

The 1<sup>st</sup> International Scientific Conference:  
„Quality of Health Care and Patient Safety“

# BOOK OF ABSTRACTS

November 29<sup>th</sup>, 2022  
Bratislava, Slovak Republic



**The 1<sup>st</sup> International Scientific Conference**  
**„QUALITY OF HEALTH CARE AND PATIENT SAFETY“**

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**Faculty of Nursing and Professional Health Studies  
of the Slovak Medical University in Bratislava**

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## **L2: POSTOPERATIVE DISCOMFORT RELATED MORBIDITY AMONG SURGICAL PATIENT**

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\*\* Tunis – Tunisia

“First no harm...Second do some good”

From our modest point of view, patient discomfort is the failure of care providers to prevent or relieve patient suffering conditions that ensure optimal quality living. Thus, patients may experience various kinds of discomfort other than pain during the first 24-48 hours following surgery and anesthesia. Objectives: To collect and study epidemiological data on postoperative discomfort causes among surgical patients, mainly those triggering additional morbidities. Methods: This study consists on various data collected between 2010 and 2022 focussing on postoperative discomfort causes among surgical patients. We undertook an international literature review to identify events on patient discomfort reported in different anaesthetic, surgical, and other perioperative literature. We identified 59 studies. The current analysis is based on data collected in 47 regional hospitals from 42 countries. Results: In the global surgical population, 30 to 55% of all patients report moderate or severe pain on the first postoperative day. All patients, independent of surgery type, spent about a third of the first postoperative day in severe pain. Maximum pain scores were higher when there was use of opioids before admission and in female patients. Postoperative nausea and vomiting (PONV) is another major problem during recovery from surgery: Resources report the frequency of PONV at up to 80% in high-risk populations and up to 30% in the general population, and nausea in 30%. The third fearsome discomfort source for operated patient is inadvertent hypothermia, present by 20% of patients. The prevalence of inadvertent hypothermia among 312 surgical procedures from two referral canters in Brazil (2016-2018), was 56.7%. In Europe, an inclusive study found that only 19.4% patients were monitored during surgery and only 38.5% were actively warmed. Studies have also provided evidence that patients have been negatively affected by noise, and strong artificial light, in recovery rooms and ICUs. Discussion: Patient early postoperative discomfort roots could be classified on intrinsic or patient-surgery related factors, and environmental factors. Poorly managed acute pain, PONV and inadvertent hypothermia can lead to complications mainly in patients that cannot tolerate elevated heart rate or blood pressure, intrathoracic pressure, or central venous pressure. More, each of them increases medical costs, prolonged hospitalization and hospital readmission.

Vomiting can cause dehydration, hydro-electrolytic instabilities and pain. It puts also a lot of tension on surgical incisions and sutures, with risk of dehiscence and evisceration. Patients are more like to have PONV if they are female, over 50, non-smoker, or prone to motion sickness. Moreover, since most cellular functions and enzymatic activities in the human body depend on temperature around 37°C, postoperative hypothermia, especially during recovery from general anesthesia, affects several systems; these include three times increased the prevalence of morbid cardiac outcomes, rises in surgical blood loss with a 20% additional in allogeneic transfusion, and a triplicating of surgical site infections. On the other hand, we should take in account very seriously environmental factors affecting patient comfort in recovery rooms and ICU's, causing patient discomfort with declines in sleep quality, cognitive processing, speech, satisfaction, stress, increased pain perception and sensitivity, high blood pressure, poor mental health, and overall physiological well-being. Conclusion: Discomfort conditions are frequent among operated patients, and are source of additional morbidities with significant threatening for patient safety. As healthcare professionals, when we success in providing quality comfort, patients feel themselves safe, they'll trust our care and stress less which leads to healing.

