



No. 5, Vol. 13, 2022

Editor-in-chief: Prof. DDr. med. Dr. habil Claus Muss Ph.D.

Including: Social Work, Humanitary Health Intervention, Nursing, Missionary Work

# CLINICAL SOCIAL WORK *AND HEALTH INTERVENTION*

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Source: Matus Valko, Kharkov, Ukraine

## *Bridge between Health and Social Interventions in Era of Instability* Original Articles

- ✓PSYCHOSOCIAL AND EDUCATIONAL REHABILITATION OF POST-WAR COUNTRIES
- ✓COLLAPSE OF HEALTHCARE PROVIDERS-MEDICAL AND PARAMEDICAL-HEALTHCARE STAFF AFTER LAST THREE YEARS OF PANDEMICS AND WAR CONFLICTS
- ✓ECONOMIC & TIME-VARYING CONSEQUENCES OF SMOKING ADDICTION AMONG NURSES ON WORK PERFORMANCE FROM THE ASPECT OF NURSING MANAGEMENT
- ✓EDUCATION OF FORMAL CAREGIVERS AS A PREDICTOR OF THE QUALITY OF INSTITUTIONAL CARE FOR DEMENTIA SUFFERERS
- ✓ASPECTS OF THE LEVEL OF DIGITISATION IN MEDICAL CARE IN GERMANY: DEVELOPMENT OF A TYPOLOGY
- ✓THE UKRAINIAN WAR'S IMPACT ON FOOD SECURITY
- ✓ORAL HEALTH STATUS IN ROMANI CHILDREN IN SLOVAKIA
- ✓POOR DENTAL HEALTH AS LEADING RISK FACTOR FOR NONINFECTIOUS DISEASES: ONE OF MAJOR WHO CONCERNS IN 21ST CENTURY (NOTE)
- ✓PHYSIOTHERAPY & PSYCHOSOCIAL REHABILITATION IN POSTCOVID & POSTCONFLICT ERA: NEW ROLES WITH SAME STAFF? (DISPATCH)
- ✓THE ISSUE OF HOMELESS YOUNG PEOPLE AS AN ALTERNATIVE OF LIFE – SUBJECTIVE EVALUATION OF LIFE ON THE STREET
- ✓THE BENEFIT OF SPORT FOR PEOPLE WITH DISABILITIES
- ✓PREDICTION OF DEATH ANXIETY BASED ON BODY IMAGE CONCERNS MEDIATED BY DISEASE PERCEPTION IN PATIENTS WITH BREAST CANCER
- ✓BRIDGES BETWEEN SOCIAL WORK AND HEALTH INTERVENTION (DISPATCH)

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### Impact factor

1. november 2019

1,21

**Subscription rates 2022, Vol. 13, No.5**

**Open Access Journal**

**Additional Information on Internet:**

www.clinicalsocialwork.eu

The journal works on the non-profit basis. All the published Articles are charged 300 EUR/USD with standard range wick cannot be exceed.

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## Editorial

# Psychosocial and Educational Rehabilitation of Post-War Countries

Source: *Clinical Social Work and Health Intervention*  
Page: 6–8

Volume: 13  
Cited references: 13

Issue: 5

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CSWHI 2022; 13(5): 6–9; DOI: 10.22359/cswhi\_13\_5\_01 © Clinical Social Work and Health Intervention

War conflict, its preparation, course and termination is a socially threatening continuum that requires the commitment and coordination of the entire society. Experiencing a war conflict leaves a significant impact on a person's physical, psychological and social health, even long after the end of war operations. However, it is not only about individual problems and the subsequent individual efforts to solve them, but also about the whole of society. If the military conflict takes place in a culturally diversified environment, then post-war rehabilitation also requires respect for cultural diversity. Therefore, post-war reconstruction plans must include not only the solution to the psychosocial consequences of the war, but also the rehabilitation of the entire society, in which education has a key position.

The professional guarantee of the post-war recovery of the company requires the functional cooperation of experts from various fields. In addition to experts from the fields of finance, economy, construction, transport, and energy, representatives of helping professions have an important mission in the rehabilitation of post-war countries. Their importance is accentuated, for example, in the area of identifying the impact of war on the socialization process and in eliminating the problems that war events left in it. The target category of the positive reconstruction of socialization processes in post-war countries is the restoration of humanism, solidarity, justice and social cohesion. These values are part of the professional equipment of all helping professions. The participation of helping professionals in post-war rehabilitation is irreplaceable.

Scientists have an irreplaceable place in building the post-war world. Their task is not only a scientific reflection of the problems

brought about by the military conflict and proposing solutions to these problems, but also the identification of preventive measures that would prevent a new war in the future. One of the key determinants of the emergence of prerequisites for war conflict is the existence of social tension and efforts to eliminate it through violent activities. Another prerequisite for the emergence of armed riots are long-term (sometimes also short-term) global, interstate, local, political, ethnic, or religious conflicts. The long-term inability or even reluctance to solve them on the part of social and political elites often develops into open armed conflicts with enormous economic but above all psychosocial consequences.

The existence of available psychosocial support during and after the end of the war conflict is an important condition for the psychosocial rehabilitation of post-war countries. Living and working in the post-war world creates all kinds of stressful situations. Their theoretical reflection and research are part of a social engagement that can bring about sustainable renewal and social functioning of post-war countries. The successful fulfillment of this challenge will be reflected in the functional social reintegration of all social groups. We could include children and youth, seniors, people with disabilities, or all residents of socially disadvantaged environments as social groups with a greater need to detect problems associated with their post-war reintegration.

The social reintegration of the inhabitants of post-war countries includes educational aspects as an immanent part. In order for education to make a positive contribution to the building of peaceful coexistence, it must identify and eliminate those aspects that could in the past, as well as potentially in the future, re-create foci of ten-

sion and the emergence of new ones, or old conflicts. Education, on the other hand, should be directed towards civil reconciliation as a necessary prerequisite for the post-war reconstruction of society. The challenge for educational policy makers as well as pedagogical workers in the mentioned context is to understand, explain and recommend changes in the system and content of education that would guarantee the peaceful nature of the educational process. The implication of critical thinking as a cross-sectional part of educational activities can become a transformative educational aspect from war to sustainable peaceful coexistence.

Psychosocial and educational rehabilitation of post-war countries should be based on the values of peaceful coexistence, on evidence-based concepts and sustainable development. Post-war reintegration and rehabilitation therefore requires a long-term and comprehensive approach of the entire international community. The primary role of academic and scientific research workers in this process should be to "help with facts", i.e. by providing objective, verifiable and justified scientific information, which, through its dissemination, will become a peace-building element in the stabilization of post-war countries.

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  13. JAKUB RAFAL BARTOSZEWSKI, PETER JUSKO (2022) Bridges Between Social Work and Health Intervention In. *Clinical Social Work and Health Intervention*, No 5, Vol. 13, 2022.

# Collapse of Healthcare Providers-medical and Paramedical-healthcare Staff after last Three Years of Pandemics and War Conflicts

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Source: *Clinical Social Work and Health Intervention*  
Pages: 9 – 11

Volume: 13  
Cited references: 12

Issue: 5

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## Keywords:

Exhaustion of HCW.

## Publisher:

International Society of Applied Preventive Medicine i-gap

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CSWHI 2022; 13(5): 9 – 11; DOI: 10.22359/cswhi\_13\_5\_02 © Clinical Social Work and Health Intervention

## Abstract:

This Editorial dispatch focuses on absolute shortage of health-care workers and their psychical and physical exhaustion with devastation consequences on healthcare providers and management of pandemics and health destruction within ongoing armed conflicts in Europe and Middle East, focusing on non prioritizing HCW versus healthcare infrastructure, vaccines medications, but putting both to the same level of priority.

## Introduction

Current Issue of Clinical social work and health intervention brings up another emerging issue for Direct Health Intervention, during the time of pandemics and war conflicts, in authors from Poland, Czech, Slovak, Ukraine, Germany, but not only central Eastern Europe but also US, Pakistan ( is 1-12) which can be linked together as

- a. general shortage of healthcare staff
- b. exhaustion of providers of health care
- c. economic „toxicity,, of pararely running two worldwide catastrophes-Covid Infection pandemic and armed conflicts to health infrastructure and HCW staff

Major emergencies: HCW staff and/or HCW infrastructure medicines, vaccines: versus or plus?

First at all, to ameliorate collapse of quantity and quality of healthcare staff, we have to focus on better financial acceptance of medical and paramedical staff in many Eastern Central European countries and Medium to Low countries worldwide. Not only in physicians, but also on nurses, medical technology and public health staff, rescue midwifery service etc. We need a first to accept more students for healthcare education in all levels, results will come in 3 years in nursing midwifery and physiotherapy, 6-9 years in public health and laboratory support and, so this is a long path however to crucial goal.

Second-we have to prevent them from burnout syndrome and total exhaustion during next waves of pandemics, ( not only COVID 19, but avian influenza, monkeypox, western nile and Marburgh viruses ect.) where depression, anxiety up to suicidal events (US, Austria, FRG) but also-deaths on real heroes-healthcare staff killed during armed conflicts on both sides trying to rescue what was possible to rescue...when Russian and or separatists invaded parts of Ukraine, Taliban returned back Afganistan, Azerbaijan to Karabakh region. Civil war „smolders,, still in Syria, Yemen etc. Those armed conflicts are extremely toxic for world economics globally, a damaging healthcare and social work infrastructure locally. Therefore financing healthcare and humanitarian help, eg food programmes within WFP provision is extremely difficult. There is a real threat that WHO and UN may stop due to economic toxicity of pandemics and conflicts erdi-

cation programme in Malaria, Neglected trop Diseases, TB and HIV in developing countries of Africa Southeast Asia.. and northern parts of Latin America.

## Conclusions

What should have priority? Human resources in healthcare or funding of health infrastructure and vaccines and medicines? The answer is both, although in conjunction of the word „priority,, seems linguistically contradictory. Healthcare Interventions supported with best technology and most potent vaccines and medications are useless without trained motivated healthcare staff, working in secure conditions. Therefore we shall not ask A or B, or A vs B but how to achieve A Plus B.

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# Economic & Time-varying Consequences of Smoking Addiction among Nurses on Work Performance from the Aspect of Nursing Management

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Source: *Clinical Social Work and Health Intervention*  
Pages: 12 – 17

Volume: 13

Issue: 5

Cited references: 21

## Reviewers:

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SAAaRMM, Kuala Lumpur, Malaysia  
Catherine Mulama  
Joshka, Kenya

## Keywords:

Nurses. Economic Aspect. Management. Smoking. Work Performance.

## Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 12 – 17; DOI: 10.22359/cswhi\_13\_5\_03 © Clinical Social Work and Health Intervention

## Abstract:

**Objective:** The aim of our study was to determine the impact of smoking addiction on nurses on their work performance and economic and time-varying consequences.

**Design:** Cross-sectional study.

**Participants:** The sample consisted of 381 nurses who worked in hospitals in Slovakia and the Czech Republic.

**Methods:** The data were collected through non-standardized questionnaires in the period July 2020-March 2021. The questionnaires were prepared in 3 versions according to the target sample for which they were intended.

**Results:** The financial loss caused by smoking during the working hours costs employer EUR 862.50 per smoking nurse per year and the time lost due to smoking takes up to 15 working days every year.

**Conclusion:** Managers are not interested in time lost due to smoking during working hours. Management's lack of interest or their indifferent attitude is alarming. Nurse managers should begin to perceive nurses' smoking as a limiting factor in nurses' work performance, given the shorter time devoted to the provision of nursing care.

## Introduction

Smoking is associated with significant economic consequences globally, including impairments in work productivity. In this article, we investigate the issue of smoking in relation to management in nursing and work-legal aspects. We would like to highlight the negative time consequences and economic loss caused by the smoking of nurses, and compare the opinions of the 3 groups of nurses on smoking during working time.

Smoking has health and economic consequences for individuals and society. However, despite many anti-smoking measures, about a billion people in the world still smoke (1). In Slovakia, 30% of doctors & 40% of non-medical workers smoked; in the Czech Republic 33% of doctors & 49% of nurses; in the USA 5% of doctors & 17% of nurses smoke (2).

## Aim of the research

Our study aimed to identify time and economic loss during working hours in smoking nurses; to compare the attitudes of non-smoking, smoking nurses, and nurse-managers about smoking during working hours, to assess the impact of smoking at work on work performance and on the providing the health care.

## Sample and Methods

The research sample consisted of 381 nurses working in medical facilities in Slovakia and the Czech Republic. The data were collected using a non-standardized questionnaire for non-smoking nurses, smoking nurses (smokers), and nurse managers. The questionnaires were administered electronically through contact persons. Data were collected from July 2020 to March 2021. Most non-smoking and smoking nurses were between the ages of 25-35, and manager nurses in age 40-

49 years. Data were statistically processed using McNemar test, chi-square, Fisher test, Spearman correlation.

## Results and Discussion

Published studies that deal with smoking among nurses focus on the prevalence of smoking among nurses, cessation options, health consequences. However, we were unable to search the databases for studies on the economic and time losses of smoking among nurses from a management perspective which is the focus of our research.

In our sample, 17% of nurses were smoking. This percentage is comparable with the findings of several authors: 11% nurses (3), 26% nurses (4), 25% nurses (5), 47% of nurses were smokers, of which 30% of nurses smoked regularly an average 10 cigarettes per day (6).

We asked the nurses if they considered smoking to be a work handicap. 49% of non-smoking nurses and 52% of manager nurses answered positively, while up to 70% of smoking nurses did not consider smoking as a working handicap. 78.5% of non-smoking nurses and 76% of managers think that non-smoking nurses perform or partially perform work instead of smoking nurses during their smoking break. It is important to note that only a small proportion of smoking nurses think that smoking affects their work performance. Only 30% of smoking nurses consider smoking to be a work handicap. Of the total number of 57 smoking nurses, only one admitted, that she spends less time in nursing care than a non-smoking nurse, and one nurse rounded out the answer: *partially less devoted to patients*.

In the study of Slater *et al.* nurses who smoked rated their effectiveness as lower than nurses who were ex-smokers or non-smokers.

We wanted to find the number of smoking

breaks the nurses use for smoking during working hours, by which the smoking nurses knowingly violate the law of the Labor Code (7) with the “silent” consent of their colleagues and superiors. 63% of smoking nurses take 1-3 breaks during a work shift for smoking, 25% take 4-6 breaks while 12% of smoking nurses take 7 and over. The results are identical to the data provided by the Czech wholesale supplier of tobacco and alcohol products PEAL. According to the calculation of this company smoking one cigarette during working hours costs the company almost 1 EURO (96 cents). Smoking one cigarette takes about 6 minutes. The average smoker smokes about 5 cigarettes during working hours, or 30 minutes a day, and as many as 15 days a year (8). The smoking nurses in our study smoke an average of 5 cigarettes during five smoking breaks, which means that they are out of work for at least 30 minutes of their working time each day. The real loss of time is, however, much greater and is related to leaving the workplace, moving to a place designated for smokers, and returning to the workplace. One cigarette “costs” an employer about 1 EURO, about 5 EUR per day and 75 EUR per month, if counting the average 15 days per month in the shift work of nurses. Every year, the time lost due to smoking takes up to 15 working days. If the value of the average nominal monthly salary of an employee in the Slovak economy in the 3rd quarter of 2021 reached EUR 1,185 (9), or about EUR 57.50 per day, the financial loss caused by smoking during the working hours costs employer EUR 862.50 per smoking nurse per year.

### In study

The relationship between smoking and health care; workers' compensation; and productivity costs for a large employer, USA, from 2008 to 2010 (10) smokers had higher absenteeism costs.

Overall, employees who smoke were estimated to cost employers \$900 to \$1,383 more than their nonsmoking counterparts. Current smokers experience incrementally greater lost productivity than nonsmokers, contributing to employer costs associated with smoking.

