



THE INTERNATIONAL SCIENTIFIC CONFERENCE

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The Quality of Health Care and Social Welfare -  
**EDUCATION AND PRACTICE**

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18.-19.05.2023, JŪRMALA, LATVIA

**SCIENTIFIC ABSTRACTS  
AND ARTICLES**

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## PREFACE

*SCIENTIA EST POTENTIA*

The international scientific conference “Quality of Health Care and Social Welfare – Education and Practice” (Jurmala, 18.05.2023–19.05.2023) is the final and most important scientific conference initiated by P. Stradins Medical College in 2023. In conference organization and evaluation of its scientific content the Latvian partners were supported by the University of Turku (Finland), Utena University of Applied Sciences (Lithuania), Tartu Health Care College (Estonia) and Escola Superior de Tecnologia da Saúde de Coimbra (Portugal), who significantly contributed to the event.

In terms of content, the conference encompasses a very wide range of issues, reflected in 15 works published in the volume “Conference Scientific Abstracts and Articles”. They are thematically devoted to an extensive scope of issues presented and discussed at the conference, and in this sense the reports and abstracts serve as the points of departure for continued discussions.

The most broadly debated topic is education, especially health care and social welfare, which is not just a general issue of reflections considering the side effects of the COVID pandemic period or the deformations besieging the education system in general. Instead, these discussions have been aimed at considering the solutions that have been sought and found in one of the narrower areas, and the conference provides a platform for contemplating the adaptation of these solutions to other areas, because there is not, nor will ever be a single universal solution in today’s changing world. Clearly, the next year at such a conference we will discuss not only evidence-based education and training, but also include the topics exploring research with big data and artificial intelligence solutions.

At the same time, traditional education and training for manual manipulations will remain relevant. These disciplines will not be replaced for a long time and will also have to be mastered. Hence, they will represent an increasingly competing entity in the digital world of the clinic. Balancing between trends and mastering professional skills for personalized health care will also be a future challenge, which should be discussed on the basis of research results at the prospective conferences of this field.

Professor, *Dr. geol.* Valdis Segliņš  
April 23, 2023

# ABSTRACTS

## INFLUENCE OF EDUCATIONAL SESSIONS ON MUSCULOSKELETAL DISORDERS ON SLEEP QUALITY AND SLEEP LITERACY IN HEALTH SCHOOL GROUP EMPLOYERS: PILOT STUDY

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**Introduction.** Occupational diseases, especially musculoskeletal disorders (MSDs) are a major factor in our health. Behaviour during the working day can influence the quality of our night. The lack of prevention and information about MSDs and their relationship with the quality of sleep weakens the quality of life and the health of people.

**Aim of work.** As specific objectives, we want to verify if there is an association and correlation between the socio-demographic variables, gender, age, academic qualifications, physical activity, daily sitting time and BMI with the sleep quality index.

**Materials and Methods.** A quasi-experimental pilot study was conducted on 21 health school employers. They were allocated in two groups, the Experimental ( $N = 11$ ), which was subjected to educational sessions, and the Control ( $N = 10$ ), constituted of the employers who were not interested in attending the educational sessions. A pilot study was carried out, where the sample characterization and selection questionnaire were tested and validated. The Pittsburgh Sleep Quality Index and the quiz on sleep literacy were used as instruments for all participants. The analysis and treatment of the collected results was carried out using version 28 of the IBM® SPSS® software, with a confidence interval of 95%.

**Results.** There was no statistically significant improvement in the global quality of sleep intergroup ( $p = 0.314$ ). No significant differences were found between the experimental group and the control group regarding intra-group score differences between the two moments ( $p = 0.863$  and  $p = 0.756$ , respectively). Comparing the two groups there was no statistically significant increase in the quiz scores before and after the intervention ( $p = 0.809$ ). Also in the intragroup analysis, there

was no increase in knowledge between the two moments. The results showed no statistically significant differences regarding the associations and correlations of the sociodemographic variables with sleep quality.

**Conclusions.** The educational sessions did not improve the participants' sleep quality and sleep literacy. Associations between sociodemographic factors and sleep quality were not found.

# EFFECT OF EDUCATIONAL SESSIONS DIRECTED TO MUSCULOSKELETAL DISORDERS ON HEALTH LITERACY AND ON THE KYPHOTIC AND LORDOTIC INDEXES IN EMPLOYERS OF THE CESPU GROUP: PILOT STUDY

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**Introduction.** Due to technological advance in developed countries, there has been an evolution of workplaces which, in turn, has increased the adherence to the “sitting position” in the workplace, consequently leading to an increase in the incidence of musculoskeletal disorders (MSDs). Currently, physiotherapy has shown an important role, through health literacy, not only in the treatment but also in the prevention of MSDs.

**Aim of work.** To evaluate the effect of educational sessions aimed at MSDs on health literacy and on the indices of the thoracic and lumbar region curvatures, in a population of employers of the Cooperativa de Ensino Superior Politécnico e Universitário (CESPU) group.

**Materials and Methods.** A pilot study:quasi-experimental was conducted on 22 employers of the CESPU group. They were allocated into two groups, the Experimental ( $N = 12$ ), which was subject to the educational sessions, aimed at posture and prevention of MSDs, and the Control ( $N = 10$ ), consisting of employers who showed no interest in attending the educational sessions. A sociodemographic questionnaire was applied to characterise the sample, a Quiz, in validation process, with the purpose of assessing the level of literacy of the employers in an educational and interactive way, and the Flexicurve, with the purpose of assessing the physiological curvature of the thoracic and lumbar regions, before and one week after the educational activities. Data were analysed using the IBM® SPSS® software, with a confidence interval of 95%.

**Results.** No statistically significant differences were found in the values of the kyphotic and lordotic indexes, between the two groups. Statistically significant differences were found, in the intragroup analysis (between the two moments of assessment) in the Total Score, assessed by the Quiz, for the experimental group ( $p = 0.005$ ).

**Conclusions.** This study concluded that there seems to be no effect of the educational sessions on the curvatures of the thoracic and lumbar regions of the employers of the CESPU group. However, the results seem to show a positive effect of the educational sessions on the Total Score, which may suggest an increase in the level of health literacy.



# ROLE OF THE MENTOR IN SOCIAL WORK STUDENT'S INTERNSHIP

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**Introduction.** The social worker is a person who enables the client's/recipient's of social services and their environment to achieve the desired changes. The experience in the internship gives to the student the ability to analyze the current situation and find the most appropriate solutions that is meeting the interests of clients. The internship is a dynamic process that occurs in variety of sociocultural contexts. Mentoring of social work students has influence on quality of the internship and helps to achieve the study goals.

**Aim of work:** to reveal the role of the mentor in the social work student's internship.

**Materials and methods.** The method of qualitative research was chosen. Research stages: 1. the analysis of written reflections of student's internship mentors (32 reflections). 2. the analysis of focus group interviews of student's internship mentors (2 focus groups).

**Results.** The analysis of the qualitative research data revealed that mentoring is a process that starts with becoming a mentor (situation, experience, motivation, knowledge). The results show that both the mentor and the student are developing during the mentoring process. Social work is a profession in which personal growth is very necessary, as this profession is constantly evolving. In this context, personal growth is also professional development, in other words personal growth also means the possibility of professional growth. The usual motives of becoming mentors are seeking of challenges; wish to learn, altruism, the earlier experience, the growth of personality, growth of professional competencies.

**Conclusions.** The mentor's role in the student's internship is multifaceted and constantly changing. It depends on personal experience, extrinsic and intrinsic motivation, circumstances of becoming a mentor and relationship with students.

# APPLICATION OF TELEMEDICINE IN POSTOPERATIVE WOUND CARE

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**Relevance of work.** Due to the widespread use of technology, telemedicine (TM) is increasingly becoming a viable tool in the healthcare sector. The main advantages of TM include excellent clinical outcomes, increased patient satisfaction, increased accessibility, lower costs, and shorter waiting times for an appointment (Irrarázaval et al., 2021). The field of surgery, TM has adapted the fastest compared to other medical specialties. A major goal for surgeons and patients with TM is to reduce the length of postoperative time, the overall need for outpatient visits, and the need for emergency department visits (Ferrari-Light et al., 2020). Video conference calling for postoperative wound monitoring has been shown to be effective in 5 different studies. Telemedicine tools, such as pictures and video calls, have been recognized as suitable for assessing the wound and the patient's condition. Such monitoring helped doctors to detect and evaluate complications in time and helped patients to avoid unnecessary hospital visits (Asiri et al., 2018).

**The aim** of the study is to reveal the application of telemedicine in postoperative wound care.

**Research methods.** To achieve the goal of the research and to implement the tasks, we chose a quantitative research method based on literature analysis. The research strategy is to share the questionnaire on the Internet, in a Facebook group, in order to reach a larger number of respondents. Statistical analysis of research data using Microsoft Excel 2013 program. The study was conducted on 11/07/2021–11/22/2021. 130 respondents participated in the study.

**Results.** The majority of respondents rate their skills in using smart technologies as good and distance training on wound care is acceptable to them. However, a large proportion of respondents would prefer contact visits when surgical wound care is needed. When comparing according to age, place of residence and education, out of the possible disadvantages of optional telemedicine, the question of trust was the most prevalent, for the respondents, contact visits seem more reliable. However, there was a general trend that the vast majority would like to use or use telemedicine. When evaluating the advantages of telemedicine, the majority of respondents, based on age, place of residence and education, chose the advantage of saving time.

**Conclusions.** The roots of modern telemedicine can be traced back to the 19th century, when the first telephones were invented. The application of communication technologies in medicine has made it more accessible in remote areas and has also improved the communication of medical personnel over long distances. As telemedicine is being applied in Lithuania, emergency telemedicine service centers

have been established that operate around the clock. Such telemedicine services can be obtained by emergency medical personnel using such communication technologies as video and electronic means of communication. It is usually referred when a consultation with another emergency physician is required. Most of the research participants use smartphones, have internet access and a computer. According to the place of residence, the respondents distinguish time saving and convenience, but those who live in the city doubt the economic benefits and avoiding complications. According to education, the respondents evaluate the benefits of time saving and convenience in a similar way. However, there were differences of opinion regarding the economic benefits and the avoidance of complications. From the point of view of persons with professional education, the smallest benefit is economic, in the opinion of respondents with secondary education, the benefit of telemedicine in avoiding complications is small. When assessing the disadvantages of telemedicine by age group, the biggest disadvantage, reliability, face-to-face visits appear to be more reliable. Respondents in the city, town and village shared a similar opinion that contact visits seem more reliable. Respondents with higher university, higher non-university and secondary education also indicated a lack of reliability, while the study participants with professional education do not feel safe about the security of personal data.

**Keywords:** telemedicine, application of telemedicine in Lithuania, application of telemedicine abroad, surgical wound infection

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# PDMS-FREE ORGAN-ON-A-CHIP MICROFLUIDIC SYSTEM AS A NOVEL PLATFORM FOR IN VITRO RESEARCH

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**Introduction.** New drug development is high-risk, time-consuming, and extremely expensive, – even in the initial phases of development. Additionally, preclinical animal studies require skilled professionals and technological expertise, although there is an increased focus on alternatives that could replace animal testing and not only these experiments are expensive, time-consuming, and ethically questionable, but data from these experiments also repeatedly fail to represent response in human. SARS-CoV-2 pandemic drew attention to the necessity to test highly infectious diseases in a more physiologically relevant and speedy setting. Human organ-on-a-chip (OOC) technology offers a potential solution to these problems since they recapitulate the environment of a specific human organ. OOC devices are based on the concept that it is possible to replicate certain functions of a human organ by culturing the relevant human organ cells (e.g., lung epithelial and endothelial cells for simulating lung tissue) in horizontal microfluidic channels separated by a porous membrane and would not require specialized training.