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### **L3: DIMENSIONS OF SAFETY CULTURE**

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**Background:** The culture of patient safety is determined by interventions to minimize the risk of harm to the patient in the provision of health care. The effectiveness of its dimensions also has an impact on the quality of nursing care. **Subject and methods:** We analyzed the dimensions of safety culture in relation to a providing nursing care to the patient. We approached a sample of 350 nurses of internal medicine clinics, and subsequently analyzed 82% of the completely filled questionnaires (287). A standardized HSOPSC (Hospital Survey on Patient Culture) questionnaire was used, data were analyzed by using Chi-square ( $\chi^2$ ) tests. **Results:** The composite score of the analyzed dimensions of the safety culture in the criterion confirmed a score of  $< 50\%$  in the areas of staffing, team cooperation and management support confirmed a score of  $50\%$  and  $<$  which is a risk of jeopardizing patient safety. A score above  $75\%$  and  $>$  were reached in the area of adverse events reporting, which confirms the prevention of further harm to the patient, which was confirmed by the control item "corrective measures" with a preference for positive evaluation. **Conclusion:** Identified reserves of the safety culture of the analyzed workplaces will enable to nursing managers targeted planning of measures to ensure safety and support the quality of the provided nursing care.

**Keywords:** Safety Culture, HSOPSC (Hospital Survey on Patient Culture), Quality of Nursing Care

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## **L4: PATIENT SAFETY IN LONG -TERM CARE - THE PERSPECTIVE OF NURSES**

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Introduction: Patient safety belongs to one of the most serious and still current problems in healthcare. Nurses play a key role in ensuring quality care and patient safety. In the context of the Slovak Republic, the evaluation of culture of safety in long-term care is absent. Aim: To find out how nurses evaluate the safety culture of residents who receive long-term care in community facilities in Slovakia. Methods: Data collection was carried out using the Nursing Home Survey on Patient Safety Culture. The sample consisted of 146 registered nurses working in community facilities in Slovakia. The average percentage of positive responses at the level of 75% or more is considered the optimal level of resident safety. The Spearman correlation coefficient ( $r$ ) was used to test the associations among the variables. Multiple regression analysis examined the predictors of the overall rating on resident safety. Results: The highest percentage of positive responses was recorded in the following dimensions: Feedback and communication (80%), Overall perception of resident safety (74%), and Supervisor actions (72%). The negative significant predictor of the overall rating on resident safety was the higher number of working hours per week. Positive significant predictors of overall rating on resident safety were the following dimensions: Teamwork, Compliance with procedures, and Staffing. Conclusions: Culture of safety is a significant predictor of the overall rating on resident safety in community facilities in Slovakia. Evaluation of the safety culture serves to identify areas for improvement, as well as to increase awareness of safety among professionals. At the same time, it could help track changes in the field of resident safety in long-term care and allow comparison of results at the national and international level.

**Keywords:** culture of safety, long-term care, nurses, patient safety

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## **L5: NOSOCOMIAL INFECTIONS CAUSED BY *CLOSTRIDIODES DIFFICILE* - MONITORING THE EPIDEMIOLOGICAL SITUATION**

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*Clostridioides difficile* is a gram-positive spore-forming, anaerobic toxoid that is responsible for most antibiotic-induced diarrhea and nosocomial infections. In most cases, it is an endogenous infection, but an exogenous infection can also occur through the transfer of rods or spores of toxigenic strains from patient to patient through the hands of hospital staff. Infection also spreads through the fecal-oral route. The aim of the study was to analyze the incidence of gastrointestinal infections caused by *C. difficile* in hospital wards, divided into medical and surgical wards. The analysis was made on the basis of hospital infection cards analyzed by the Hospital Infection Control Team in 2021 at Mazovian Specialist Hospital Ltd in Radom (Poland). The patient incidence rate caused by *C. difficile* in 2021 was 0.25%, considering treatment wards, while the number of infections with this bacterial etiology per 1 hospital bed was 6.81%. In conservative departments, the incidence rate was 0.52%, and the number of infections per bed was 10.87%. When comparing the incidence rates and the rates of digestive system infections occurring in the treatment and conservative departments, it was noticed that they were significantly higher in the conservative departments. Infections caused by this pathogen constitute a growing therapeutic problem in the hospital. The basis of infection prevention and control are single-person hospital rooms with separate bathrooms, toilets, hand washing and disinfection agents, and personal protective equipment for medical personnel. Educating patients and their families, and, above all, medical personnel in compliance with hygiene procedures, can help to prevent the spread of the pathogen and reduce the number of cases.

