent, limited or inaccessible (ILO, 2014). Similar views were also shared by a respondent during a field interview. An extract from interview:

> *"During my migrant life in UAE my living and working place was insecure without any proper health and hygiene facilities. Thirty workers were placed in four rooms without basic facilities of life. The environment was dusty and many laborers fell ill. The reality is that I acquired the infection during my migrant life. It was my poverty that compelled me to leave home. If I would have not been poor I would not been infected. My life has been ruined as I have not hope of recovery form HIV" (*6-A-8)

Many migrant workers are employed in such derogatory and exploitative jobs where the locals/natives are unwilling to accept and take these jobs. Also, a majority of migrant workers are engaged in mining, loading, unloading, and difficult construction sectors, where the ratio of occupational accidents, injuries, disabilities, and exposure to various infections as well as deaths are higher (Corno & Walque, 2012). Besides, domestic migrant workers were found highly vulnerable to HIV as their work is not high paid and they may also be subject to abuse by their employers ranging from excessive working hours to delays in payment, as well as sexual harassment, violence and rape (Mahdavi, 2013). Reflecting upon this a respondent uttered:

> *"I was working with a petty contractor as a laborer in very dusty and unsafe environment. My job was lifting heavy broken pieces of steel and iron, without any safety kits. Besides, sleeping and living place was very narrow, dirty and unhygienic, with solid waste lying all around. There was no check from employer after working hours. It was during this time that I got severe UTI, which was later on diagnosis as HIV by the doctor"* (7-Z-6)

There have been incidences of employers forcefully pushing workers into informal and irregular economic activities, including sex work, which increase their vulnerabilities to HIV (Mahdavi, 2013). Migrant labor face harsh attitude from employers in countries with the "kafala system" and labor disputes with an employer can result in deportation, criminal prosecution as well as harsh punishment. Similarly, there have been incidences of food deprivation and inadequate living conditions (Gamburd, 2010), while those migrants diagnosed as HIV positive are deported without treatment or counseling (Weine, Bahromov & Mirzoev, 2008. In this context, field information also show similar findings and respondent reported that:

> *"The working condition was very adverse, and sometime I thought of committing suicide to escape from these desperate working and living conditions. There was no medical care for heat stroke, fever, infections and workplace injuries, and he was given "Panadol" for every disease including urinary tract infection. I asked my camp boss for permission but he refused and told me to go and continue your work" (11-Y-8)*

Conclusively, migrants face several problems in their living and working environment, and they are exposed to health hazards and acquire various infections without having proper access to medical services.

Migrnts' Human Rights violation and their Exposure to HIV/AIDS

Migrant populations at large are exposed to human rights violation. Migrants are away from their homes and they have no control over receiving adequate support and care services once they are infected. They also lack power to minimize or change their risks of exposure to HIV (Gruskin & Loff, 2002). Migration in itself is not increasing HIV vulnerability rather the social context that drives migrant behavior is re-

sponsible for transmission of HIV among migrants. In the majority cases, migrant's are not treated as fully humans and they are deprived of their basic human rights (Palo, 2008). Field information also indicates that migrant's rights are violated. An extract from an interview:

> *"I visited Malaysia on a driver visa but my employer intimidated me to work as a gardener and home cleaning servant. At first I was paid on time but later on the employer stopped payment. On my asking for payment, the employer told me that he would not pay him. He also threatened me that if I asked for payment he would refuse to provide me with an exit permit until I signed an agreement saying that all wages that were due to him had been paid" (1-J-7)*

Human rights violation are found at many levels, such as residence is not allowed without job, limited or no social benefits or medical care, no grant of right to appeal, while deportation is permitted at any time without explaining any reason for it. Further, migrants are not allowed to own property, start or join trade unions, and there exist a sharp contrast between the benefits that a foreigner and a national get in these states. While migrant workers are also subjected certain abuses such as beatings, verbal abuse, and confiscation of documents, forced labor, and thus making them physically and psychologically stressed (Moyce & Schenker, 2018). Similar views were also shared by a respondent's during a filed interviews:

> *"I arranged a Saudi labor visa for a construction company. For the first 3 months I waited for the work to begin. After start of the work, I worked for 12-hour for my sponsor, carrying construction materials in a project in the desert. For three months I was not paid. When I told my sponsor that I am not willing to continue work, until I was paid, my sponsor asked,* Are you here to have fun or work? *He threatened me, to be arrested by the police and I won't be able to go home" (5-A-7)*

Another respondent also shared a similar opinion:

> *"The kafala or sponsorship system of work permits is common in Bahrain with significant restrictions on migrants. The kafeel exerts full control over the migrant workers and confiscated his passports and travel documents. I was placed in a construction company with a harsh supervisor, who rarely cared about my health and such circumstances made me vulnerable to HIV infection" (*1-H-2)

Usually, migrant workers constantly face discrimination in employment, which has enormous effects on migrants particularly on their health. They are at particular risk of discrimination because their nationalities and treated as exploitable, and are seen as replaceable, cheap, weak, flexible and submissive labor. Such discriminatory practices also lead to violence, harassment, poor working condition, and low adherence to treatment which increase their vulnerability to HIV/AIDS.

Conclusions

This study concludes that poverty compels people to migrate in order to earn livelihood and search for a better life. Migration in part has contributed to improved life standard in terms of earning remittances, however; in most cases migrants found themselves subject to exploitation, deprivation, and risky behaviors in their new destination. Importantly, migrants stay away from the traditional home environment and traditional control exposes them to risky behaviors and made them vulnerable to numerous infections including HIV. It was also found that migration related problems such as difficulty in accessing medical and prevention services facilitated the transmission of HIV/AIDS among migrants. It was also reported that migrants frequently worked in dirty, dangerous, and difficult jobs, having little or no occupational and physical safety, protection or health services, compared to natives or locals. Mostly, migrants work in such sectors where the ratio of occupational accidents, injuries, disabilities, exposure to infections as well as deaths was found higher, while a majority of migrant workers were deprived of quality food, they were provided substandard sleeping accommodations. Also, migrant human rights were violated in numerous ways such as restricted access to housing, social benefits, medical care, no right to appeal, starting or joining unions, owning property, while deportation is permitted at any time without explaining any reason for it. The kafala system

was reported as a root cause and problematic aspect of migration to the Gulf States, in which the kafeel exerts full control over migrant workers, exploiting them and violating basic human rights.

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Identification of Fall Risks by Nurses in Hospitalized Adult Patients

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Abstract:

The aim of this study was to provide a nurses' comparison of fall risks in hospitalized adults according to gender, age and clinic, and to identify significant risk factors associated with the specific levels of the risk of falling. The respondent group consisted of patients hospitalized in selected hospital wards. Morse Fall Scale was used to map the data. We tested the statistical significance of differences among categories by using the chí2 test, Mann-Whitney U test and Kruskal-Wallis test. The average risk score of falling in a group of 688 patients was at a high level 47.87 ± 26.4. In the group of 430 elderly patients, we found significantly higher average values than in the group of 258 patients younger than 65 years (p = < 0.00001).

Patients hospitalized in the geriatric ward had the highest average Morse Fall Scale values (55.3 ± 26.11). The results of our study confirmed the risk of falling in selected groups of patients.

Introduction

Falls of hospitalized adult patients belong to undesirable events in the nursing practice. Despite the frequent occurrence of this phenomenon, there is no generally accepted definition of the term "fall" (Zecevic, Salmoni, Speechley & Vandervoort, 2006; Schwenk *et al*., 2012; Masud & Morris, 2001). Definitions are variable, but essentially, they have the same characteristics. Morris & Isaacs (1980) published a definition of a fall as an undesirable event in which a patient unexpectedly falls to the ground. Later, more definitions were added to the timeline. Specialists and professional organizations usually define a fall as an unintentional, unpredictable and sudden fall of a patient to the floor, lower area or on another object (person, item, furniture, staircase, etc.) without or with injury (World Health Organization [WHO], 2007; Miertova, Borikova, Tomagova, & Ziakova, 2018; National Health Service [NHS], 2015). The Agency for Healthcare Research and Quality (AHRQ, 2013) informs that falls in hospitals occur without any assistance and are caused by physiological (e.g. faints) or environmental (e.g. slippery floor) reasons. Nowadays, both historically older and newer data on the monitoring of falls in hospitalized patients are available. For example, the Czech Association of Nurses (CAS, 2012) provides statistics from the Czech Republic which shows that 7,660 out of 755,498 hospitalized patients at 38 medical facilities fell. In 2015, the medical staff reported 4,325 falls out of 524,870 registered hospitalized patients from 19 hospitals in the Czech Republic. According to NHS documentation (2017), falls were reported in 247,000 patients (57,000 in patients under 65 years of age and 190,000 in patients older than 65 years) in England in 2015/2016. AHRQ (2013) estimates that from 700,000 up to 1 million hospitalized patients fall in the US each year. In the Slovak Republic, there are data on falls in hospitalized patients available from 2013. Health Care Surveillance Authority of the Slovak Republic in the last published Activity Report (UDZS SR, 2013) lists 3,075 falls and injuries of patients that occurred at 65 institutional medical facilities in the Slovak Republic. Based on the above-mentioned WHO data (2007), the Global Report on Falls Prevention in Older Age (2007) associates the increasing tendency for hospitalized patients to fall with the global population aging. A 100% increase of patient falls is estimated in 2030. Falls of hospitalized patients cannot be fully prevented, although there are possibilities and recommendations for their elimination. The first step in eliminating falls in a hospital setting is to identify the at-risk patients (Stevens, 2005). Nursing practice currently has a number of standardized simplex and multidimensional measuring tools for such detection. Most often they contain a combination of several subjective risk factors: age; physical, mental and environmental risk factors; risk factors of pharmacotherapy; etc. (e.g. Assessment of High Risk to Fall; Downton Fall Risk Index; Fall Assessment Questionnaire; Falls Screening Tools; Falls Risk for Hospitalized Older People; Hendrich Fall Risk Model; Morse Fall Scale; Patient Fall Questionnaire; etc.). The most frequently used ones in nursing practice are; Morse Fall Scale; Hendrich Fall Risk Model; St. Tomas Risk Assessment Tool in Falling Elderly Inpatients in patients older than 65 years (Borikova, Tomagova, & Miertova, 2018). The choice of an adequate measuring tool depends on: the patient's age; current health status; other situational factors. Despite the fact that there are currently enough standardized tools, nursing in the Slovak Republic hasn't developed a unified standardized procedure for detecting risk factors in hospitalized patients that nurses would use in nursing practice.

Settings and Methods

The main goal of the presented research was to determine the fall risk degree by screening when using the Morse Fall Scale (MFS-CZ), compare fall risks according to: gender; age and ward; analyse the individual fall risk factors in hospitalized patients and identify the significant risk factors associated with different levels of fall risk.

Protocols, which were a part of the medical documentation, were used to process the defined goal. The protocol contained items focused on respondents' identification data (gender, age, hospital ward) and MFS-CZ. MFS-CZ focused on assessing 6 significant risk factors: history of falls; secondary diagnosis; walking aid; intravenous cannula/therapy; gait; mental condition. The patient could have obtained 0-30 points (a range of 0-125 points) in each risk factor. Based on the final score for six risk factors the patient was assigned to a group with no fall risk (0 points), low fall risk (< 25 points), moderate fall risk (25-45 points) and high fall risk (> 45 points) (Morse *et al.,* 1989; Miertova, 2019).

The respondent sample consisted of 688 respondents. Their inclusion in the sample was conditioned by their age – they had to be at least 18 years old, indication for hospitalization in the medical, surgical or geriatric department and an assessment of the fall risk within 24 hours of their admission. 426 (61.92%) women and 262 (38.03%) men participated in the survey. The average age of respondents was 67.16 years, with a range of 19-97 years (median 71, SD ± 18.54). 348 (50.58%) patients hospitalized in medical departments, 142 (20.64%) patients hospitalized in surgical units and 198 (28.78%) patients hospitalized in geriatric wards took part in the study.