**Aim of work.** To develop lung on a chip (LoC) model system to test SARS-CoV-2 pseudo virus effects on healthy lung model and the efficacy of cytotoxic drug – cisplatin, loaded in mesenchymal stromal cell-derived extracellular vesicles (EVs) compared to the drug itself, EVs alone, and cisplatin alone.

**Materials and methods.** To represent lung epithelial and endothelial barrier, primary human small airway epithelial cells (HSAEC) and human pulmonary microvasculature cells (HPMECS) were seeded on a PET membrane within a PDMS-free COC-OSTE chip (developed in CellboxLabs), respectively. EVs were isolated from commercially immortalized mesenchymal stromal cell (ASC52telo) serum-free culture. Cisplatin concentration in EV sample was determined using HPLC. EVs were characterized using nanoparticle tracking analysis, Western blotting, and transmission electron microscopy. Chips were cultivated using flow rate 2 $\mu$ L/min. LoC was cultivated in air-liquid interface for 2 weeks before introduction to cisplatin. Cisplatin at concentration 20 $\mu$ g/ml was added to the endothelial cell media and continuously flushed through endothelial channel at a flow rate of 2  $\mu$ L/min for 48 h. SARS-CoV-2 on a LoC was tested in a biosafety level 3 (BSL3) conditions.

**Results.** Preliminary results show that LoC system is a promising preclinical model for drug delivery testing and toxicology research. Preliminary results suggest EV ability to protect lung tissue integrity based on lucifer yellow (20 $\mu$ g/ml) experiments in comparison to cisplatin alone. Final results will be presented at the conference.

**Acknowledgements.** Research was financed with project nr. ERAF 1.1.1.1/21/A/033

# ANALYSIS OF CALL PERFORMANCE INDICATORS IN PATIENTS WITH HYPERACUTE STROKE IN THE PREHOSPITAL PHASE OF SEMS OF LATVIA

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**Introduction.** Stroke is one of the main causes of death and disability in Latvia. The most important task for acute cerebral infarction in the guidelines is to act quickly to get the patient to specific treatment. State Emergency Medical Service (SEMS) of Latvia has defined several important quality indicators and criteria that can improve the quality of pre-hospital emergency medical care provided to a stroke patient – response time, compliance with the time window. The proportion of calls to patients with hyperacute stroke, in which the time spent with the patient at the scene does not exceed 15 minutes, reached 22% of calls in 2020.

**Purpose of work.** To study the performance indicators of SEMS of Latvia calls and find out the understanding of medical personnel about the importance of efficient and quick action in calls to SEMS of Latvia for patients with hyperacute stroke.

**Materials and methods.** Data on 10,117 calls in 2021 to patients with a diagnosis of hyperacute stroke were analyzed, evaluating the departure times of the brigade, the average time spent on the call, and the time the patient arrives at the hospital. The total response indicators, the proportion of patients for whom the time spent by the SEMS of Latvia team from the moment of arrival to the start of transportation to the hospital does not exceed 15 minutes and the total time spent on call were analyzed. A survey of 338 crews of SEMS of Latvia included 14 questions.

**Results.** The SEMS of Latvia reaches the MK regulations No. 555. the determined response time indicators. The proportion of patients with a diagnosis of hyperacute stroke, for whom the time spent by the SEMS of Latvia team from the moment of arrival to the start of transportation to the hospital does not exceed 15 minutes, is 35.9% in 2021. The average time spent on a call is 68 minutes. The average time spent at the call location is 29 minutes and 48 seconds. The average departure time of brigades to a call in 2021 was 44 seconds. 43.6% of respondents know the principle of observing the time window specified in the guidelines. 53.4% know the duration of the maximum time window. 66.8% of respondents indicate that they support the requirement of 15 minutes until the start of transportation, but 46.3% rather do not support it and indicate that it is a difficult goal to achieve. 54.6% indicate that the actions specified in the guidelines do not take more than 15 minutes. 32.4% of respondents indicate that the speed of action in a call is affected by the lack of skills and experience to quickly perform manipulations, while 17.7% indicate insufficiently developed principles of teamwork, 16.9% indicate insufficient skills and competencies to diagnose a stroke. 13.6% of respondents

admit that the efficiency of activities is affected by fatigue and overload. 8.3% indicate that work is affected by inappropriate attitude and understanding of the importance of time in the call.

**Conclusions.** The implemented quality criterion has improved – from 3.2% in 2018 to 35.9% in 2021. Patients with hyperacute stroke are admitted to the hospital within an average of one hour after receiving the call, which indicates a good time window in the pre-hospital stage in Latvia. Most importantly, the speed of action of medical personnel in a call is influenced by the skills and experience to quickly perform manipulations, so regular training and exercises are needed to maintain skills and abilities in order to improve the quality criterion.

# ANTHROPOLOGICAL ASPECTS OF THE CARITATIVE SUPERVISION IN THE HELPING PROFESSIONS

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**Introduction.** Current society is characterized as ‘risk society’ (Beck) where the hegemony of instrumental rationality tends to displace any anthropological (personality-centered) approach in the helping professions. Also the Habermas model of ‘lifeworld’ diagnoses the danger of personality exclusion because of depersonalization process. Habermas offers a strategy of handling of risk using the anthropological potential of the ‘lifeworld’. Such an anthropologically centered approach is relevant today in different research of helping professions.

**Aim** of current research is to reveal the symptoms of the anthropological crisis in social work professions and justify the importance and specific potential of caritative anthropologically centered supervision as a source of recreating the practitioner’s holistic self-image and professional identity at human service organizations.

**Materials and method.** To identify the most critical points of social work (and, consequently, the burning tasks of supervision) during 2020–2022 research was conducted by the author of this article in 42 supervision groups (a total of 415 respondents) of different social specialists in Latvia. Within the supervisions there were initiated discussions in focus groups and performed structured interviews on opinions of social specialists about the main types of problems working at human service organizations, as well the aim was to recognize how practitioners understand the content of their human-orientated profession, what kind of meaning they attribute to their profession.

**Results.** Common critical issues and professional risks encountered by respondents: 1) fear for future and stress of employees and customers in the uncertainties caused by changes, 2) experience of managerial influence in decision-making (depriving employees of the decision-making powers), 3) the requirement of the administration for quick results in work with a person, without considering the anthropological specifics of social work, 4) a feeling of diminishing human value (both employee and client) in the social institution, 5) low prestige of social work in society, 6) loss of motivation, doubts about the meaning of work and one’s professional identity, alienation from self.

**Conclusions.** The results show a clearly emphasized ‘order’ for supervision: there is a need for anthropologically transformative approach, which is related to recreation, healing self-image and strengthening professional identity. This is where innovative character of caritative supervision gets a special importance. It is determined by the phenomenon of *caritas* (Latin) – divine energy of love functioning through human person; active dialogical compassion; charity. *Caritas* capability as a professional potential lies in the heart of the personal professional growth of the social care practitioner.

# EXISTENTIAL LONELINESS OF ELDERLY FROM THE PERSPECTIVE OF CARE WORKERS

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**Introduction.** Care workers professionals encounter different forms of loneliness in their work. It therefore seems essential that they have the courage, skills, and tools to deal with loneliness, in particular with existential loneliness which relates to meaning in life and the fundamentals of living and dying.

**Aim of work.** The aim of this research was to investigate care workers' views on loneliness among older people and their understanding, perception, and professional experience of existential loneliness in older people.

**Materials and methods.** In all, 139 care workers from five European countries participated in audio-recorded focus group and individual interviews. The transcribed materials were locally analysed using a predefined template. The national results were then translated, merged, and inductively analysed using conventional content analysis.

**Results.** Participants recognized different forms of loneliness – a negative form that is unwanted and causes suffering, and a positive form where solitude is desired and sought. The understanding of existential loneliness varied between the care workers, but existential loneliness was perceived to relate to loss, eg of autonomy and independence, hope and faith, and to involve alienation, guilt, regret and remorse, and concerns about the future. They expressed a need to improve their sensitivity and self-confidence to engage in existential conversations and increase their knowledge and understanding of aging, death and dying.

**Conclusions.** The results showed that even though many care workers were not familiar with the term “existential loneliness”, once the concept was explained to them, they all recognized that they often encountered older people experiencing it during their professional work. Although the research did not aim to make comparisons between the interview sites, we noted that there were differences in understanding between care workers from the five countries. Therefore, the social and cultural context seems to be of importance. The research indicates, that Western culture emphasizes the autonomy of individuals, while Eastern culture emphasizes the importance of family, which also seems to be reflected in the experience of existential loneliness.



# APPLICATION OF EVIDENCE-BASED NURSING IN INPATIENT CARE FACILITIES

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**Introduction.** Evidence-based practice is one of the core competencies of all healthcare providers (Dang & Dearholt, 2018). The implementation of evidence-based solutions in nursing practice is still insufficient. The great emphasis is placed on developing the competencies of nursing students in this field (Skela-Savic and oth., 2020; Yonkaitis, 2018; Belowska and oth., 2015; Kalb, 2015).

**Aim of work.** The aim is to assess the application of evidence-based nursing in inpatient care facilities.

**Materials and methods.** The study was conducted in November-December 2021 in two inpatient facilities in Lithuania. There were 175 nurses from all wards of inpatient facilities (response rate 67.3%). The standardised *Evidence Based Practice* (authors D.R. Upton and P.M. Upton, 2005) *questionnaire* and *Barriers Scale questionnaire* (author Funk et al., 1991) translated and adapted for Lithuania by the Lithuanian University of Health Sciences was used. The analysis of the research data was performed using the SPSS 23.0. Data analysis methods were used: frequencies, mean and standard deviation, ANOVA test, Kruskal-Wallis, chi-square ( $\chi^2$ ) criterions, Pearson correlation coefficient ( $r$ ). The level of statistical significance was considered when  $p < 0.05$ .

**Results.** Evidence-based nursing has been found to be used only occasionally by nurses in clinical practice. Nurses rated their knowledge and skills in applying evidence-based nursing on average 4.85 out (on a 7-point scale). The overall average of the competency scale was 4.11 (on a 7-point scale). Nurses' attitudes toward the application of evidence-based nursing are moderately positive, 4.47 points (on a 7-point scale). The attitudes of younger, higher educated and less experienced nurses towards the use of evidence-based nursing were more positive than those of older, with lower education and more experienced nurses.

**Conclusions.** Continuous focus on developing competencies in the application of evidence-based nursing is important. The competence of nurses in applying evidence-based practice is associated to the level of academic education. In turn, there will be a need to improve the ability of nursing students to find, understand, critique, and consistently use relevant research findings.

# INFLUENCE OF AGE ON RESULTS OF NEUROLOGICAL TESTS IN VIRTUAL REALITY IN MULTIPLE SCLEROSIS PATIENTS BETWEEN 24 AND 50 YEARS OF AGE

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**Background.** Virtual reality (VR) has been increasingly used in neurology as a diagnostic tool to assess various neurological conditions. As VR technology advances, it is crucial to understand how age affects the validity and reliability of diagnostic tests using this technology.

**Aim.** By exploring the age-related effects on VR diagnostic tests can help improve the diagnostic accuracy of neurological conditions, ultimately leading to more effective treatment strategies.