**Keywords:** *Clostridioides difficile*, infections of the digestive system, nosocomial infections

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## **L6: SAFETY OF MOTHER AND NEWBORN DURING CHILDBIRTH**

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Introduction: The World Health Organisation defines the concept of patient safety as a framework of organised activities that reduce risks and the occurrence of harm. In relation to safe childbirth, FIGO states that no person (mother, newborn) should suffer a preventable death in relation to pregnancy, childbirth and the postpartum period. The World Health Organisation (WHO) recommends satisfying the needs of the mother, especially the needs of safety and security. More and more mothers evaluate their home as a safe environment and express their desire to give birth at home. Home birth is recommended only for healthy mothers with low risk. The aim of the article is to describe safety in relation to childbirth, criteria for home birth, to find out the preference for home birth, women 's opinion on the safety of home births and factors that influence a woman – mother when choosing the place of birth of her child. Methods: A total of 105 female respondents between the ages of 18 and 40 took part in the survey. The majority of respondents were between the ages of 29 and 30. To collect data, we used a questionnaire of our own construction, which we distributed through social networks and discussion forums. We used simple statistical methods for evaluation. Results: The maternity ward of a hospital is preferred by 62 (59.05%) women as the safest place for childbirth. As many as 24 (22.86%) respondents considered giving birth at home. The most common reasons why women refused to give birth in a healthcare facility were unnatural acceleration of labour / unwillingness to wait for spontaneous birth; hospital environment, „unequal“ communication between the woman and the medical staff / disrespect of the mother's opinion. 21 women (25.61%) women chose to give birth at home. 87 (82.86%) respondents consider home birth to be dangerous, most often for the following reasons: „high risk of complications for the mother and the child“ 18 (17.14%) of the interviewed women think that home birth does not mean a danger for the mother and the child. 98 women (93.33%) know the possible risks of home birth. Only 7 (6.67%) respondents do not know these risks. The choice of the place of birth is influenced by the visit to the prenatal clinic and prenatal preparation courses. Conclusion: It is the task of the entire gynaecological - obstetric community to prove that it is possible to give birth naturally and safely at the maternity ward of a hospital without unjustified routine

interventions in childbirth, by respecting the birth wishes of mothers, by introducing the possibility of prenatal preparation in the home environment and the subsequent possibility of antenatal visit to the maternity ward of the hospital together with an accompanying person. However, this requires an amendment to the legislation.

**Keywords:** safety, home birth, midwife

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## **L7: THE IMPORTANCE OF DETECTING RISK FACTORS IN WOMEN IN RELATION TO RISK PREGNANCY**

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**Introduction:** Pregnancy is considered as unique period of woman's life. It can run either physiologically, risk or in pathological way. The most important findings of modern obstetrics are findings, that most pathological pregnancies occur mostly in a risk group of women, who enter the pregnancy without apartment pathological symptoms, but are loaded with various adverse – effect risk factors. We decided to write especially about the importance of detecting risk factors in women in relation to risk pregnancy, because these risk factors identify a risk pregnancy and nowadays only few experts devote attention to detection of these factors.

**Methodology:** The main aim of this thesis was to identify the importance of detecting risk factors in women in relation to risk pregnancy for midwives and we also wanted to find out, whether the detection of risk factors during prenatal care is a significant intervention for a midwife. For a data collection we used an exploratory questionnaire method of our own design. Distribution of this questionnaire was direct carried out by author of diploma thesis by personal contact with midwives working in gynaecological outpatient clinics and counselling for risk pregnancy. The responsiveness or return on the total of 100 redistributed questionnaires was 81 % (81 questionnaires returned). Data from the questionnaires were analysed using descriptive statistics. We used a zero (Pearson or Spearman) correlation coefficient test to interpret the statistical significance of the differences.

**Results and discussion:** Completely all of the respondents  $n = 74$  (100 %) considered monitoring of the health of the mother and her foetus as the main role of prenatal care and almost all 71 (95,9 %) of the respondents considered prenatal care and early detection of risk factors as primary role. The most 70 (94,6 %) respondents reported that in prenatal care gynaecologist is the one, who performs detection of risk factors, 68 (91, 9 %) of respondents reported that in prenatal care midwife in cooperation with gynaecologist perform detection of risk factors and 52 (70, 3 %) of respondents reported that in prenatal care midwife performs the detection of risk factors. Even 66 (89,2 %) of respondents reported that most of the risk factors is revealed during the first prenatal check in prenatal counseling as part of prenatal screening on the basis of documented data. Our respondents claimed that in their practice they are dealing with these