In Japan (11) 2011 collected and analyzed data (n=30 000) about association of smoking with work productivity and associated costs. Current smokers reported the greatest overall work impairment, including absenteeism and reported the highest indirect costs. Large research realized in 2013 (12) in United States (US), EU5 (UK, France, Germany, Italy, Spain) and China. Working-aged respondents 18-64 were used in the analyses (US n=58 500; EU5 n=50 417; China n=17 987) and were categorized into: current smokers; trying to quit; former smokers; never smokers. Authors examined the relationship of smoking status with work productivity. Current smokers reported greater absenteeism in the US and China and greater presentism, overall work impairment, and activity impairment than former and never smokers across the three regions.

When calculating the correlation between the number of smoked cigarettes and lost time using the Spearman test, we have got a statistically significant correlation ( $R = 0.40, p=0.002$ ), (Table 1). This means that there is a significant correlation between smoking dependence and loss of time during working hours. The moderately low value of the correlation coefficient may be caused by the two factors. The first is the construction of a questionnaire where the initial number of smoking breaks was put into three categories. The second can be the subjective perception of the insignificance of the lost time caused by smoking, or under evaluation of the frequency of time lost due to smoking.

The smoking breaks are regulated by very few companies. PEAL company itself regulates

**Table 1** Correlation of the number of the cigarettes with the lost time in smoking nurses

Parameter	n	R	I.S.		p
			+95%	-95%	
# of cigarettes vs smoking break	56	0,40	0,15	0,61	0,002

Legend: n-number, R Spearman coefficient of correlation p-statistical significance I.S. confidence interval

cigarette breaks for its employees. Workers must smoke in front of the building and check out by the card attendance system on the way out. Then they have to make up for this time. 75% of companies do not deal with the time their employees spend smoking, and up to 86% of employers do not provide programs to help smokers who would like to quit smoking (8). The legislation prohibits smoking in the workplace, including health care facilities (13,14,15). We also assessed the managers' perception of time lost by smoking nurses ( $n = 46$ ). We focused on the question: "Do you think that non-smoking nurses work instead of smoking nurses during their smoking break?". We have got the answers from smoking ( $n = 7$ ) and non-smoking nurse managers ( $n = 39$ ). Due to the lower number of categories, we have merged the answers Yes and Partially into one category, answer "no" to another category. The results are shown in Table 2. Due to the small group, the Fisher test was used. The results show that the differences are statistically significant ( $p = 0.05$ ). Although the results should be interpreted with caution, there seems to be a double discrepancy in the perception of nicotine in the workplace. The majority of non-smoking manager nurses (82.1%) perceive the smoking of nurses as a reason for replacement work that non-smokers have to do instead (Table 2). On the contrary, most of the small number of smoking manager nurses ( $n = 4$ ) do not observe nicotine as a problem that forces non-smoking nurses to do the work instead of their fellow smokers. It seems that nurses' views on smoking during working hours do not depend on the job position; even in

the case of manager nurses, the perception of time lost on smoking is the same as in nurses: smokers do not perceive replacement work as such a significant problem as do non-smokers independent on the position in the job.

#### **Managers are not interested in time lost due to smoking during working hours.**

Management's lack of interest or their indifferent attitude is alarming. The higher the number of cigarettes smoked per day, the higher is time lost due to smoking. More breaks due to smoking have a negative impact on nursing care. It is therefore clear that, when considering the time spent out of working place due to smoking, the provision of nursing care is limited.

#### **Employers do not deal with time and economic loss caused by smoking workers.**

82.5% of smoking nurses stated that smoking and the efficient use of working time at their workplaces were not solved; 82% of non-smoking nurses and 70% of managers gave the same answer. The lack of interest of employers in solving this labor-legal issue was also confirmed when the nurses were asked if the employer provides smoking nurses with any programs aimed to stop smoking; 93.5% of nurse managers and 88% of nurses gave a negative answer. At the same time, 54% of nurses stated that they would be willing to quit smoking if the employer-provided them with some benefits to support a healthy lifestyle. Nursing is a demanding profession and many nurses are not capable to change of stereotypes, and bad habits by themselves. They need help from the employers, and the system (6,16).

A French study (18) collected the data about smoking in nurses working in hospitals in the south of France 3 years after the introduction of the law prohibiting smoking in working place. 30% nurses in the observed sample were smokers. Following the adoption of the law, as many as 72% of smoking nurses stated that they reduced the daily consumption of cigarettes during working hours. 20% of smoking nurses stopped smoking.

Ireland was, according to (19) the first country that forbids smoking at working place since 29 March 2004. The author conducted the study on 430 Irish nurses using a questionnaire and found that as many as 44% of nurses are smokers, with the highest prevalence of smoking in the age

**Table 2** Perception of replacement work of non-smoking nurses instead of smoking nurses from the point of view of manager nurses

Manager nurses	replacement work		All	p
	Yes	No		
smoking	3	4	7	0,046
nonsmoking	32	7	39	
all	35	11	46	

Legend:  $p$ -statistical significance, Fisher test

group of 20-30 years. The calculation of the correlation between smoking and type of working place showed that the highest number of smoking nurses were working in psychiatry (47%) and coronary units (33%). Only 14% of the nurses attended education on smoking cessation.

Kapka *et al.* (19) published a meta-analysis of 229 studies related to smoking in health care workers. As many as 45% of the nurses were smoking. They reported the decreasing number of smoking nurses in the USA and New Zealand. In 2015, an international study about smoking in nurses was performed. It was found that the number of smoking nurses ranges from 2% in China, 26% in Northern Ireland, to over 30% in Italy, Serbia, and Spain. Out of the 142 countries, only 44% of countries offer health care assistance to tobacco addicts. Sarna *et al.* (20) have found that smoking nurses spent less time with patients than non-smoking nurses and had more smoking breaks during working hours.

## Conclusion

### Smoking at work decrease productivity and increase absence.

By offering smoking cessation programs in the workplace, organizations can improve the health of workers: and looking at the long term, they can improve economic performance by reducing health care costs and by improving productivity. Some organizations do not employ or hire smokers due to the negative effects of smoking on other employees and the whole organization or the smoker employee's working time does not include a 30-minute smoking break in addition to rest and eating breaks under Section 91 of the Labor Law (7,14,15).

The smoking ban in healthcare facilities is not fully respected, neither by patients nor by nursing staff. This is due, among other things, to the fact that there is still a high number of smokers among health professionals. Indoors, the smoking ban is respected, but staff often smoke in work clothes in front of the building, aside from the entrance, which makes a bad impression.

### Smoking nurses use their working time inefficiently.

In smoking nurses, a clear interaction exists between the time-consuming nursing care and the need to satisfy their nicotine addiction. The consequences of smoking will result in a deterioration

in health, which will affect the requirements for the profession of nurse. Smoking limits the provision of nursing care and nurse management. Nurses should be a good example for the public. Every day, they come into contact with patients who cause illness through their irresponsible behavior (16,21). Our findings should be a challenge for employers, who should start with an active approach to solve the issue and thus protect health.

## Limitations

Some groups of participants are not homogeneous. The limiting factor is the size of the sample. On the other hand, we assume that the results can be considered acceptable. The results clearly show the need for targeted efforts to resolve the situation. It is necessary to take into account these issues when developing the strategic plans for management in nursing; providing support and programs for smoking nurses to stop smoking; introducing of smoking policy in health care facilities. Smoking dependence in nursing is from the point of management neglected.

## Conflict of interest

The authors declare no conflict of interest.

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# Education of Formal Caregivers as a Predictor of the Quality of Institutional Care for Dementia Sufferers

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Original Article

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Source: *Clinical Social Work and Health Intervention*  
Pages: 18 – 25

Volume: 13  
Cited references: 17

Issue: 5

## Reviewers:

Catherine Mulama  
Joshka, Kenya  
Daria Kimuli  
Nairobi, Kenya

## Keywords:

Continuing education. Formal caregiver. Institutional care. Dementia. Research.

## Publisher:

International Society of Applied Preventive Medicine i-gap

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CSWHI 2022; 13(5): 18 – 25; DOI: 10.22359/cswhi\_13\_5\_04 © Clinical Social Work and Health Intervention

## Abstract:

**Introduction:** Due to demographic trends, caring for dementia sufferers is the subject of research by multidisciplinary research teams. In this paper, we declare the importance of increasing the knowledge, skills and competence of formal caregivers as a predictor of the quality of institutional care provided for dementia sufferers.

**Material and methods:** In the presented study, we determine the subjective assessment of the level of theoretical knowledge and practical skills of formal caregivers in relation to the care of dementia sufferers. The research involved 46 formal caregivers in two specialist facilities that provide health and social care to dementia sufferers. In order to meet the objectives, we

have chosen a quantitative method using a non-standard questionnaire of our own design.

**Results:** We found that the questionnaire respondents positively assess their previous knowledge and practical skills in providing nursing care to dementia sufferers, yet declare an interest in continuing education.

**Conclusion:** Preparation and implementation of continuing education of formal caregivers is the active part played by an educational institution in relation to the improvement of the quality of care provided to dementia sufferers and at the same time it is evidence of the link between theory and practice in professionally oriented study programs reflecting the currently expected demographic trends in society.

## Introduction

Dementia is increasingly targeted by policy-makers, civic organizations and multidisciplinary researchers (Wu et al., 2017). The number of people living with dementia doubles around every five years. The prevalence is higher in women than in men (Cao et al., 2020).

Dementia is a complex disease that requires a response to the biomedical, psychosocial and ethical challenges it poses. The disease requires that human resources workers in the health sector be equipped with knowledge and skills to support people living with dementia. The impact of dementia is felt at all levels of society. The stigma associated with dementia is significant and creates additional barriers to access to high-quality care and services provided. Human-centered care approaches and cooperation between the person, the person's family and the health care team are essential. These approaches require adequate staffing, education and organizational support.

Key areas in the care system for dementia sufferers are: the health system; the education and training of healthcare providers; partners in care; the integration of health and social support. Based on the identification of these areas (Boscart, McNeill, Grinspun 2019) discusses professional health and social policy interventions.

The aim of the multidisciplinary researchers is to contribute to improving the quality of care provided for dementia sufferers, with a preference for home care, and to look for ways to maintain and support it for as long as possible.

If we want to maintain and develop home care, adequate efforts are needed to support home

care. The cornerstones of home care are: well organized home care services; sufficient and suitable daily programs corresponding to age and culture. Currently, these services are distributed with limited availability. Supportive housing is an example approaching the ideal of caring for dementia sufferers.

Among the current challenges affecting the housing of people with dementia are: insufficient resources; a lack of supportive housing and assisted living; financial constraints; vulnerability and limited availability of services (Boscart, McNeill, Grinspun 2019).

The social scale of the problem of caring for dementia sufferers relates to the economic and sociological aspects. According to a study conducted by Joling et al. (2020) the median time from diagnosis to institutionalization and to death in people with dementia was 3.9 and 5.0 years, respectively. Older age and home care are the strongest predictors of shorter time till institutional care. Such data helps patients, relatives and policy makers understand the likely trajectories of care (Joling et al., 2020).

Half of people with dementia in high-income countries benefit from institutional care and more than two thirds of the population of facilities or homes suffer from dementia. Less than half of this population reports a good quality of life, and most older people are concerned about the prospect of institutional care. The most common reasons for institutionalization are worsening symptoms of dementia and the burden on caregivers from providing care at home. Delaying the institutionalization of the sick requires a systematic approach, focusing on slowing the progression of the disease, educating caregivers and pro-

moting care in the home family environment (Toot et al., 2017).

Due to the progression of the disease and the difficulty of caring for dementia sufferers, institutional care is a necessity in several cases. However, this means that we care about the high quality of services provided in an institutional setting too, which is reflected in the quality of life of clients and in the satisfaction of sufferers' family members with the services provided. Patients' quality of life is an important indicator of care when it comes to nursing or social work. In Slovakia, quality of services is a priority in the context of long-term care (Hudáková et al., 2017).

Increasing the quality of institutional care can be viewed from several perspectives. Our focus is on the care provided for dementia sufferers in an institutional setting. The current limits of health and social care in Slovakia require a search for options and solutions that we can implement and fulfil to improve the quality of care for dementia sufferers. Our proactive approach is aimed at increasing the knowledge, skills and competence of formal caregivers who provide nursing care to dementia sufferers in an institutional setting.

Developing the skills and attitudes of the team, education and support contribute to improving the quality of institutional care for the dementia patient (Siewert et al., 2020).

The National Research Summit on Care for Dementia Sufferers was supported by the U.S. Department of Health and Social Services and the Foundation for the National Institutes of Health, with private sector support. The task force prepared proposals to improve care for dementia sufferers and to improve the quality of care and support for individuals caring for those with dementia. The second objective is to accelerate the development, evaluation, implementation and dissemination of evidence-based services. The education and training of nursing teams was considered to be crucial (Weiss et al., 2020).

## Objective of the research

In order to improve the quality of the current institutional care provided for dementia sufferers, we wanted to make a subjective assessment of the level of theoretical knowledge, practical and communication skills of formal caregivers in relation to caring for dementia sufferers and, on the

basis of the data obtained, to prepare an educational program for increasing their knowledge, skills and competence in caring for dementia sufferers. Awareness of the need for continuing education is an important starting point for determining the design of caregivers' education. If caregivers did not need more education, we would have to focus on motivation and attracting interest in continuing education in the care of people with dementia as a first step.

## Method

### Sample

The choice of respondents was deliberate. Respondents were selected on the basis of availability and benefit. The research sample consisted of formal caregivers caring for dementia patients in a specialist facility. The reason for the selection of the research sample was not only the collection of data, but also the implementation of practical outputs and the education of formal caregivers. Specialized facilities have been in operation for a short time (1-4 years), and therefore it is appropriate to become involved in shaping the personnel structure and stabilizing the quality of the care provided, which is necessarily related to continuing education. The group of respondents consisted of 46 formal caregivers from two specialized facilities. The average age of respondents was  $40.72 \pm 12.06$  years.

### Course of research

Questionnaires were administered online in February and March 2021. Despite the challenging period marked by the Covid-19 pandemic, especially in facilities providing social services to clients, respondents expressed an interest in participating in the study.

### Tools

To meet the goals, we chose a quantitative method in the form of a non-standard questionnaire of our own design.

### Statistical preparation

We checked the set hypotheses at  $\alpha = 0.05$ , i.e. 95% probability. The result is a p-value. The basic test for verifying qualitative data from the questionnaire was the chi-squared test. The second statistical method we used to verify hypothe-

ses was the Kruskal-Wallis test. We used Cronbach's alpha standardized coefficient to verify reliability.

## Results

Continuing education is based on the assumption that education is an essential part of the process if we want to move forward and develop. Awareness of the need to learn is based on self-reflection and understanding. If we don't have the need to learn and develop, it is necessary to intervene in this process and positively influence the formation of subjective attitudes in relation to the need to expand knowledge, skills and competences. Therefore, our intention was to discover how formal caregivers of dementia sufferers in an institutional setting assessed their own level of theoretical knowledge and practical skills.

In the null hypothesis, we assumed that the subjective assessment of theoretical knowledge relating to care for dementia sufferers did not depend on educational attainment. We divided the hypothesis one into two separate calculations, as it is not possible to mix the obtained data.

Null hypothesis 1: There is no statistically significant relationship between the subjective assessment of theoretical knowledge and educational attainment.  $H_0: \mu = \mu_0$

Alternative hypothesis 1: There is a statistically significant relationship between the subjective assessment of theoretical knowledge and educational attainment.  $H_A: \mu \neq \mu_0$

To verify the established hypothesis, we used a test suitable for qualitative data, the chi-squared

test. The results of the test are given in Table 1.