**Methods.** The study was conducted from November 1, 2022 to February 28, 2023. 36 participants between 24- and 50-years old were asked to undergo four multiple sclerosis diagnostic tests created as part of the study using software for virtual reality glasses Oculus Quest 2. The software was built from scratch by the authors of the study, using Unity3D game engine and Blender 3D for 3D modelling. The program code was written using the C# programming language. The created tests are aimed at testing short-term memory, geographic orientation, brain processing speed, reaction speed and coordination of movements of the upper limbs. 50% of all participants ( $n = 18$ ) were patients with multiple sclerosis and 50% ( $n = 18$ ) without any neurological diseases.

**Results.** The data analysis showed statistically significant correlation between age and test results only in second test ( $p = 0.006$ ). No statistically significant correlation was found between test results and age in the first, third, and fourth tests ( $p = 0.168$ ,  $p = 0.545$  and  $p = 0.317$ , respectively). On the other hand, it is very important to note that the first and second tests showed a statistically significant correlation between the results in patients with multiple sclerosis and the control group. The first test was completed faster in the control group than in the multiple sclerosis group ( $p = 0.004$ ). During the second test, the multiple sclerosis group chose fewer correct answers over a limited period of time ( $p < 0.001$ ). The third and fourth tests showed no statistically significant difference between the two groups ( $p = 0.277$  and  $p = 0.174$ , respectively).

**Conclusion.** Taking into account that the second test showed a statistically significant correlation between age and test results, it can be concluded that age, may affect the test results. Despite the obtained statistically insignificant correlation among the first, third and fourth tests, at the moment it is impossible to deny the possible influence of age on the test results. To clarify the results, it is necessary to involve more patients, as well as to attract patients older than 50 years.

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# ARTICLES

## HOLISTIC APPROACH IN THE PROCESS OF SOCIAL REHABILITATION FOR CHILDREN WITH DISABILITIES – MOVEMENT DISORDERS

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### Introduction

Children with functional disabilities are one of the groups of society exposed to the risk of social exclusion, so this group is receiving more and more attention from the state, municipalities, and society. According to the data “About the Plan for promoting equal opportunities for persons with disabilities 2021–2023” (Order of the Cabinet of Ministers Nr. 577, Riga on August 17, 2021 (protocol Nr. 56 42. §)). In January 2021, 8,395 children with disabilities under the age of 17 were registered in Latvia, but the proportion of children with disabilities among persons with disabilities in general has been around 4% for several years. The number of children with disabilities is also stable in absolute terms.

Families of children with disabilities – movement disorders – need support from society, as well as from the state and municipalities. One of the ways in which the state provides support to the families of these children is the creation of appropriate social policies, which is oriented towards providing support and creating appropriate social services and financial security. In order to improve the social situation of these families and promote their integration into society, it is necessary to apply a holistic or comprehensive view, approach and action in order to reduce the risks of social exclusion of this group in the long term. A holistic approach focused on the provision of social services appropriate to the individual’s needs and accessible has predictably successful results.

The Ministry of Welfare (Ministry of Welfare, 2020) when describing social grants, states that they are aimed at supporting the families of children with disabilities and, in the long term, the entire society as a whole. One of the main tasks is the improvement of service offers that would allow meeting the needs of these families, as well as ensuring the availability of these services. The service concept should include a strategy of a holistic approach and a series of options, from which, together

with specialists and family members, it is possible to choose the most appropriate one in the specific life time and situation.

Analysing the information data on the characteristics of the holistic approach, it can be concluded that its essence is to look at the problem from different aspects. A holistic approach encourages the balance of all human manifestations, so not only the physical well-being of a person is important, but also the mental and social well-being. A holistic approach states that there is a close connection between a person's physical characteristics and feelings.

In order to ensure a holistic approach in the process of social rehabilitation, it is important to inform the children's families about it and to get them involved in this process. It is important that families have an understanding of the nature and importance of this holistic approach. Therefore, a study was conducted, the purpose of which was to find out the opinion of the families of children with disabilities – movement disorders regarding the understanding and application of the concept of a holistic approach in the process of social rehabilitation. To achieve the goal, tasks were set, which included the analysis of literature and information data on the characteristics of the holistic approach and the development of a research tool, in order to be able to get the opinion of the families of children with disabilities-movement disorders.

## Methods

Quantitative research method was used to achieve the set goal. Based on the analysis of literature and information sources, a research instrument – a structured questionnaire – was created, with the help of which the respondents' opinion on the understanding and application of the holistic approach concept in the process of social rehabilitation was ascertained. A structured questionnaire consisted of 17 questions. As part of the research, for the adaptation of the questionnaire, a test study was conducted in which 20 families of the association “Association for Latvian Children with Physical Disabilities” participated, where children with functional disabilities live. After the test study, corrections were made to some questions to clarify their wording. In total, 51 families participated in the survey.

## Theoretical background

With a holistic approach, events are analysed in terms of many conditions and their interactions, so each event will be connected to other events that create new relationships and events between them. A holistic approach is discussed both in the field of medicine and social welfare. Doctor Volgin (Volgin, 2004) notes that the word “whole” is already included in the name “holistic”.

Ančevskis and Ančevska (Ančevskis, Ančevska, 2020) state that the holistic approach is based on the view of a unified whole, which cannot be known by

looking only at its individual parts. The view of the unity of the human body and psyche was already known to the doctors and philosophers of ancient India and Greece. For example, the founder of scientific treatment, the Greek doctor Hippocrates, expressed and implemented the opinion of the need to see the patient in the context of the overall whole in his writings, indicating that human health is related to quality of life and internal stability.

A holistic approach is important not only in medicine, but also in the social welfare sector, providing social rehabilitation services for children with disabilities – movement disorders. Looking at the various explanations of the terms, it can be concluded that the term “child with functional impairment” is applied to children with disabilities. In Latvia, “disability” means long-term or non-transitory functional limitations of a very severe, severe or moderate degree, which affect a person’s mental or physical abilities, working capacity, self-care and inclusion in society (Law on Disabilities, 2010).

Movement disorders can be caused by congenital disorders, congenital pathologies of the musculoskeletal system, acquired diseases and injuries of the musculoskeletal system. Most of the children with movement disorders are children with cerebral palsy. Cerebral palsy is a disorder of muscle control, congenital pathologies of the musculoskeletal system, acquired diseases and injuries of the musculoskeletal system – traumatic brain and spinal cord injuries, which result in difficulty keeping the body in the right position. It can manifest itself in the form of various movement disorders, which are often accompanied by speech disorders, mental development disorders. (medicine.lv)

Bērtule and Vētra (Bērtule, Vētra, 2014) indicate that the large motor function classification system is used to classify cerebral palsy patients according to their gross motor abilities (LMFKS; The Gross Motor Function Classification System – GMFCS, Palisano, 1997), which has five levels. Manifestations of functional disorders in case of cerebral palsy are different. Some patients have minor mobility impairments, while others are unable to move independently and perform daily self-care.

Children with functional disabilities have the same needs as other children of the corresponding age, to which additional unique needs are added, which are specific to the specific child, when evaluating his health condition. Parents whose children have disabilities face difficulties affecting the quality of life already at the moment when the cause of the children’s functional disorders or the diagnosis is announced, at such moments parents experience intellectual stress, which is associated with frustration and an increased need for information about the causes of the child’s disability and prevention options. Families are also subject to emotional and interpersonal stress. Emotional stress can be caused by the emotional and physical strain of meeting the special needs of children, while interpersonal stress is caused by difficulties in social integration. Families in which children with disabilities grow up are also exposed to stress associated with changes in the family’s

lifestyle, in accordance with the satisfaction of the child's special needs. The new family lifestyle is based on the goal of professional management of the life of a child with a disability and includes learning new roles, and is related to providing the best medical care, learning to become the child's caregivers, and parents must take care that the attention given to a child with a disability does not leave a negative impact on other family members, such as other children. Learning the new roles also requires the performance of additional duties and the need for additional resources, Seligman's notes about this situation in his works (Seligman, 2000.). Therefore, it can be concluded that families of children with disabilities face the need to change their usual way of life, which is formed according to the child's health condition and the specifics of meeting special needs. Thus, when characterizing the quality of life of children with functional disorders, it is important to find out not only the role of special needs in choosing a lifestyle, but also the factors that shape and influence the lifestyle, which in turn largely explain the shaping aspects of everyday life. A child with a functional disability is part of the family. Considering the family as a whole, it is necessary to ensure a modern, professional and holistic approach to the entire rehabilitation process as a whole. This assistance should not only be of a medical nature. It must be complex and touch all spheres of the child's and his family's life.

Social rehabilitation service is a set of measures aimed at restoring or improving social functioning abilities. This includes services at the person's place of residence and in a social care and social rehabilitation institution (Law on Social Services and Social Assistance, 2002).

Rehabilitation of children with disabilities is understood as a system of measures aimed at faster and more complete restoration of health and return to active life. Rehabilitation is a complex system of state, medical, psychological, socioeconomic, pedagogical, industrial, household and other activities – a whole.

Social protection and labour market policy guidelines 2021-2027 provides for the development and improvement of a modern and accessible social service system, which, among other things, improves the opportunities of citizens to live independently and live in society, to be included in education and the labour market. The primary direction of the development of social services is the development of community-based services, promoting the transition of persons to community-based or family-oriented services. Social services are created and developed according to the needs and values of modern society, technological and technical solutions, and the degree of social and economic development. By receiving social services appropriate to the needs, a person's participation in education and the labour market is promoted, which are the most important areas of life for an independent life. (Draft Guidelines "Social Protection and Labour Market Policy Guidelines 2021–2027", 2020).

Analysing the available literature and information data, it can be concluded that a holistic approach includes a complex of measures that promote the comprehensive rehabilitation of children, as well as provide support to families. Therefore,

it is important that families have an understanding of the concept and application of this approach, as family involvement can provide the child with emotional support, which in turn creates a sense of security and improves the child's cooperation with rehabilitation service providers.

## Results and Discussion

Analysing data on the development of children's gross motor skills, the results show that in 16 families (31.4%) the child walks independently, in 11 families (21.6%) the child moves independently, in 9 families (17.6%) the child uses a walking aid, in 8 families (15.7%) the child moved in a manual wheelchair with help, in 7 families (13.7%) the child cannot move and is moved.

Furthermore, when clarifying the situation regarding children's manual abilities, the obtained results show that in 24 families (47.1%) the child works with objects, but a decrease in the quality and speed of the task performance can be observed, In 9 families (17.6%) the child works with objects without restrictions, in 9 families (17.6%) the child needs help to prepare or modify the activity, In 5 families (9.8%) the child works only with easy-to-manipulate objects in adapted situations, in 4 families (7.8%) the child needs full assistance. The results give an idea of the manual skills of 51 children and show that they are good and satisfactory, only 4 children are fully assisted in manual skills.

The survey also revealed information about social and medical rehabilitation services that are currently being used, have been used in the last year or would be desirable for both children (table 1) and their families (table 2).