factors the most often: biological risk factors 68 (91,9 %) respondents, social risk factors 54 (72,3 %) respondents and with demographic risk factors 48 (64,9 %) respondents. Almost all 72 (97,3 %) of the respondents considered early detection of biological risk factors as very important. 63(85,1 %) of respondents reported, that early detection of demographic risk factors is very important for them. And the most 66 (89,2 %) of respondents also reported, that early detection of social risk factors considers as very important. Statistical significance has been clearly confirmed by importance of detection biological risk factors, social risk factors and demographic risk factors as well. Conclusion: In our thesis we focused on the importance of detecting risk factors in women in relation to risk pregnancy. On the basis of the results we can state, that midwives consider the detection of biological, demographic and also social risk factors as very important intervention. Our results further show that most of respondents think that in prenatal care gynaecologist performs the detection of risk factors and little less respondents reported that midwife in cooperation with gynaecologist perform the detection of risk factors in prenatal care. We believe that ideal way would be if detection of the risk factors in prenatal care was performed by midwife in cooperation with gynaecologist.

**Keywords:** detection, risk factors, risk pregnancy, midwife

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## **L8: THE PREVALENCE, PATTERNS AND REASONS FOR MISSED NURSING CARE IN PEDIATRICS**

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**Introduction:** Missed nursing care is a multidimensional problem commonly occurring in adult healthcare facilities. The number of studies investigating this phenomenon in pediatric workplaces is limited. **Aim:** To investigate the prevalence, patterns, and reasons for missed nursing care in pediatric workplaces. **Methods:** The cross-sectional study was carried out between June and November 2021 using the MISSCARE Survey - Pediatric. Respondents were 225 registered nurses working in pediatric workplaces in Slovakia. Data analysis was performed in SPSS version 25.0 using descriptive and inferential statistics. **Results:** The prevalence of missed nursing care was 58.4%. Critically, 93.3% of Slovak pediatric nurses missed at least one or more nursing care activities during their last working shift. Pediatric nurses also withheld the most promoting neuroevolutionary development according to age and the child's clinical conditions (73.2%). The very important reason for missed nursing care was urgent patient situations (48.4%). Significant correlations were found between missed nursing care and nurse education, nurse experience in the current position, and working hours per week ( $p \leq 0.05$ ).

**Conclusions:** Evaluation of missed care in pediatric workplaces is often neglected, even though the prevalence of missed care is relatively high, indicating a severe problem. Further research should focus on a detailed analysis of contributing factors to missed nursing care in pediatrics and increase the awareness of nurse managers about the regular evaluation of missed nursing care to improve child and family outcomes.

**Keywords:** missed care, nursing, pediatric care, hospital

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## **L9: SLEEP IN HOSPITAL: COMPARISON OF NURSES AND PATIENTS - QUALITATIVE STUDY**

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Introduction: Sleep is a basic human need. Although the need for sleep is increased in diseases, many hospitalized patients report a reduced quality of sleep. The experience of sleep patients is a starting point for how sleep disorders should be managed. Therefore, it is necessary to identify, focus on and describe the needs and experiences of patients. Supporting patients' sleep during hospitalization is an important nursing intervention that is not routinely extended. Therefore, it is important to investigate and understand this phenomenon, while at the same time finding out how nurses perceive the need for sleep in hospitalized patients when providing care. Aim: To find out the experience of hospitalized patients with sleep during hospital stay, while analyzing the perception of nurses and their attitude to saturation of the need for sleep. Design: Qualitative studies Methods: Data was obtained by group interviews from three focus groups (May-June 2022). Two focus groups were composed of sixteen nurses, the third focus group was composed of eight patients. Interviews were recorded and the data were analysed using the thematic content analysis method. Recorded interviews were verbatim transcribed, data were analysed and coded using the text colouring method, major categories were identified. Results: Nurses perceive sleep as an important area of care, but it is not sufficiently widespread. Nurses report that their perception of sleep is an interaction of multiple indicators that could be categorised into 3 categories that are interrelated: 1. the importance of sleep for the sick (regeneration, cognitive state), 2. lack of information and knowledge (lack of assessment tools, lack of sleep support), 3. quality of care – organisation of care (disturbances, night bath, medication). Patients report from their experience that their sleep is affected by interaction of multiple indicators that can be categorised into three interrelated categories: 1. Experiencing complex interactions with the environment (nursing activities, scary or disturbing sounds, neighbour in the room, heat,