We used descriptive statistics to interpret the results. The statistical significance of differences among categories was tested by chí^2 test. Differences between two selected averages of the independent samples were evaluated, due to the asymmetry of distribution of each variable in observed samples by non-parametric tests for two independent samples (Mann–Whitney U test), or three independent samples (Kruskal–Wallis test). The correlation between variables was assessed by the Spearman's rank correlation coefficient. We presented mainly significant results with differences at $p<0.05$.

Results and discussion

In a group of 688 patients, the average score of fall risk according to MFS was at a high risk level 47.87 ± 26.4 (minimum 0, maximum 125). After classifying patients into four basic levels of fall risk according to their final score, we found that: 336 patients (48.84%) were at a high fall risk; 222 patients (32.27%) were at a moderate fall risk; 82 survey participants (11.92%) were at a low fall risk; only 48 probands (6.98%) did not confirm the MFS risk of a fall.

Level of fall risk according to selected demographic indicators

When comparing the MFS results according to demographic indicators (age, gender and hospital ward), we found out that the age of patients correlated moderately with the overall score achieved by MFS ($r_S = 0.51$, $p = < 0.00001$). Values of the overall MFS score were getting higher along with the increasing age of respondents. Table 1 shows the basic descriptive characteristics of the overall MFS score according to age, gender and hospital ward.

Based on the knowledge that multiple risk factors increase the fall risk in seniors, we directed our attention on differences in the overall MFS score in patients under and over 65 years of age. In the group of 430 elderly patients we found

TABLE 1 Descriptive characteristics of the MFS score by age, gender and hospitalization

Variables	Categories	Mean	SD	Min.	Max.	Risk of falls (%)		
						Low	Moderate	High
Age	< 65 years	31,51	23,13	0	85	22,48	37,21	22,48
	≥ 65 years	57,69	23,23	0	125	5,58	29,3	64,65
Gender	Male	49,77	23,89	0	105	10,69	35,11	51,15
	Female	46,71	27,83	0	125	12,68	30,52	47,42
Ward type	Medical	44,74	28,03	0	100	9,2	31,61	45,98
	Surgical	45,21	20,27	0	95	19,72	36,62	42,25
	Geriatric	55,03	26,11	15	125	11,11	30,3	58,59

SD: standard deviation Min.: minimum score Max.: maximum score

significantly higher average MFS values than in the group of 258 younger patients (p = < 0.0001). According to MFS, the average score of the fall risk of respondents younger than 65 years was at a moderate risk level 31.51 ± 23.13, while the average score of the fall risk of patients in the age of 65 and older was at a high risk level 57.69 ± 23.23. Similarly, when we classified both groups of patients into the four basic levels of fall risk, we noticed that more patients at a high risk of falling are in the 65+ age category (64.65%) than in the group of respondents younger than 65 years (22.48%). We also found that the classification of survey participants according to the overall MFS score was the same for men and women (p = 0.29). Men achieved an average value of the overall MFS score 49.77 ± 23.89 and women 46.71 ± 27.83, which corresponded to a high fall risk. The distribution of respondents into four levels of fall risk according to age and gender is presented in Chart 1.

Distribution for the fall risk classification by gender and age

Our next intention was to compare MFS results by hospital department. The statistical analysis of results showed that according to MFS, the overall fall risk score in a selected respondent group is affected by the department/clinic where patients were hospitalized (p = 0.011). The high-

FIGURE 1 Levels of risk of falls by gender and age

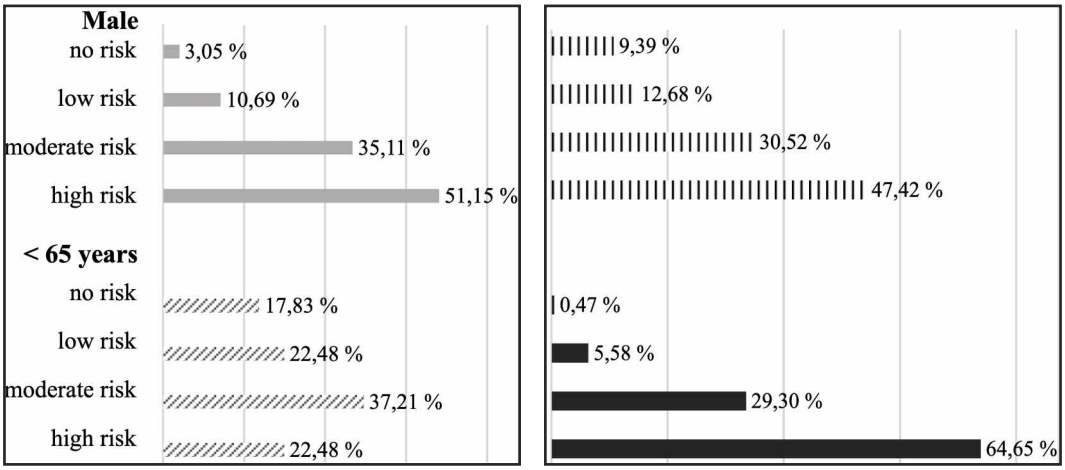
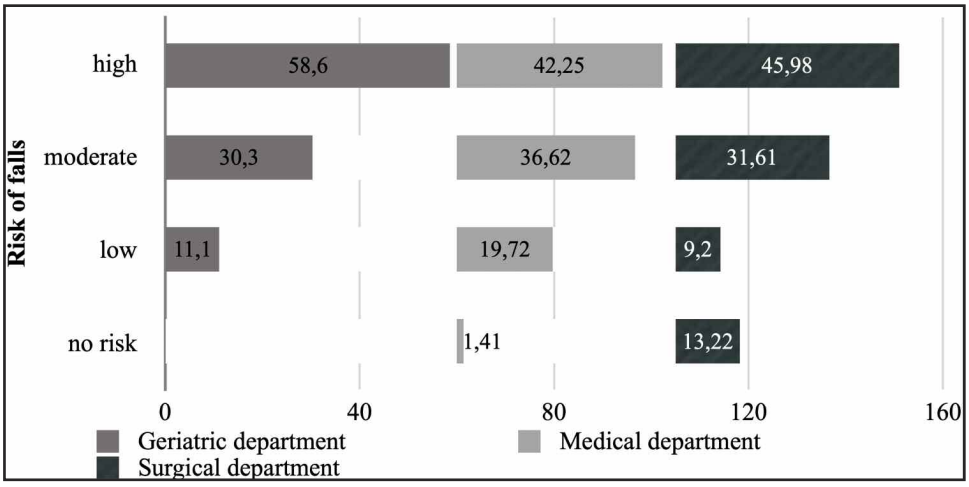


FIGURE 2 Levels of risk of falls by hospitalization



est average MFS values were achieved by patients hospitalized in the geriatric units (55.3 ± 26.11) and the lowest average MFS values were achieved by patients hospitalized in the medical departments (44.74 ± 28.03). Patients hospitalized in the surgical department achieved an average MFS value 45.21 ± 20.27; high fall risk was observed in 58.59% patients hospitalized in geriatric wards; 45.98% patients hospitalized in medical units; 42.25% patients hospitalized in surgical departments. Distribution of respondents into four levels of fall risk according to MFS by a hospital ward is presented in Chart 2.

Analysis of fall risk factors

We also analysed the presence of six risk factors: a history of falls; secondary diagnoses; walking aid; intravenous cannula/therapy; gait abnormality; mental disorders. In the surveyed group of patients, the most common risk factors were: a secondary diagnosis (75.58%); intravenous cannula/therapy (52.91%); history of falls (45.91%). We noticed a less frequent occurrence of the following risk factors: gait abnormality (42.44%); use of a walking aid (38.66%); altered mental status (18.31%). Table 2 shows the presence of risk factors in the whole sample by gender, age and hospital department.

When comparing the presence of fall risk factors by patients' gender, analysis confirmed a statistically significantly higher occurrence of intravenous therapy/cannula in men than in women ($p < 0.0001$). Other fall risk factors were equally represented in both genders. In the group of patients in the 65+ age category, we noticed a significantly higher incidence of all risk factors ($p < 0.0001$) than in younger patients. The only exception was a presence of intravenous therapy/cannula which was not affected by age ($p = 0.114$).

Similar statistically significant differences were noted in the assessment of fall risk factors according to the hospital wards. Patients hospitalized in surgical departments reported a significantly more frequent presence of intravenous therapy/cannula ($p < 0.0001$). In the group of patients hospitalized in medical departments there were many more patients with the risk factor history of falls ($p = 0.003$). Among the significant predictors of a fall of patients in the geriatric units were secondary diagnosis ($p < 0.0001$), the use of a walking aid ($p < 0.0001$), gait abnormality ($p = 0.003$) and mental disorder ($p < 0.0001$).

Relation among risk factors and the level of fall risk

With the focus on the last objective of the research study, we found out which risk factors have a significantly positive correlation ($r_s \geq 0.3$) with the individual levels of fall risk. (Table 3).

The risk factor intravenous therapy/cannula (r_s 0.878, $p < 0.0001$) correlated significantly pos-

TABLE 2 Distribution of risk factors by gender, age and hospital department

	Gender			Age			Ward type			
Risk factors	Men	Women	*p*	<65 years	≥65 years	*p*	GER	SUR	MED	*p*
History of falls	48.09	44.6	0.415	27.91	56.74	**<0.0001**	46.46	33.8	50.57	**0.003**
Secondary diagnosis	77.86	74.18	0.316	43.41	94.88	**<0.0001**	98.99	63.38	67.24	**<0.0001**
Walking aid	35.11	40.85	0.156	26.36	46.05	**<0.0001**	57.58	29.58	31.61	**<0.0001**
IV therapy	62.6	46.95	<0.0001	48.84	55.35	**0.114**	37.37	90.14	46.55	**<0.0001**
Gait abnormality	36.69	44.13	0.354	27.13	51.63	**<0.0001**	49.49	28.17	44.25	**0.003**
Altered mental status	15.27	20.19	0.128	5.43	26.05	**<0.0001**	31.31	9.86	14.37	**<0.0001**

GER: geriatric department, SUR: surgical department, MED: medical department
p: level of statistical significance for the chi^2 test

TABLE 3 Relation among risk factors and the level of fall risk

Risk factors	Risk of falls					
	Low		Moderate		High	
	r_S	p	r_S	p	r_S	p
History of falls	0.156	0.327	**0.326**	**0.0004**	**0.300**	**<0.0001**
Secondary diagnosis	-0.676	0.000	0.291	0.001	0.184	0.017
Walking aid	0.156	0.327	0.060	0.523	**0.341**	**<0.0001**
IV therapy	**0.878**	**<0.0001**	0.126	0.184	0.241	0.001
Gait abnormality	-0.504	0.000	-0.153	0.106	**0.403**	**<0.0001**
Altered mental status	-0.127	0.428	-0.145	0.124	0.263	0.0005

p – level of statistical significance; r_S – Spearman's rank correlation coefficient

itively in the first group of patients at a low fall risk. In the second group of patients, a moderate positive correlation between the risk factor history of falls and a moderate fall risk (r_S 0.326, p = 0.0004) was confirmed. In the sample of patients at a high fall risk, statistically significant moderate correlations were observed among gait abnormalities (r_S = 0.403, p <0.0001), the use of walking aids (r_S = 0.341, p <0.0001), history of falls (r_S = 0.3, p <0.0001) and a high fall risk.

Nowadays, patient safety is a priority of nursing care. Falls of hospitalized patients make: their treatment complicated; have serious physical, mental and social consequences; increase economic costs of health care; bring a risk of legal actions against medical facilities for failing to provide a proper and safe health care. The identification of fall risks is necessary to increase safety of patients during hospitalization. Using the standardized measuring tools to assess the risk of a fall is valuable and practical strategy that nurses can use.

By performing a fall risk screening using the MFS tool, we were trying to find the level of fall risk and the presence of individual risk factors for falls in the selected group of hospitalized patients. In the respondent group of patients hospitalized in medical, surgical and geriatric departments, we discovered that the average MFS value was at the high risk level (47.87 ± 26.4). Previous studies oriented to this particular topic have produced diverse data. Miertova, *et al*. (2018) reported an average fall risk 45.7 ± 20.2 in 103 patients hospitalized in the neurology department, which also corresponded to the high risk. A higher average MFS score (57.2) counting among the high fall risks was also reported by Forrest, Chen, Huss & Giesler (2013) in patients requiring institutional rehabilitation, most of whom had abnormal gait.