*Table 1. Social and medical rehabilitation services for children that have been used or would be desirable in the past year*

Name of social and medical rehabilitation service	Families who are currently using the service or have used it in the last year	Families for whom the service would be desirable
ABA system lessons	3	5
Audio speech therapy classes	20	16
Autism specialist consultations	2	2
<i>Biofeedback</i> (feedback) therapy sessions	19	15
Dance and movement therapy	1	11
Occupational therapy classes	35	13
Physiotherapy classes	46	16
Hydrotherapy in the pool	26	15
Youth group classes with a psychologist	2	4
Canistherapy	5	10

Name of social and medical rehabilitation service	Families who are currently using the service or have used it in the last year	Families for whom the service would be desirable
Speech therapist	16	9
PECS and other alternative communication method	1	7
Pearl baths	14	13
Portage Program classes	5	3
Consultations of a psychologist	17	10
Psychotherapy	1	4
Creative Workshop	5	10
Creative camps	4	10
Equine therapy	12	16
Developing communication and communication skills	1	9
Sensory room	3	12
Warm sand therapy	1	8
Sand therapy	5	6
Special speech therapist	2	12
Play therapy	7	5

**Table 2. Social and medical rehabilitation services for families currently in use/in the last year have been used or would be desirable**

The name of the social and medical rehabilitation service	Families who are currently using the service or have used it in the last year	Families for whom the service would be desirable
Support group for family members	10	5
A support or self-help group	3	3
Support-contact training groups	1	1
Occupational therapy for family members	1	3
Physiotherapy for family members	13	15
Family therapy	1	7
Hydrotherapy classes for the family	2	14
Counselling by a cognitive behavioural therapist	1	3
Lessons in the pool for family members	3	15
Nordic walking lessons for family members	4	7



The name of the social and medical rehabilitation service	Families who are currently using the service or have used it in the last year	Families for whom the service would be desirable
Consultations of a psychologist/ psychotherapist for other children in the family	3	4
Psychologist counselling for family members	7	12
Psychotherapist counselling for parents	4	11

When clarifying the opinion of the respondents about the understanding and importance of the holistic approach in the process of social and medical rehabilitation, 45 families (88.2%) are convinced that there is a connection between physical and general social well-being, 4 families (7.8%) found it difficult to evaluate this question, 2 families (3.9 %) believe that the relationship between physical and general social well-being does not exist.

In the course of the research, the parents' opinion on the importance of a holistic approach in the rehabilitation process was ascertained, and the obtained results show that 18 families (35.3%) feel the difference, using a holistic approach in the rehabilitation process, 31 families (60.8%) found it difficult to evaluate this issue, 2 families (3.9% ) indicate that they do not feel the difference. The results show that 18 of the surveyed families have paid attention to the planning process of the child's holistic approach to social rehabilitation, the results and their evaluation, but more than half of the surveyed parents have not paid increased attention to the process of holistic approach to social rehabilitation.

When clarifying the opinion of the respondents about the need for family involvement in the social rehabilitation planning process, the obtained results show that 41 families (80.4%) believe that it would be desirable for parents to participate in the social rehabilitation planning process.

## Conclusions

1. Families of children with mobility impairments face various problems, in the solution of which an important role is played by social rehabilitation services planned for the individual needs of families and based on a holistic approach;
2. Families use a holistic approach in the social rehabilitation of a child with mobility impairments and note its positive impact;
3. Families of children with mobility impairments understand a holistic approach in the process of social rehabilitation of children with mobility impairments;
4. The offer of the social rehabilitation service plan of the holistic approach concept should be improved and a long-term implementation schedule should be developed for families together with state and local government institutions.

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# PATIENT'S PSYCHOLOGICAL WELL-BEING EXPERIENCE IN INTENSIVE CARE UNIT

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## **Abstract**

The importance of the topic is determined by the state of health of the patients in the intensive care units, causing strong physical and psychological suffering. The gained experience not only causes suffering during the stay in the intensive care unit, but it can have consequences in the future, leading to psychological problems and mental disorders. The goal of the study is to find out the patients' psychological well-being experience in the intensive care unit. We used a qualitative research method in the study. The results of the study were analyzed using the content analysis method. Research tool – structured interview. During the Covid pandemic the respondents were selected for the interview according to the convenience or sampling method available on the social network Facebook. Summarizing the results of the study, it was concluded that patients in the intensive care units face both positive and negative feelings. Limited communication with loved ones, lack of personal belongings, clothing and a mobile phone create a feeling of emotional suffering and isolation. Most patients report that privacy is provided in intensive care units, but independence is robbed by the severity of the health condition and insufficient staff communication. Effective communication could facilitate acceptance of the status quo, create a sense of security and foster trust in staff. Currently research on patient well-being in intensive care units is not widely conducted in Latvia, therefore research perspectives open up that these results could possibly be included in intercultural research on the impact of environment and patient care on their well-being in intensive care unit.

**Keywords:** intensive care unit, experience, psychological well-being

## **Introduction**

There is still a lack of understanding of human being as an integral whole in the health care system nowadays and physical health is inseparable from psychological health and well-being. Healthcare professionals in patient care have to pay more attention to the person's experienced psychological suffering when his or her health deteriorates. According to MedicineNet (2018) one of 3 patients who stay in the intensive care unit for more than 5 days experience intensive care psychosis or some other type of psychosis. The experiences gained can cause suffering not only at the moment, but also in the future. Literature sources shows that up to 30%

of patients may suffer from mental disorders and various psychological problems, such as post-traumatic stress disorder, depression, anxiety, cognitive impairment and executive dysfunction, even one year after treatment in the intensive care unit (Wade, 2016; Milton et al., 2017).

In order to help patients recover faster, reduce the development of psychological complications and reduce the time of rehabilitation, it is important to take care not only of physical well-being, but also of psychological well-being. Nursing care plays an important role in influencing a patient's psychological well-being. Upon entering the intensive care unit the patient is subject to strict regulations, radical treatment methods and spends every 24 hours with the nurse in one ward. The hospital ward's procedures, rules and treatment methods are familiar and self-explanatory for nurses, but not for the patient. Nurse provides the care on a physical level as well on a psychological level, doing it with dignity, empathetically, using all her professional competence and listening to the patient, thus she is able to promote patient's psychological well-being. The aim of the study is to find out the patients' experience of psychological well-being in the intensive care unit.

## Methods

The goal of the study is to find out the patients' experience of psychological well-being in the intensive care unit and research question: what is the patients' experience of psychological well-being in the intensive care unit? The study was conducted in the period from April 5, 2020 until April 30, 2020 using the online social network Facebook video calling feature. Respondents were selected for the partially structured interview on the basis of a specific feature, ie they were patients of the intensive care unit, according to the convenience or available sampling method on the social network Facebook. A total of 6 respondents were interviewed; 3 women and 3 men, aged 30–61, the average age of the participants was 41 years. They were treated in the intensive care units of different hospitals, during years 2005–2018, the time spent in the intensive care unit by the respondents was from 2 days to even 6 days. The results of the study may be influenced by the large differences in the age of the respondents and the duration of treatment and the changes that might have happened in intensive care units during the years.

The study uses a qualitative research method. The results of the study were analyzed by content analysis. The research tool was a structured interview. The interview questions were developed on the basis of the analysis of literature sources and K. Rifa's "The Six Factor Theory of Psychological Well-being and Harmony of Life" and T. Dembo – S. Rubinstein's self-assessment scale. Respondents were selected for the interview on the basis of a specific feature – they were patients of the intensive care unit, according to the convenience or available sampling method on the social network Facebook.

## Results and Discussion

Patients in the intensive care unit often experience negative feelings such as fear, ignorance, helplessness. As one of the main causes of negative feelings, most respondents point to insufficient communication and lack of information from the staff. While in the intensive care unit the average level of anxiety/fear of patients on a 10-point scale is evaluated with 5 points, which indicates an average level of anxiety/fear. From the answers obtained as anxiety/fear mitigating factors can be considered the presence of staff and high quality communication of staff with patients, on the other hand the lack of information, insufficient staff communication with patients and the presence of many medical devices can be convincingly identified as aggravating factors.

Patients have different opinions about the limited possibilities of communication and communication with relatives while in the intensive care unit. Opinions can be influenced by the severity of the health condition, relationships with relatives, communication habits, individual characteristics of the personality, such as temperament, individual value system, nature. Based on the data obtained there is a trend for men to be able to accept communication restrictions more easily while for women limited communication is one of the most difficult rules to accept in the intensive care unit. The age of the patients does not have impact on the ability to react on communication restrictions.

Restriction of personal belongings and being in a ward without clothing promotes the development of negative emotions, but feelings affect each patient's ability to accept the current situation and condition, as well as the severity of the physical condition. It is more difficult to accept the lack of personal belongings, especially a mobile phone, for patients who are able to use it. The assessment of being naked in a ward is also different – for some it creates a feeling of discomfort and additional experiences, while others being without personal belongings perceive it more negatively than being without clothes.

Patient privacy in intensive care units is most often ensured from the eyes of other patients by the use of screens or curtains as well as by performing any manipulation or hygiene procedures without the presence of unauthorized persons. The independence is lost due to the severity of the condition and inadequate staff communication: incomplete information about what to expect, failure to give instructions and failure to seek patient consent. Being together of both genders in the same ward for women more likely can cause emotional discomfort or additional undesirable experiences.

Most respondents indicate that staff had provided answers to their questions that may be incomplete, but they can get answers. The success or failure of communication can also be affected by the compatibility of patient and staff natures. Patients are very diverse: some may feel relieved if the staff does not interfere unnecessarily with communication, but for some it causes additional suffering and creates

a negative image of care in general. High quality communication between patient and staff was repeatedly highlighted by respondents as an important factor in psychological well-being, pointing out that communication is important not only as a means of communication and ability to meet needs, but also as an anxiety / fear reducing factor that facilitates acceptance of the current condition and promotes confidence in the staff of the intensive care unit. Intensive care patients often have limited verbal communication opportunities, which is a challenge not only for the patient but also for the staff. Nevertheless the participants of the study point out that the communication is effective, the opportunity to communicate in writing is provided, as well as signals for attention are developed in cooperation with the staff. In cases where the patient is unable to communicate verbally, the continuous presence of staff and agreement on help signals acts as a factor promoting psychological well-being.

Excellent sleep is one of the factors that reduces psychological stress. All respondents indicate that the quality of sleep in the intensive care unit can be evaluated as good, yet some admit that sleep has been fostered by a serious health condition and medication received. Respondents had faced both: emergency situations at night and other anxious patients, but the staff has handled these situations quickly. The quality of patients' sleep in the intensive care unit is less affected by the rhythm and specifics of the unit than by the individual psychological experiences of the respondents.

Intensive care patients often experience obsessive thoughts, nightmares and hallucinations. The feelings they evoke are more often fear, confusion associated with the loss of reality. It is important that the patient has someone to share the experience within the intensive care unit. One respondent stated he had experienced nightmares at night related to the intensive care unit on a regular basis for another 1.5 years after treatment. Respondents also note that they have heard or seen in the intensive care unit the altered states of consciousness experienced by other patients which have caused different feelings from coexistence to a threat to their safety as well as depression.

Three respondents experienced life-saving actions. Prompt action by ward staff to prevent an emergency situation as well to take away other adjacent patients is essential to promote patients' psychological well-being and not cause additional emotional suffering. Experiencing life-saving actions has caused respondents different feelings of hope, gratitude, and grief and confusion. Respondents deny lasting experiences after these events.

In general the care in the intensive care unit is remembered positively by most respondents and most influenced by the quality of communication between patient and staff, including staff attitude and communication style, clearly marking the trend to evaluate the care positively if the respondent as a patient had received answers to the questions as well explanations from staff on the forthcoming procedure. Regardless the illness and situation, respondents mentioned in their interviews

that they had experienced bad communication in the intensive care unit. A negative assessment of a situation or care in general is given by respondents who had not been able to communicate fruitfully with staff, had not been heard or had not received a response.