draughts); 2. experiencing intense emotions and feelings (fear/fears; state of abandonment; uncertainty about what will happen; inability to function) and 3. basic condition (associated diseases and presence of pain). Conclusion: The results suggest that nurses do not have sufficient knowledge about sleep and interventions supporting its quality. Their current interventions are based on personal experience and subjective deliberation rather than evidence. Several factors influence sleep and its experience – our pilot study shows that psychological factors play an important role in sleep disorders and may outweigh environmental factors. Supported by Ministry of Health of the Czech Republic, grant nr. NU22-09-00457. All rights reserved.

**Keywords:** sleep, patient, nurses, qualitative study

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# **L10: ORGANISATION OF ANALYTICAL AND MICROBIOLOGY LABORATORY IN A POLISH MULTISPECIALITY HOSPITAL IN THE ERA OF THE COVID-19 PANDEMIC - OWN EXPERIENCE**

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Laboratory medicine is one of the most important sources describing a patient's health status. The time of the pandemic, forced the implementation of various procedures that allowed the laboratory to work safely under an increased sanitary regime. On the one hand, giving a greater protective umbrella to the Staff than before, and on the other hand, it has allowed no patient to limit the availability of the tests performed. It became imperative to ensure that the new way of working in the laboratory would optimise the analytical and microbiological diagnostics performed and to prepare for the new epidemic conditions. Laboratory staffing was adjusted to the changed working conditions, many innovative solutions were introduced in the laboratory infrastructure, and the availability of the necessary reagents and laboratory apparatus, personal protective equipment and disinfectants was secured. All of this has made it possible to put the patient at the centre of attention in order to treat and care for him or her in a modern and safe way.

**Keywords:** medical diagnostic laboratory, laboratory management, research process, COVID-19

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## **L11: SAFE ENVIRONMENT IN MENTAL HEALTH CARE**

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A safe environment for psychiatric patients is a priority for many countries of European as well as global dimension. Factors related to its evaluation and maintenance, are content-identified in Safewards models. His is the goal interventions to reduce the use of restraints as well as the occurrence of conflicts. Risk management and prevention of emergencies in workplaces providing acute psychiatric care are, with regard to the culture of workplaces, evaluated as key areas of not only reflected physical but also emotional safety. Many risks faced by patients in acute mental health settings are similar to those that occur in other areas of healthcare, for example medication errors and cross-infection. In addition, however, there are unsafe behaviours associated with serious mental health problems, including violence and self-harm. The measures taken to address these, such as restraint or seclusion, may result in further risks to patient safety.

**Keywords:** safewards, safety, risks, mental health care

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## L12: PROSPECTS FOR THE USE OF THREE-DIMENSIONAL VIRTUAL REALITY (VR 3D) SUPPORTED BY ARTIFICIAL INTELLIGENCE (AI) ALGORITHMS IN MEDICAL EDUCATION

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Three-dimensional virtual reality (VR 3D) is a three-dimensional image created using information technology and additional accessories, which imitates the real world or is a vision of a fictional world. A technique based on 3 I is used, that is: *Interaction*, *Immersion* and *Imagination*. Thanks to the use of virtual reality (VR) and augmented reality (AR) technologies, learning is faster and more effective at every educational level. Augmented Reality (AR) is a system that connects the real world with virtual reality by combining the image from the camera with a 3D computer-generated image. Separation in 3D virtual reality gives you the chance to fully get to know and concentrate on the discussed issue. The necessary equipment is: 3D glasses, stereoscopic 3D image display, giving the impression of spatiality, manipulators, VR goggles with a touch controller and an advanced audio system. The generated image is superimposed on the glasses display (HoloLens, Oculus, Varjo etc.) through which the real world is observed. Control is carried out by tracking the movement of the eyeballs, by voice or by using the hand gestures of the controllers. New technologies based on virtual reality (VR 3D) are an opportunity to improve the quality and effectiveness of training and increase the number of trained medical personnel. These methods can be used as a didactic tool in education at any level of education, including during the internship of students: physiotherapy, medical, nursing, cosmetology, in aesthetic medicine clinics and during the implementation of improvement courses, postgraduate courses for health professionals. It is the future of the education standard, surgical planning, surgical operations in AR technology, diagnostic standard and visualization of procedures for the patient.