Caregivers rate their theoretical knowledge as sufficient. The level of theoretical knowledge among respondents caring for seniors is statistically dependent on educational attainment and the result is not just a matter of chance.

The results given in Table 1 show that the calculated chi-squared value ( $\chi^2 = 14.33$ ) is greater than the critical chi-squared value for 6 degrees of freedom  $\chi^2_{(0.05)}(6) = 12.59$  and at the same time the calculated p-value (0.03) is less than the specified materiality level ( $\alpha=0.05$ ), so we reject the null hypothesis and accept the alternative hypothesis in which we hypothesized that "*there is a statistically significant relationship between the subjective assessment of theoretical knowledge and educational attainment*".

In the second hypothesis, we hypothesized that we would find a statistically significant difference in the subjective assessment of practical skills among respondents caring for seniors based on educational attainment.

Null hypothesis 2: There is no statistically significant relationship between the subjective assessment of practical skills and educational attainment.

$H_0: \mu = \mu_0$

Alternative hypothesis 2: There is a statistically significant relationship between the subjective assessment of practical skills and educational attainment. To verify this part of the hypothesis, we used the Kruskal-Wallis non-parametric method, which is suitable for calculating multiple independent variables. In our case, these are three variables within educational attainment.

**Table 1** Differences in the subjective assessment of theoretical knowledge depending on educational attainment as established by the chi-squared test.

$\chi^2$	14.33
$ x $	12.59
Df	6
p-value	0.03

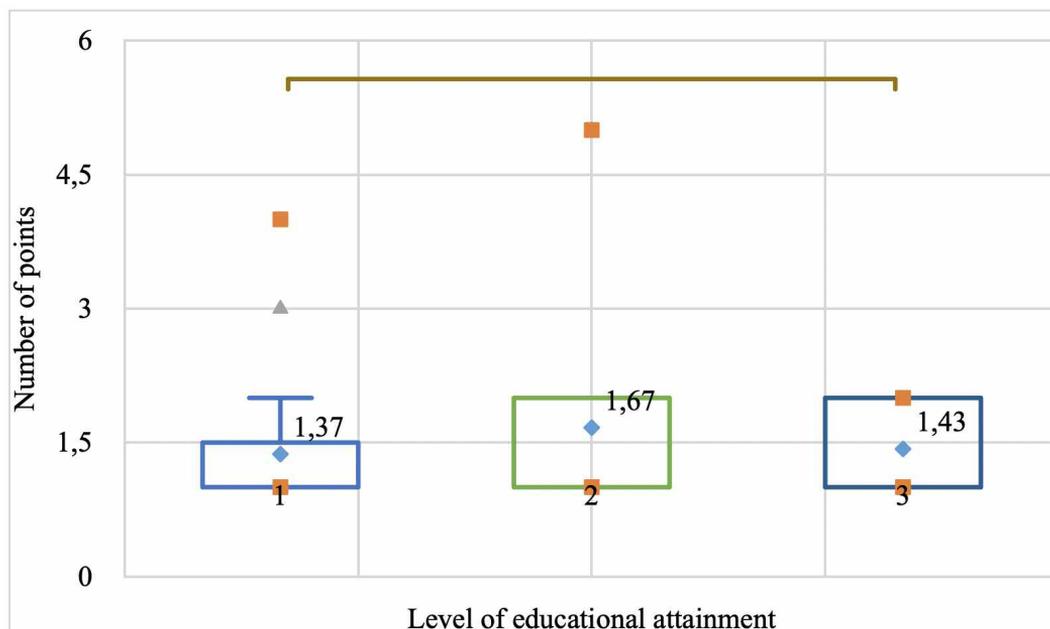
**Legend:**  $\chi^2$ : the calculated value of the chi-squared test;  
 $|x|$ : critical value of chi-squared distribution;  
 df – degrees of freedom at the required level of significance according to statistical tables; p-value – calculated p-value;

**Table 2** Kruskal-Wallis Test to Verify Hypothesis 2 Depending on Educational Attainment (N=46)

K	1.07
k	5.99
Df	2
p-value	0.59

**Legend:** K – the calculated parameter for the Kruskal-Wallis test;  
 $|K|$  – the critical value of the test; df – degrees of freedom; p-value – the result of the test.

**Figure 1** Comparison of the average score of the level of practical skills when caring for clients, depending on educational attainment



On the basis of the results given in Table 2 and shown in Graph 1, the calculated K test value (1.07) is less than the critical value of the test at 2 degrees of freedom (5.99) and the calculated p-value (0.59) is greater than the specified significance level ( $\alpha=0.05$ ). Based on the rule that a greater number of points means a worse rating, Graph 1 shows that the best average was achieved by respondents who had taken a 230-hour caregivers' course (1.37). The worst, i.e. the highest average, was achieved by respondents who were graduates of a healthcare high school.

In accordance with the established rules with regard to the test result, we can adopt the null hypothesis in which we assumed that *“there is no statistically significant relationship between the subjective assessment of practical skills and educational attainment”*, which implies that the level of practical skills in respondents when caring for clients is statistically independent of educational attainment and the result is only a matter of chance.

## Discussion

The level of theoretical knowledge and practical skills of professional staff is a guarantee of the quality of the services provided in assisting

professions, and it is a requirement for the desired result.

Standardized measuring tools can be used to assess caregivers' knowledge. The tools developed by the authors may be more relevant and save time (Resciniti et al., 2020).

In our local research, we found that respondents rate their theoretical knowledge based on their educational attainment as sufficient. In terms of the quality of care provided, it would be desirable to employ caregivers who are graduates of secondary medical schools. The position of caregiver is not financially attractive enough for the provider to have a choice of potential candidates, although in Slovakia there are significant regional differences in demand for this job. In view of this, establishments are forced to accept a minimum standard of caregiver education and this is the 230-hour care course provided by accredited educational institutions and organizations. It is pleasing to find that, despite their positive assessment of their own knowledge, respondents are interested in supplementing it.

As regards the respondents' assessment of their practical skills, our findings show that up to 90% of those surveyed have suitable practical skills, but are also interested in continuing edu-

cation in this area. Formal caregivers cover gaps in knowledge and practical skills are compensated by consulting nurses responsible for the healthcare provided in an institutional setting.

Nursing is the largest regulated workforce in the health sector and nurses are deployed in all sectors of the health system. The gerontological content in the education of nurses has long been considered insufficient. Better prepared nurses can have a significant impact on the quality of nursing care provided. In the context of caring for dementia sufferers, a move away from the medical model to the social model of care is needed, optimizing the quality of life of dementia sufferers (Boscart, McNeill, Grinspun 2019).

From research on predictors of care quality carried out by the German authors Donath, Luttenberger, Grasselova, which involved 404 caregivers for dementia sufferers, it is known that the most common wish of caregivers is practical teaching with subsequent demonstrations in the field of caregiving (Donath, Luttenberger, Grasselova 2009).

In Tokyo, research was carried out involving 83 outpatient dementia patients and 47 caregivers who were enrolled in an educational program. 36 caregivers were included in the control group. Caregivers were assessed for depression, stress and quality of life. Evaluations were performed at the start of the study and after 3 months. Caregivers from the educational program group gave lectures on the symptoms and progression of dementia, symptom management, use of social resources, etc. After 3 months, the prevalence of symptoms of depression in the educational program group had decreased significantly from 36% to 17%, while in the control group they had increased significantly from 22% to 50%. Depression and stress improved significantly in the educational program group, while in the control group they significantly worsened. With these results, we would like to demonstrate the importance of education for caregivers caring for clients with dementia (Terayama et al., 2018).

Caring for people with dementia is a significant burden for caregivers, which can lead to depression and anxiety as physical signs of overload. An Australian study has shown that non-formal caregiver education programs can delay patient institutionalization, reduce mortality, mental morbidity in caregivers and ultimately reduce

healthcare costs (Birkenhager-Gillesse et al., 2018).

The most common reason for institutionalizing a dementia patient is the enormous burden on informal caregivers at home. Educational programs and psychotherapy in combination with counseling have the strongest effects on eliminating the burden on caregivers (Cheng et al., Cheng et al., Cheng et al., 2020).

Due to the specificities of the care provided and the specific needs of specific clients, the employer can support the education of formal caregivers according to current needs and possibilities. In Slovakia, Act # 448/2008 on Social Services regulates education in social services and accreditation for the implementation of educational programs. Section 84 of the Act regulates qualifications and the continuing education of workers in social services, but no continuing education is compulsory for caregivers. Nurses, doctors, medical educators, psychologists and physiotherapists have a duty to undergo continuing education. The employer is obliged to create conditions for the continuing education of employees (Cunderlikova, 2019).

Based on these facts, our intention is to contribute to the knowledge of professional staff and to prepare a basis for the development of continuing education in a particular facility. Based on knowledge and experience and research on the data gathered, we have prepared an educational plan for formal caregivers. We focused on the knowledge, skills and competence of caregivers in the area of communication with seniors, the characteristics of dementia, the activation of the sick, the management of problem behaviors, the prevention of complications from immobility.

### **In educating caregivers, we will use the following methods:**

Methods of education in the performance of work – they are used every day in practice as part of the educational program – coaching, mentoring, rotation of work, etc. In our case, this method can be used by a nurse working in a specialized facility, who will be a mentor for caregivers with a focus on practical demonstrations.

Methods used at the workplace. The theoretical basis for care for patients with dementia according to the prepared educational plan will be prepared by the educational institution: Depart-

ment of Nursing of the Faculty of Health Care Professions of Presov University in Presov as part of the solution of the project VEGA # 1/0433/20 entitled: Factors of formal and informal care in the long-term care system.

In the current epidemiological situation, group education is limited, but this cannot be an obstacle to continuing education, so we are committed to using virtual reality, which can be an effective tool in the preparation of caregivers with dementia. The studies carried out so far on the efficiency of the education of caregivers using virtual reality show, among other things, improvement in the empathy and competence of caregivers (Hirt, Beer 2020).

Given the growing number of people with dementia, we can anticipate increasing interest from caregivers in education and support in the care of dementia sufferers. One option is online courses, which can fulfil this need. Online learning is more accessible, flexible and usually at no cost (Poole, Davis, Robinson 2020).

On-line learning is proving effective with a large number of students, but the complex nature of the problem requires a multidisciplinary approach and a combination of in-person and distance learning (Longhini et al., 2021).

## Conclusion

Continuing education of formal caregivers and increasing their professional knowledge is one of the possibilities for how to improve the quality of institutional care provided for dementia sufferers, while at the same time contributing to the elimination of the enormous psychological and physical burden on caregivers. In view of current demographic developments, the requirements for caring for dementia sufferers will be the subject of further research by multidisciplinary researchers.

## Conflict of interest

There was no conflict of interest in this study.

*The contribution was made with the support of VEGA project No 1/0433/20 entitled:*

*Factors of formal and informal care in the system of long-term care.*

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# Aspects of the Level of Digitisation in Medical Care in Germany: Development of a Typology

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Source: *Clinical Social Work and Health Intervention*  
Pages: 26 – 31

Volume: 13  
Cited references: 9

Issue: 5

## Reviewers:

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## Keywords:

Typology. Wave of Development. Digitization Process. Health-related Data.

## Publisher

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 26 – 31; DOI: 10.22359/cswhi\_13\_5\_05 © Clinical Social Work and Health Intervention

## Abstract:

**Introduction.** Today, most people own smartphones, which fit into their pockets and are more powerful than the first supercomputers, and which they can use to communicate, stream music or measure their pulse. There is no end in sight to this rapid technological development. This also applies to the rapidly growing volume of health-related data.

**Objectives:** In doctor's practices, medical data, such as medical history, blood test results and diagnostic findings, are recorded directly in the computer system. In biomedical research entire genomes, for example those of malignant tumors, are sequenced almost routinely and are also stored and processed electronically. And, more and more people are themselves using smartphone apps, wearables and in future perhaps also implanted biosensors for continuously measuring their blood pressure, blood sugar levels and pulse.

**Methodology:** In qualitative social research, there are only a few approaches that involve a detailed explanation and systematization of the typology process. As the concept of type is of central importance for qualitative social research, it is crucial to clarify the concept and the process of typology, as presented by Kluge in her essay published in the FQM (Forum for Qualitative Social Research). In the evaluation of secondary data from the KBV (National Association of Statutory Health Insurance Physicians), the methodology of this approach is based on the procedure of typology development according to Kluge (2000), with the aim of demonstrating a systematic and transparent development of types and typologies in the digitization process.

### Findings

How far has the digitization process already progressed in medicine? Are there different types in relation to the level of digitization, and what are the properties of these new types?

**Conclusions:** What does digitization mean for health science? Is it possible to research such a wave of development objectively? What characteristics do the types of digitization have, and what influences the level of digitization?

### Introduction

The increasing digitization of social life is changing the requirements that apply to modern healthcare while offering opportunities for a more efficient healthcare system. In future, the interlinking and processing of health data will make it increasingly possible to design better diagnostic procedures and treatments tailored to the needs of the individual patient. (N.A. 2022, www.bmbf.de).

## Analysis of semantic connections and typology

**Table 1** Semantic connections (1)

Analysis of semantic connections and typology					
	Form of digitisation	Doctor-Doctor	Doctor-Hospital	Doctor-Patient	Doctor-KV
	Level of digitisation	2019: 51%	2019: 85%	2019: 25%	2019: 52%
Type 1 very high	80–100%		Type 1 Doctor-Hospital		Type 3 Doctor-Doctor_ Healthcare Data_ Emergency Data Record_ Doctor-KV
Type 2 high	60–80%				
Type 3 medium	40–60%	Type 3 Doctor-Doctor_ Healthcare Data_ Emergency Data Record_ Doctor-KV			
Type 4 low	20–40%			Type 4 Doctor-Patient	
Type 5 very low	0–20%				
Type 1 Doctor-Hospital					
Type 2 Practice Management_ Medicines					
Type 3 Doctor-Doctor_ Healthcare Data_ Emergency Data Record_ Doctor-KV					
Type 4 Doctor-Patient					

Source: Author's own depiction, based on Kluge (2000)

**Table 2** Semantic connections (2)

Form of digitisation		Analysis of semantic connections and typology			
		Practice management	Healthcare Data	Emergency Data Record	Medicines
Level of digitisation		2019: 60%	2019: 47%	2019: 40%	2019: 79%
Type 1 very high	80–100%				
Type 2 high	60–80%	Type 2 Practice Management_Medicines			Type 2 Practice Management_Medicines
Type 3 medium	40–60%		Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV	Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV	
Type 4 low	20–40%				
Type 5 very low	0–20%				
Type 1 Doctor-Hospital					
Type 2 Practice Management_Medicines					
Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV					
Type 4 Doctor-Patient					

Source: Author’s own depiction, based on Kluge (2000)

**Graphic representation of developed types**

**Table 3** Graphic representation of the types (1)

Form of digitisation		Analysis of semantic connections and typology			
		Practice Management	Healthcare Data	Emergency Data Record	Medicines
Level of digitisation		2019: 60%	2019: 47%	2019: 40%	2019: 79%
Type 1 very high	80–100%				
Type 2 high	60–80%	Type 2 Practice Management_Medicines			Type 2 Practice Management_Medicines
Type 3 medium	40–60%		Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV	Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV	
Type 4 low	20–40%				
Type 5 very low	0–20%				
Type 1 Doctor-Hospital					
Type 2 Practice Management_Medicines					
Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV					
Type 4 Doctor-Patient					

Source: Author’s own depiction, based on Kluge (2000)

**Table 4** Graphic representation of the types (2)

Analysis of semantic connections and typology					
	Form of digitisation	Doctor-Doctor 2019: 51%	Doctor-Hospital 2019: 85%	Doctor-Patient 2019: 25%	Doctor-KV 2019: 52%
Type 1 very high	80–100%		Type 1 Doctor-Hospital		
Type 2 high	60–80%				
Type 3 medium	40–60%	Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV			Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV
Type 4 low	20–40%			Type 4 Doctor-Patient	
Type 5 very low	0–20%				
Type 1 Doctor-Hospital					
Type 2 Practice Management_Medicines					
Type 3 Doctor-Doctor_Healthcare Data_Emergency Data Record_Doctor-KV					
Type 4 Doctor-Patient					

Source: Author’s own depiction, based on Kluge (2000)

## Characterization of the developed types

### Type 1 Doctor-Hospital/digitization very high

In general, communication with clinics is still largely analogue. The information most frequently exchanged between practices and hospitals continues to be discharge letters. The percentage of practices exchanging findings, surgery reports and other treatment-related information with hospitals digitally is still below 5%.