Despite the fact that the care in the intensive care unit was assessed by the majority as good or satisfactory the respondents felt situations that caused psychologically hard experiences and provided valuable recommendations for promoting the psychological well-being of patients. In particular, in order to promote the psychological well-being of patients in the intensive care unit, the quality of communication between patients and staff should be improved, patient independence should be promoted, psychological support should be offered and better communication with relatives should be provided. Communication is an element of care that needs to be given more attention in the intensive care unit and developed by the unit staff. Respondents were also encouraged to assess the private space in the intensive care units for each patient so that patients cannot touch each other and pull off screens and look at each other.

It is essential to direct the attention of health care workers to ensure the well-being of patients in an inpatient environment, especially patients who are in intensive care units, and are exposed to total or partial immobilization, noise from machines, exposure to bright light, and experiencing pain and other physical difficulties. In the recovery process of these patients, ensuring psychological well-being has a significant impact on the physical body and health in general, as evidenced by the results of studies conducted elsewhere.

Research evaluated the respondents view on life, which has an impact on person's longevity. Psychological well-being is most often seen as a subjective value, but despite its subjectivity, its impact is very broad, affects overall public health, it reduces the development of chronic illnesses and improves life expectancy, and affects the country's overall demographic and economic situation. In Spain a 20-year longitudinal study demonstrating a correlation between a positive perception of aging and longer life expectancy found that people with a positive perception of aging (at the age of 50) lived an average of 7.6 years longer than those who showed a consistently negative perception of their aging from the beginning of the study and during its course (Vazquez et al., 2009; Yoo et al., 2019).

In 2019 the Japanese published a study on the relationship between psychological well-being and the overall health condition of the Japanese population. The results of the study indicated that participants with initial poor psychological well-being had poorer overall health condition initially and at the end of the study, and they were more likely to complain of chronic illnesses and periods of disease exacerbation than participants with high or medium level of psychological well-being which remained unchanged during the study (Yoo & Ryff, 2019).

Psychological well-being is especially important in the pre-surgery period, during the recovery period as well during rehabilitation. The patient's feelings, desire

to be healthy, desire to regain independence and expectations have a great influence on the outcome of treatment. In Sweden the study has been carried out in the general intensive care unit of the University Hospital showing that early assessment of the psychological condition of patients in the intensive care unit as well as early intervention and improvement of psychological well-being reduces the development of psychological disorders and mental illnesses while staying in the intensive care unit and leaving it. During the treatment process experienced negative emotions, the acquired psychological trauma negatively affects the entire subsequent treatment and rehabilitation process, as well as promotes relapse and the development of complications (Chivukula et al., 2017; Milton, Bruck, Shandl, Bottai & Sackey 2017).

The intensive care unit is a special functionally independent unit of the hospital, a semi-closed system with limited unauthorized access, with specially trained staff, clearly defined scope of clinical and intensive care activities, which includes correction, restoration, replacement, maintenance and supervision of vital functions of critically ill patients with acute pathological processes (Rožkalne, 2016; Vanags and Sondore edition, 2017).

Intensive care is characterized by dynamism and a complex approach. In order to provide the best possible care, more effective monitoring and better treatment outcomes patients are divided into 3 worldwide levels based on the nursing-patient ratio, however the nursing-patient ratio may vary from hospital to hospital depending on the resource availability (Vanags and Sondore edition, 2017). In most Latvian intensive care units such relationship between nursing-patient ratio and the level of care does not exist, because hospitals do not have possibility to provide it due to the inadequacy of the existing ward premises and due to the lack of staff resources. Sufficient staff resources are one of the main preconditions for the implementation of high-quality, holistic intensive care and treatment, referring to the data provided by the Ministry of Health (2019), there is a shortage of about 1,500 nurses in Latvia. Holistic care is mainly related to the attitude and behavior of middle-level care staff, that is, the common attitude of nurses, physician assistants, nursing assistants, sanitary patient caregivers (Chivukula et al., 2017; Chivkula, Hariharan, Suvashia, Thomas & Swain, 2014).

Patients in the intensive care unit are exposed to full or partial immobilization due to pathological processes, maintenance of normal physiological functions of the body, pharmacological therapy and continuous monitoring of vital functions. Immobilization robs autonomy and privacy, which contributes to a decline in psychological well-being, increases vulnerability, feelings of helplessness and dependence on staff. The environment of the intensive care unit also causes changes in the sensory system, creates sensory overload with excessive noise and light. The sources compares the experiences of intensive care patients with those of torture victims in relation to isolation, sleep disturbances, food and drink restrictions (Chivkula, Hariharan, Suvashia, Thomas & Swain, 2014; Vanags and Sondore edition, 2017).



Relationships and communication between healthcare professionals and patients are essential when entering the intensive care unit. Explanations, advice, persuasion, support, hope, self-esteem, empathy, listening, touch, emotional care and full attention to the patient create a “cushioning” effect and make it easier to accept the current situation and reduce the impact of adverse factors on the patient’s psychological well-being (Chivukula et al., 2017).

In Latvia, there are currently no extensive studies on the well-being of patients, including those in the intensive care unit, which suggests the relevance of the topic among Latvian health care workers, as well as the society as a whole. According to the authors of the article, research perspectives are opened that could be included in cross-cultural research on the influence of environment and care on the well-being of patients in different hospital settings.

## Conclusions

Positive or negative experiences of psychological well-being gained in a medical institution may motivate or deter an individual from seeking help from health care professionals in the future facing health problems. Care in the intensive care unit is complex and dynamic mainly focused on the correction, restoration, replacement, maintenance and monitoring of vital functions of critically ill patients. Activities aimed at providing these functions and a lack of staff resources or staff knowledge may make it difficult to implement a holistic, patient-centered approach to care.

Intensive care patients face fear, ignorance, helplessness, with insufficient staff communication with the patient being the main contributing factor. The sense of independence of the patients of the intensive care unit is most often robbed by the severity of the condition and insufficient staff communication with the patients – failure to warn about the upcoming procedure, failure to provide instructions and failure to ask the patient’s consent. For female respondents the limited opportunities for communication with their family members, while being in the intensive care unit, caused emotional suffering, whereas the male respondents could accept communication restrictions more easily. The presence of patients in the intensive care unit without clothing and personal belongings contributes to the development of negative emotions, the most suffering is caused by the lack of a mobile phone, creating a feeling of isolation. Most of the respondents, while in the intensive care unit, have experienced themselves or encountered altered states of consciousness of another patient, which caused anxiety, fear, depression and suffering.

Positive emotions for patients are facilitated by staff care, constant presence and conversation with the patient. Effective communication could facilitate acceptance of the status quo, create a sense of security and foster trust in staff. Respondents admit the quality of staff communication with the patient as the most important element of intensive care and indicate that it promotes patient independence, provides psychological support and better communication opportunities with relatives.

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# CREATION AND OPERATION OF MULTIPROFESSIONAL PALLIATIVE CARE IN LATVIA

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## Introduction

The main problem at the moment in the palliative care sector in Latvia is the lack of palliative care outside hospital walls and the non-existence of palliative care's continuity, and the service's provision in outpatient settings. The Republic of Latvia has not had an organized palliative care system in which patients and their relatives would feel confident that they will not be abandoned to their fate when the fateful hour comes. The disease in the terminal stage almost always has negative dynamics and progressive symptomatology – pain, shortness of breath, weakness, and general deterioration which eventually deprives the patient of self-care abilities, passes into an agonal state, and manifests with the patient's death. Taking into account the current situation in Latvia, all of the above is accompanied by complete and absolute ignorance, incomprehension and despair. In the Latvian health care system, there is no way forward for these patients, all they have is universal conditions that apply to all of them, that is, it is every man for themselves, every man on their own.

In November 2021, a pilot project “On the Provision of Mobile Palliative Care Services”, organized by the Ministry of Health and financed by the European Social Fund, was launched (procurement's identification No. VM 2021/03/ESF). After evaluating the submitted applications, Magnum Social & Medical Care Ltd (center RŪRE) was selected as the winner of the tender. The territories covered by the pilot project are Liepāja city and South Kurzeme region.

The task of the pilot project is to provide full-fledged, comprehensive, multi-professional palliative and hospice care to patients and their family at home, thus reducing NMPD (the State Emergency Medical Service of Latvia) call-outs, hospital caseloads for palliative care patients, and relieving general practitioners – to create a new multiprofessional palliative care's provision system.

Palliative care is interdisciplinary, holistic care of patients whose disease is life-limiting and cannot be radically treated, with the aim of preventing or reducing the suffering caused by the disease in order to ensure the highest possible quality of life for the patient and his family. Palliative care includes prevention and treatment of symptoms caused by the disease, psychological, social, and spiritual support, including for the patient's family during the grieving period after the loss of a loved one. Hospice care is interdisciplinary, holistic, and individualized care of dying patients and their relatives at home, in a medical institution, a social care facility, or a hospice

which aims to prevent or reduce the pain and suffering caused by the disease, and to meet the emotional and spiritual needs of the patient and his relatives. In hospice care, the patient's comfort, quality of life, and individual needs are prioritized. Hospice or *End-of-Life-Care* is the final stage of palliative care that cannot be separated from palliative care as a whole (Figure 1). The prevailing opinion in the world states that the life expectancy of adult palliative care patients is up to 6 months.

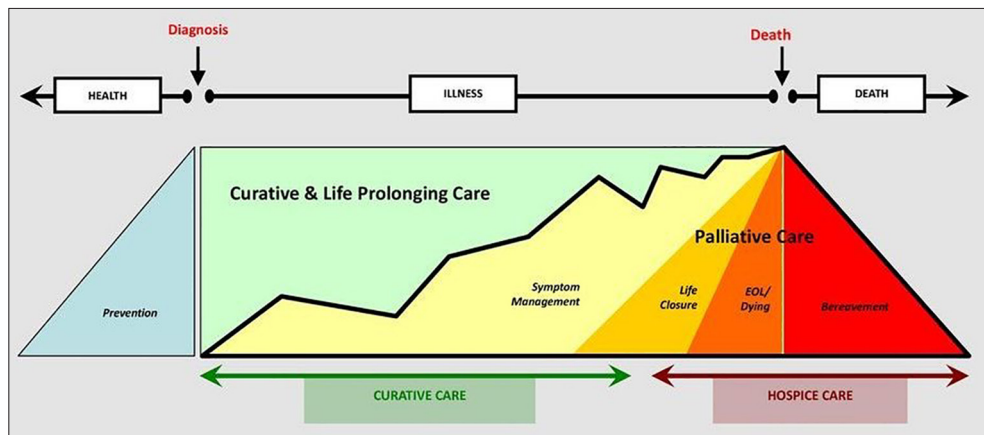


Fig. 1. Hospice or End-of-Life-Care Patient's Path and Procedure for Receiving the Service

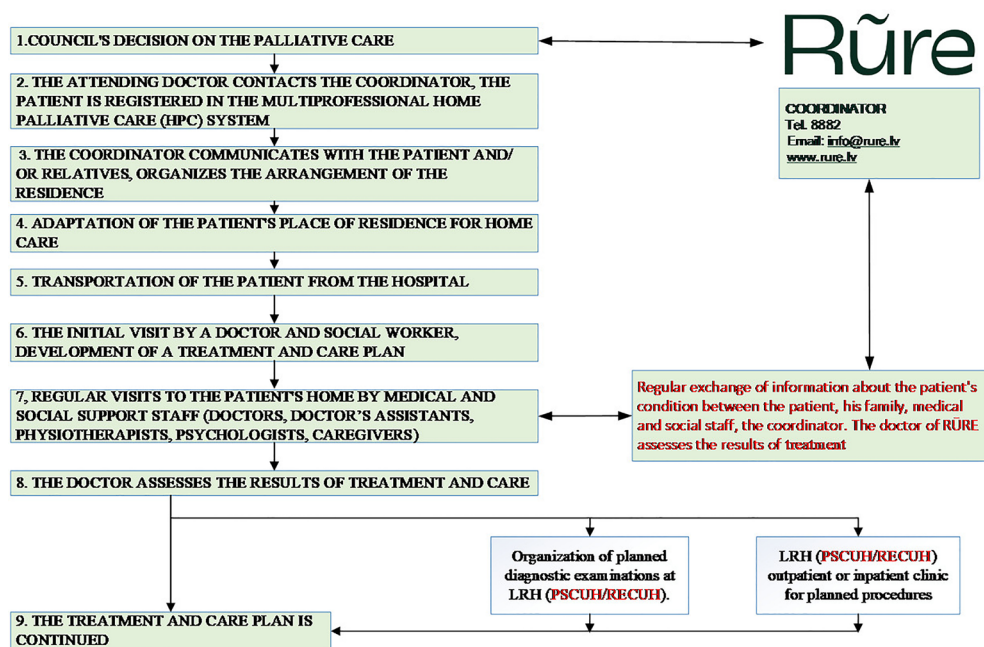


Fig. 2. Patient's Path and Procedure for Receiving the Service

## Work organization of the multiprofessional palliative care team “RÛRE”

The organization of the palliative care we have created is shown in the diagram “Patient’s Path and Procedure for Receiving the Service” (Figure 2).