McGibbon *et al*. (2019) analysed the risk of a fall in 888 Canadian chronic patients and found that their average MFS score was 58.76 ± 25.49. In the process of a patient classification by MFS, our study confirmed a high fall risk in 48.84% patients, a moderate risk in 32.27% patients and a low risk in 11.92% patients. Similar results were presented in a long-term study in 1,487 adult patients in Brazil – a high fall risk was confirmed in 40.1% respondents, a moderate risk in 34.2% survey participants and a low risk in 25.7% patients (Urbanetto *et al*., 2016; Pasa *et al*., 2017). When monitoring 831 patients hospitalized in the university hospital, they identified a high risk fall in 36.6% hospitalized patients. The variability of research outcomes emphasizes the fact that both the average MFS score and the degree of fall risk are greatly influenced by the profile of patients enrolled in the study and the nature of health care provided.

By analysing MFS results by age, gender and hospital ward, we found a statistically significantly higher score in patients in the age of 65 and older (57.69 ± 23.23) than in patients younger than 65 years (31.51 ± 23.13). We did not notice any differences in score based on gender. A higher occurrence of the high risk fall in older patients was also confirmed by Miertova *et al*. (2018), Sardo, Simões, Alvarelhão, & Simões (2016), Bittencourt *et al*. (2017). The association

of higher age with the high risk fall is also documented by the highest average MFS score measured in our study in patients hospitalized in the geriatric unit (55.3 ± 26.11), as well as the identification of 58.59% seniors at high risk of a fall. It is evident that as age increases, the risk factors contributing to the fall risk are accumulating. This was also confirmed by many other different studies (Urbanetto *et al*., 2016; Simpson, Rosenthal, Cumbler & Likosky, 2013).

Compared to the results of our empirical research, other authors confirmed the relation between the level of fall risk and patients' gender: Sardo *et al*. (2016) confirmed a higher fall risk in women & McGibbon *et al*. (2019), on the other hand, a higher probability to fall in men. According to Bittencourt *et al*. (2017) & Falcão *et al*. (2019), there is no connection between the fall risk and gender.

By analysing the obtained data, we found that the level of fall risk of the surveyed group is mostly affected by: risk factors; secondary diagnosis which was observed in 75.58% patients; intravenous therapy/cannula observed in 52.91% patients and history of falls observed in 45.91% patients. Pasa *et al*. (2017) in their research also confirmed the highest prevalence of these two risk factors: intravenous cannula in 92.8% patients and secondary diagnosis in 60.9% observed research participants. Rocha et al. (2013) obtained similar results in the probe. They proved the positive correlation between the fall risk and intravenous cannula (83.3%). De Albuquerque *et al*. (2013) also confirmed the secondary diagnosis as the most frequent fall risk factor. The study further discovered a presence of several risk factors in the sample of patients in the 65+ age group, which may predispose them to a fall or injury. Based on the results, we can conclude that causes of the increased fall risk in seniors are multifactorial. Among the significant predictors of falls in the group of patients at high risk of a fall was gait abnormality, the use of a walking aid and history of falls.

Based on the results of the research findings, the following recommendations for the nursing practice in the Slovak Republic were formulated:

- carry out a research on the national level to obtain a comprehensive picture of the observed reality,
- strengthen the education of nurses in standardized measuring tools for detecting fall risk factors in hospitalized patients,
- consistently implement a multifactorial assessment followed by multifactorial interventions (National Institute for Health and Care Excellence [NICE], 2013) in practice,
- implement the complex training program Fallproof© (WHO, 2007) for medical staff to acquire and use skills for reducing the fall risk in elderly adults,
- strengthen the educational interventions of nurses aimed at patients at risk of a fall – promoting safe mobility.

Conclusions

The results of our study confirmed that out of the total 688 research participants, 336 patients (48.84%) were at high risk of a fall and 222 (32.27%) were at moderate risk of a fall. The prevention of fall risks represents an essential element of nursing care for hospitalized patients prone to falls. This is possible on condition that: a thorough multifactorial assessment of a specific patient is conducted; followed by an implementation of effective interventions; a high-quality cooperation between doctors and nurses.

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Experiencing Loneliness by Seniors during the Covid-19 Pandemic on the Example of Poland and Slovakia

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„Loneliness is like a garden where the soul withers and the flowers stop smelling."

Marc Levy

Abstract:

Loneliness - a subjective, emotional state of feeling social isolation and being cut off from others. It comes and goes when life situation changes. In the case of chronic loneliness, it is experienced no matter what the circumstances. Loneliness functions in the temporal (time) dimension: it can be

continuous, but it can also occur temporarily. The feeling of loneliness occurs in situations where the emotional bond is broken or in the case of isolation. The aim of this article is to address the problem of seniors' loneliness which is caused by the limitations of the Covid-19 pandemic. The participants of the study are seniors living in Poland and Slovakia. Research conducted in Poland, with two elderly women over 70, living in a small fishing village in the north of the country, shows that they experience unpleasant states of loneliness despite having adequate relationships with other people. As observations show, the increase in loneliness is caused by conditions that require the observance of precautionary measures related to the pandemic and restrictions on socializing and conducting classes in senior clubs. The above factors result in shallowing interpersonal interactions; weakening interpersonal relations; contribute to more superficial contacts mainly by telephone. Seniors who are in care at the Retirement Home and Nursing Home in Slovakia also admit to feeling lonely, though not directly. From the conversation, however, it can be concluded that this condition does not result directly from pandemic limitations, but rather from too little contact with loved ones. The presence of other residents and staff, contact with people, meals, activities and conversations significantly fill the time during the day. The study was aimed at checking the facts of loneliness faced by seniors living in Slovakia and Poland as well as providing information about their views on their situation. The aim of the study is also to indicate the direction that will be helpful in combating and preventing such a pejorative phenomenon as loneliness. The research was conducted in the form of an interview. In order for the quality of the interviews to be as high as possible, the respondents were selected from various backgrounds. In Poland, there were two single women, aged over 70, living in a tiny fishing village; in Slovakia they were clients of the Retirement Home and the Nursing Home in Rimavska Sobota. The authors of the texts on the situation in Poland and Slovakia would like to add that the respondents waited with interest for contact from the authors of the publication; were happy that they could speak; that there were people who were interested in their problems. The researchers tried to comprehensively present the analysis of the obtained data, situations and statements of the respondents and, using the bricollage technique, to interpret it in detail. The most important issues raised in the interviews were additionally summarized in the conclusions.

[1] Francine Russo. Toxic loneliness. "Science World". 319 (3/2018), pp. 58-63, 2018-03. Prószyński Media.

[2] People over 60 years of age, 3 people from Slovakia and 2 from Poland participated in the study.

1 The phenomenon of loneliness

In the literature it is not easy to find an unambiguous definition of this phenomenon and a detailed and in-depth method of measuring loneliness. Often the concept of loneliness is equated with a sense of loneliness, such an interpretation is represented, among others, by Józef Rembowski[3], Janusz Gajda[4] & Maria Łopatkowa[5]. We can also meet authors who distinguish between the terms „loneliness" and „loneliness" - such as John G. McGraw[6], Krystyna Kmiecik-Baran[7], Maria Szyszkowska[8] or Jan Szczepański[9]. This article uses the definition of Jan Szczepański for whom „isolation, lack of understanding, lack of mutual understanding, lack of interest in a person and their affairs are the most important factors in the phenomenon of social and mental loneliness". According to Szczepański, loneliness and loneliness are two different states. Not every person who is alone feels lonely. This is exactly what happens in the case of our respondents, one of them was not as troublesome as the other because of the isolation as a result of the pandemic.

Issue 1 deals with feelings related to limitations.

Both ladies were asked if the restrictions resulting from the pandemic had any impact on their well-being. The first of them replied:

> „I have always believed that an intelligent person is never bored and I organize my time in accordance with this principle. I like reading books, walking on the beach, exercising every day, solving crosswords, and being in my garden. I am a widow, since my husband died of pancreatic cancer; my life has changed but I have to live on! I have developed daily rituals that determine my daily schedule. In addition, I have contact with a few friends from college with whom I regularly talk on the phone; sometimes they come and visit me for a week or two. Then we go to Kołobrzeg, to the beautician, for a good dinner".

Unfortunately, the second respondent felt the isolation in a completely different way:

> „I feel very lonely since they closed the senior club and took away all our classes; this loneliness and emptiness became unbearable! At least 3 times a week I used to go to English, yoga, healthy spine classes, manual classes,. I was meeting my friends. We always laughed; talked; listened; told each other things. We advised each other; we supported each other in various ailments; we exchanged experiences. Each person knew they had a purpose. You had to get up, get dressed, put on makeup… and when they took it away, I even lost my appetite. Still alone, I don't even want to cook for myself, you see how I look ... 46 kg, I got my legs like matches from this grief (...) I was so depressed when.my daughter saw me, persuaded me to visit a psychologist.

2 Feelings of loneliness during a pandemic

Issue 2; Feelings accompanying loneliness in the age of the Covid-19 virus.

Both ladies were asked about their feelings in the moments of isolation. They were asked to indicate a few of the following: fear, regret, reluctance, pain, sadness, anger, sense of injustice, understanding of the situation, sense of responsibility for oneself and others, the need to adapt to the prevailing conditions. The first of the ladies consistently and with understanding for the circumstances occurring mentioned:

> „I had no pain or fear. Anxiety maybe only for a moment how it all started and it was not known what would happen next, such uncer-

[3] See J. Rembowski, Loneliness, Gdańsk 1992

[4] J. Gajda, Loneliness and Culture, Warsaw 1987,

[5] M. Łopatkowa, Loneliness of a Child, Warsaw 1983,

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tainty more so. You had to stay at home, so I stayed. I thought that we were obliged to be responsible in such a difficult situation"(...). Today, I think that maybe some actions were exaggerated, but I do not feel strongly negative emotions about it anyway. Nobody knew what was going to happen. (…) I felt a bit sorry that I couldn't go to the gym or coffee shop or have my favorite squeezed juice, but they weren't some strongly negative emotions".

In the second respondent we are dealing with a completely different color of feelings and emotions:

„I felt anger and regret above all, I was furious that it is impossible to go anywhere or meet anyone. I am aware that this disease can be cruel in its consequences, but I do not think that it is for everyone and I do not share such strict restrictions; this closure is terrible! „(...) I went through covida. I was broken for a week. Such a flu there is no point in dramatizing it. I am not afraid of it. (...) As for the accompanying feelings, I would like to add that I feel sick when I hear about this 4th wave."

Summing up the research conducted in Poland, each of the respondents has a completely different view and feelings associated with isolation during the Covid-19 pandemic. Both ladies live alone in the same village, by the sea, in Poland. They both have children; are active drivers; have friends and interests; both have a good financial situation; good health. As the study shows, they experienced the time of isolation very differently: each of them was accompanied by different emotions and observations towards the surrounding situations. Each of them assures that they were missing something in this difficult period, but the feeling of this lack takes on a different intensity in each of them. It was undoubtedly not an easy time for either of them. However, as the study shows, the ability to cope with loneliness does not only apply to personal situations, both ladies have it quite similar to each other. Character factors predominate here, such as: sensitivity to changes; the ability to adapt to a new situation; susceptibility to stress; the need for direct contact with other people; the ability to spend time with oneself; the need to change locations and leave the house.

In Slovakia, we conducted interviews in the Retirement Home and the Social Services Home in Rimavská Sobota, where we addressed 3 clients over the age of 60 for an interview. One interview was with two participants and the other with only one participant. In the following text, we will interpret our findings in the context of our research focus. We used open coding and the description method. For a better idea of the described findings, we took the liberty of quoting some statements of the participants in the text.

Importance of isolation during an exacerbated pandemic situation

Participants told us from the beginning that they did not notice any changes during the period of the increased number of positive cases of Covid-19 and that they were not very burdened by the overall problem situation. Nothing has changed in the retirement home and „Everything was fine".

During the negative test they could leave the facility on the basis of a signed exit form if they needed to go e.g. for a walk. The operation of the facility like all facilities and institutions at the time had stricter measures to prevent the spread of Covid-19. If the family and loved ones came, the client who wanted to visit him was not allowed to do so, and if they brought something to the client, they could only leave it behind the entrance gate.