**Keywords:** artificial intelligence, augmented reality, education, medicine, virtual reality

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## **L13: QUALITY GENERAL MEDICINE - THE BASIS OF HEALTH CARE**

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Quality general medicine is the basic pillar of health care in every developed society. It belongs to the field of primary health care, which has been "struggling" with several problems for many years. The main problems include the lack of doctors, the older age of practicing general practitioners, complications in education, and lack of competence. In addition, it must defend its position as a full-fledged department for a long time. In recent years, there have been several changes that increase the acceptability of general medicine thanks to the expansion of the medical competences of general practitioners. Furthermore, thanks to the residency study and additional professional training of doctors with selected acquired specializations, competent and younger general practitioners are gradually added to the practice. The aim of all the changes is to improve the quality of the provision of general ambulatory care for adults, without which the health system of any advanced society cannot function.

**Keywords:** general outpatient care, residency study, general practitioner, competences

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## **L14: CRITERIA FOR EXPERTS IN NURSING VALIDATION STUDIES IN THE SLOVAK REPUBLIC**

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**Introduction:** Validation studies are used for the development of nursing science, mainly to improve the classifications of diagnoses, interventions, and outcomes. **Objective:** To find out meeting the expert selection criteria for research on content and clinical validation of nursing diagnoses, outcomes, and interventions in the Slovak Republic, and evaluate their relevance and validity. **Methods:** A cross-sectional study was used. A total of 435 nurses were rated. The data was collected with the use of the self-administered questionnaire that rated the recommended criteria for experts for validations in nursing. The IBM SPSS 24.0 statistical programme, simple descriptive statistics were used for data analysis. The study was approved by the Ethics Committee. **Results:** Master's education in nursing as one of the recommended basic criteria for experts in nursing is met by 20 % of the addressed respondents - nurses. According to the adapted national criteria in the SR, where the criterion of Master's education is not a condition in the present, the criterion for an expert is met by 90.6 % of the nurses. **Conclusions:** Given the growing need to conduct validation studies for classifications of diagnoses, interventions, and outcomes, in each country it is necessary to reduce uncertainties, difficulties, and limitations of expert selection criteria.

**Keywords:** nursing, diagnosis, intervention, outcome, expert

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## **L15: THE CREDIBILITY OF HEALTHCARE FROM A LAY PERSPECTIVE**

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**Introduction:** trust is the belief in the reliability and effectiveness of someone or something, and credibility is the quality of inspiring trust. In health care, trust represents belief in the health care system and belief in health care professionals. **Aim of the paper:** the main aim of this paper is to present the results of an exploratory investigation on the influence of factors acting on trustworthiness in health care. **Methodology.** The collected data were processed using MS Excel and IBM SPSS software. The survey sample consisted of 231 respondents from the general public. **Theoretical background:** In examining the factors influencing the trust of lay public, we mainly relied on the findings of health psychology, sociology and health communication. **Results:** The most influential factors affecting trustworthiness of health care were: general behavior of the physician (73.2%), general behavior of the nurse (68.8%), professionalism of the health care professionals (72.7%), honesty in reporting (72.3%), and maintaining intimacy during the examination (69.3%). Other strong influences included: cleanliness of the environment (57.1%), keeping the appointment time and date (56.2%), keeping promises (61%), and having enough information (63.2%). A surprising finding was the low impact of appearance modification and uniform by job grade. **Conclusion:** The results of our study highlight the factors that most influence trust in health care. As a result, we are able to encourage healthcare workers to try to do their job as trustworthily as possible in specific areas.