To receive the service, the patient needs a doctors’ council decision which indicates palliative care and symptomatic therapy. The coordinator of the hospital doctors’ council, after a decision has been reached, contacts the center’s RÛRE coordinator of multiprofessional Home Palliative Care (HPC), and the patient is registered in the HPC system. The HPC coordinator contacts the patient and/or relatives, organizes the patient’s transport from the hospital (if the patient is in hospital), the patient’s accommodation, and the first visit of the doctor and social worker.

During the initial visit, the doctor assesses the patient’s medical history, complaints, mobility, and degree of activation, disease-related complications, and forms and manifestations of exacerbations, objective condition, and recommendations of the hospital attending doctor. It is essential to define and anticipate the potential complications associated with the underlying disease at the initial visit and what the response algorithm should be. Anticipating complications also allows us to anticipate the treatment algorithms and tactics. If potential complications related to the underlying disease can be predicted, health problems that may not be related to the underlying disease such as acute myocardial infarction, acute CNS bleeding disorders, and other problems unrelated to the underlying disease can be more easily recognized. The doctor develops a daily, basic therapy plan for symptomatic treatment, schedules planned visits by medical staff (doctor’s assistants/nurses, physiotherapists, psychologist/psychotherapist, nutritionist), assesses and determines the necessary technical aids (both mobility aids and aids for adapting to the place of residence), prescribes and organizes the necessary additional planned examinations and/or manipulations.

The social worker assesses the patient’s social environment, living conditions, care options at home, provides all necessary and possible support and benefit services from the municipality (organizes fundraising for family members, organizes a social caregiver delegated by the municipality). Unfortunately we must admit that different municipalities offer different social benefits and forms of support. There is no set, unified procedure for granting such benefits in the country as each municipality develops its own, different binding regulations. Thus, when organizing palliative care, patients must take into account the special regulations on social assistance of each region or city.

After the initial visit, the doctor and social worker have developed an individual palliative care plan.

During the initial assessment of the patient, communication is made with family members and/or persons who will assist in the patient’s daily care. Family members are educated on proper and high-quality patient care (prevention of bedsores

and correct turning and positioning of patients, correct washing of the patient, desired hygiene standards, and other nuances related to the care), they are also educated on and informed about potential complications and exacerbations related to the underlying disease, and primary response mechanisms. In case of confusion, complex situations, or other reasons, the patient and relatives are informed about the possibility of contacting the call center/coordinator 24/7 for a telephone consultation to assess the need for an out of turn visit by a medical team. Out of turn visits by a doctor and/or doctor's assistant are provided in 24/7 mode.

The doctor and social worker assess whether the patient can be cared for 24/7 by the patient's relatives at home; if it is possible, medical and social care will be provided at the patient's place of residence.

If, as a result of the initial evaluation, it is assessed that the patient needs 24/7 care, the coordinator and the social worker, in cooperation with the municipality's Social Service, will organize the provision of further care in a long-term social care institution (at RÛRE health center or another long-term social care and social rehabilitation institution in the region) which accommodates the patient and provides 24/7 care. The individual palliative care plan does not change in its essence, only the place where the team provides a medical service changes; in this case the long-term social care facility is the patient's home.

The individual palliative care plan is realized and executed in practice by a team of specialists – doctor's assistants/nurses, physiotherapists, psychologists/psychotherapists. The composition of the team, the number of visits per day and/or per week, and the range of services to be provided are determined by the individually developed palliative care plan.

The coordinator is at the heart of the organization and ongoing implementation of the whole palliative care plan. The coordinator ensures the continuous flow and exchange of information between the team members and the patient and/or patient's family members; the coordinator ensures the exchange of information with the regional hospital (admission and registration of new patients, organization of planned examinations, organization of planned manipulations, and organization of planned outpatient or inpatient clinic's services), as well as plans the field visits of the teams, their composition, and ensures logical and efficient planning of the work schedule.

During each visit, the medical staff (doctor's assistant/nurse, physiotherapist, psychologist) evaluate the patient's state of health dynamically (using forms developed and adapted by RÛRE HPC), collect medical history from the patient and his family members, perform an objective assessment of the patient's state of health, and if necessary, perform express diagnostic tests (for example, express urine tests, glucometry, occult blood in feces, etc.). Team members communicate with the patient's relatives, they help to understand ambiguities, provide spiritual and psychological support, provide additional consultations and training if necessary.

After assessing the patient's state of health, the team determines whether the patient's state of health is dynamically improving, worsening, or not changing. Dynamic monitoring of health helps to assess the effectiveness of the prescribed therapy, the progression of the underlying disease, and to recognize complications related to the underlying disease. The team documents the completed manipulations, procedures, and the dynamic changes in the patient's health status in the electronic outpatient card of each patient. The updated patient's information instantly enters an electronic database which is accessible to the coordinator and the doctor. If the patient's health condition does not worsen dynamically and no new complaints arise, then the existing therapy plan is considered effective and is maintained for future visits as well.

In the event that, after evaluating the health status, it is found that the patient's health is dynamically worsening, the team contacts the doctor and the coordinator, and they collectively decide on further actions. Another doctor's visit is arranged, the number of visits is increased or decreased, adjustments are made to the existing therapies and procedure plan, diagnostic examinations are prescribed.

Visits to specialists, procedures, additional examinations, and tertiary palliative care are organized by the coordinator at the regional hospital's outpatient, specialized, and/or university clinics. The coordinator communicates with the inpatient clinic for the execution of the planned procedures, and organizes the team that ensures the planned transportation of the patient. The coordinator plans the date and time of transportation and planned outpatient procedures with the patient and the patient's relatives. After visiting the inpatient clinic, the team ensures the patient's return to his place of residence.

Defining what the changes in health status are related to is essential in the dynamic assessment of a patient's health. It should be assessed whether the health's deterioration is due to the progression of the underlying disease and associated complications, or to inadequate and ineffective care of the patient at home (failure of relatives to provide effective prophylaxis of bedsores, insufficient food consumption/nutrition, non-compliance with hygiene requirements, etc., health and environmental problems unrelated to the underlying disease).

The ability of the patient's relatives to provide full-fledged and effective patient care (burnout syndrome, inadequate care, other reasons) should be re-evaluated; if necessary, additional psychological and spiritual support should be provided, as well as additional training of the relatives. If, as a result of re-evaluation, the team assesses that the patient's relatives are unable to provide full-fledged and effective care, and/or the patient needs 24/7 care, the coordinator and the social worker, in cooperation with the municipality's Social Service, will organize the further provision of care in a long-term social care institution (at RÛRE health center or in another long-term social care and social rehabilitation institution in the region) which accommodates the patient and provides 24/7 care.

The patient and/or relatives have the right to refuse the transfer to a care facility (most adult palliative care patients want to receive palliative care services, support, and to die with dignity in their own home <sup>(American Cancer Society)</sup>). In such a situation, the patient and/or relatives sign a refusal to transport the patient to a care and/or treatment facility. By signing the waiver, the patient and/or relatives are informed and understand the potential risks and outcomes.

### **Resources for a full-fledged and efficient implementation of the service**

For a patient with palliative care indicated, one of the main values is time that remains. Palliative care at home and all related support must be provided immediately, without queuing. Palliative care at home is a multiprofessional team effort that requires many, varied, and specific resources – staff, pharmacy, equipment, technical aids, and specialized transport.

RÜRE HPC team consists of 29 specialists (doctors, coordinators, doctor's assistants, nurses, psychologists, physiotherapists, nutritionist, social workers, drivers). A holistic approach to palliative care means that there are no more or less important colleagues. It is a multiprofessional team effort where every colleague is equally important for the full provision of the service.

The pharmacy must be provided with absolutely everything that might be necessary for the care of these patients – medications, infusion solutions, dressing materials, wound treatment products, stoma kits, enteral feeding mixtures, blood test tubes, medical bags, oxygen cylinders, and other resources. The equipment is an equally important component for providing high-quality and full-fledged service – portable perfusors for long-term and continuous administration of therapy, express analyzers, and portable diagnostic devices (hemoglobinometer, hemoplus, urine express analyzer, portable cardiograph), oxygen concentrators for providing oxygen therapy in home conditions. The goal is to provide as much as possible in the patient's home, and to reduce the frequency of patient's transportation to hospitals.

The provision of technical aids is also an important issue. Each palliative care patient's case is individual, each assessment is unique, but what is common is that the patient needs aids immediately, especially if the patient is in need of a functional bed. The patient does not have time to wait for weeks while going through the bureaucratic procedure, trying to receive functional aids through the National Rehabilitation Center "Vaivari". The progression and dynamic development of the disease are unpredictable, so the need for aids is often sudden and urgent. The service provider must be able to provide any and all aids within 24 hours, not within multiple days or weeks.

Transport technical resources are specialized vehicles necessary for transporting patients to planned outpatient specialist consultations, visual diagnostic



examinations, outpatient or inpatient clinics. RŪRE provides two types of specialized vehicles – a car for transporting patients who are lying down, and a car for transporting patients who are seated but are limited in movement (in a wheelchair). RŪRE also has one more, the third vehicle – a car which is used for daily visits to the patient by members of the multiprofessional home palliative care team.

### **Patients who need 24/7 care**

There are and will inevitably be occasions when a patient's health and social situation require 24/7 care. According to the data gathered by RŪRE, it can be seen that 85–90% of patients wait for the fateful hour at home with their relatives and in a familiar environment; the remaining 10–15% of patients, on the other hand, need 24/7 care in a specialized institution. In Latvia, such care is provided in long-term social care and social rehabilitation institutions. Unfortunately, most Latvian long-term social care and social rehabilitation institutions do not want to see such patients, but not without good reason. At the moment, these institutions have neither the medical capacity to admit such patients, nor the capacity of professional competence, nor the staff capacity. In simple words, nobody in a classic Latvian “nursing home” knows what to do with patients of this profile.