„When someone brought something, it was only passed through the gate."

„If we have any problems, the caretakers will talk to us and remember what they can."

„One next to a very golden lady, we debated with her like this."

The importance of isolation for them was therefore seen in particular in the restrictions related to the ban on visits and measures such as wearing robes, hand disinfection, distances, etc. In order to describe the importance of isolation during a worsened pandemic situation for the clients of the mentioned facility, we will briefly describe how they perceive their stay. According to the statements of our participants, the overall perception of the stay in the classification is divided into two groups: One enjoys almost every activity in the facility in almost every circumstance:

„I am happy with everything";

he other group performs the tasks and activi-

ties they have because they have nothing else left but would rather live in a home environment: „We will do what they tell us and we still don't have anything on the robot, at least something. So what they give us, we will do it, but it would be better at home."

Isolation was spent differently by clients depending on whether they were positive for Covid-19 or not. Those who were positive were transferred to quarantine rooms, respectively. These were their rooms in which they were separated and could not leave. Food was brought to them regularly, which was basically the only contact they had at the time. Complications associated with being in a quarantine room were therefore solitude and the fact that they often had no one to talk to if no one in the room was quarantined with them at the time. Furthermore, these were also common things, such as providing ventilation, opening windows that some clients are not used to as this is usually provided by caregivers.

„I just had to open the window myself to make me feel better."

But when they overcame them; they did activities they don't usually do; they were happier; said they felt a little better. In the event that such clients have expired their quarantine, or in the case of clients who have been negative for Covid-19, they have not, in principle, experienced any changes and have spent most of their time indoors. „Cards sometimes, people play, or something they give."

3 Feelings of lonely seniors

Although some participants did not directly admit loneliness, they admitted that they lacked family and conversations with them. However, some clients do not feel alone, just because of the isolation caused by the pandemic situation, they basically perceive the isolation in the facility can be said permanently. However, as we have mentioned, some of the facilities are also said to be satisfied with everything, but the most pressing problem they feel is that their close family does not visit them, even if the situation allows, so they perceived the worsened pandemic situation almost as much as normal days:

„I haven't seen my family in a year, they live here and they won't even come to visit me."

It should be mentioned that some clients who went through the disease experienced this period without significant health complications and some experienced pain, coughing, non-control and other complications. As they say, it is „a very, very bad disease." During this period, they had to be in the quarantine rooms mentioned, where the only contact was often when the caretakers brought food to their room; where they still talked only for a while in compliance with established measures. They spent their time in quarantine, just breathing, and when they felt pain or a significant mental discomfort, they called a nurse who gave them medication and talked to them. An ordinary conversation was incredibly much for them, and they appreciated such an interview very much, because as they themselves state,

„We immediately felt a little better."

Thus, any interpersonal contact: a short conversation with the staff; a phone call with loved ones; an interview with another client in a facility with whom they got along well helped significantly in the feeling of loneliness, but also in health complications.

„My friend, I'll tell you all this; we'll tell each other everything; they'll advise me;

we'll talk about it; then it's a little easier for the soul that I'm sued, cried."

Often, however, clients can talk in such a confidential way only with friends from the facility or staff because some clients are not contacted by the family even by phone:

„I'm waiting for the phone and I'm thinking of my son, but he's not the one calling me."

They also perceived as a very positive effect on mental well-being the tone in which the nurse spoke to them, even in the case of pain or other suffering. The kind tone of the local nurse was supposed to have literally beneficial effects on the physical and health condition of the clients of this facility:

„The babysitter is very golden; she has such a very nice voice;

you really just have to hear and you are immediately relieved".

Telling the problems of a loved one and expressing the compassion of the person we call our troubles thus provides a way to overcome loneliness. Compassion is an understanding of the sufferings and problems one feels; it is basically compassion. In connection with the feeling of

loneliness, a pleasant society naturally helps the most. But compassion represents the creation of a warm atmosphere for a person who experiences loneliness and problems (Čáp, Palenčár 2012)

Approaches to healthcare

Access of seniors to healthcare in the facility has not changed significantly. The nurses and social workers handled all the necessary matters related to the equipment of the examination: „They'll take care of everything."

The waiting time for examinations was approximately one week which is the normal waiting time even if the worsened pandemic situation was not present. However, many patients allegedly did not undergo visits to the doctor during the worsening pandemic situation, and only those clients who experienced significant pain and difficulties went for the examination:

„He who was sick went."

The functioning of the outpatient clinic in Slovakia during the pandemic was still ensured, but it was recommended that patients, if possible, replace the personal consultation with the doctor by telephone and prescribe medication by doctors exclusively electronically. Examination by a specialist doctor at the time of the increased number of Covid-19 cases also did not require the issuance of an exchange ticket by a district doctor (https://www.health.gov.sk/Clanok?covid-19-15-10-2020-lekari-postup)

4 Retrospective view of the period of worsened pandemic situation in the facility

During the pandemic, clients had the opportunity to talk and discuss with clients from the facility and staff. If they were not positive: they liked to take part in social activities; they talked about their family, children, grandchildren; about recipes which they later had the opportunity to try. During the pandemic they: tried new recipes, exchanged information that was interesting to them; watched a program on TV together:

„We debated together, we boiled, we baked, we laughed, and then we missed the TV."

The Covid-19 pandemic has hit everyone and caused many inconveniences to people around the world. Nevertheless, there are also the „positive aspects of the pandemic", which gave people the opportunity to address things they did not normally do and thus experienced moments that had the potential to unite them a little more. It is at a time when everything is not quite right that people often find the true value of what they have and what is essential in life. Our participants are older people, but they are all the more aware of what is important in life even in the case of problems that affect us. The important thing is a cohesive family; strong interpersonal relationships; a kind understanding approach to a person in difficulty.

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Emerging Wake-up Call before next Pandemics as Apart of Medicine and Technology: We terribly need Social and Healthcare Workers

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Original Article

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Abstract:

Thousands of healthcare and social workers (HCSW) died or lost their ability to work in their field after Covid pandemics in all three waves, and thousands left their profession due to burnout syndrome. Despite development of vaccines took 6-18 months and refreshment of old molecules for treatment weeks, many countries paid a very high price for this pandemics not due to lack of medications or ventilator assistance devices but due to the increasing lack of trained HCSW.

1. Introduction

Three or four waves of coronavirus pandemics starting in December 2019 taking the next wave (on new epidemic within the pandemic) affected more than 5 million deaths within one year what is more than HIV pandemic within last decade. This appears in early phases despite refreshment of old medicines such as remdesivir, favipiravir within days and discussion and development within 6-12 months of chloroquine, ivermectin and colchicine previously designed MERS and SARS vaccines.

Several military or field hospitals have been built in days in Chine, the USA, the EU, Brazil, India, etc, and ventilation devices, masks were produced in days to weeks. All this was helpful but did not stop the pandemics as we can see in UK, Israel and other countries despite increasing vaccination activity and a high technology healthcare system.

Table 1 Estimates of the need of new HSCW, for 2022-25 in European Union

1. Nurses	155,000
2. Physicians	35,000
3. ICS specialists, physicians or nurses	20,000
4. Other paramedics	120,000
5. Medical technology for testing	25,000
6. Public Health for tracing, quarantining. etc.	32,000
7. Social workers	160,000

2. What are the reasons we won the battle but not (yet) the war?

As seen from Table l, and time framework, one important factor in the everlasting battles against various ID that cannot be organized in days or months - to develop enough qualified HSCW. Despite increasing the number of beds, ventilators, medications, etc. - to educate a social worker serving in senior or mental homes and social service facilities for the elderly; nurses qualified for high technology treatments such as ventilator support, ICU, etc,; mortality in many countries with perfect healthcare system with 10-20% of GDP investments into healthcare; even more to research of vaccines was unacceptable while in some regions of the EU like North Italy, France, Spain and the UK exceeded 10%. Education of HCSW take years, from 3 years for a Bachelor Degree in Social Work; nursing full time 4 years part time or specialized; 6-9 years for physicians; including importing technology; building field hospitals; registering active drugs.

We have forgotten, that medicine is not only technology but mainly vocation and art, and chronic infections are not only devastating to patients but also the staff and several suicides as result of burnout syndrome have been reported during the last 18 months of pandemics.

About 50,000 HSCW are leaving their service due to burnout syndrome; chronic fatigue; depression; absence of end-of -the tunnel lights.

3. Wake up call to educators or governments-investments to human resources education

Who is responsible that we oriented our battle only to short term roles - how to emergently treat; how to bring more ventilators; build field hospitals. Nobody but all of us. Long term strategies are always at the end of any pandemic response. This is not to criticize excellent work of research and pharmaceutical industry or flexibility in building hospitals or provisional beds. This is only to make wake-up calls to governments and subsequently the academia to prepare any healthcare system to long war - we celebrate 200 years of vaccinations and 100 years of the worst pandemics in Europe “Spanish” influenza, which killed more than died in WWl. We must convince the authorities that human resources are crucial in victory and that it may take years to replace

those who either died serving the sick as heroes (only in Italy 200 physicians and 600 nurses and paramedics died in 2020 during the first wave. But we must replace or at least rotate those who are leaving or going to leave the healthcare and social facilities. EU estimates the need of 125,000 new HCW, and social workers in next year only to replace those losses. In addition, we have to do long-term investments to rehabilitate those with postcovid or chronic fatigue syndromes to convince them (or foreign or migrant students) to return to their work, since their experience from first waves is extremely valuable. If we start to accept this wake-up call now, please be patient, the first new "fighters against pandemics, to treat, care, trace, test and do all valuable parts of the everlasting battle of next pandemics will not appear earlier than in 3 years. Therefore, starting the education campaign and attracting and opening the doors of our colleges and universities for the students for nursing, social work, medicine and paramedics was the role of yesterday, and latest today.

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Elderly Anticoagulated Patient in General Dental Practice Case Reports from everyday Life

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Original Article

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Abstract:

The anticoagulated elderly patient represents a major and sometimes dreaded challenge for the dentist on a daily basis, as postoperative bleeding can lead to serious problems, especially during dental surgical procedures.
Knowledge of the various anticoagulants with regard to type, mode of action and influences on dental surgical procedures is indispensable for the dentist.
Using case studies from the everyday life of a dental practice in a small town in Thuringia, this problem will be examined in more detail.

Introduction

Due to demographic change, the number of older people in Europe is steadily increasing. Advances in medicine and pharmacology are leading to longer life expectancy. Advances in dentistry in recent decades have also led to the fact that even very old people still have enough of their own teeth or have excellent prosthetic care on abutment teeth and implants. These patients often have cardiovascular risk factors, which usually require lifelong use of oral anticoagulants and antiplatelet drugs. It is estimated that in Ger-

many more than one million, approx. 1% of the population, are treated with anticoagulant drugs. (Al-Nawas, 2018) The older, anticoagulated, previously ill, often insecure and anxious dental patient requires an even more sensitive approach with regard to anamnesis and treatment. It thus represents a major and sometimes dreaded challenge for the dentist on a daily basis, as postoperative bleeding can lead to serious problems, especially in dental surgery. Thus, the dentist is challenged to protect patients from thromboembolic complications on the one hand and to avoid threatening bleeding on the other. (Al-Nawas, 2018) The basic prerequisite for this is knowledge of the type and mode of action of the various anticoagulants, their influence on dental surgical procedures and careful anamnesis and information of the patient.

The problem of the orally anticoagulated patient with his increased risk of suffering a clinically relevant secondary hemorrhage during surgical interventions is currently the subject of controversial discussion; the current literature presents a heterogeneous picture. In general, the risk of a newly occurring thromboembolic event must be weighed against the risk of uncontrollable bleeding as a result of surgery under existing anticoagulation. This individual risk assessment is of particular importance in elective dental procedures. (Kämmerer & Al-Nawas, 2013)

The author has been working as a dentist in her own practice since obtaining her license to practice dentistry in 1993 at the Friedrich Schiller University of Jena, followed since 1996 by a period of residency at the dental practice van der Veen, Emlichheim,. She has a wealth of professional experience and has been studying the subject in depth since October 2019 as part of her PhD studies at Saint Elisabeth University in Bratislava. In a scientific study, she is comparing the pre- and postoperative management of dental surgery in patients with vitamin K antagonists and antiplatelet drugs (control group) and patients with NOAKs (comparison group). A high level of knowledge about anticoagulants can thus be considered to be given.