Among the large practices, the percentage of practices that are digitally connected with hospitals (e.g. via referral portals) is higher (23%) than in 2018 (16%). The percentage among the large practices that carry out at least half of their communication with hospitals digitally was also considerably higher: while this was only 8% of large practices in 2018, it is almost every fifth large practice in 2019 (N.A. 2022c).

Type 1 has a weighting of 1/8, corresponding to 12.5%.

### Type 2 Practice Management – Medicines/digitization high

#### Level of digitization in practice management

In practice organization, a higher degree of use of digital applications can be observed in certain areas when comparing the two surveys (2018 & 2019). In certain subgroups, such as medium-sized practices and practices providing specialist medical care, an opposite trend can be observed. The greatest increase can be seen in hygiene and quality management, which is partially the result of examples being provided in the survey. The larger and more specialized the practice, measured by the number of doctors working at the practice, the more digital applications for practice management are used (N.A. 2022b).

#### Cross-linking, interfaces and medication safety

79% of doctor’s practices are equipped with medical devices (ultrasound, electrocardiogram and the like) with digital interfaces to transmit measurement results. Across all practice groups,

this represents a slight increase in comparison with the previous year.

Of these, 91% have linked their devices entirely or predominantly with their EDP-based practice management systems (PMS) so that they can transfer data. This also represents a slight increase (N.A. 2022a). Type 2 has a weighting of 2/8, corresponding to 25%.

### **Type 3 Doctor-Doctor\_Health Data\_Emergency Data Record\_Doctor-KV/digitization medium**

A year-on-year comparison of the use of digital transmission channels such as email/KV-Connect between doctor's practices and the content sent via digital channels does not reveal any clear pattern. Doctors and psychotherapists most commonly use email for digital communication with colleagues: 45% of practices in 2018; 51% in 2019 make use of this digital medium. All other forms of digital communication, such as messenger services/text messages, video conferences or online chats, are used much less often, although a slight increase can be observed. The more specialized doctors are, the more often they communicate via email.

The doctor's practices most commonly receive laboratory data in digital form from other outpatient care facilities, provided they exchange data digitally. This still applies to more than two thirds of them. Above all, general practitioner practices are set up for this, followed by interdisciplinary practices. Much less common is the digital receipt of findings, discharge letters and image material for diagnostics in the doctor's practices. A considerable percentage of doctor's practices do not receive any digital data from outpatient facilities. Digital receipt of data is most common in larger practices – measured by the number of doctors working there (N.A. 2022d).

Practices were asked to provide an assessment of the benefit of various digital applications – both those already in use and those that could be used in future. In comparison with 2018, the electronic medication regimen is still considered as the application with the most benefit, closely followed as before by the digital emergency data record. The greatest increase was in relation to the provision of online diagnosis/treatment (with a rise from 11% to 18%) and in the creation and maintenance of a digital emergency data record

(from 24% to 40%). In contrast, the number of practices willing to offer general online or video consultation has hardly increased in total – with the exception of psychotherapy practices.

Almost every second doctor's practice (which is an increase compared to 2018) considers digital prescriptions, transferals and certifications (digital versions of maternity card, vaccination/allergy/implant card or examination records) to be very highly or somewhat highly beneficial for patient care. Psychotherapeutic practices were not included. Multiple answers could be given (N.A. 2022a).

Compared with the previous year, more practices communicate with their SHI-accredited doctors association (KV) digitally in most or almost all cases (2018: 24%; 2019: 52%).

Correspondence with public bodies other than the KVs and other healthcare facilities (e.g. statutory health insurance companies, pension insurance, employers' liability insurance associations) is still predominantly carried out in paper form in most practices (N.A. 2022e).

Type 3 has a weighting of 4/8, corresponding to 50%.

### **Type 4 Doctor-Patient/digitization low**

The percentage of practices that communicate digitally with their patients outside the practice has more than doubled in comparison with the previous year, increasing from 12% to 25%. There was a particularly strong increase (relatively speaking) among the general and specialist practices and among larger practice units.

Among the potential forms of digital communication with patients outside the practice, email continues to dominate; messenger services or text messages are the second most widely used form, although the rates are much lower (2019: 20% vs. 2018: 16%). Psychotherapists make use of email and messenger services / text messages particularly often when communicating with patients (N.A. 2022f). Type 4 has a weighting of 1/8, corresponding to 12.5%.

## **Discussion**

Communication between doctors and patients is the decisive factor when it comes to medical care, and is vital for correct diagnosis and optimal treatment. In the course of digitization, new

potential for communication is opening up for doctors and patients. Because of digitization, patients – and their relatives – are more actively involved in the recovery process; doctors and pharmaceutical companies are now dealing with “smart” patients. Patients who are not satisfied with trusting their doctors but who instead want to have more control over their treatment. Digitizing this communication can help to increase the efficiency and quality of medical care. Patients can be provided with a competent contact person at an earlier stage, helping them to navigate the healthcare system better. The use of different communication and information channels (video telephony, VoIP, messaging, uploading photos and data) makes it possible for doctors and patients to communicate both easily and securely. This makes digital technology an opportunity to increase the quality of outpatient medical care. With this in mind, the question arises as to how digitization may change doctor-patient communication and what professional requirements apply (Meier, Holderried, Kraus, 2018).

The types identified in the study are naturally subject to a range of factors that explain their frequency and their level of digitization. It is nevertheless important to apply a typology here, to benefit the transfer of information.

Type 1 Doctor-Hospital has the highest level of digitization and a weighting of 12.5% of cases. This is followed by type 2 Practice Management / Medicines with a high degree of digitization (weighting 25% of cases) and type 3 Doctor-Doctor / Health Data / Emergency Data Record / Doctor-KV with a still medium level of digitization and a weighting of 50% of cases. Type 4 Doctor-Patient has a low level of digitization and a weighting of 12.5% of cases.

## Conclusions

It is clear that certain types have a substantially high level of digitization and as can be established based on the reference years 2018 and 2019 the rates are set to increase in future. It will be very interesting to see what the future development of digitization will mean for us.

Certain tendencies are not always apparent at first sight. Clusterings and typologies go one step further and can highlight tendencies and new aspects. Further investigation of the types defined here and refining their features scientifically can

be the object of future research. The reference to public health is plain to see.

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# The Ukrainian War's Impact on Food Security

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Original Article

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Source: *Clinical Social Work and Health Intervention*  
Pages: 32 – 33

Volume: 13  
Cited references: 3

Issue: 5

## Reviewers:

Roberto Cauda  
Gemelli University Hospital Roma, Italy  
Okoth Vitalis  
Nairobi, Kenya

## Keywords:

Ukrainian War; Food Insecurity; Grain Exports

## Publisher:

International Society of Applied Preventive Medicine i-gap

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CSWHI 2022; 13(5): 32 – 33; DOI: 10.22359/cswhi\_13\_5\_06 © Clinical Social Work and Health Intervention

## Abstract:

The war in Ukraine is causing problematic disruptions far beyond the country's national borders. Black Sea shipping routes have been disrupted to the extent the Ukrainian grain exports are being kept from global markets, thereby jeopardizing food security in some regions of the world.

**Introduction.** As the war in Ukraine approaches its sixth month, the conflict appears to be threatening the supply of grain to several other nations, thereby endangering international food supplies. The disruption to Black Sea shipping routes as a result of the armed conflict not only hinders Ukrainian grain exports to other nations, but also impedes storage capacity for harvested grains since lack of exporting capability means silos remain full and unable to accept newer harvests.

**Discussion.** Antonio Guterres, UN Secretary-General, has warned that the war in Ukraine will worsen food, energy and economic crises in poor countries (Bankova et al, 2022). "It threatens to tip tens of millions of people over the edge into

food insecurity followed by malnutrition, mass hunger and famine, in a crisis that could last for years (ibid)” Guterres said.

Approximately 20 million tons of grain are sitting in storage in Ukraine, largely because of disrupted shipping in the Black Sea and logistical difficulties in using rail and truck transport over land routes. This represents “a slow-moving crisis that is choking Ukraine off from the global economy and cutting the rest of the world off from Ukraine’s critical supply of grains.” (Kirby, 20220)

According to Weil and Zachmann (2022), the countries most vulnerable to reduced Ukrainian agricultural exports are in the Middle East and North Africa. Excluding high-income countries, the most at risk are Jordan, Yemen, Israel and Lebanon (ibid). Data on Libya is harder to come by, but the authors claim that Ukraine provides 40% of Libya’s cereal imports.

The disruptions cited above are considered short term, but the war in Ukraine is also causing medium to long-range problems due to damaged infrastructure including farmland that cannot be planted due to the hostilities. Many farmers have also been summoned for military duty and are unable to cultivate their farmlands.

The conflict-caused reduction in Ukrainian grain exports is part of a larger humanitarian and economic crises impacting other nations. Food and energy shortages are fueling inflation in much of the world as supply falls short of demand and prices increase as a result.

## Conclusion

Some recommendations for reducing food insecurity growing from the war in Ukraine are:

Emphasize the export of Ukrainian grain to ease shortages in certain areas of the World.

Open the Black Sea port of Odessa and others to facilitate grain exports and open up storage capacity for Ukrainian grain harvests.

Take advantage of recent Ukrainian-Russian prisoner exchanges and Turkish sponsored bilateral talks to open Black Sea shipping lanes for export of Ukrainian goods. With international encouragement, aim for ceasefire and mediated discussions to end the armed conflict.

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# Oral Health Status in Romani Children in Slovakia

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Original Article

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Source: *Clinical Social Work and Health Intervention*  
Pages: 34 – 41

Volume: 13  
Cited references: 18

Issue: 5

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## Keywords:

Oral Health. Prevention. DMFT Index. DMFT Index. Romani Community. Children.

## Publisher:

International Society of Applied Preventive Medicine i-gap

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CSWHI 2022; 13(5): 34 – 41; DOI: 10.22359/cswhi\_13\_5\_07 © Clinical Social Work and Health Intervention

## Abstract:

**Purpose:** The purpose of this monitoring was to learn about the oral health status of Romani minority in Slovakia. The children were educated in oral health, as was expected that the dental status of the children would improve with the increased level of knowledge about dental health.

**Materials and methods:** Romani children were regularly educated from 2010 to 2015. In 2010 and 2015 Romani children aged 5 to 14 were examined in the Spis Region, Slovakia. Dental cariosity was expressed by the DMFT (decayed, missing, filled teeth) and DMFT index for permanent and temporary teeth, respectively. Parents were asked in 2015 whether they utilize free preventive oral care for their children.

**Results:** In 2010, the average DMFT of all examined children

was  $1.11 \pm 1.45$  and DMFT  $6.53 \pm 3.57$ . In 2015, the average DMFT of all examined children was  $1.81 \pm 2.29$  and DMFT  $3.94 \pm 4.19$ . 12 year old children in 2015 had DMFT  $2.12 \pm 2.19$ ; permanent teeth of 35.1% of them were intact.

In total, only 30.3% of asked parents visit dentists for preventive oral care of their children.

In the villages with a segregated Romani community only 7.1% of parents visit dentists for preventive check-up of their children whereas in the villages with integrated Romani Community it is 51.1%.

**Conclusion:** Conducted research showed that oral health status of Romani children in Spiš is slightly worse compared to the majority population in Slovakia. Oral health education of Romani children and their parents is necessary to meet Health21 goals in oral health in subsequent years.

## Introduction

Health is one of the prime values of a human life. General human health also includes dental health. In order to achieve a high-level quality of oral health, it is important to acquire correct habits of hygiene and to enhance certain knowledge in particular areas. One of the key programs to resolve current situation is the World Health Organization (WHO) HEALTH21 project (WHO, 1999). The National Program on Care for Children and Adolescents in the Slovak Republic for the Years 2008-2015, which also includes oral health care provision aimed at reduction of cariosity and the related consequences (Public Health Authority of the Slovak Republic, 2008).

State of health of the Romani population, including oral health, is alarming. Small children have already experienced toothache. Older children suffer not only from dental caries but also from periodontic diseases. The majority of them is not familiar with basic hygiene habits and they fail to perform any preventive oral health care. It is therefore necessary to prevent the origin of diseases in early childhood in order to reduce the occurrence of consequences of insufficient oral health care.

Frankovic and his co-workers (2010) have examined mostly children of pre-school age in Slovakia, who were divided into categories of sex, demographic factors and social groups, i.e. children of majority population and Romani children. The authors have monitored occurrence of dental caries. Intensity of dental caries occurrence was expressed by the DMFT Index (decayed, missing, filled teeth). In addition they

have examined the percentage of restored teeth via RI Index (Restorative Index). Out of 471 examined children of not specified age there were 68 (14.4%) Romani children, out of which only 18 (26.5%) had their teeth intact. The results imply a statistically significant difference in occurrence of intact teeth speaking against Romani children. The intensity of dental caries in non-Romani children was DMFT 2.12, whereas in Romani children it was 5.85 (Frankovic et al., 2010).

There is a persistent social opinion that dental caries prevail among children from minority culture in comparison to children from the majority population group. Higher occurrence of dental caries among Romani children is due to lower level of awareness among their parents and almost non-existent preventive dental care by dentists (Lezovic 2012). By analyzing literary sources, we have reached the conclusion that up to now nobody has ever focused directly on research of the issue of oral health of Romani children.

The main purpose of the research was to identify the oral health status of Romani children in the Spiš region in Slovakia. The assumption was that the oral health status of Romani children is at a low level (DMFT index among 12 year old children will be higher than 1.5 - which is the value defined by the WHO Health21 for 2020 (WHO, 1999).

Secondary aims included mapping of oral health status of Romani children within individual age categories and identifying the DMFT Index.

As part of this project, the education process among Romani children took place between 2010 and 2015, instructing the children in the area of hygiene, teeth anatomy, healthy nutrition, pathogenic nature of plaque and fluoridation.

## Materials and Methods

A cross-section study was performed in selected schools attended by children from Romani villages in the Spis Region, Slovakia. The research consisted of two stages: The first stage took place in 2010 and the second in 2015. The teeth of Romani children were examined by a dentist in the above mentioned time periods. Children were examined in the classrooms during school lessons with permission of their parents and teachers. Standard dental exam was performed with a mouth mirror and dental explorer at daylight. From 2010 to beginning of 2015 Romani children had 4 lessons of oral health care education per school year, they were instructed on hygiene, teeth anatomy, healthy nutrition, pathogenic nature of plaque and fluoridation.

In order to express the oral health status of permanent teeth among children international DMFT Index was used, which describes the status of permanent teeth - number of decayed, missing and filled teeth (WHO, 1987). In order to express the oral health status of temporary teeth among children, the international dmft Index was used. The proportion of children with intact teeth, especially in the population of 5 year old and 12 year old (and older) children was monitored. The age group 12 and older (12+) was also monitored for the status of the first permanent molars.

In 2015, a questionnaire created for this research was distributed to the parents. Preventive dental check-ups attendance by Romani children was followed.