In the last year, there have been two effective solutions for providing high-quality care of such patients in Liepaja and South Kurzeme. The first solution's idea was that the coordinator and the social worker, in cooperation with the municipality's Social Service, will organize the provision of further care in a long-term social care institution which accommodates the patient and provides 24/7 care if the patient respectively needs 24/7 care. The multiprofessional palliative home care continued to be provided by RŪRE (the individual palliative care plan does not change in its essence, only the place where the team provides a medical service changes; in this case the long-term social care facility is the patient's home).

The second solution's idea was to provide 24/7 care for patients at RŪRE health center. In May 2022, Magnum Social & Medical Care Ltd long-term social care, social rehabilitation, and treatment institution (center RŪRE) opened its doors. RŪRE is the first institution of its kind in Latvia that does not separate social care and health care, but provides an integrated health care service. The integrated health care approach has enabled the health center RŪRE to admit and provide high-quality palliative care to patients whose further care could not be provided at home.

In November 2022, a pilot project “On the Establishment of a Health Care Point and Provision of Health Care Service in a Long-term Social Care and Social Rehabilitation Institution”, organized by the Ministry of Health and financed by the European Social Fund, was launched (procurement's identification No. VM 2022/27/ESF). After evaluating the submitted applications, Magnum Social & Medical Care Ltd (center RŪRE) was selected as the winner of the tender. The task of the procurement is to develop the content of the health service, and its provision

in a long-term social care and social rehabilitation institution, to improve access to the health service for patients who are in a long-term social care and social rehabilitation institution, to reduce the number of NMPD call-outs, and consequently the workload of inpatient medical institutions with patients who reside in a long-term social care and social rehabilitation institution. The purpose of RŪRE is to create and ensure the availability of a comprehensive, human-centered, multidisciplinary health care service for people who reside in long-term social care and social rehabilitation institutions.

The experience of RŪRE has shown that a hospice service can be very successfully provided to a patient in a long-term social care and social rehabilitation institution. If the care facility does not have adequate medical staff and/or the required equipment to carry out a manipulation, mobile teams will be providing medical care. In the case of the health center RŪRE, the institution provides both long-term social care service and full-fledged outpatient medical service which results in a provision of comprehensive and holistic palliative and hospice care service.

### **Amount of funding required for implementation of the service on a national scale**

According to the calculations made by RŪRE, one day of care for an HPC patient will cost 46 EUR. On average, 150 new patients are planned per 100 000 inhabitants per year, and the average length of care per patient is 51 days. Converting expenses for the whole country, a total of 6 686 100 EUR is needed per year. Calculation formula –  $46 \text{ (eur/day)} \times 51 \text{ (days)} \times 150 \text{ (patients/year)} \times 19 \text{ (population of Latvia)} = 6\,686\,100 \text{ EUR}$ .

At the same time, also on average, 5 SCC beds per 100 000 inhabitants are needed for patients who require 24/7 care. Converting expenses for the whole country, a total of 1 595 050 EUR is needed per year. Calculation formula –  $46 \text{ (eur/day for accommodation in SCC)} \times 365 \text{ (days/year)} \times 5 \text{ (required number of beds)} \times 19 \text{ (population of Latvia)} = 1\,595\,050 \text{ EUR}$ .

### **Conclusions**

1. Within a year, we have created and implemented a new multiprofessional palliative care provision system which is based on medical and social care complex, and sequential provision of the service at the patient's place of residence, in a long-term social care and social rehabilitation institution, and in a level III or IV inpatient clinic.
2. The service requires criteria that define the conditions under which a patient can receive multiprofessional palliative care at home paid by the state. Currently, the most effective and objective assessment of a patient to determine eligibility for the service is a regional hospital's doctors council's decision which

indicates *palliative care, symptomatic therapy*. A decision that a patient's illness cannot be cured by medication, surgery, radiotherapy, or chemotherapy can only be made by specialists in their field, and cannot rest on the professional competence of a single specialist. It must be the council's decision, not a personal conclusion of a general practitioner or any other specialist.

3. Close cooperation with the regional hospital is the cornerstone of the service's launch given that the flow of patients is handled by the regional hospital's doctors' council.
4. If the patient will be provided with the multiprofessional palliative care at home, then the NMPD is not called in case of exacerbation of symptoms; patients who receive palliative care are not hospitalized acutely in the admission department, and accordingly are not further unnecessarily placed in inpatient clinic's wards. In case of complications, confusion, or exacerbation of symptoms, the patient and/or relatives can contact the coordinator of RŪRE (24 hours a day) who will advise the patient and/or relatives, and if necessary, send a team to the patient's place of residence. If the daily, basic symptomatic therapy for the patient is successfully developed, and the desired result of the therapy is achieved, crisis situations with sudden exacerbations of symptoms will be significantly reduced.
5. Around 87% of patients who receive multiprofessional palliative care at home eventually die in home conditions. 10% of patients who cannot receive 24/7 care in home conditions are referred to specialized institutions such as RŪRE where the patient is provided with 24/7 care in a long-term social care and social rehabilitation institution while also maintaining the full range of medical services. 3% of patients die in hospital.
6. Palliative care in the country requires a total of 8 281 150 EUR per year (both HPC and SCC).

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# DEVELOPMENT OF PODOLOGISTS' CAREER MANAGEMENT SKILLS IN LIFE-WIDE LEARNING CONTEXT

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## Introduction

One of the objectives in the European Commission's Lifelong Learning Strategy is to develop effective teaching and learning methods and contexts for lifelong and life-wide learning (Eiropas Savienības Padome, 2018). In Latvia, the concept of lifelong learning is widely analysed, studied and used in everyday life when referring to the process of lifelong learning and personal development in the context of informal education (Barnett, 2010; Muraškovska, 2012). However, the concept of life-wide learning has already been integrated in the context of formal education in the global higher education space for several years (Jackson, 2018). Nowadays, education is not limited to the time spent in an educational institution (e.g., college); an individual should have a real opportunity to learn throughout one's life. Life-wide learning includes formal, non-formal and informal learning as an interconnected and continuous system (Jackson, 2014; Holm, 2011). In the paradigm of education, a life-wide learning as a continuous learning process extends the general knowledge and develops new experience-based knowledge, skills and abilities, and contributes to the overall personal development of individuals, including the development of career management skills. Besides, during the global COVID-19 pandemic, the life-wide learning became particularly essential and topical, when a whole new learning experience was gained with a highlight of learning to learn skills, since the life-wide learning refers to students' learning in real contexts and authentic environments (Jackson, 2018).

Saulīte (2019) states that from the pedagogical perspective career management skills are part of the concept of life-wide learning, helping to achieve such individual development goals in life as self-awareness (self-evaluation skills), understanding of the changing world of labour (innovative skills), the skills to take responsibility for one's own well-being and personal development (responsibility skills, entrepreneurship skills), and skills to balance one's work and learning throughout life (decision-making skills, planning skills).

Universities and colleges can significantly improve individuals' readiness to learn for life by using a competency-based and experiential learning approach, methods and techniques (didactic tools) that enhance learners' self-confidence, improve skills to analyse personal life experience and apply them for the development of new

skills and knowledge, with reference to Jackson (2014). Therefore, the learning of career management skills can be effectively integrated into the education process of podologists, linking closely the knowledge and skills that are required in their profession and life activity in general.

The aim of the study is to analyse the development of podologists' career management skills, which is facilitated by learning to learn skills in its broadest sense, i.e., in the life-wide learning context that is characterised by understanding of knowledge-based and experience-based learning objectives, self-reflection, collaboration and informal learning in the study process.

## Methods

The study encompasses the theoretical literature analysis and empirical methods of data collection and processing. Focusing on the quantitative research strategy, the study follows a case of non-experimental research design, which supports the examination of new phenomena – the development of podologists' career management skills in the study process and the context of life-wide learning. To obtain quantitative data, the student and graduate surveys were carried out; a structured questionnaire was designed focusing on eight podologists' career management skills: key skills in medicine and specific skills in the field, interaction and communication skills, innovative technology skills, decision-making skills, planning and self-evaluation skills, skills to work in a (multidisciplinary) team, learning skills (learning to learn), entrepreneurship skills (entrepreneurial ability) and their evaluation criteria (Saulīte, 2019).

IBM SPSS Statistics Version 22 programme was used for the data processing, analysis and table design. The authors used inferential statistical methods in the analysis of obtained data: data reliability test with Cronbach's alpha coefficient, distribution of variable values using Kolmogorov-Smirnov test, pairwise correlation analysis applying Spearman's test.

The research sample consisted of students ( $n = 68$ ) and graduates ( $n = 44$ ) of the study programme "Podology" in the P. Stradins Medical College of the University of Latvia. The distribution of variable values in student and graduate groups was analysed using Kolmogorov-Smirnov test. Significance indices ( $p = 0.05$  limit) in all parameters are 0.000; therefore, non-parametric statistical methods are used for the analysis of results.

### Integrating the Development of Podologists' Career Management Skills and Life-Wide Learning in the Study Process

It is an integral process to develop career management skills and maintain personal and professional growth throughout work and life. In the professional development, it is important to reflect and improve the necessary professional skills regularly throughout one's career. Currently, when one's career is not that much chosen

as rather shaped through multiple learning and work opportunities over a lifetime, learning has become an integral part of life. Due to that, Barnett (2010) explains the rationale for integrating concepts of lifelong learning and a holistic understanding of learning in higher education.

Life-wide learning is a dimension of lifelong learning (Cedefop, 2014), which extends lifelong learning opportunities by emphasising that most people, disregarding age or circumstances, live in several different environments simultaneously (Jackson, 2014), for example, at work or school, at home, in a family care, at a club or community centre, when travelling and having holidays, when taking care of physical and mental well-being. Living in such parallel environments both in one's daily and working life, the life cycles interacted and overlapped. Therefore, there are no strict boundaries between traditional age groups, especially in the context of life-wide learning. As a result of such interaction there is not only the formation and development of individuals' experience throughout their lives, but also new age group categories, created by demographic, economic and social factors, with four main stages: under 25, 25–50, 50–75 and over 75 (Schuller, 2010). This is evidenced in the podologists' study process as well where the majority of students represent the second age group. This peculiarity should be taken into consideration for the organisation of podologists' study process, the choice of teaching and learning methods, the promotion of career management skills and the further professional development of podologists in the context of life-wide learning. Illeris (2009) believes that the content of study programme and descriptions of learning outcomes highlight knowledge, skills and competences; however, such learning components as opinion, understanding, behaviour, values, attitudes, methods and strategies contribute to the student's capacity to meet practical life challenges and develop an overall personal functionality, too.

Analysing the concept of life-wide learning (Jackson, 2018; Redecker, 2014; Barnett, 2010), which encompasses all types of learning and personal development (Schuller, 2010; Illeris, 2009), and looking for commonalities in the podologists' study process, the aim and learning outcomes of the study programme, with reference to the definition of podologists' career management skills (Saulite, 2019), it can be concluded that while students are engaged in formal studies in higher education close attention should be paid to the informal dimension of their lives, using teaching and learning methods that improve students' self-confidence. Thus, it is possible to change one's attitude towards viewing any life experiences as opportunities for learning and developing, moreover, valuing and recognising what has been learnt in different life experiences.

The podologists' study process, with reference to the concept of life-wide learning, allows the faculty to develop a clear and holistic format of education in which students integrate and incorporate their previous educational experiences (formal, non-formal and informal), personal and professional achievements. These criteria are not new in education, but Illeris (2009) points out the tendency to establish

them as a central management principle when organising the study process. Podologists acquire thorough professional knowledge, skills and competences required for the profession (Latvijas Universitātes P. Stradiņa medicīnas koledža, 2018), develop creativity and critical thinking, decision-making and problem-solving skills, entrepreneurship and communication skills, understanding of values and culture, humanism and citizenship in their study process. Saulīte and Andersone (2016) indicate that this favourable offer helps students to achieve their goals, promote personality growth and develop career management skills that are necessary for life in today's changing society, including the specific conditions of global pandemic and lockdowns.