All patients were informed about the anonymous collection of data by means of an information sheet and always agreed, often even were pleased, to be part of a scientific study and willingly gave their consent for photographic documentation. Gender, age, underlying disease, medication, type of surgery, pre- and postoperative procedure and the course of healing were recorded. Within the framework of this study, the following interesting cases were documented, among others, which reflect everyday life in the dental practice.

Oral anticoagulant medication

Anticoagulants & antiplatelet agents

An overview of the current oral drugs for inhibiting blood clotting is shown in the following table (modified from Lambrecht & von Planta, 2018) and the S3 guidelines of the DGZMK (Deutsche Gesellschaft für Zahn-, Mund- und Kieferheilkunde (DGZMK), Deutsche Gesellschaft für Mund-, Kiefer- und Gesichtschirurgie e.V. (DGMKG) August 2017). It is particularly important for the dentist to assess and evaluate the risk of bleeding before the procedure in order to develop safe management for wound care.

NOAKs

In the last decade, newly added drugs, NOAKs (= New Oral Anticoagulants) or DOAKs (= Direct Oral Anticoagulants), are increasingly replacing phenprocoumon and warfarin therapy, as these have: a lower risk of intracranial hemorrhage; take effect quickly; have a shorter half-life; is no need to check the INR value. This results in considerable advantages for the patient. They act selectively on a coagulation factor (II or Xa); are at least equally effective with fewer bleeding complications; have fewer interactions with pharmaceuticals or food; do not require regular coagulation checks. (Karow & Lang-Roth, 2020) On the other hand, the dentist, lacks the parameter to assess the risk of bleeding, (still) the anti-dot (only for Pradaxa, see below, others in testing) and the clinical experience with these drugs. A recent clinical trial looked at simple extractions only and concluded that there was a lower risk of bleeding with the NOAKs compared to warfarin. (Caliskan, Tükel, Benliday, & Deniz, 2017)

The number of studies on these drugs is still low, the S3 guidelines of the DGZM are based on few clinical studies and partly contradictory recommendations.

„Therapy should be continued for simple den-

Active substance	Trade name	Indication	Mechanism of action	Control, Antidot
Phenprocoumon, Warfarin	Marcumar®, Falithrom®, Coumadin®	Thrombosis prophylaxis, VCF, CHD, embolisms, HI	binding to the enzyme „vitamin K epoxide reductase" and inhibition of the carboxylation of glutamate	INR Vitamin K
Acetylsalicylic acid	Aspirin®, ASA ®	KHK, APVK, thrombosis prophylaxis	COX-1 inhibition and inhibition thromboxane A2 synthesis	none
Thienopyridines (clopidogrel, Prasugel)	Iscover®, Plavix®, Efient®	PVAK, acute coronary syndrome, prevention of atherothrombotic events (HI,apoplexy,), often in combination with ASA after fibrinolysis, coronary stent surgery or VHF	Irreversible inhibition of the platelet ADP-P2Y12 receptor	none
Ticacrelor	Brilique®	Dual therapy in combination with ASA for the prevention of atherothrombotic events	Reversible inhibition of the platelet ADP-P2Y12 receptor	none
Dabigatran (NOAK)	Pradaxa®	Prevention of venous thromboembolic events and apoplexy, pulmonary embolism, deep vein thrombosis	Competitive and reversible binding to thrombin, blockade of the conversion of fibrinogen to fibrin	Idarucizumab (Since 2016)
Rivaroxaban (NOAK)	Xarelto®	Prevention of venous thromboembolic events and apoplexy, pulmonary embolism, deep vein thrombosis	Direct, reversible and selective inhibition of factor Xa	Andexanet alfa(Test phase Since 2019)
Edoxaban (NOAK)	Lixiana®	Prevention of apoplexy, systemic embolism, therapy of deep vein thrombosis and pulmonary embolism	Direct and reversible inhibition of factor Xa	Andexanet alfa (Test phase Since 2019)
Apixaban (NOAK)	Eliquis®	Prevention of venous thromboembolic events and apoplexy, pulmonary embolism, deep vein thrombosis	Direct and reversible inhibition of factor Xa	Andexanet alfa (Test phase Since 2019)

tal surgical procedures in the compressible area". or

"For simple dental surgical procedures in the compressible area, therapy can either be interrupted for a day or also continued"

(Deutsche Gesellschaft für Zahn-, Mund- und Kieferheilkunde (DGZMK), Deutsche Gesellschaft für Mund-, Kiefer und Gesichtschirurgie (DGMKG) , August 2017). (DGMKG) , August 2017)

Case presentations

Case 1 – Phenprocoumon (Falithrom®)

In an 83-year-old patient who was being anticoagulated with phenprocoumon (Falithrom®) for heart valve replacement, the endodontically treated, longitudinally fractured tooth 36 had to be removed by a relatively difficult extraction with multiple root separation after administration of cefuroxime 500 for antibiotic prophylaxis and bridging with Clexane in consultation with the general practitioner at an INR value of 1.4. After careful curettage of the alveolus, gelaspon was inserted and the wound edges were fixed with mattress sutures.

The check-up on the next day and the day after showed an extensive cheek hematoma and a regular coagulum, the patient had no pain. 7 days postoperatively, the patient presented for suture removal reporting a „growing blister" in the wound area and nocturnal bleeding for 2 days. There was a massive, exuberant, infected coagulum in the area of alveolus 36.

After renewed antibiotic prophylaxis with cefuroxime 500, preparation of a bleeding plate and conduction anesthesia, the coagulum was removed, the alveolus was curetted, the wound edges were freshened and closed with a mattress suture. The patient was instructed to wear the plate for 10 days postoperatively until the sutures were removed. The wound healing was then without complications, so that the suture material could be removed on the 10th day postoperatively.



Case 2 – Rivaroxaban (Xarelto®)

A 75-year-old female patient taking Xarelto for condition after pulmonary embolism presented with deeply fractured teeth 24 and 27. On the day of presentation she had not yet taken the drug, an appointment was made for the following day and the patient was instructed not to take Xarelto on that day either. The procedure was known from previous treatments. After gentle removal of the fractured teeth, the wounds were treated with gelaspon and a mattress suture. The healing process was without complications and the suture material was removed on the 7th day postoperatively. Only an extensive hematoma of the cheek caused the patient concern with subjective well-being. These could be eliminated in an informative discussion.



Case 3 – Apixaban (Eliquis®)

An 87-year-old female patient, who was treated with Eliquis due to a past apoplexy, came to the practice with pain in her right lower jaw. The findings required the removal of the last, partly deeply destroyed teeth 42, 43, 44. The existing denture was immediately extended and converted into a wound plate. After consultation with the treating family doctor, Eliquis was discontinued for 24 hours and an extraction appointment was arranged. The removal of the teeth was unproblematic, the alveoli were treated



with mattress sutures, the extended denture was fitted, and the patient was instructed to wear it until the follow-up and re-presentation day. The now total, poorly retaining denture in the lower jaw posed a major problem for the patient. Tongue and finger play manipulated the wound area to such an extent that the patient visited the practice again 2 hours postoperatively with secondary bleeding. After anesthesia, the wounds were again excochleated, sutured and gelaspon inserted. The patient was again told to wear the prosthesis at all costs. 7 hours after the operation, the patient came to the consultation for the third time. Without a prosthesis, with her fingers and cellulose in her mouth, which immediately removed the fibrin that had formed. No real postoperative bleeding could be detected. Nevertheless, a bleeding plate was made by means of a miniplast splint and the patient was prescribed prosthesis abstinence. The plate covered the entire lower jaw and thus prevented further tongue and finger play as well as influences from food intake. The further healing process was regular. After removal of the suture material, the prosthesis was reinserted.

Case 4 – Edoxaban (Lixiana®)

A hitherto unknown 83-year-old patient with pain in the area of the right lower jaw that had been persisting for days presented himself to the agency between the holidays at the turn of the year. The medical history revealed medication with Lixiana due to atrial fibrillation, the treating GP was not available. Together with the patient and his wife, the discontinuation of Lixiana and the preparation of a bleeding plate as well as an extraction appointment of the severely periapically inflamed tooth 46 were arranged due to the acute pain.The following day, extraction, careful curettage of the alveolus, insertion of gelaspon, mattress suturing and insertion of the bleeder plate took place. On the 1st day postoperatively, the wound conditions were irritation-free and regular, and the patient was pain-free. The removal of the suture material was done by the family dentist.



Case 5 – Dabigatran (Pradaxa®)

In a 72-year-old patient treated with Pradaxa due to deep vein thrombosis, the periodontally destroyed teeth 32-42 had to be removed. As this was a light serial extraction with a low risk of bleeding, it was not necessary to discontinue Pradaxa. After intraligamentary anesthesia, the severely loosened teeth were removed. The existing denture was extended immediately and thus served as a wound plate.

The healing process was completely free of complications.



Discussion

As already mentioned, the elderly anticoagulated patient in the dental practice presents the practitioner with great challenges on a daily basis. If the patient and the medical history are known and there is good cooperation with the general practitioner, the risk of postoperative bleeding after dental surgery can be well assessed and acted upon accordingly. However, cases 1 and 3 in particular show that complications can occur despite careful adherence to the guidelines and lege artis treatment. Both cases kept the entire practice team busy for 5 and 7 hours respectively, thus considerably disrupting the consultation schedule.

In case 1, it turned out afterwards that the patient had started taking Falithrom again on his own authority on the day after the extraction, but continued to inject Clexane at the same time. A more thorough discussion at the agreed follow-

up appointment should have brought this to light.

In case 3, the very elderly patient living alone was completely overwhelmed with the overall situation and only calmed down after the hemophiliac plate was inserted. Extending and remodeling existing dentures in the course of tooth extractions is the usual procedure and leads to success in most cases, as case 5 shows.

Conclusion

A thorough medical history, patient education and knowledge about the different anticoagulants are indispensable in advance. If possible, contact should be maintained with the attending familiar doctor. It often makes sense, especially with older patients, to include the accompanying person or to question the patient's living conditions.

Extractions should be carried out gently, osteotomies should be avoided and the alveolus should always be thoroughly curetted.

Post-operatively, the dentist has good means of minimizing the risk of post-operative bleeding and wound healing disorders with gelaspon or collagen inserts, adaptive suture techniques and the bleeding plates or remodeled dentures.

The patient should be given a telephone contact at the end of the consultation.

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Stress Resilience in Special Operations - Simulation-based Counter-terrorism Training from a Communication Perspective

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Abstract:

Master students of the part-time study program in the winter semester 2020/21 Crisis & Emergency Management successfully complete the study module Operational Medicine 18F for the first time. Furthermore, participants from the professional groups of the health service, aid organizations, specialized police forces, the German Armed Forces as well as mission and outreach workers were represented in South Germany.



Figure 1: Interdisciplinary work by medics, firefighters, police and military.
Photo HS- Fresenius

Introduction

The advanced training and the study module: "Emergency Medicine - Survival - Tactics - 18F" is focused towards people with prior medical knowledge as first responders up to emergency doctors to prepare them for missions in possible potentially dangerous situations. Within the compact 3.5-day course/study module at the Fresenius University of Applied Sciences, Idstein Germany, participants and students are prepared through training and interdisciplinary instructional discussions to be able to handle emergency situations in compliance with tactical and medical principles during the course as well as on the job.



Figure 2: Field medical first aid is only possible together.
Source photo HS- Fresenius

In 3.5 days, stress resilience is constantly researched in relation to the course/study module in special operational situations, as well as specifically addressed in teaching. The term resilience is described from the Latin "*resilire*" as bouncing back or rebounding. This describes resilience in its dimensions: physical willpower; vital constitution; adaptability; self-preservation. The dimensions mentioned are hormonally balanced in the human body and regulated according to the situation (Selye, H. 1950). This observation is done by means of questionnaires to participants in the study. Vital parameters are recorded via a 72 hour live heart rate measurement and venous blood gas analysis. Exercise parameters: Cortisol,

a-amylase and testosterone are obtained from saliva samples taken from the participants (Merkt Ph., 2019). These are processed in the laboratory using apparatus diagnostics and measured using ELISA (enzyme-linked immunosorbent assay). The adaptation reactions are divided into 7 categories (Stadelman J., 1998). These categories are instrumentally determined by cognition in complex situations, decision-making and acting under stress. In the 18F course, these areas of exploration are observed in an interdisciplinary manner on the individual persons as well as recorded and evaluated in an intergroup comparison.