**Keywords:** Trust. Credibility. Health care. Trust in health care. Trust in health professionals.

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## **L16: THE INTERVENTION OF ASSISTING PATIENTS TO SIT OVER THE EDGE OF THE BED - PRESENTATION OF AN OPTIMIZATION MODEL**

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**Introduction:** Health care workers show a large proportion of the occurrence of musculoskeletal disorders due to physical stress at work and disregard of work ergonomics. The goal is to reduce workloads and thus preserve the health of employees. **Methods:** The purpose of our research is to show current or the most common version of the implementation of the intervention to help patients sit over the edge of the bed, and then present the optimization model. For this purpose, a biomechanical-ergonomical model has been created. **Results:** The optimization includes execution with as little lifting as possible or with stepwise execution and rotation of the center of gravity. **Discussion:** Taking into account the principles of ergonomics and biomechanics of movement, it is possible to achieve a lower physical load to the locomotor system of health care workers. At the same time, safety of the health care worker and the patient is ensured. Last but not least, our model includes greater activation of the patient and thus the achievement of higher independence and functionality of the patient. **Conclusion:** A modified version is recommended for patient mobility education curricula for health care workers.

**Keywords:** manual handling and lifting, ergonomics, biomechanics, body mechanics, health care workers

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## **L17: BODY POSTURE OF CHILDREN BETWEEN 6 AND 9 YEARS OF AGE IN THE AREA OF CZAPLINEK, POLAND**

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**Introduction.** The dynamics of developmental changes combined with changes in lifestyle make the growing organisms of children more and more often deviate from the norms determining the correct development. The early school period is the time when faulty postures appear, which, if not corrected at later stages, lead to the ossification of faulty posture. Most authors point to reduced physical activity as the leading cause of posture defects – the lack of physical activity leads to muscle weakness and, in combination with a poorly balanced diet, to overweight and obesity. Early detection of posture deformity is crucial for effective postural re-education involving compensatory and corrective classes at school; an increase is the number of exercises shaping the habits of correct posture, including care of the proper sitting position and employment of extracurricular exercises. **Aim.** To assess the quality of posture of children aged 6 to 9 years dwelling in a small rural town environment. **Materials and methods.** Four hundred twelve children (196 boys and 216 girls) from Czaplinek Primary School were examined. Body posture was evaluated according to the T-scoring method. Body height and weight were measured, and BMI was calculated for each child. Four posture quality categories were distinguished: normal posture (0 points), abnormal posture (1-2 points), faults in posture (3-5 points), and bad posture (> 5 points). Moreover, the share of abnormalities in selected body segments was assessed in relation to the overall score. **Results.** In both genders, in each examined age category, there is a sizeable inter-personal variation in the scoring of posture quality. **Conclusions.** The best posture characterizes six-year-olds of both sexes and the worst - nine-year-olds. The highest percentage of abnormalities in the examined the population of children aged 6-9 years were observed for scoliosis and abnormalities in plantar foot vaulting.

**Keywords:** children, correct posture, posture defects, Kasperczyk method

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## **L18: DIGITAL INTERVENTION IN PHYSIOTHERAPY IN SLOVAKIA**

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Introduction: Health care systems vary by country and legal standards and have different operating models, funding agencies, government organizations and regulatory authorities. Countries around the world are adopting guidelines and regulations for the use of digital technologies and procedures and their methods of use within the provision of healthcare care. Digital intervention in physiotherapy provides benefits but also limitations that may contribute to treatment inefficiency. Aim: The aim of the work was to map the scope and method of providing digital physiotherapy in Slovakia and compare it with the recommendation of the World Physiotherapy (WCPT). Based on the evaluation of the obtained data, propose a guideline for the method of providing and scope of practice of digital physiotherapy according to the member organizations of the World Physiotherapy (WCPT) in Slovakia and a proposal for educational outcomes associated with the content of professional study subjects in physiotherapy. Methods: The self-designed questionnaire was completed by 107 physiotherapists in practice, the return rate was 41%, the online questionnaire was displayed a total of 261 times and was provided from September till October 2022. The questionnaire was anonymous and contained 20 questions with closed and semi-open questions. Results: Results show that 49 physiotherapists encountered the term digital physiotherapy, of which 33 were physiotherapists working in the private praxis. 54 physiotherapists encountered the term telerehabilitation. Before the period of the COVID-19 pandemic, 55 physiotherapists provided physiotherapy intervention mainly through a phone call communication, and during the COVID-19 pandemic 56 physiotherapists mainly through video call. Digital physiotherapy intervention was mainly used in patients/clients aged 18 to 40 with acute and chronic back pain, where the anamnesis was taken mainly by interview. Most often, the patients/clients were alone in the room and had no problem using the technology. After the end of the digital physiotherapy intervention, the physiotherapists evaluated the condition of the patient/client mainly based on their subjective data. Before the start of the digital intervention, only a very small number of patients/clients agreed to digital physiotherapy, primarily verbally, in writing. As many as 63 physiotherapists did not address