Analysing the study process of podologists (LU PSK, 2018), the following main teaching and learning methods are identified that help to develop independence and creativity in the context of life-wide learning: problem-solving activities, workshops, research and self-regulated learning. The listed methods contribute to the development of such career management skills as, first, decision-making, including independence, making the most appropriate decisions and finding alternative approaches to problem solving (critical thinking), and second, the skills to work in a multidisciplinary team, including skills to collaborate, provide support and adapt to the work environment change. It is the set of skills that is essential for the professional development of a podologist. These skills demonstrate the young professional's readiness to cooperate and provide support, to make independent and appropriate decisions in all life situations. The podologist's skills to work as part of a team means not only to undertake professional activities together with a multidisciplinary healthcare team, but also to support people and collaborate, to be able to adapt to dynamic and changing circumstances and working environment. The development of such career management skills determines the growth of young podologists and their career development in general. Meanwhile, according to Illeris (2009), Barnett (2010) and Jackson (2014), personalisation, collaboration and informal learning are other key areas of future education.

According to the concept of life-wide learning (Jackson, 2014; Holm, 2011; Jackson & Willis, 2011; Barnett, 2010), most professional skills and knowledge are acquired outside formal education (school, college, university) during an individual's lifetime. Also, the professional development of podologists occurs mainly in self-regulated learning, non-formal and informal learning; thus, Glenn and Dakin (2018) state that learning to learn skills are significant for the development of podologists' career management skills during the study process. Learning to learn skills are essential to promote experiential and self-regulated learning in any other further life activities. The development of self-regulated learning skills is facilitated by a shift in didactic principles already during formal learning, i.e., in the podologists' study process, experiencing a transition from teaching to guided learning.

The theoretical study shows that career management skills promote podologists' professional growth, and that the acquisition and practice of career

management skills are encouraged in the life-wide learning focused study process. Therefore, this empirical study compares the correlation between the learning to learn skills and other podologists' career management skills in student and graduate groups.

## Discussion

To report the results of this study, the authors compared the gained data for learning to learn skills and other podologists' career management skills, according to the podologists' career management skills evaluation criteria, based on the results of Spearman's pairwise correlation tests. The groups of podologists' career management skills were as follows: podologists' career management skills oriented to the achievement of results, podologists' career management skills oriented to building external relationships, and podologists' career management skills oriented to planning individual development path. At first, the learning to learn skills were tested with the Cronbach's alpha test, the fit coefficient  $\alpha = 0.765$  in the student group and  $\alpha = 0.797$  in the graduate group indicated a high fit of the data for further interpretation of the results.

According to Saulite's (2019) structured groups of podologists' career management skills, based on the theoretical literature research, the learning to learn skills, together with the key skills in medicine, specific skills in the field and decision-making skills are skills that are orientated to the achievement of results. The statistical correlations of these skills, considering the evaluation criteria of podologists' career management skills, are presented in Table 1. The illustrated pairwise correlation results (see Table 1), according to the evaluation criteria, show that the development of podologists' career management skills oriented to the achievement of results occurs in the study process because there is a strong correlation between all the criteria determining the individual's internal and external resources as it is witnessed in the students' responses. A moderately strong correlation is found in the graduate responses. In addition, evaluating the learning to learn skills and decision-making skills, a statistical correlation is found between the criteria for setting one's development goals, it confirms that when self-regulated learning is introduced in the study process, the improvement process continues in the lives of podologists, setting new goals for individual development that help to develop alternative approaches to problem solving. On the other hand, no statistical correlation was observed between the learning to learn skills, the key skills in medicine and specific skills in the field in both groups of respondents, according to the third group criteria (individual development aims). The findings indicate the need for introducing more targeted self-regulated learning in the podologists' study process when developing the key skills in medicine and specific skills in the field, thus promoting young podologists' skills to set individual development plans, tackling and solving complex problems both in professional and personal life.



Table 1. Summary of the Spearman's Correlation Test Results for Learning Skills and Podologists' Career Management Skills Orientated to the Achievement of Results, According to Relevant Group Criteria

Podologist's Career Management Skills	LEARNING SKILLS (LEARNING TO LEARN)						
	Evaluation criteria	Perceives new information		Reflects on knowledge and experience		Implements self-guided learning	
		students	graduate	students	graduate	students	graduate
KEY SKILLS IN MEDICINE AND SPECIFIC SKILLS IN THE FIELD	Observes the boundaries of the professional competence and takes responsibility for the professional activities	$r = .314^{**}$ $p = 0.009$	$r = .437^{**}$ $p = 0.003$				
	Identifies the problem under care, puts forward the aim for care and makes the plan for care			$r = .477^{**}$ $p = .00$	$r = .435^{**}$ $p = 0.003$		
	Evaluates, solves and eliminates complex problems (non-standard situations)					negative correlation	no correlation
DECISION-MAKING SKILLS	Independent	$r = .402^{**}$ $p = 0.001$	$r = .373^*$ $p = 0.013$				
	Makes the most suitable decision			$r = .314^{**}$ $p = 0.009$	$r = .341^*$ $p = 0.024$		
	Forms alternative approach to problem solving (critical thinking)					$r = 0.364^{**}$ $p = 0.002$	$r = .323^*$ $p = 0.033$

The podologists' career management skills oriented to building external relations include interaction and communication skills, innovative technology skills and skills to work in a (multidisciplinary) team. The results of the pairwise correlation analysis for the learning to learn skills and podologists' career management skills oriented to building external relations, according to the relevant group criteria, are presented in Table 2.

Table 2. Summary of the Spearman's Correlation Test Results for Learning Skills and Podologists' Career Management Skills Orientated to Building External Relationships, According to Relevant Group Criteria

Podologist's Career Management Skills	LEARNING SKILLS (LEARNING TO LEARN)						
	Evaluation criteria	Perceives new information		Reflects on knowledge and experience		Implements self-guided learning	
		students	graduate	students	graduate	students	graduate
INTERACTION AND COMMUNICATION SKILLS	Devotes undivided attention, listens to and asks questions	no correlation	no correlation				
	Understands the contents of documents			no correlation	$r = .487^{**}$ $p = 0.001$		
	Can give arguments					no correlation	$r = .459^{**}$ $p = 0.002$
INNOVATIVE TECHNOLOGY SKILLS	Masters technologies, equipment and adjusts them for work	$r = .257^{*}$ $p = 0.035$	$r = .341^{*}$ $p = 0.023$				
	Uses and applies methods of scientific achievements in problem solving			no correlation	$r = .536^{**}$ $p = 0.00$		
	Develops new strategies/ methods for problem solving					negative correlation	no correlation
SKILLS TO WORK IN A (MULTIDISCIPLINARY) TEAM	Provides support	$r = .530^{**}$ $p = 0.00$	no correlation				
	Develops cooperation			$r = .603^{**}$ $p = 0.00$	no correlation		
	Adjusts to the change of the work environment					$r = .245^{*}$ $p = 0.044$	no correlation

The information illustrated in Table 2 shows the correlation between the podologists' career management skills oriented to building external relations and the learning to learn skills in the respondent groups. There is no correlation between the learning to learn skills and interaction and communication skills within the student group, according to all group criteria. Besides, there is no statistical correlation observed between the learning to learn skills and the skills to work in a (multi-disciplinary) team within the responses of the graduate group. In both groups of respondents, there exists a statistical correlation only between the learning to learn skills and innovative technology skills, with reference to the first group criteria (an individual's internal resources). It can be concluded that although the development of the podologists' career management skills oriented to building external relations is ensured by external resources (the material and technical base, internship opportunities outside the college), the learning to learn skills play a significant role in their development. It is confirmed by the student respondent results of the pairwise correlation analysis for the learning to learn skills and the skills to work in a (multidisciplinary) team, where a strong statistical correlation is evident. It should be noted that the podologists' skills to work in a multidisciplinary team were particularly highlighted when setting the aims and learning outcomes of the life-wide learning focused study process.

The podologists' career management skills oriented to planning one's individual development path, include planning and self-evaluation skills and entrepreneurship skills (entrepreneurial ability). The results of the pairwise correlation analysis focusing on the learning to learn skills and the podologists' career management skills oriented to planning individual development path are shown in Table 3.

The results for both groups of respondents (see Table 3) present a statistical correlation between the skills according to the first group criteria (the individual's internal resources) and the second group criteria (the individual's external resources). However, there is no correlation between the skills for the third group criteria (individual development aims). These results suggest that podologists have well-developed career management skills oriented to the achievement of results during their studies. Moreover, podologists know how to work, but they are not ready to improvise creatively in cases that they have not tried out in practice. However, the results of comparative analysis for the podologists' career management skills oriented to planning individual development path prove the need for more targeted development of entrepreneurship skills in the study process, encouraging students to generate and use new ideas through self-regulated learning. This could contribute to setting higher students' individual development aims and the development of career management skills.

Table 3. Summary of the Spearman's Correlation Test Results for Learning Skills and Podologists' Career Management Skills Orientated to Planning One's Individual Development Path, According to Relevant Group Criteria

Podologist's Career Management Skills	LEARNING SKILLS (LEARNING TO LEARN)						
	Evaluation criteria	Perceives new information		Reflects on knowledge and experience		Implements self-guided learning	
		students	graduate	students	graduate	students	graduate
PLANNING AND SELF-EVALUATION SKILLS	Sets priorities	$r = 0.531$ $p = 0.00$	$r = 0.487$ $p = 0.001$				
	Evaluates and compares one's own actions (SWOT analysis), makes improvements			$r = 0.288$ $p = 0.07$	$r = 0.554$ $p = 0.00$		
	Plans one's own time and that of others					$r = 0.442$ $p = 0.00$	no correlation
ENTREPRENEURSHIP SKILLS	Works independently (organizes one's own work)	$r = 0.301$ $p = 0.013$	$r = 0.345$ $p = 0.022$				
	Assesses the quality of one's actions			$r = 0.303$ $p = 0.02$	$r = 0.356$ $p = 0.018$		
	Uses ideas creatively and creates new ideas					no correlation	no correlation

The results of the quantitative data analysis of the podologists' career management skills reflect the statistical correlation between the learning to learn skills and virtually all podologists' career management skills, showing that the development of career management skills is closely linked to the concept of life-wide learning.

## Conclusions

1. In the context of life-wide learning, the development of podologists' career management skills is divided into four areas: podologists' competitiveness, career development, podologists' employability and life activity. These areas

- can be implemented in the study process, considering the content of podologists' career management skills and taking into account individual's internal resources, external resources and individual development aims.
2. The development of podologists' career management skills is closely linked to the development of learning to learn skills in the study process. Learning to learn skills lead to the development of key skills in medicine and specific skills in the field, planning and self-evaluation skills, as well as innovative technology skills which contribute to the development of podologists' career in professional life.
  3. The podologists' career management skills oriented to the achievement of results are highly developed in the study process; however, the development of podologists' entrepreneurship skills should be reconsidered in order to give students opportunities to generate innovative and creative ideas and practise self-regulated learning strategies. This could lead to the students' skills to pursue their development goals and further develop their career management.
  4. As a result of research on the development of podologists' career management skills in the context of life-wide learning, the implications for further research are identified with an aim to study career management skills in the context of life-wide learning, highlighting non-formal and informal learning of podologists.

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