Group integration in special situations - using the example of the study module Emergency Medicine 18F, including narrative cooperation, comradeship, loyalty and pride. The identification of the job profile as well as the reputation within the occupational field, respectively the specialization (health: specialist & nurse/medical doctor; rescue service; emergency paramedic; paramedic;, fire brigade; machinist; weapon bearer police; personal protection Bundeswehr, etc.), also belong to these points:

1. Physical fitness, people who are physically fit, have a balanced diet and sleep are better able to cope with prolonged stress. Age and gender also play a role. In the research project of the Division of Emergency Medicine, this is measured at the beginning of the course with an initial measurement (1), rowing ergometry (2)

and based on the scenario (3) during the course.

2. Basic and advanced training, superior skills as well as absolutely safe mastery of weapons, rescue equipment and handling procedures. The contents of the 3.5 days on: command and control; staff work; rescue and extrication under enemy fire (CUF); advanced care of patients with blast, burn and gunshot injuries as well as the handling of scarce resources increase the operational success in special situations.
3. Hope and faith, conviction (patriotism, religion, prayer) as well as identity with the "vocation" represent a central focus. The time and place factor are also important, which should be foreseeable within the mission/assignment. Due to the simulation, the participants are exposed to a fictitious situation in Kyrgyzstan. This fictitious mission simulation is continuously underpinned by role-players. In addition, the 72-hour course teaches the psychosocial stresses of an individual and the group.
4. Own personality, self-esteem, confidence, humor, independence, loyalty, will to persevere and robustness in direct relation to resilience, as well as courage. Questionnaires based on an initial measurement (1), the rowing ergometry (2) and in the course of the scenario (3).
5. leadership / people in leadership responsibility, most course participants have a need for leadership. Good supervisors with leadership responsibility care about the group / departmental interests, but are also able to enforce their will with coercion or similar measures if necessary. The leadership processes were controlled by stress-driven miscommunication and factual information gaps over the radio. These were recorded and transcribed according to their emotional character.
6. Trust, is presented as a superordinate variable. The more positive the individual scores in the first six categories, the more likely it can be assumed that this superordinate variable is growing in general "subjective feeling".



Figure 3: Conciliation & de-escalation as well as planning far ahead is the life insurance of every emergency worker.
Source Photo: HS- Fresenius

Conclusion

Communication in prehospital patient care has so far played a subordinate role in the training of medical and non-medical staff. Yet it has a significant influence on patient care processes and patient safety. Incidents that have occurred due to miscommunication could be avoided in almost 30% of cases if effective countermeasures were taken (Wilk-Vollmann S, Siegl L, Siegl K, Hohenstein C ., 2018). In particular, the interaction between medical and non-medical staff shows deficits. In particular, unclear and stressful workflows with a risk to their own safety, as presented in the course Emergency Medicine - Survival - Tactics (Emergency Medicine - Survival - Tactics) (Merkt Ph., Wolz C., Gasmück J. (2018), pose a risk for incidents.

Patient safety can be increased and incidents minimized by means of uniform training concepts and established care schemes. In view of the current threat situation, this also includes the training of civilian rescue service participants in the basic principles of tactical medicine. Team and communication training should already be implemented in the training phase and the knowledge should be regularly refreshed in practical application. Debriefings should be part of everyday work and not only used in special cases. The routine that develops with this procedure helps to address critical situations and find solutions in case of serious incidents or disagreements in the team, but also to strengthen resilience in the team.

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Gender, Age, previous Myocardial Infarction, and Personality as Predictors of Anxiety in Patients after Myocardial Infarction

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Original Article

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Abstract:

Objectives: The first research objective was to study the prevalence of anxiety in patients after myocardial infarction; next objective was to investigate demographic and personality predictors of anxiety.

Methods: 100 hospitalized patients after myocardial infarction were studied. The Mini IPIP tool was used for the evaluation of personality characteristics and HADS-A scale was used for the evaluation of anxiety. Multiple regression was used as an analytical framework.

Results: The prevalence of significant anxiety among patients after myocardial infarction was high, almost one half of patients reported abnormal anxiety symptoms. Female gender, higher age, higher neuroticism and lower conscientiousness explain 66% of the variability of anxiety. Personality traits of extraversion, openness, agreeableness and previous myocardial infarctions do not show as significant predictors.

Conclusion: The prevalence of anxiety in the group of patients after myocardial infarction is high. Knowing predictors of anxiety is important for better provision of care.

In general, anxiety is defined as an unpleasant mental status that is accompanied by anticipation of threat; an individual is in a state of anticipation of danger and experiences a stressful situation (1,2). Anxiety often occurs in patients after myocardial infarction (MI) and affects their quality of life and overall status (3). The prevalence of anxiety in patients after MI is rather high; it is stated in up to a half of hospitalized patients (4–6). According to the authors (7), anxiety occurred in 10% of hospitalized patients after MI even at a higher level than in psychiatric patients with anxiety. The highest levels of anxiety are found in the first days after MI and decrease approximately after 3 or 4 months (7,8). According to the findings by the authors (9), the highest levels of anxiety in patients after MI were found at ICUs during patients' admissions and immediately after their transfers to the department.

Anxiety after MI is accompanied by: multiple complications; particularly recurrent MI or death (4,10); increased mortality and morbidity after revascularization after MI (11); longer recuperation (12); disability (13). Many complications occur already during patients' hospitalizations (14,15). Moser, *et al*. (14) confirm that anxiety is an individually related factor with occurrence of cardiac complications after MI independent of the influence by other demographic or clinical factors. According to many authors, it is necessary to study not only biological but also psychological factors because they influence morbidity and mortality, too (4,16).

After MI, anxiety is more common in women (6, 17). Some authors state a relationship between anxiety after MI and: severity of the disease; duration of hospitalization (18); a previous acute coronary syndrome (19); other intercurrence diseases such as diabetes mellitus; education and social support (20,21); a history of angina pectoris (6). On the contrary, Crowe *et al*. (7) state that anxiety in patients after MI assessed at different times does not relate to any demographic (gender, education, occupation) or clinical factors (severity of MI, previous MI).

A less studied research area in relation to anxiety in patients after MI is an influence of personality traits. Crowe, *et al*. (7) state that in 14% of patients after MI anxiety was present as their personality trait. Rodin *et al*. (22) state that anxiety was present in up to 16-25% of patients after MI before MI occurred in them.

Related to an assumed clinical significance of the occurrence of anxiety in patients after MI, further research is needed, particularly because of inconsistent results of the previous studies (23,24).

The first study objective was to study the prevalence of anxiety in patients after myocardial infarction. Next objective was to investigate demographic and personality predictors of anxiety.

Methods and Materials

Data Collection

Cross-section type of research plan was used. Hospitalized patients in the cardiology department with the diagnosis *Acute Myocardial Infarction* were studied. The sampling criteria were: being after coronary-graphic examination; hospitalization minimum 72 hours after MI; lucid consciousness; respondent's informed consent.

The sample consisted of 100 respondents, including 50% of men. The respondents' age ranged from 25 to 80 years (M_{age} = 54.58; SD_{age} = 14.6). For 16% of the patients it was the first MI; in 84% previous MI occurred; in 54% one MI occurred before; in 24% two MIs occurred; in 6% three MIs occurred before. Research was held from November 2016 to February 2017. Trained nurses and a psychologist administered the scales 72 hrs after MI. Research was conducted after the approval of Ethical Committee.

Instruments

Hospital Anxiety and Depression Scale (HADS) was used for assessment of anxiety and depression (25). This fourteen-item scale is assessing the mental state in the last week. One part of the scale – HADS-A was used for the evaluation of anxiety. A four-point scale was used. The sum of all 7 items was used in the analysis. For the anxiety levels, three levels were used: without anxiety (sum score 0-7); borderline anxiety (sum score 8-10); severe anxiety (sum score 11-21) (26). Validity and reliability of the instrument is well documented (27). The sum score with good reliability (α = 0.86) was used.

International Personality Item Pool (mini IPIP) was used for assessment of personality. The questionnaire follows Big 5 Theory for assessing 5 traits Neuroticism; Extraversion; Openness; Conscientiousness; Agreeableness. 20 items, 4 for each trait uses five-point liker scale were used (28). The sum scores show acceptable to good reliability (α = 0.63-0.88).

Table 1 Models of predictors of anxiety in patients after myocardial infarction

	R	Adj R^2	F	P
Model 1 (Gender, Previous myocardial infarction, Age)	0.549	0.280	13.70	<.001
Model 2 (Gender, Previous myocardial infarction, Age, Neuroticism, Extraversion, Openness, Agreeableness, Conscientiousness)	0.830	0.661	24.92	<.001

Legend: Dependent variable: Anxiety (HADS – Anxiety)

Table 2 Coefficients of predictors for Model 1 and Model 2

		B	SE (B)	β	t	p
Model 1	**Gender**	**0.451**	**0.144**	**0.277**	**3.130**	**.002**
	Previous myocardial infarction	0.165	0.101	0.156	1.645	.103
	Age	**0.019**	**0.005**	**0.331**	**3.388**	**.001**
Model 2	**Gender**	**0.473**	**0.111**	**0.290**	**4.250**	**.000**
	Previous myocardial infarction	0.117	0.073	0.111	1.612	.110
	Age	**-0.013**	**0.005**	**-0.228**	**-2.633**	**.010**
	Neuroticism	**0.099**	**0.029**	**0.365**	**3.430**	**.001**
	Extraversion	-0.034	0.023	-0.168	-1.515	.133
	Openness	-0.019	0.027	-0.073	-.728	.468
	Agreeableness	-0.020	0.019	-0.095	-1.081	.282
	Conscientiousness	**-0.072**	**0.028**	**-0.284**	**-2.588**	**.011**

B – the unstandardized beta, SE(B) – the standard error for the unstandardized beta, β – the standardized beta

Statistical Analyses

IBM SPSS Statistics 20 for data analysis was used. Descriptive characteristics and the means of multiple regression was used. Anxiety was used as dependent variable. Gender, previous MI, age, personality traits were studied as independent variables. The hierarchical version of regression analysis which evaluates independent variables in groups was used (29).

Results

47% of patients after myocardial infarction were classified as abnormal for anxiety, 29% of patients were classified as borderline and together 76% of patients after MI could be evaluated as anxious according to HADS-A criteria. The raw score of HADS-A was studied as dependent variable in all studied models.

In the first model where gender, previous MI and age were studied as predictors of anxiety in patients after MI was statistically significant ($F = 13.70$; $p < .001$, Adj $R^2 = 0.28$); variables explained approximately 30% anxiety (Table 1).

Anxiety was significantly predicted by gender ($\beta = 0.277$, $p = .002$) and age ($\beta = 0.331$, $p = .001$; Table 2, Model 1) with lower anxiety for younger patients and men. Previous MI was not a significant predictor of anxiety in patients after MI ($p = 0.10$).

In the second model, personality factors (of the Five-Factor model) were added to the 3 previously studied factors (gender, age, previous MI). Also this model was statistically significant ($F = 24.92$; $p < .001$, Adj $R^2 = 0.66$) and the studied variables explain 66% of anxiety in the patients after MI (Table 1). When personality variables were added to the analysis, the prediction of the model improved by ca. 38% and the change is also statistically significant ($p_{(F_Change)} < 0.001$).

As in the first model, gender and age are statistically significant predictors of anxiety. From the five studied personality predictors, anxiety was significantly predicted by neuroticism ($\beta = 0.365$, $p = .001$) and by conscientiousness ($\beta = -0.284$, $p = .011$; Table 2, Model 1). Higher anxiety is connected with low Conscientiousness and high Neuroticism.