## Characteristics of the respondents

The pilot part of research in 2010 took place in the ghetto near the village of Rakusy. A total of 252 Romani children were involved in the study, out of which 137 (54.4%) were boys and 115 (45.6%) were girls. The children were aged from 4 to 11 years, the average age of children was  $7.1 \pm 1.2$  years without any statistically significant difference between boys and girls ( $7.2 \pm 1.1$  and  $7.1 \pm 1.4$ , respectively;  $p = 0.570$ ).

In 2015, 560 Romani children were involved in the study. The children came from 3 villages in the Kezmarok district, namely Rakusy (234 children, i.e. 41.8%), Huncovce (226 children, i.e. 40.4%) and Velka Lomnica (100 children, i.e. 17.9%). The villages were chosen because the Romani communities live there in segregated ghettos. From examined children 290 (51.8%) were boys and 270 (48.2%) were girls. The children were aged from 4 to 16 years, the average age was  $9.5 \pm 2.8$  years without any statistically significant difference between boys and girls ( $9.6 \pm 2.9$  and  $9.4 \pm 2.6$ , respectively;  $p = 0.404$ ).

In 2015, the questionnaire research among parents included 89 parents, out of which 42 (47.2%) were from the settlement Rakusy, 25 (28.1%) from Toporec and 22 (24.7%) from Holumnica. In the villages of Toporec and Holumnica the inhabitants of the minority population live integrated into the majority population.

**Table 1** DMFT/dmft of Romani children in 2010

Age	Number of children girls / boys / total	DMFT girls / boys / total	dmft girls / boys / total
≤ 5	12 / 10 / 22	0.00 / 0.00 / 0.00	6.00 / 7.80 / 6.82
6	22 / 22 / 44	0.23 / 0.41 / 0.32	7.05 / 6.64 / 6.84
7	44 / 55 / 99	1.34 / 0.95 / 1.12	7.00 / 7.07 / 7.04
8	24 / 34 / 58	2.17 / 1.50 / 1.78	6.13 / 6.65 / 6.43
≥ 9	13 / 16 / 29	2.38 / 1.25 / 1.76	3.85 / 4.69 / 4.31
<b>Total</b>	<b>115 / 137 / 252</b>	<b>1.28 / 0.96 / 1.11</b>	<b>6.37 / 6.67 / 6.53</b>

## Statistical analysis

Discrete variables were displayed in frequency tables (n/N, %). Continuous variables were summarized with descriptive statistics (N, Mean, SD). The results of the formal hypotheses were analyzed using standard methods of hypothesis testing -  $\chi^2$ -test or Fischer exact test, t-test. All testing involved two-sided tests with criteria set at  $\alpha=0.05$ . A p-value of  $<0.05$  was considered statistically significant.

## Results

In the pilot project in 2010, the average DMFT of all examined children was  $1.11 \pm 1.45$  and dmft  $6.53 \pm 3.57$ . DMFT and dmft according to age groups is displayed in Table 1. DMFT among the girls was higher than among the boys, however, not significantly ( $1.28 \pm 1.58$  and  $0.96$

$\pm 1.31$ ,  $p = 0.090$ ).

In the second monitoring in 2015 the average DMFT of all examined children was  $1.81 \pm 2.29$  and dmft  $3.94 \pm 4.19$ . DMFT and dmft according to age groups is displayed in Table 2. DMFT among the girls was higher than among the boys, however, not significantly ( $1.96 \pm 2.35$  and  $1.66 \pm 2.23$ ,  $p = 0.122$ ).

## Five year old children

DMFT among 5 year old children was  $6.82 \pm 5.50$  and  $6.55 \pm 5.92$  in 2010 and 2015, respectively (without any significant difference,  $p = 0.862$ ). Intact temporary teeth were found in 18.2% and 24.2% of children in 2010 and 2015, respectively (without any significant difference,  $p = 0.744$ , Table 3).

**Table 2** DMFT/dmft of Romani children in 2015

Age	Number of children girls / boys / total	DMFT girls / boys / total	dmft girls / boys / total
$\leq 5$	19 / 14 / 33	0.00 / 0.00 / 0.00	5.32 / 8.21 / 6.55
6	22 / 29 / 51	0.36 / 0.28 / 0.31	9.18 / 7.17 / 8.04
7	36 / 48 / 84	1.17 / 0.75 / 0.93	6.89 / 7.71 / 7.36
8	27 / 32 / 59	1.74 / 1.63 / 1.68	5.70 / 7.09 / 6.46
9	25 / 21 / 46	3.24 / 1.43 / 2.41	4.32 / 6.05 / 5.11
10	36 / 29 / 65	1.81 / 1.34 / 1.60	2.61 / 3.31 / 2.92
11	41 / 28 / 69	2.66 / 2.21 / 2.48	1.05 / 1.71 / 1.32
12	28 / 29 / 57	2.25 / 2.00 / 2.12	0.64 / 0.97 / 0.81
13	24 / 30 / 54	3.13 / 3.07 / 3.09	0.33 / 0.30 / 0.31
$\geq 14$	12 / 30 / 42	3.33 / 3.50 / 3.45	0.00 / 0.10 / 0.07
<b>Total</b>	<b>270 / 290 / 560</b>	<b>1.96 / 1.66 / 1.81</b>	<b>3.61 / 4.24 / 3.94</b>

**Table 3** Five year old Romani children with intact temporary teeth

	Number of children girls / boys / total	Children with intact teeth girls / boys / total	Proportion of children with intact teeth girls / boys / total
2010	12 / 10 / 22	2 / 2 / 4	16.7% / 20.0% / 18.2%
2015	19 / 14 / 33	4 / 4 / 8	21.1% / 28.6% / 24.2%

**Table 4** Romani children with intact permanent teeth in 2015

Age	Number of children girls / boys / total	Children with intact teeth girls / boys / total	Proportion of children with intact teeth girls / boys / total
12	28 / 29 / 57	10 / 10 / 20	35.7% / 34.5% / 35.1%
13	24 / 30 / 54	7 / 7 / 14	29.2% / 23.3% / 25.9%
≥ 14	12 / 30 / 42	5 / 8 / 13	41.7% / 26.7% / 31.0%

**Table 5** First molars status of 12 year old and older Romani children

		Age		
Tooth		12 years (N = 57)	13 years (N = 54)	≥ 14 years (N = 42)
16	Missing	0	1 (1.9%)	0
	Radix	6 (10.5%)	8 (14.8%)	2 (4.8%)
	Filled	0	0	0
	Decay	14 (24.6%)	16 (29.6%)	8 (19.0%)
26	Missing	1 (1.8%)	0	0
	Radix	7 (12.3%)	6 (11.1%)	7 (16.7%)
	Filled	0	0	0
	Decay	11 (19.3%)	17 (31.5%)	8 (19.0%)
36	Missing	0	3 (5.6%)	1 (2.4%)
	Radix	8 (14.0%)	15 (27.8%)	15 (35.7%)
	Filled	0	0	0
	Decay	18 (31.6%)	14 (25.9%)	8 (19.0%)
46	Missing	5 (8.8%)	2 (3.7%)	5 (11.9%)
	Radix	9 (15.8%)	17 (31.5%)	10 (23.8%)
	Filled	2 (3.5%)	0	0
	Decay	13 (22.8%)	14 (25.9%)	6 (14.3%)

**Table 6** Dentist visits

village			
Visit the dentist	Rakusy(N = 42)	Holumnica, Toporec(N = 47)	total(N = 89)
only in acute cases	39 (92.9%)	23 (48.9%)	62 (69.7%)
prevention	3 (7.1%)	24 (51.1%)	27 (30.3%)

### Twelve year old children and older

Twelve year old children were examined only in 2015. DMFT among these children was  $2.12 \pm 2.19$ , among the girls it was  $2.25 \pm 2.59$ , among the boys  $2.00 \pm 1.75$  (without any significant difference,  $p = 0.673$ ). 20 (35.1%) children had intact teeth, 10 (35.7%) girls and 10 (34.5%) boys (without any significant difference,  $p = 0.922$ ). The situation among older children is displayed in Table 4.

### First molars status

22 (38.6%) of 12 year old children had their first molars intact; 15 (27.8%) of 13 year old and 15 (35.7%) of 14+ year old children had their first molar intact. The situation of the particular first molars among examined children is shown in Table 5. Children 12+ years of age have more often lower first molars affected, tooth 46: in 54.2% of children affected and tooth 36: in 53.6%.

### Parental questionnaire

From responses to questionnaire only 27 (30.3%) of asked parents visit dentists for preventive oral care of their children. In the village Rakusy segregated Romani community only 3 (7.1%) of asked parents visit dentists for preventive check-up of their children whereas in the villages Holumnica and Toporec integrated Romani community it was 24 (51.1%) of asked parents. The monitored difference is statistically significant ( $p < 0.001$ ) (Table 6).

## Discussion

Oral health is an inseparable component of the overall human health. Caries are the most wide-spread disease among the human population. Many experts in cooperation with World Health Organization pay attention to caries prevention in children. As prevention procedures are most efficient in children thus the aim of the society is to reduce prevalence of caries among children by appropriate education. The purpose of the WHO initiative for 2000 was to achieve 50% of 5 to 6 year old children without any occurrence of caries (Federation Dentaire Internationale, 1982). Our study discovered that in 2010 only 18.2% of examined 5 year old Romani children and in 2015 24.2% of examined 5 year old Romani children had no caries. The results from

the National Health Information Centre, which collects all national data from Slovak dentists, say that in Slovakia in 2015 41.6% of 5 year old children and in year 2020 46.41% were without any caries, filling or extraction (National Health Information Center, 2016; National Health Information Center, 2021). National data collected from Presov region part of which is Spis region where our research was done showed in 2015 that 36.7% of 5 year old children had intact teeth (National Health Information Center, 2016). The aim of the WHO for 2020 is to achieve 80% of children aged 6 without caries (WHO, 1999). From results we obtained in Romani children we see obvious gap between real status of 5 year old children teeth and the aim of WHO for 2020 and even for 2000. Therefore we see necessary to make the efforts of professional community in Slovakia more efficient, so that the above goal can be achieved in the next years.

An alarming value raised from our study is dmft 8.04 found among 6 year old Romani children, which represents almost one third of all the temporary teeth. Dmft 6.55 was found among 5 year old Romani children in 2015. As a consequence of spoiled temporary teeth, permanent teeth are also endangered (Thenisch et al., 2006; Kawashita et al., 2011). Temporary teeth examination among 5 year old children in England revealed result of dmft 4.2 (Public Health England 2016). By comparing our results also to results of child examination in England in 2013 it can be stated that the children from socially handicapped families have a tendency towards higher occurrence of caries (Health and Social Care Information Center, 2015).

We found the dmft index 6.55 among 5-year-old children in 2015, which was better than in 2010, when we found the dmft index 6.82 in the same age category, but it is not statistically significant.

The tendency is good, however, there is still a long way to go, possibly also by reinforcing the existing activities. In order to ensure non-decayed permanent teeth in these children, targeted education need commence as soon as at the pre-school age and in day cares, ideally by educating parents of 1 year old children. One of the possibilities is a daily cleaning of teeth under the supervision of trained teachers.

Another purpose of the WHO initiative for

2000 was also to achieve the DMFT Index of less than 3 among 12 year old children (Federation Dentaire Internationale, 1982). The goal of the WHO for 2020 published in the Health21 program was to achieve the DMFT index among 12 old children less than 1.5 (WHO, 1999). The results of our study show that the WHO purpose for 2000 was fulfilled in examined Romani children, but not for 2020. In 2015 the DMFT Index found by us among 12 year old children was 2.12. The information from National Health Information Center for 2015 shows the DMFT Index of 12 year old children in Slovakia as 1.80 and in the Presov Region 2.09 (National Health Information Center, 2016). Our results tend to approach the average in the Region. By comparing the results of examined children from Kosovo (DMFT 2.3 of 2014), we confirm that the values are similar (Shabani et al., 2015).

The DMFT index among 12 year old children did not reach the value of 3 but sharply increased after the age of 12, without any perspective of improvement. 14 year old Romani children had the DMFT more than 3, i.e. 3.45. Apart from this, at this age the occurrence of periodontitis is higher from our experience, which was not considered in this research. Unless education at schools among children and teachers and in Romani families becomes efficient, the oral health status of Romani adolescents will only deteriorate, which would cause the deterioration of the overall health status.

Beside appropriate education of parents and children, we consider as an important factor also financial income of the families. The research of Pereira in 2007, which confirmed direct relationship between oral health status and family income and further direct relationship between oral health status and completed level of education of mothers and fathers, is supported by our results (Pereira, et al., 2007).

An interesting finding in our study was that during examinations in 2015 we found only 2 fillings of permanent first molars among 12 year old children, which confirms the finding that the Romani children parents do to use the offered dental care in Slovakia.

The study of Pilát et al. (2020) were described, revealed insufficient oral hygiene of the Roma child population. Authors of this study recommended systematic implementation of pre-

ventive examinations for oral hygiene and health programs are needed to promote oral health (Pilát et al., 2020).

We can conclude that Romani children do to use sufficiently the available dental care, but more often they seek urgent dental care in acute cases, when less invasive therapeutic procedures cannot be applied. Modern stomatology tends to use caries prevention and non-invasive therapeutic methods which can only be performed with a correctly timed early diagnostics of caries and regular dentist visits (Pavleova et al., 2015).

Our further efforts should be directed to not only symptomatic dental health care in Romani children, but rather to causal approach focused on removal of the main cause of caries origin - control of tooth plaque and correct nourishment of children (Daly et al., 2002).

Our research showed that Romani children of 12 years of age had a DMFT value lower than 3. We consider this as a positive finding, however, it does not mean that the efforts to improve

### **Romani children hygienic habits are not necessary.**

Similarly, both our results and the results of other studies focused on the oral health of the minority Roma population, both children and adults, clearly point to the need to increase interest in this community and the need to implement education and prevention programs specifically aimed at this community (Pilát et al., 2020; Koçak et Alkaya, 2021).

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# Poor Dental Health as leading Risk Factor for noninfectious Diseases: One of major WHO Concerns in 21st Century (note)

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Source: *Clinical Social Work and Health Intervention*  
Pages: 42 – 44

Volume: 13

Issue: 5

Cited references: 13

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## Keywords:

Dental. Health.

## Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 42 – 44; DOI: 10.22359/cswhi\_13\_5\_08 © Clinical Social Work and Health Intervention

## Abstract:

Poor dental health in a known risk factor for cardiovascular and cancer portality in long term horizon. In Acute cases, infectious endocarditis with 10% mortality attributable directly to poor dental health, caries dentis, and dental surgery or napropriate implantation are classical examples of infectious diseases related mortality, and chronic inflammation for head and neck neoplasia, and systemic arteriosclerosis.

## Introduction

Poor dental health is still one of the major WHO concerns. The commonest infection is dental caries causing chronic inflammatory syndrome leading to accelerated atherosclerosis and hypoxia of important systems such as the immune and cardiovascular. Therefore, access to dental practice in acute cases for free and for implantology and chronic care covered by Health Maintenance Organisations from the public health point of view are crucial for a decrease of cancer and cardiovascular complications, morbidity and mortality.

### Acute and chronic infectious diseases consequences

Chronic caries, gingivostomatitis, are known risk factors for immune system activation and acceleration of chronic immune organ disorders including chronic glomerulonephritis and arthritis. Severe orofacial infection may cause acute or subacute meningitis and endocarditis, with 10-13% mortality (1-2)

### Noninfectious diseases

Infections and mechanical irritation in the oral cavity may cause long term consequences of oral neoplasia, as a cause of mechanical and local irritation and inflammation. In addition,

one or other great WHO concern are chronic dental cares and gingivostomatitis related inflammatory syndrome leading to accelerated atherosclerosis. Therefore, death due to cardiovascular and cerebrovascular diseases is significantly up to two times higher in countries not covering long term health care. (34)

### Oral symptoms of other chronic diseases

Apart of precancerosis such as leukoplakia, and chronic ulcers leading to head and neck cancers, many other neoplasms are manifested firstly in the oral cavity. Therefore, not only doctors but also other staff including nurses, etc., may play when properly trained for early diagnosis of localized neoplasia, in Sub-saharan Africa, eg., for Kaposi sarcoma or other lymphoma related with HIV. In addition many infections including omikron variant based COVID first start with symptoms in the oral cavity. (56)

## Conclusion

Dental technology, dental technics, oral health and hygiene, are scientifically known, and available in most EU, US and other higher income countries. However, most third world countries, with lower income, have virtually no access either to regular prophylactic nor to acute healthcare. In addition, past COVID pandemics, war conflicts, separate completely huge numbers of patients or potential patients from any kind of dental care apart from plastic surgery and traumatology. (1-6)

Therefore, all efforts leading to better access to acute and chronic healthcare are emerging tasks from WHO for those countries which have capacities to serve in dental health not only for their local patients, but once or twice a year, during their holidays, go to countries during post war rehabilitation, currently Iraq, Sudan, Syria, Rwanda etc, and in future to Ukraine, not only to help suffering patients and victims of war, but also to help to secure better cardiovascular health for all, as WHO underlines in their strategy until 2030.

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# Physiotherapy & Psychosocial Rehabilitation in Postcovid & Postconflict Era: New Roles with same Staff? (dispatch)

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Source: *Clinical Social Work and Health Intervention*  
Pages: 45 – 47

Volume: 13  
Cited references: 8

Issue: 5

## Reviewers:

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Claus Musss  
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## Keywords:

Postcovid Syndrome. Long Covid. Chronic Fatigue.

## Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 45 – 47; DOI: 10.22359/cswhi\_13\_5\_09 © Clinical Social Work and Health Intervention

## Abstract:

Waves of COVID-19 have been managed successfully within US, EU, Southeast Asia and Latin America, however, South Asia and Sub-saharan Africa still suffer new variants and EU fights with UK and United States of „new waves of old disease“, postcovid or long covid syndrome. The aim of this communication and research is to prepare our auditors for the size and extent of postcovid systems and the importance of non-doctors and non-medicine experts in management of its consequences.

## Introduction

Many chronic, viral infectious diseases have systemic consequences of other than respiratory system, e.g. Epstein Barr virus related infectious mononucleosis, affecting oropharynx as one of examples causing chronic fatigue syndrome, and about 2 million cases suffer yearly worldwide of the syndrome. Similarly, observable after COVID-19, as long covid and postcovid syndrome. Can we manage those new waves with the same human resources, is clear, that this is impossible not only in developing but also developed countries.(1-9)

## Physiotherapy and rehabilitation for management of long covid

Many patients, after acute covid especially those from ICU and after ventilatory support suffer motion and dyskinesia syndromes, and have to train their respiration daily. Physiotherapists trained for ventilatory and neurologic rehabilitation are missioned throughout EU, US, Japan, Canada, Emirates, China, etc. e.g. Chulalongkorn University in Bangkok has admitted 2 times more prophysiotherapy students. Unfortunately, the EU is still sleeping and waiting for importing those specialists from southeast Asia.

## Psychology and mental health support

About 20% of acute COVID patients suffer with postcovid syndrome mental health disorders such as depression anxiety, loss of memory, fatigue and physical disability. Logically they will seek mental health and psychology specialists who were not available even before the pandemics had been started.

Mental health disorders also increase the malperception of whole social media and communication. 10% of cases have severe psychological and mental health symptoms, 5% have to stop their work and ask for social funds.

## Economic toxicity of postcovid syndrome

According to our data and the Lance Series, from 20% of postcovid syndrome patients in the UK and 30% in US. In the UK, about one half cannot return back to work for up to 3 months and 5% never.

Huge financial losses in the economy must be planned for and permanent work disability must be foreseen for 2023 worldwide; for economies with high employment, many sectors may collapse, mainly in the transport including air transfers and bus transport, and services, including healthcare (nurses etc), as well as industries and other services must expect huge losses of work productivity and insurance both social and health funds catastrophic losses.

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# The Issue of Homeless Young People as an Alternative of Life – Subjective Evaluation of Life on the Street

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Source: *Clinical Social Work and Health Intervention*  
Pages: 48 – 52

Volume: 13  
Cited references: 7

Issue: 5

## Reviewers:

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Peter Marks  
FRCP, London, UK

## Keywords:

Homelessness. Young People. Alternative Life. Social Exclusion. Cause. Subjective Assessment of the Situation. Social Services.

## Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 48 – 52; DOI: 10.22359/cswhi\_13\_5\_10 © Clinical Social Work and Health Intervention

## Abstract:

This article is devoted to the issue of homeless young people as an alternative way of life on the street. Homelessness can understand as a complex generalized social failure of an individual characterized by their specific way of life, which puts them on the margins of society because of their inability to participate in their quality of life and disrespecting the requirements of the majority society. The aim of this article is to present the results

of qualitative research related to the phenomenon of homeless young people and to understand the causes of their social decline in two areas of their life on the street, namely in the causes of home loss and subjective evaluation of the situation. Only professionally, provided social work can stop or reduce the number of young people living on the street and help them successfully reintegrate into mainstream society.

## Introduction

It is possible to understand a homeless person from many perspectives. He may act in a derogatory way; the usual idea is a dirty man of older age, wandering the city and spending time at the train station or sleeping on a bench in a deplorable state. However, the truth is that anyone can lose their home or sleep in uncertain and unsuitable conditions, older men, women with children, members of minorities or young people (Skodova, 2021). It may be the young people who may have experienced the home only briefly and lost it as a child and went into institutional care, when, after leaving it, they had nowhere to go. These may be young people who have left home due to disagreements with their families or people with impaired mental health. These may be young people from different subcultures, who have chosen to be on the streets as their own alternative way in life. There are many reasons, but returning to majority society for these people may not always be easy (Pavelkova, Schavel, Skodova, 2022).

## Research methodology

The research aims to find out the key moments in the lives of homeless young people and why they got on the streets and what preceded it. The method of qualitative research was choosing which is best to enable a deeper insight into the issues addressed. The collection information technique was semi-structured interviews with five homeless young people who use social services and were clients of the Elim Day Center in Vsetin (Elim 2020). The data obtained were analyzed by coding (the interview was recorded with the consent of the participants, then a literal transcription was created, which was processed by coding, age category up to 30 years). The codes below we generated based on the encoding of the interview transcripts.

## Research questions and objectives

In the research, we aimed thoroughly get to know and bring closer the lives of homeless young people, which can contribute to a new perspective on working with a given target social group and gain a deeper understanding of this phenomenon (Skodova 2021). We followed 2 areas in the lives of these young people, namely:

*the cause of home loss* (substance abuse, family disagreements, relationships with friends, different ideas about the future, job loss, finances, etc.) and *subjective assessment of the situation* (homelessness and life before it, feelings of guilt, escape to the past, lifestyle and past, contact with family, etc.).

### These questions provided answers to the identified research problems:

1. How did you find yourself in your current situation and what preceded it? (Cause)
2. How do you evaluate this situation and how do you perceive it? (Subjective assessment of the situation)

## Data processing

### Causea

There are several reasons that have led participants to lose their homes. It was often the accumulation of different factors at the same time.

Participant M. considers alcohol to be the main cause of his downfall on the street. Alcoholism developed gradually in him and interfered in personal relationships. Absence from employment subsequently led to termination of employment. The relationship to finances and their reckless spending on alcohol or tobacco also played a role. He attributes his situation to subjective fault, caused by his own fault.

At the age of 18, participant L. left her grandmother, who raised her and had her own flat. Disagreements in the family contributed to the lea-

ving, where the conflict was a different idea of the future. She did not feel accepted by the family and claimed that her family had given up on her. As a child, she experienced sexual abuse, which they did not want specifically addressed in the family, which hurt her. After moving out, she had her apartment for a period, but then lost her job, was unable to pay for it, she subsequently moved to a hostel. She found herself on the street repeatedly, constantly using accommodation in asylum houses. Her choice of partners and the use of psychotropic substances were also problematic.

Participant P. evaluates the cause of his situation as the accumulation of several factors, associated with the loss of employment. His parents moved out and he moved to his brother. After moving his brother to his parents, he arrived on the street.

Participant A. found herself on the streets at the age of 15. The reason why was a conflict with the mother and disagreements with the family. After leaving home, she spent time mainly with her boyfriend who also lived on the streets. Later, they lived together with his parents, but there were conflicts again. However, she also attributes the situation to subjective fault. She sees the main cause of her decline in her relationship with her parents and in her positive attitude towards alcohol.

Participant T. resists the usual stereotype that homeless people have alcohol problems. He also expressed his relationship with homelessness and alcohol in the help provided by his girlfriend. He lost his home after disagreements with his girlfriend and subsequently with his mother. He found himself on the street from day to day. The exact reason why his girlfriend threw him out of the flat is unknown to him to this day. He himself admits that he was in a bad mental state at the time. He overlooked many things in the relationship.

### **Subjective assessment of the situation**

Homelessness and the situations associated with it in the respondent M. evoked feelings of guilt or remorse. In some moments, these feelings can turn into suicidal thoughts in him. He feels the worst when he is alone. Relaxation for him is, if he has the opportunity to talk to someone, or turn on the radio to forget these self-destructive thoughts. He evaluates his situation very

negatively: *"I am not reconciled. I want to be better."*

The situation, in which the participant L. finds herself together with the use of addictive substances allegedly, assessed, by psychologists as an escape from the past but she does not agree with it. *"I went to see psychologist a lot. hey told me I had a lot of problems because I was raped from two to fourteen; my mother died; I was abused; my fingers are cut off; they just told me that this is how I deal with it; that I am running away from my past. I personally do not think that is true, but psychologists do."* She states that, unlike life before the team, she most misses contact with her own children.

Respondent A. describes life on the streets as a lifestyle. *"So there are, for example, people who have the opportunity to live; they also have their own house or something like that. But we don't want it that way; we like life on the streets more."* However, she herself considers this life as inadequate for her age. *"So I should start doing something for myself, I'm very old living on the street like that and so on."* During life on the streets, she most misses family contact and home comforts and sitting in front of the TV.

For the respondent T. homelessness is a certain life experience: *"But I'm glad I tried. I am a supporter of the fact that I would like to try as many things in life as I can; what I will enjoy; I have tried so many things on the street that I would not have experienced in a normal life."* On the street, however, he also lacks the absence of his own space: *"It is normal living; just going home after work; just being with a girlfriend; just being at ease, in my own place. I do not have my own place at all now which is really awful."* The absence of one's own space and the possibility of one's place is also an obstacle in the use of various residential social services, such as an asylum house or a shelter where one is constantly in a group without the possibility of privacy.

### **Discussion**

This contribution dealt with the issue of homeless young people in the town of Vsetin. The aim of the study was to find more about the key moments that led to the social decline of young people and about the obstacles that may hinder reintegration into society. We compare the results of our research with several other authors

who deal with this issue both in the Czech Republic and abroad.

The first factor examined was the cause of home loss. Marek, Strnad and Hotovcova (2012) describe that the breakdown or dysfunction of the family is often the cause of young people's homelessness. Different ideas about their future can also be an impulse to leave the family. This statement confirmed by our research, when in several participants the disagreements in the family and the sometimes-unsuitable family environment played roles in the collapse or leaving to the streets. Other identified causes were substance abuse; irresponsible attitudes towards finances; job loss; an unfavorable mental state. Vagnerova, Csemy and Marek (2014) divided the causes of leaving the street into several categories, namely: excessive use of addictive substances or alcohol inability and unwillingness to work systematically; a combination of behavioral disorders with reluctance to work; mental illness.

In our research, the cause was also the abuse of alcohol or other addictive substances which subsequently led to job loss and other problems associated with the use of substances. Hodgson, Shelton, Los (2013 in Kidd et al. 2018) describe a complex relationship between mental health; substance use; and homelessness. They estimate that 48.0 - 98.0% of homeless young people would meet the criteria for at least one mental health-related diagnosis, which we can agree with in the results obtained.

Homeless young people as such perceive homelessness in different ways. The resulting situation involves feelings of guilt. It can serve as an escape from the past, but it is also a life experience and a form of lifestyle. From the data analysis, we came to very similar results as Marek Strnad & Hotovcova (2012), when life on the streets symbolized a place of freedom where young adults do not have to follow rules or perform any duties.

### **Recommendations for practice**

Based on the results of qualitative research, it is possible to make a recommendation for providing of social work in clinical practice with the target group of homeless young people (Skodova 2021).

Homeless young people have often had various negative or traumatic experiences in their

past, such as: sexual abuse; loss of a loved one; a depressive episode. It would be appropriate for homeless young people to have easy access and the opportunity to address their problems or the consequences of these mental health events with a psychologist, psychotherapist, psychiatrist or other mental health professionals during the provision of social services.

Homelessness of young people is a phenomenon, which according to current statistics is on the rise. It is therefore important to think about the sufficiency of low-threshold day centers in particular for homeless people and their sufficient capacity.

In cases of homelessness, the longer a person is on the street, the more they integrate into a homeless lifestyle, and subsequent reintegration becomes more challenging. It is therefore important to motivate homeless people to change the situation as soon as possible and actively seek this social group within the field social services (Act no.108/2006 Coll., on social services).

### **Conclusion**

This paper is devoted to the issue of homeless young people. Having a home; background and a stable roof over your head is one of the basic things a person needs. Its absence is a problem that affects all aspects of an individual's life and affects the area, both personal and occupational, economic or health. In the environment of the Czech Republic, the issue of homeless young people have not given much attention. Through qualitative research, we have tried to expand knowledge about this phenomenon which has a growing tendency and is a serious social problem. The aim of the contribution was to analyze the problems of homeless young people in the city of Vsetin to find the extent and causes of the social decline of homeless young people, but also the subjective assessment of the solution to their unfavorable situation. Based on the obtained results, it is necessary to think about the recommendations for clinical practice for social and health social workers in the providing of social work with a disadvantaged social group of young homeless people. We consider it important to take care of the mental health of young people and to involve a psychologist or psychiatrist in the process of reintegrating a homeless young person back to majority of society. High-quality

screening activities within the field of social services and an active solution to the current situation are also essential.

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# The Benefit of Sport for People with Disabilities

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Source: *Clinical Social Work and Health Intervention*  
Pages: 53 – 60

Volume: 13  
Cited references: 13

Issue: 5

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Steve Szydowski  
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## Keywords:

Persons with Disabilities. Inclusion. Sport. Qualitative Study.

## Publisher:

International Society of Applied Preventive Medicine i-gap

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CSWHI 2022; 13(5): 53 – 60; DOI: 10.22359/cswhi\_13\_5\_11 © Clinical Social Work and Health Intervention

## Abstract:

**Starting points:** People with disabilities face daily obstacles that do not allow them to integrate adequately into society. Health disadvantage itself is a complex and multidimensional phenomenon, which carries with it several specificities. Social inclusion is a phenomenon that is still present in the academic world than in society itself. A specific part of inclusion is precisely the participation of people with disabilities in sporting activities. Although sport can be understood as the most beautiful means of inclusion of people with disabilities, it is here that we can observe shortcomings in participation in sport. Very little attention is paid to the management of sport of persons with disabilities and their support from society is at a minimum. We chose this issue precisely because of the increase in the interest of people with disabilities in sports activities.

**Methods:** The study analyzes sport as a means of inclusion of people with disabilities in society. We carried out the research

in qualitative design and as a method of data collection we chose a semi-structured interview, which we conducted with 9 informants between October 2021 and March 2022. We analyzed the results of our research was to find out what sport brings to the lives of people with disabilities and to find out in what areas sport has enriched the lives of people with disabilities.