Discussion

Anxiety after MI is a frequently studied issue. The results of various studies unambiguously confirm that the prevalence of anxiety is even higher than the prevalence of depression (7) in more than half of hospitalized patients after MI (4,5,9). According to Crowe *et al*. (7), up to 69% of patients after MI need an intervention to reduce psychological difficulties during their hospitalization. Sarkar *et al*. (6) confirmed anxiety symptoms in 48.5% of patients and anxiety as a disorder in more than 25% of patients after MI. In patients after MI, we found anxiety in 76% of the patients; severe anxiety was present in 47%; borderline anxiety in 29% of the patients. Our findings support statements by authors (7) who state that patients after MI are at risk of symptoms of mental illnesses. Furthermore, the authors state that anxiety in patients after MI is a barrier in follow-up care; they also emphasize the importance of psychological interventions with focus on early detection of anxiety (3,6,7).

The importance of psychological support in care for patients with cardiovascular diseases also is emphasized by the authors (11); they state that anxiety in patients after revascularization after MI closely relates to increased mortality and morbidity. The relationship between psychological problems after MI and cardiac complications also is stated by other authors (4,5); some of the complications occur already during patients' hospitalization (15). Moser and Dracup (30) specify that anxiety after MI relates particularly to ischemic complications and arrhythmia. In another study (14), regardless of other factors (such as clinical and demographic), they unambiguously support a relationship between anxiety and complications; specifically recurrent chest pain; ventricular arrhythmia; congestive heart failure; recurrent chest pain with ischemia; ventricular arrhythmia requiring intervention; recurrent MI.

In the next part, we analysed the relationship between gender, age and previous MIs and anxiety after MI. We found that all three factors together explain 30% of the variability of anxiety after MI. Female gender and higher age were proved as statistically significant predictors of anxiety.

In their findings, Sarkar et al. (6) and Young & Kahana (17) also state that anxiety after MI relates more to female gender. More frequent anx-

iety in females is stated also in other clinical samples of patients, for example after cerebrovascular accidents (27). Female gender was stated as one of the predictable risk factors for anxiety in patients after cerebrovascular accidents even 3 years later (31). Despite many studies, findings on the relationship between gender and anxiety in patients after MI are still inconsistent and require further research.

The studies focused on examining the relationship between age and anxiety after MI are lacking. In our findings, higher age appears as a predictor of anxiety in patients after MI. On the contrary, findings on anxiety in patients after cerebrovascular accidents show that the prevalence of the highest anxiety levels is in younger patients (27); therefore, further research in this area is necessary.

Our findings do not prove previous MIs as a statistically significant predictor of anxiety after MI. The same findings are stated also by Crowe *et al*. (7).

In the second part of the analysis we studied other predictors of anxiety after MI. We added the personality factors of the Five-Factor model to the 3 studied factors (gender, age, previous MIs). We used the recommendations of authors (32) who state there is a lack of studies focused on examination of psychological factors related to adherence in patients with acute coronary syndrome; furthermore, they found that personality is a key factor contributing to non-adherence. In our study, we found that such related factors (gender, age, previous MIs, personality traits) explain up to 66% of the variability of anxiety after MI. From the five studied personality traits, higher Neuroticism and lower Conscientiousness appear as predictors of anxiety in patients after MI. Based on these findings, we assume that personality influences morbidity and mortality (3,4). This finding can relate to the fact that anxiety can be present in up to 16-25% of patients after MI before MI occurs in them (8), i.e. anxiety can result in heart diseases.

Conclusion

Patients after MI often experience anxiety which appears as a problem in care. We found no negligible relationship between anxiety and female gender, higher age, and personality traits Neuroticism and Conscientiousness. These predictors explain possible anxiety after MI. The identification of these predictors is helpful for early detection of anxiety after MI followed by early interventions for its reduction. Further study on other demographic, clinical and psychological predictors in mutual combination is highly recommended.

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Conflict of interest

We state there are not known conflicts of interest for any of the authors.

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The Impact of the Sars Cov-2 Pandemic on the Mental Health and Well-Being of Seniors in Social Care Facilities

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Abstract:

The research study analyses the effects of the Covid-19 pandemic and identifies changes in the life satisfaction of seniors in social services facilities. The research sample consisted of 79 seniors in social services facilities, the sample consisted of ten participants, data collection took place in the period from November 2020 to April 2021, where the method of qualitative research was used in empirical research, through semi-structured interviews to determine the impact of Covid-19 on We collected the data collected by open coding and pointed to those dimensions of the lives of seniors that were most marked by pandemic measures against the spread of Covid-19.

Introduction

Due to the rapid growth of COVID-19 cases, many countries have activated emergency plans and developed guidelines to control the disease and defend public health through social distancing interventions, such as suspending cultural and free time activities, travel restrictions and isolation of social care services inside the facility (Santos, 2020). As lockdowns across the world change the day-to-day life of billions of people, the world has had to adapt to the changes. Especially, there are negative impacts on the well-being of seniors in the social care centers. The pandemic takes a long time that we can figure out the impact of the coronavirus pandemic on seniors and social services knowing the actual situation.

As of 31 December 2019, a total of 5,452 social service providers were registered in the Slovak Republic, of which 697 (13%) were semi-established or established by a higher territorial unit and 2,439 (45%) were non-public providers. Municipalities and social service providers established or established by municipalities have the largest share in the provision of social services (up to 42% 2,316), which is mainly due to the municipality's self-governing activity in providing care services, for which 969 "municipal" providers are registered (MPSVaR SR, 2019).

As of 31 Dec. 2018, there were 5,450,421 inhabitants in the Slovak Republic, of which 55,994 recipients (1.0%) were provided with services in 1,372 selected types of social services facilities established by the municipality, a higher territorial unit or a non-public provider. In 2018, there were 51,908 places in all monitored types of social services facilities in the Slovak Republic, of which year-round care was provided in 44,406 places (86%), weekly care included 615 places (1%), day care 6,885 places (13%). Of the total number of seats, up to 47,520 seats (91.5%) are OPIO facilities with a dependence on social services (MPSVaR SR, 2019).

Impacts of coronavirus SARS CoV-2 on the well-being of the seniors

The rapid transmission of the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) and high death rate could exacerbate the risk of mental health problems and worsen existing psychiatric symptoms further impairing their daily functioning and cognition (Yuan Yang, Wen Li, 2020).

The COVID-19 pandemic has had huge effects on the daily lives of most individuals in the first half of 2020. Widespread lockdown and preventative measures have isolated individuals, affected the world economy, and limited access to physical and mental healthcare. While these measures may be necessary to minimize the spread of the virus, the negative physical, psychological and social effects are evident (Van Jaarsveld, 2020). The spread of fear, anxiety and even panic influences not only emotional responses to current circumstances, but also leads to a worsening of pre-existing disorders which seniors suffer from (Lima *et al.,* 2020)

Studies have suggested that the psychological effects of this crisis and the prolonged lockdown includes increased stress, anxiety and depression (Sigdel, Bista *et al.,* 2020) the pandemic situation has caused difficulty accessing healthcare resources for non-COVID related problems resulting in higher risk of poor outcomes for those suffering from other diseases (Tam CF, Cheung KS,2020). The disruption of daily life activities, exercise routines and social therapies, and widely imposed social isolation are all likely to have a large effect on the well-being of elderly people (Rottermund *et al.,* 2021).

Studies have shown that depression in the elderly is linked the subsequent cognitive decline, and risk of Alzheimer's Disease (Sachs-Ericsson *et al.,* 2005), loss of socialization, increased mental strain result in general mental health problems (Van Jaarsveld, 2020), and decreased ability to think positively and find the sense of the life. Long-term isolation can be worsened by the physical limitations put on the movement of individuals outside due to lack of physical activities and exercise that keep mind and body healthy.

The ability to remain in contact with friends and family via online video chat tools may also offer individuals more socializing opportunities to avoid loneliness (Van Jaarsveld, 2020) This is also important for the seniors isolated in the social care centers. Access to, and ability to proficiently use technology is much lower in older populations than in younger adults (35,36). This uneven distribution of technological access and skill is known as the digital divide, or the gray

digital divide, and researchers have suggested it has continued to increase as the rate of technological innovation speeds up (Paul G, Stegbauer, 2020). This results in a paradoxical situation in which the population most affected by the lockdown is also the population least helped by the digital tools aiming to mitigate the negative effects.

At the same time, face-to-face interactions with friends and family outside the household will reduce to near-zero if social distancing measures are effective. This could cause considerable distress for those unable to visit elderly and vulnerable family and friends outside the home for a period that could last several months. And, these are also the social groups least likely to be able to make use of technological solutions for connecting remotely. Overcoming such digital divides will be critical to reduce the isolation and loneliness that many people in vulnerable groups already suffer and which could be badly exacerbated by COVID-19. The risks of social isolation and loneliness for both physical and mental health are considerable (Klinenberg E., 2016; Pantell *et al*., 2013; Holt-Lunstad, Smith & Layton, 2010) and need to be addressed by policy measures, for instance through regular check-ins by social services, civil society and volunteers.

The perception of the measures due to the pandemic is linked with social and psychic trauma including protcovid syndromes. Seniors are more likely to feel depression, suffer from obesity, addictions, pharmacy and they become more dependent on the care of workers in long-term facilities. This may have devastating effect due to isolation of elderly and negative impact on their mental health (Radi, Bundzelová, Olah, Muss, 2021).

Significant pathologies and numerous complications occur in the nervous system. The most dangerous is a stroke especially in the elderly and people with multiple diseases. So-called mild symptoms, which are very important for quality of functioning and quality of life, are: brain fog; concentration; impaired short-term memory; confusion also recorded. These pathologies may persist for a longer period after the infection has passed (Taquet *et al*. 2021, Šramka *et al*. 2020) and are often accompanied by anxiety and depression.

Older people have significantly reduced their physical activity in line with recommendations of anti-virus experts and following information from the media. The vast majority have changed their behavior so far, increasing the sedentary lifestyle even more (Rottermund *et al*., 2012). It can lead to the worse level of well-being as well.

Olah (2016) highlights the key role of the professional workers in the facilities to decrease these negative impacts linked with the coronavirus pandemic by face-to-face communication and using holistic approaches and supporting social work methods. The ability to maintain contacts with the social environment plays a key role in the extent to which the older person is able to cope with sudden changes and better adapt to a new social environment (Tománek, Mátejová, 2019).

Methods

Objective of research

The main objective of the research is to determine and identify the extent of the impact of Covid-19 on seniors who have survived pandemic measures in the long-term care facilities for the elderly. The research aim is to identify and analyze changes in the life satisfaction of seniors during the two periods of the coronavirus pandemic in 2020 & 2021.

The research is based on the following research questions:

RQ1: How did seniors perceive and experience the "first wave" of SARS CoV-2 in April-May 2020?

RQ2: How did seniors perceive and experience the "second wave" of SARS CoV-2 in November 2020-April 2021?

RQ3: Which dimensions of senior life have been most affected during the pandemic waves?

The nature of research: Data collection was carried out in the district of Spišská Nová Ves in a residential social facility taking care of the elderly. The facility provides social services for people who have at least IV. level of dependence on social care or for persons who have reached retirement age and need the provision of social services for other serious reasons. The capacity limit of this care center is for 149 seniors in need. The study was carried out in the field in a qualitative way, we used a semi-structured interview

to gain deeper understanding of the research problem. To know more details on the concept of qualitative research the study is based on the material from authors Neuman (2006), Hendl (2008), Radková & Ludvigh Cintulová (2018),

Sample: The sample consisted of 79 seniors who were willing and competent to answer the questions due to their medical condition. The determination of the sample size was based on the saturation point, in addition, for its binding and purposefulness. The sample was deliberately selected on the basis of these criteria:

- selection of participants who described their life situation clearly and without embellishments,
- taking residential care for more than 3 years,
- physical & mental competences
- the ability to answer questions and to understand them clearly.