**Results & conclusions:** Based on our findings, we can conclude that people with disabilities reflect the changes that occurred in their lives after they started active sports. Through sport, they managed to improve not only their physical condition, but also brought positive changes to them by sport in the fields of mental and social. Our research also confirmed the positive impact of sport on the autonomy of people with health disadvantages.

## Introduction

The issue of health disadvantage can still be understood today very fragmentarily, both conceptually and institutionally. This fact is confirmed by a large number of professional definitions that we can encounter in publications from authors such as Kiuppis 2013, Le Clair 2011, Wilson, McColl, 2017, Juhasova (2012) etc. However, if we want to address the issue of people with disabilities comprehensively and professionally, we must have a basic knowledge of the health disadvantage and its specificities that it entails. Health disadvantage represents a certain social event for a person, it brings about a change in social status, which in some way affects the whole life of these people. These changes, however, affect not only the life of a person with a health disadvantage, but also their whole family. However, the truth is that we cannot define health disadvantage exactly, as this is a very broad concept. However, as Vítková (2006) points out, health disadvantage can be understood as a long-term change in the state of health, which puts a person at a certain disadvantage to other people. This change is most often related to the musculoskeletal system, changes in the mental area, but also with sensory organs.

Our study is primarily focused on researching the issue of social inclusion of people with disabilities. The process of socialization is a long-term process in which a person adopts the cultural rules and norms of the society in which he lives and learns the way of behavior that is considered right and moral in a given society

(Payne, 2020). Largest, a prerequisite for successful inclusion, is the acceptance of the otherness of a person with a health disadvantage and respect for him or her as an equal partner, regardless of the disadvantage (Magee, 2018). Recently, we can see an increase in the interest of people with disabilities in sports activities.

According to Bardiovsky & Labudova (2010), it is the persons who have socialized through sporting activities; who have shown a great degree of tolerance, optimism; have found the meaning of life. The contribution of sports activity in a person's life is also highlighted by the authors Pasichnyk et al. (2021), who argue that sport can be considered an important part of inclusion as it contributes to the emergence of several positive, not only physical but also personality traits. However, the inclusion of persons with disabilities in society can take place only on the basis of taking into account their individual abilities and the characteristics that they possess. It is precisely this consideration and subsequent inclusion that is the means by which fundamental human rights and the dignity of persons are realized (Hayes, 2005). Sport can be considered one of the most effective forms of inclusion of persons into society, as it has a positive and significant impact on the social ties and mental well-being of a person with disabilities. The inclusive potential of sport is highlighted, e.g., by the 2007-201 in Qi, Jing, Ha Amy (2012), McConkey (2019), Haudenhuyse (2017), Tacon (2017) and more.

Sport has an inseparable place in society and its importance is appreciated by institutions at

international levels such as the UN, UNESCO and beneficial effects are also perceived by governments of most countries. It also has its place in the scientific world and the subject is devoted to scientists, experts, but also the public. Sport can be understood as a social, internally structured complex process that contributes to the overall development of personality, but also society. Through sport comes to satisfy the physical, psychological, social, and moral aspects of a person's personality (McConkey, 2019). If we look at the issue of sport of persons with disabilities through the long-term experience of experts, we can conclude that the positive effects of these individuals are more pronounced in several indicators than in the intact population (Haudenhuyse, 2017). There are many sports clubs in Slovakia where people with disabilities can meaningfully spend their free time and develop their abilities. The most popular clubs and sports include boccia, floorball, basketball (in a wheelchair), sports shooting, tennis, archery, ping pong, triathlon, swimming, and many others.

## Material & methods

The aim of our research was to find what sport brings to the lives of people with disabilities.

The research methodology offers several ways to compile a selection set. Due to our research problem, we have chosen the available selection, through which we have selected persons with disabilities who are engaged in sports activities. The available selection is used in the studies in cases where the researcher does not have the possibility to make a random selection in a stratified or non-lost way. This selection can be made according to Denzin et al. (2017) characterized as "I take what I have". The research sample consisted of 9 informants, aged between 19 and 53 years. Of the total number of informants, 4 were women and 5 were men. In addition to health disadvantage, the condition for inclusion in the research file was also the personal experience of informants with regular sports activities, whether at recreational level or at the level of top-level sport.

For better clarity, we list the characteristics of informants in the table.

We carried out the research in qualitative design, and we chose semi-structured conversa-

tion as a method of data collection. The semi-structured interview is characterized by the readiness of the researcher for an ongoing interview. The advantage is the possibility to attach new questions to the conversation as needed. In the interview, we obtained basic data about informants such as age, education, profession, sport, the sport he is engaged in and the duration of sports activities. We conducted the interviews directly with informants, either by face-to-face meeting or via an online space. The duration of the interview was on average from 30–45 minutes. Even after the first interview, we interviewed a literal transcript. Literal transcription helped us visualize the data we are looking for and then analyze it through open encoding, which we can describe as disassembling text into fragments to which we assigned a more general meaning and thus created codes. Between them, we then searched for codes with similar meanings. It is important to start analyzing the collected data from the very beginning, as it can show us the direction of the next conversation. If we find that we do not receive an appropriate answer to some questions, we can reformulate them at this stage. The next phase was the primary interpretation, which came to an end after the open encoding ended. At this stage, we descriptively analyzed the created categories and subcategories, described what their content is and what they relate to (Lukacova, 2017).

## Results

Based on the analysis, we note that our informants divide their lives into two significant periods: the period before they started more active and regular sports: the period when they connected their lives with sport. Another significant finding is associated with the feelings that informants associate with sport. The third category, which we have also created through axial coding, reports on the profits/benefits that sport has brought to the lives of our informants.

### Category BEFORE SPORT

We saturated the category before sport with the following codes:

*it felt like healthy, resignation, absence of sport, torment, loneliness, change, before injury, after injury, after injury, torn, new directions and a new chapter.*

Based on the analysis, we can conclude that our informants reflect the period before they

started sports and then. As Informant II also said, *"because of my disability, I have been somehow detached from my peers."*

Health disadvantage affects a person in several areas of life and affects the integration of a person with a health disadvantage into society. Informant IB remembers the period before he started actively

sporting *"But until I was involved in sport, I spent time at home alone, I played games on the Internet and watched TV for hours. I didn't have friends, I felt alone, but I couldn't change it."*

Cooperation between athletes with disabilities with disabilities with intact athletes can be considered an important prerequisite for the success of inclusion through sports activities. In a statement, he goes on to state *"All of this happened around 5th grade in elementary school. Hmmm then, for many years, I gave up the idea that I could play sports. I only returned to sport in high school, which was designed for people with disabilities. Here at this school, I came across a boccia and a great bunch and of course the coach around them."*

**Table 1** Participants

Informant	Sex	Age	Type of disability	Education/ Occupation	Sport	Position	Duration
IA	Man	23	Physical disability	University student	Boccia	Sports person	9 years
IB	Man	19	Physical disability	University student	Table tennis	Sports person	3 years
IC	Man	53	Physical disability	Postgraduate (PhDr., PhD.) President of the Paralympic Union Slovakia	Table tennis	Sports person	45 years
ID	Woman	35	Physical disability	Postgraduate	Alpine skiing	Sports person	18 years
IE	Woman	26	Physical disability	Postgraduate	Boccia	Sports person/ coach	14 years
IF	Man	21	Physical disability	University student	Boccia	Sports person	4 years
IG	Woman	42	Physical disability	Postgraduate lawyer	Table tennis Curling in a wheelchair	Sports person	26 years
IH	Woman	38	Physical disability	Postgraduate	paragliding	Sports person	25 years
II	Man	25	Physical disability	PhD. Candidate	Boccia	Sports person/ coach	12 years

By comparison, we present the testimony of an Informant IC who has experience in sports activities before the injury and also returned to the sport after the accident *"There is no clear answer with regard to my two worlds before and after the injury. But after the accident, it was primarily an activity to improve the health of rehabilitation sport but today it is a professional sport with everything that belongs to it, including emotions."*

Sporting activity helps a person to maintain physical as well as mental fitness and can become a new lifestyle in a person's life. Thanks to his sporting activities, informant IJ found a new direction *"Sport is a whole new chapter in my life, which has taken its own direction, filled most of my life and shown completely new directions and challenges that I can address."*

Similarly, the situation is perceived by informant IB, who told us *"I would no longer want to live my life as before."*

### Category FEELINGS

We saturated the category of feelings with the following codes: *encouragement, strong emotions, responsibility, perseverance, meaning of life, emotions, recognition, love and meaning*. Based on the analysis, we can conclude that our informants reflect their feelings, which are associated with sport mainly positively. Let us say that these are indeed strong feelings experienced by athletes with disabilities in sporting activities. As many cite through sporting activity, they have found their meaning in life. We base this claim on, for example, the testimony of informant IB who said *"Sport has given me a new meaning of life, and I am not saying that. I've found it possible to live differently and I'm grateful for that."*

Informant ID feels like it *"for me sport is already such my purpose of life... Basically, since I got into top-level sport or that sport at the level of representation, it's really that lifestyle and my life."*

According to informant IE, sport is the most important thing in her life *"Sport in my life is basically a complete priority"*.

Athletes with disabilities are accompanied by various emotions during sports activities. Among the strong we can include joy, gratitude, and humility. Informant IA describes his feelings as

*follows "Tremendous joy, gratitude, tremendous really great humility, but also responsibility."*

Informant IB himself was surprised by the emotions in it of sport *"Certainly joy, gratitude and happiness. I didn't expect sports activity to evoke such feelings in me one day."*

Their claims are shared by informant ID, who, when asked what brought sport to her life, replied *"Great beautiful experiences, such joy, which brings to my life the sport is very important to me the good feeling that I have thanks to sport and especially thanks to skiing. I'm sure the joy. That great feeling that actually fills mine and enriches basically my daily life."*

We consider gratitude to be the strongest emotion for the fact that a person with a health disadvantage can participate in sports activities. This fact is also declared by informant IF *"Also gratitude that I can do something, to devote myself to some sport."*

Among the other emotions that people with disabilities associate with sporting activity, we can include recognition, which plays a major role in the life of every single person. A person with a health disadvantage often feels that society is undervalued by society, and it is in this that sports activity can be very helpful. This fact was confirmed to us by informant ID. *"It was like I had more of the recognition that before, whatever I wanted to do, so it just wasn't there. And basically, through that sport, I knew myself in some way as if to present and implement. And basically, that's where I felt, through him, like acknowledging me and what I'm doing and how I'm doing it."*

This fact is also stated by informant A *"I am terribly encouraged to place myself on the winners' stage at the first professional competitions."*

### Category BENEFITS/GAINS FROM SPORTS

We saturated the category of benefits/gains from sports with the following codes *endurance, contacts, contribution of sport, friendship, choice of sport, self-esteem, overcoming, communication with people, pushing boundaries, independence, living to the fullest, work, development of qualities, representation and finding ourselves*.

As informants themselves reflect, sport acts on the overall development of personality and helps them improve all areas of their lives. *"So,*

for me, the sport really has an irreplaceable place in life and I am very grateful for the many experiences I have had thanks to him, for the amount of people I have met, the amount of experience that I have gone through and developed through sport and developed myself and my personality, as well as various negative ones. I'm certainly grateful to the sport for who I am now and for what I've been able to experience through sport. To overcome yourself, your limits, whether in that sporting field, from that physical point of view or from a fitness sports point of view, but also in terms of personal growth."

Informant ID further states in her statement "on the one hand, the person feels good on the physical side. He's going to improve his fitness, his strength, his construction, his body, in general, and some of those mental abilities. One feels maybe more cut. In fact, thanks to sport, he tries to overcome himself and improves even that endurance, a strength general not only as a physical strength, but also trying to learn, through that sport, not to give up, to work on himself, to be consistent. Overcoming obstacles in everyday life, because one must overcome, especially when he starts the sport or wants to push those limits. So, I definitely think it develops the full potential of man."

Often a recurring gain in the testimony of informants is the strengthening of perseverance. Informant IA put it this way as "certainly the perseverance to go for the goal, the ability to be able to control your emotions in a significant way" - but also a wealth of new experiences, the possibility of travel and the joy of life. Also, informant ID states that it was thanks to her sporting activity that she managed to increase her self-esteem "certainly so much more self-esteem." also improved.

Informant IB describes this fact "It is thanks to sport that I have friends today who understand me, and I no longer spend all days alone."

Similarly, informant IA said "contacts with people who have helped me in other areas of my life."

Informant II feels similarly "a lot has changed since I've been sporting. I've met an awful lot of people; I've seen a lot of different places. I've learned to push my limits. Basically, my whole life revolves around sport and various preparations for other sporting events. Also, of

course, in the social sphere, but it also gave me a lot personally."

Communication for people can often be frustrating because they have negative experiences of the past. Sport represents a great opportunity for them to overcome these feelings of fear ID "I have definitely improved in communication. I was tight, I was less confident, I feared people, I had such a social phobia. It certainly helped me, in fact, in this as if to overcome myself and improve in communication, and it certainly improved my self-esteem. Also, such general perseverance and will."

However, the increased interest in communication may not always be just a positive, as informant IF states, "I see it as both a positive and a negative, it is a take of 50 to 50, that more people have started talking to me and communicating with me, that people have started to talk to me, especially in the social sphere."

The greatest benefit of sports activity in people with disabilities can be considered precisely that a person becomes more independent. This plays a major role in the lives of every single person, and for people with disabilities, this fact is crucial. As informant IF put it: "Sport pushes my boundaries, I can do things I've never been able to do before on my own. Personally, it moves me terribly."

Similarly, informant IJ said "Certainly discipline, conscientiousness, leadership, physical abilities are at a much higher level than I exercise regularly. My hands are looser and freer. Overall, I'm much more independent, which manifests itself in everyday life."

A person with a health disadvantage will encounter several obstacles during his/her life that have to be overcome. As informant I describes it, "I have had many obstacles in my life and this, too, was one of those people who was able to deal with her somehow. And with all this, sport helped me. Sport is no longer just a means of filling in my free time, but it is my job. It makes me happy, and it feeds me."

## Discussion

Based on the testimony of our informants, we can conclude that people with disabilities notice significant changes in their lives from the moment they started to engage in sports activities. Through sport, people with disabilities develop

internal discipline, competitiveness, develop physical strength, endurance, but also contribute to psychological well-being. Sport offers people with disabilities space to make friendships, develop social skills and communicate. This finding was confirmed in their research by the authors Kizan et al. (2015), who in their research investigated the positive effects of sport activity in children with disabilities. As part of their research, they have shown that sport not only contributes to the process of solving the problems of social adaptation and loneliness of children with disabilities, but contributes to the development of a positive sense of self, social competence, motor skills, the elimination of anxiety, etc. These were schools on the territory of Slovakia, namely the cities of Bratislava, Lucenec, Levoca, Nova Bana, Bardejov, Kremnica, Dobsina, Nitra, Kosice, Presov, Trnava and Zilina. We contacted individual primary schools asking whether pupils with disabilities can actively participate in physical education classes. School representatives answered this question in the affirmative. However, on a practical level, it seems that the pupil has the option of choosing a physical education lesson, visiting a physiotherapist or other activity that depends on the school in question. Based on the findings we have from our informants, we consider it important to strengthen sports activity in primary schools, which are intended for people with disabilities.

Authors Kudrjavcev et al. (2019) devoted their study to addressing the issue of inclusive education in physical education classes at higher education institutions. The literary analysis they have processed has shown that students who have significant health restrictions often face a lack of quality physical education and suffer from social isolation. This fact is confirmed by our research, as our informants have repeatedly stated that they felt lonely before they started playing sports. Kudrjavcev et al. (2019) consider it justified to conduct physical education classes for students with disabilities in conjunction with intact students. The results of this analysis are identical to our assertions, namely that sporting activity leads to an increased interest of people with disabilities to participate in social action together with an intact part of the population, which helps them to develop all areas of their lives.

The presented results of our research signal that sport occupies an important place in the integration of people with disabilities into society. We also confirmed the positive impact of sport on the overall development potential of an individual with a health disadvantage. Tacon (2017) made similar findings when it noted that the inclusion of people with disabilities through sporting activities can be beneficial for participants, practitioners, and policy makers, as well as for the sports clubs and communities they serve.

Despite the positive results of the research, we are of the opinion that the sport of disabled people is not created by sufficient opportunities in our society and is still not at the required level. The effects of sporting activity could be even more pronounced if it were given an adequate place in society. Similar conclusions were drawn from the authors Kitchin & Howe (2014), according to which real integration within the sporting process is still not realized.

## Conclusions

It is clear from our findings that fundamental changes in the lives of people with disabilities occurred after they started actively engaged in sporting activities. If a person finds him or herself in social exclusion, she or he is isolated from society and suffers from a lack of social experience and contacts. Sporting activity creates space for people to meet, exchange experiences, create social contacts, but also through it people with disabilities learn to cope with obstacles they encounter during their lives. Thanks to new trends in the inclusion of people with disabilities, it is indeed very desirable to educate experts in the field of application of physical activities and the impact of sports activities on the inclusion of persons with health disadvantages in the population. We also consider it important to prepare educators in this area for the possibility of integrating pupils with disabilities into the physical education teaching process.

In Slovak society, in the framework of the graduate training of future educators, we will not encounter a subject/course that would convey to them the specifics of integrated physical education. As a result, pupils with disabilities are only marginally involved in activities in physical education classes, which is not only contrary to

the principles of inclusive education, but also negatively affects relations between intact classmates and pupils with disabilities.

### Conflicts of interest

The authors declare no conflict of interest.

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# Prediction of Death Anxiety based on Body Image Concerns Mediated by Disease Perception in Patients with Breast Cancer

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Original Article

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Source: *Clinical Social Work and Health Intervention*  
Pages: 61 – 66

Volume: 13

Issue: 5

Cited references: 20

## Reviewers:

Mageswaari Rajoo  
Bangkok, Thailand  
Gabriela Lezcano  
San Francisco, CA, USA

## Keywords:

Body Image. Breast Cancer. Death Anxiety. Disease Perception.

## Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 61 – 66; DOI: 10.22359/cswhi\_13\_5\_12 © Clinical Social Work and Health Intervention

## Abstract:

The present study aimed to predict death anxiety based on body image concerns mediated by disease perception in patients with breast cancer. In this descriptive correlation study, Templer's Death Anxiety Scale, Littleton's Body Image Concern Inventory, and Broadbent's Brief Illness Perception Questionnaire were used to collect data. The statistical population included all patients with breast cancer in Abadan City in 2020 who were referred to medical centers for six months. A total of 200 of whom were selected as the sample of the study using convenience sampling. The proposed model was evaluated using path analysis with AMOS software. The results showed that there

was a significant association between body image and disease perception ( $\beta=0.33$ ,  $P=0.001$ ), and death anxiety ( $\beta=0.57$ ,  $P=0.001$ ), and between disease perception and death anxiety ( $\beta=0.39$ ,  $P=0.001$ ). There was a relationship between body image and death anxiety through the mediating role of disease perception in patients with breast cancer ( $P=0.009$ ). According to the results of the study, the relationship of body image with death anxiety through the mediation of disease perception had a good fit and is an important step in identifying the factors affecting death anxiety of patients with breast cancer.

## Introduction

Breast cancer is the most common cancer diagnosed among women globally. It is most often seen in the middle of life between the ages of 35 and 55 years (1). Prognosis improvement and timely diagnosis result in an increased number of women living with the consequences of the disease and complications associated with its treatment. A major consequence of cancer treatment is temporary or permanent changes in the appearance, feelings, and function of the body (2). Therefore, post-treatment changes in appearance can cause body image concerns (BICs) among many women, which is a warning as BI-related concerns are accompanied by increased risks of undesired psychological and physical consequences, such as depression, anxiety, concerns related to sexual relations, and intimacy, and reduction of lifespan (3). Fear of death and its associated anxiety are among the effective factors of mental health in patients with cancer (4). Cancer diagnosis and treatment can be stressful factors (5). During the medical or surgical interventions, the patients may experience physical symptoms. With an increase in the symptoms and reduction of perceived function, the level of anxiety and distress elevates in these patients (6). These concerns are mostly due to death anxiety (DA). Existential concerns accompanied by DA can be very annoying. In patients at the advanced stage of cancer, the interaction between physical symptoms, concerns about family, age, and reduced self-esteem results in the experience of DA (7). Lehto & Stein (4) found that DA is an effective factor in mental health and a significant psychological diagnosis in patients with cancer. Moreover, body image (BI) is an important element of the quality of life of patients with cancer (8, 9). It encompasses beliefs, as well as conscious and unconscious feel-

ings. BI is a person's mental image of their physical appearance. In other words, it is a person's negative and positive feelings about their body shape and size (10).

When a person is fighting cancer, they may face many goals and challenges, which can be medical, physical, emotional, interpersonal, and spiritual. These goals and challenges, related to the quality of life, have all been threatened and impaired by cancer. Understanding the disease symptoms is among the essential psychological and behavioral variables in cancer treatment, which is based on the acquisition of information from different sources and patient's beliefs and can affect the mental health and capability of the individual in compliance with the disease (11). Farahbakhsh Beh et al. (12) showed a significant negative correlation between the perception of illness and social support, and between resilience and death anxiety. Sharifi Saki et al. (13) reported a significant relationship between the properties of psychosis and disease perception. Bibi & Khalid (3) showed that there is a significant negative relationship between death anxiety and social support, that the latter contributed to a reduction of death anxiety and an increase in the recovery period. Mikulincer & Florian (14) showed that there is a significant relationship between emotion - and problem-focused coping strategies with death anxiety.

Based on the literature review, scant studies have been conducted in Iran on the relationship between disease perception and BI with DA in cancer patients. However, none of them has investigated the relationship between disease perception and BI with DA in patients with breast cancer. Given the paucity of studies on patients with breast cancer, the present study sought to investigate a causal association between body image with death anxiety according to the mod-

erating role of disease perception in patients with breast cancer.

## Methods

The study was a descriptive correlation performed by path analysis. The statistical population included all patients with breast cancer in Abadan city and 200 of which were selected as the sample of the study using convenience sampling. Patients were introduced to the researcher after examination by a specialist physician and receiving a diagnosis of breast cancer. The inclusion criteria were: age range between 30-50 years, having at least a middle school education, and having no mental disorders. The exclusion criteria included failure to completely answer all the questions. Data were analyzed by descriptive and inferential statistics such as mean, standard deviation, and Pearson correlation coefficient. SPSS and AMOS were used for analyzing the data.

In this study, the following instruments were used to collect data: The Death Anxiety Scale (DAS): This scale was developed and validated by Templer in 1970. This scale is a self-executive questionnaire comprised of 15 correct-incorrect items. The total score of the questionnaire is in the range of 0 and 15, where the higher score indicates a higher degree of anxiety. The Brief Illness Perception Questionnaire (Brief IPQ): Brief IPQ is a 9-item questionnaire designed to rapidly assess cognitive and emotional representations of illness. The Brief IPQ uses a single-item scale approach to assess perception on a 0–10 response scale.

Body Image Concern Inventory (BICI): BICI was developed by Littleton et al. (15) with 19 items measuring a person's dissatisfaction and concern about their appearance. Littleton et al. (15) investigated the factor structure of the inventory. The results indicated that there are two important factors. The first factor is comprised of

11 items including a person's dissatisfaction with their appearance, as well as examining and hiding perceived defects or flaws in appearance. The second factor contains 8 items measuring the interference of concern about appearance with social function.

## Results

The participants included 200 women with breast cancer. Descriptive statistics including mean and standard deviation (SD) and Pearson correlation coefficient of study variables are presented in Table 1.

**Table 1** Mean, standard deviation (SD), & Pearson correlation coefficients of study variables

Variables	M	SD	1	2	3
1. Body image	32.52	5.91	1		
2. Disease perception	76.64	12.79	0.73*	1	
3. Death anxiety	9.25	2.28	0.32*	0.75*	1

M: Mean; SD: Standard deviation; \*:  $p < 0.05$

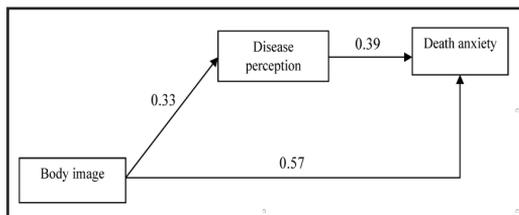
In the proposed model, the 3 variables of body image, disease perception, and death anxiety were evaluated. Table 2 presents the fitting indices for the proposed model. Figure 1 shows the proposed model in which the root means square error of approximation (RMSEA= 0.06;  $\chi^2/df= 2.44$ ; CFI= 0.997; GFI= 0.993), indicated a good model fit.

Based on the data in Table 3 there was a significant direct association between body image and disease perception ( $\beta= 0.33$ ,  $P= 0.001$ ). The association between disease perception and death anxiety was positive and significant ( $\beta= 0.39$ ,  $P=$

**Table 2** Proposed model fit indicators

Fit indicators	$\chi^2$	df	$(\chi^2/df)$	GFI	AGFI	IFI	TLI	CFI	NFI	RMSEA
Proposed model	2.44	1	2.44	0.993	0.902	0.997	0.970	0.997	0.996	0.06

GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; IFI: Incremental Fit Index; TLI: Tucker Lewis Index; CFI: Comparative Fit Index; NFI: Normalized Fit Index; RMSEA: Root Mean Square Error of Approximation

**Figure 1** Proposed model of the research

0.001). We also observed a direct and significant association between body image and death anxiety ( $\beta = 0.57$ ,  $P = 0.001$ ). The indirect path from body image to death anxiety through the mediating role of disease perception was significant ( $\beta = 0.271$ ,  $P = 0.009$ ) (Table 3).

## Discussion and Conclusion

The present study aimed to investigate a causal association between body image with death anxiety according to the moderating role of disease perception in patients with breast cancer. The results showed that disease perception had a direct effect on DA in patients with breast cancer. Moreover, there was a significant relationship between BI and DA in patients with breast cancer. In other words, DA increases in patients with breast cancer who develop more attention to their BI. According to the results, the proposed model had a good fit and was an important step in identifying the factors affecting the death anxiety of patients with breast cancer. To explain, it can be said that having a disease can affect the patient's relationships. The presence of a disease can lead the patient to use ineffective coping and adaptive mechanisms which, in turn, can increase their level of stress. Increased stress is directly related to physical factors and can exacerbate the disease

severity. It has been proved that negative perception and self-esteem are signs of depression (16). It can be concluded that not only biological mechanisms but also psychological factors can affect psychosomatic diseases, including breast cancer. What makes this chronic disease psychologically important is the broad range of its neuropsychiatric aspects. Many neuropsychiatric disorders are associated with breast cancer, including depression, euphoria, bipolar disorders, abnormal crying and laughing, psychosis, attention deficit, information processing, executive function, concentration, learning, and memory. Emotional disorders (depression, fatigue, and anxiety) are among the most common psychological symptoms in patients with breast cancer and are largely connected to disabilities and poor living conditions in such patients (17).

Adaptation to the present conditions is the best strategy for enhancing the quality of life of patients with breast cancer. Disease perception is an important psychological variable defined as the patient's belief and image of their disease. It can affect their adaptability to the disease and subsequently their quality of life. This perception can show the outlook of their treatment and adaptation of their therapeutic diets (18). BI is individuals' subjective picture of their own body, specifically from others' eyes. Some people use this term only for physical appearance and some others use it in a broader sense that includes such concepts as bodily actions, movements, and coordination (19). Humans covet beauty and have long had a natural tendency towards it. A good appearance enhances a person's self-image and self-confidence. As a result, social activities are formed at an acceptable level. Appearance, as the first thing that appears

**Table 3** Path coefficients of direct and indirect effects between research variables in the proposed model

Path	Proposed model		
	Path type	$\beta$	P
Body image to disease perception	Direct	0.33	0.001
Disease perception to death anxiety	Direct	0.39	0.001
Body image to death anxiety	Direct	0.57	0.001
Body image to death anxiety through the mediator role disease perception	Indirect	0.27	0.009

in social situations while dealing with others, forms an important part of a person's identity. In today's highly dynamic and rapidly-changing society, where the first perceptions and influences on the other side are important, the appearance, symbols, and external signs are gaining considerable value and importance (20).

### Conflict of Interest

The authors declare that they have no conflict of interest.

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**The article was published as a Preprint in  
Research Gate  
under DOI 10.21203/rs.3.rs-718958/v1**

# Bridges Between Social Work and Health Intervention (Dispatch)

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Source: *Clinical Social Work and Health Intervention*  
Pages: 67 – 68

Volume: 13  
Cited references: 0

Issue: 5

## Reviewers:

Daria Kimuli  
Nairobi, Kenya  
Steve Szydłowski  
University of Scranton School of Education, USA

## Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2022; 13(5): 67 – 68; DOI: 10.22359/cswghi\_13\_5\_13 © Clinical Social Work and Health Intervention

Social work in health care has a history of more than a hundred years, during which time it has experienced interesting developments and difficult procedural changes. These developments and changes are also reflected in the terminology itself, since other terms were used again and again for these activities, e.g. B. Hospital social work, psychiatric social work, medical and psychiatric social work or clinic social work. Another important terminological link is the different naming of the person being cared for: while in health care it is the patient, in social work it is more the customer.

One of the special features of social work is the mediation of interactions between clients (patients) and their social environment. And it was this specificity that emphasized the legitimacy of

social work in implementing health interventions. The social diagnosis of the patient, his personal, family, professional or other situation, carried out by social workers, has therefore become a functional part of treatment and other medical interventions. The fundamental need to know and understand the social context of a given health problem as a prerequisite for effective treatment has thus become a solid bridge between "social" and "medical" in health care.

The provision of social and health services has different purposes and different target groups. Whether it is the elimination of negative social causes, consequences or other links to the disease, as well as the social support of the patient in adapting to the disease and its possible consequences, the training of social skills to ensure co-

operation with the patient's family and a sustainable Quality of life during and after treatment. The health social worker works with his client (patient) on an individual, group and community level. An example of individual social work in healthcare is helping a client with a severe disability, so-called self-help groups are an example of group social work in this area, and prevention and community support activities are part of community social work in healthcare.

Bridges between social work and health interventions also apply in areas and institutions where these professional activities are carried out together. Social work delivery in healthcare has its specificities and we would like to emphasize the need for cross-industry collaboration, particularly with healthcare professionals. This collaborative approach is then present in the professional execution of social work in all relevant areas of healthcare. The need for a specific professionalization and institutionalization of social work in the healthcare system is an important prerequisite for its benefit to society as a whole.

In other years, the importance of bridging social work and health care in anti-epidemiological activities has been emphasized. With the global SARS-CoV-2 pandemic, other areas of collaboration between social work and health interventions have been prioritized. These include, for example, clear information transfer, joint planning, implementation of methodical procedures, impact assessment or forecast of further development. The pandemic has taught us the importance of functioning and sustainable cooperation in solving societal problems, based on knowledge and professionalism, interdisciplinarity, mutual respect and a comprehensive and systemic approach. Ensuring the transfer of such good practice examples through the worldwide dissemination of their scientific publications will help to build further bridges of collaboration between social work and healthcare.

No. 5, Vol. 13, 2022

Editor-in-chief: Prof. DDr. med. Dr. habil Claus Muss Ph.D.

# CLINICAL SOCIAL WORK *AND HEALTH INTERVENTION*

**Indexed by:**

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Journal DOI 10.22359/cswhi

Issue DOI 10.22359/cswhi\_13\_5