We conducted an interview with ten participants (P), whose description shows the following table:

Interview No.	First alphabet of participants name	Code
1	M (woman)	P-M-1
2	A (man)	P-A-2
3	D (woman)	P-D-3
4	F (woman)	P-F-4
5	F (man)	P-F-5
6	G (woman)	P-G-6
7	Z (woman)	P-Z-7
8	E (man)	P-E-8
9	J (man)	P-J-9
10	R (man)	P-R-10

Data collection: We carried out qualitative research through a semi-structured interview concerning the research questions. We recorded the responses on an audio system, used literal transcription, and in the individual sequences and in the interpretation of the results, we present a combination of literal transcription and a summary protocol, according to Hendl (2008).

Data analysis and ethical aspects: The collected information was analyzed by a method of open coding in which we determined in the next step the categories, dimensions resulting from the interpreted interview. We used an alphabetical designation and the interview number as a coding mechanism to ensure the anonymity of the participants. The topic of pandemic measures is a sensitive and often discussed topic from the point of view of seniors. It was therefore necessary to consider some additional issues, which mainly concerned their family members and they were particularly sensitive.

Data analysis: transcription

Field research through the interviews have shown that the perception of the first wave of SARS CoV-2 and the pandemic situation in older people was surrounded by curiosity and incipient initial fear, while this fear was demonstrably higher for women. The women showed more fear and increased caution and interest in their family and relatives who were in home environments. The participant (P-D-3) stated that:

"*... the worst thing is the impossibility to help them and they will not get scared or accidentally ... and how small children will manage it as well ...*"

The participant (PZ-7) said that:

"*... she has information about the severe course of the disease and the hospitalization of family members and is therefore angry that she cannot visit them and help them in any way "... However, she added that she is " ...no good now that he won't meet them because he's worried about his life ... "*

"*... I cannot imagine that I should go among the sick ... I would surely die ...*" (P-G-6)

Rather, the men expressed interest and concern about how the pandemic and related measures would continue ....

"*... Who knows if it will spread more among our old people, or if children and young people will go to the other world ...*" (PR-10)

"*... 'm glad I'm locked up here so the disease gets to us less ... only if it's brought by nurses ...*" (P-A-2)

However, most of the participants managed the situation relatively well ... (P-M-1, P-A-2, P-D-3, P-F-5, P-E-8, P-R-10). According to the statement of the participant (PG-6):

"*... we walked a lot, because spring came we started doing in the garden ...*"

The participants (PF-4, PD-3) said:

"... we also started sunbathing , it was great heat, we just thought it would go faster .... "

"*... I was not very worried because our retire-*

ment home protects because we were in isolation ..." (P-F-5)

When asked what form of contact with loved ones and family members they preferred, the participants clearly mentioned the online meeting. Here are some answers*:*

"*... I saw my whole family on the computer three times a week, it was more than if they had to come here under normal circumstances ...*" *(*P-F-4)

(P-M-1) "*... at least we learned to do more on the computer and we had no problem ...*" (P-E-8): "*... grandchildren are clever and so they taught me everything via computer, now I can turn on a movie and a video from YouTube ... or whatever it's called ...*"

The perception of the second wave of Covid-19 disease and the rapidly changing pandemic measures of the Slovak Government was more stressful for seniors also due to contact with the disease that occurred in the facility. The sad and very stressful experience of this period by seniors was also caused by the upcoming Christmas holidays and relatively bad weather.

As the participants stated (PG-6, PZ-7, PM-1):

"*... these were the worst holidays of my life when I see myself with children and grandchildren only on TV ...*"

"*... No one could come and no one he could not send us anything ...* "(PJ-9, PE-8)

"*... Also that we had a Christmas tree and all customs preserved ...*" (P-A-2, P-D-3)

"*... Neither the priest... nor family... nor anyone... nor anything... could come*" (P-E-8)

However, most of the participants agreed that they became more afraid, as Covid-19 was diagnosed in the facility itself:

"*... so I didn't know if we could meet that neighbor ...*" (P-M-1)

"*... After all, we didn't even meet ... everyone lived in their bubble ...*" (P-A-2)

"*... This was probably the worst period of my life and I survived the war ...*" (P-Z-7)

"*... I hope this does not happen again ...*" (P-R-10)

"*... They also cancelled my planned operation and medical procedure ... so I started to worry about my life ...*" (PF-4)

"*... I just hoped that none of my family would die, they could get sick.... but not to die...*" (PJ-9)

The research was focused on the analysis of senior life situations and the areas that were the most affected by the pandemic situation (thus the two waves of Covid-19); the participants clearly agreed that there were mental, spiritual and physical aspects and participants were clearly dominated by fear and a sense of danger, expressing:

"*... dosed every day only in worse and worse ...*" (PJ-9, PF-4, PD-3, PG-6),

"*... mainly with negative media information that has been heard everywhere ...*" (PR-10, PA-2, PG-6, PE-8).

"*... I was already annoyed by the negative news on television, I turned it off ...*" *(*P-D-3)

"*... I was stressed that everyone was talking only about the crown, we could no longer talk normally, he always stopped talking about illness ...*" (P-Z-7)

"*... I was angry that we couldn't meet the family, and then when we were locked up at home, it was terrible ...*" (P-A-2)

"*... I also missed the pastor and Mass ... it's not that on TV ...*" (P-G-6)

"*... I wanted to go to confess normally but the priest could not come ...*" (P-M-1)

"*... We were very isolated and it mentally exhausted me ...*" (P-J-9)

"*... A man to be afraid to die, because there will be no one to bury him, and the family will not even ...*" (P-F-5)

Discussion

The elderly have been and are heavily affected by the pandemic. Based on research results, both waves of Covid-19 and pandemic situations affected the life satisfaction of seniors in social services facilities; negative feelings about pandemic have been increased by the increasing number of days and months of isolation from their families and loved ones.

The most affected areas of life, which the senior participants reported were: the mental health, connected with the increased level of fear; restlessness; even depressive states which would normally require professional help in ordinary and natural conditions. The mental state helped them to overcome contacts with their roommates, but these were interrupted based on the finding of the presence of the disease in the facility itself. However, a new trend has begun to meet loved ones and family members in online virtual space.

We can thus say that pandemic brought positive aspects in gaining digital skills for seniors who become able to use computer and IT-technology to stay in contact with their outside world. However, it is true that no one and nothing will replace close contact with family, children, grandchildren.

The study results have shown another dimension that has been affected by the pandemic- the spiritual dimension. Participants repeatedly stated dissatisfaction with the absence of the priest, with the impossibility of serving Holy Masses in the social care facility, confessing, and receiving Holy Communion. Seniors expressed fear of their own death, which was conditioned by the absence of family members at the ceremony itself.

Seniors mentioned the dimension of physical health as a third area affected by the pandemic, they have to face negative adverse media information regarding the covid-19 diagnosis, treatment, but also hospitalization itself and the consequences of Covid-19 as they have lack of critical thinking. Seniors feared quarantine measures until complete closure and isolation.

Conclusion

The pandemic situation and the Covid-19 disease itself required strict adherence to rules that required mental and physical resilience by seniors. However, seniors in social services facilities had to adapt their lives not only in the new environment, but also in new living conditions that have been changed. In the period during isolation, seniors need not only good access to basic life needs, but also to psychological and spiritual care, which lead to overcoming current problems, but also to preventing the emergence of new ones. Mental health promotion is therefore a key factor that determines a senior's ability to stay healthy and achieve well-being. It is therefore necessary to adapt the life of a senior to support emotional & spiritual as well as mental and physical health.

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Possibilities of Family Solidarity and Civic Participation of Actors in the Implementation of Social Services of Self-government

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Abstract:

From our point of view, the need for community planning as one of the new possibilities for improving social services in self-government is extremely important. We see the importance and contribution of the planning process for the whole local policy in the active involvement of all citizens and participants in community planning. Only if the citizens are sufficiently informed and involved in the whole process not only community planning makes sense, but also establishing cooperation and creating a network of mutual assistance in the village.

We agree with Demcak (in, Spisiakova, 2011), who states that the strategy of improving social services of each village assumes that local citizens know best how services should be improved. The task of the competent is to look for ways to improve their overall quality. Social Services Act 448/2008 Coll. brings the philosophy of quality of social services which lie in

greater variability; brings new types of services, require skilled workers, services that are closer to the citizens, preferably directly in their natural environment.

OBJECTIVES OF THE SURVEY

The aim of the survey was to identify opportunities for improvement and enhancement of social services through community planning in the village of Bziny.

We determined the objectives of the survey.

C 1: To find the level of awareness of citizens about social services in the village of Bziny.

C 2: Find the perception of citizens or a community plan on which the majority would cooperate would be beneficial.

C 3: Find the relationship between the highest achieved education and the interest of the respondents to actively get involved in community planning.

Table 1: With the concept of community planning of social services and community plan of the municipality in which I, as a citizen, can participate in the creation of social services:

Options	Statement in numbers	Statements in percentage
I've met before and I know what it is	16	9%
I've met before but it's not entirely clear to me	45	27%
I've met before but it's not entirely clear to me	90	54%
I do not care	17	10%
other	-	-
together	168	100%

SURVEY SAMPLE

We conducted the survey in the village of Bziny. We addressed exclusively the inhabitants of the village of Bziny in order to confirm the goals set by us. The selection of the survey sample from the village of Bziny itself was influenced by many years of work in the local government and also by the knowledge of this locality. Our survey involved 168 respondents, of which 95 were women and 73 men.

Community planning is still an unknown concept for most. From our survey, we found that up to 54% (90) of respondents answered that they have not yet encountered the concept of community planning and a community plan and do not even know what it is. This concept has already been encountered, but it is not entirely clear to them what it is about - 27% (45) of respondents.

10% (17) of respondents expressed disinterest in this issue and only a small number 9% (16) of respondents stated that they know what community planning is. The survey shows that if the village is preparing for community planning it will be very important to inform the general public about what community planning is and also about the possibility of involvement of the population.

Table 2: In order to decide which social services a community should provide, I would get involved in community planning

Options	Statement in numbers:	Statments in %	Men in numbers	Men in %	Women in numbers	Women in %
I would getactively involved in decision-making	32	19%	11	15%	21	22%
I would rather get involved than not get involved	97	58%	28	38%	69	73%
I would rather not be involved than involved	26	15%	23	32%	3	3%
I wouldn't get involved at all	13	8%	11	15%	2	2%
together	168	100%	73	100%	95	100%

We asked the question about the possibility of involving citizens in community planning. First, we present the overall result of the survey, then we divide the answers according to the gender of the respondents.As many as 58% (97) of all respondents met with the answer that they would be involved rather than not involved in the process; 19% (32) of respondents said that they would actively participate in community planning; 15% (26) of respondents say that they would not be involved rather than involved; 8% (13) would not be involved in the community planning process at all.

Table 3: I see a problem with the possibility to participate in the planning of social services in the municipality:

Options	Statements in numbers	Statements in %
In lack of free time	41	24%
Lack of information	95	57%
Lack of training and leadership	19	11%
I wouldn't get involved	13	8%

On this issue, we tried to find out what would prevent citizens from participating in community planning or what they see as a problem. The majority of respondents expressed the opinion that the biggest problem with the possibility of involvement in the planning of social services is the lack of information 57% (95); lack of free time see as a problem of 24% (41) respondents; 11% (19) of respondents believe that the biggest problem of the possibility of involvement could lie in a lack of training and guidance; 8% (13) of respondents would not participate.

We came to an interesting finding in this question in which the respondents had to express whether the benefit was a community plan in which the majority of citizens would participate. As many as 58% (97) of respondents think that it would be beneficial for citizens; 27% (45) of respondents the community plan would not be beneficial; 10% (17) of respondents could not comment on this topic; 3% (5) of citizens are convinced that would be beneficial but citizens have to get involved; 2% (4) respondents did not answer.

RECOMMENDATIONS FOR PRACTICE

Community planning of social services is a method that seeks to ensure the availability and quality of social services, taking into account the local specifics of the population, their real needs, in accordance with the financial possibilities of self-government.Based on the above results of the survey we propose certain recommendations for the practice in the village of Bziny:

- Approach to community planning in the municipality based on a social analysis of the needs of the population.
- Inform all potential participants in community planning about the whole process.
- Involve all residents and participants in the planning process.
- Provide opportunities to search for new volunteers.
- Involve volunteers as well as students of social work in various activities in the village not only in connection with social services in the village.
- Efforts to create partnerships at the village but also at the inter village level.
- Quality networking of the whole community.

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