the policy guidelines for digital physiotherapy before providing digital intervention. Conclusion: Physiotherapists in Slovakia used digital physiotherapy intervention even before the pandemic of the COVID-19 c mainly through phone call communication, during the COVID-19 pandemic mainly through video calls. Digital physiotherapy is mainly encountered by physiotherapists working in the private praxis and in facilities with direct payment by the patient/client.

**Keywords:** digital physiotherapy, patient safety, online space

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## **L19: RATIONAL PHARMACOTHERAPY, CLINICAL PHARMACOLOGY, AND PATIENTS' SAFETY**

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Patient safety is an important part of properly provided health care and is one of the important aggregate, multifactorial indicators of its quality. It depends on a comprehensive system of measures and correct procedures ("good practice") that are intended to protect health, life, human dignity and rights, as well as the legitimate interests of the patient in the context of health care. Ensuring maximum patient safety has, in addition to medical and nursing aspects, also significant ethical, human-rights, and economic ones. Ensuring a high level of patient safety is currently one of the key tasks of healthcare systems in all countries of the world, including Slovakia. Despite the systematic efforts of the relevant stakeholders, harm to the patient in the context of health care continues to be a serious negative fact and contributes significantly as a causal factor to (preventable) morbidity and mortality. In Slovakia, systematic attention has been paid to the issue of patient safety, especially in the last decade, while this effort, in addition to actors coming from among providers, regulators and payers of health care, is more recently also based on the cooperation with patient representatives, especially patient organizations [1]. An important part of patient safety in the provision of health care is the safety of drug treatment, which is included in the concept of ensuring and providing the patient with only the rational pharmacotherapy ("providing a right drug, to a right patient, in a right dosage and time, with correct and comprehensible information and at a reasonable price"). The medical discipline of clinical pharmacology contributes to the provision of rational pharmacotherapy in all medical disciplines by a specific professional contribution, based on the exact methodology of clinical and economic evaluation of medical products and drugs in terms of their clinical benefit and possible risks (incl. a pharmacoeconomic or (more comprehensive) health technologies assessment (HTA)). In the paper, we will pay discuss the aforementioned key aspects of ensuring patient safety in the area of rational pharmacotherapy, both in the domestic and international context.

[1] DECREE of the Ministry of Health of the Slovak Republic no. 444/2019 of December 4, 2019, on minimum requirements for the internal patient safety assessment system.

**Keywords:** patient safety, rational pharmacotherapy, clinical pharmacology, ethics, economics, health technology assessment (HTA)

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## **L20: RADIATION PROTECTION - WHAT IS ITS BASIC MEANING?**

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We have been dealing with radiation protection since the discovery of X-rays and the first applications of their use. For some, the very name radiation is really scary, despite the fact that every person on earth encounters ionizing radiation from birth. The International Commission on Radiological Protection (ICRP) was established in 1928 at the Second International Congress of Radiology to respond to the growing concerns regarding the effects of ionizing radiation observed in the medical community. Historical events, especially after World War II, gradually changed the concept of radiation protection. Extensive tests of nuclear weapons, their use, and accidents involving nuclear facilities have initiated extensive studies of the biological effects of radiation and radionuclides. It was no longer just a matter of radium and X-rays. Clinical and haematological, physiological, microbiological, pathomorphological, pharmacological and dosimetric changes were monitored in more detail, as well as the effect of irradiation, the effect of dose rate and type of radiation, the contribution of the neutron component, the distribution of radionuclides in the body, the routes of entry of radionuclides into the body and other important factors were also monitored. It was necessary to determine the maximum permissible doses of radiation and the maximum permissible concentrations of radionuclides in water, air and food. Based on many studies and experimental trials, mainly on animals, it was found that tissue damage depends on the type of radiation, the size of the absorbed dose, its distribution in the organism, the time of exposure and the individual sensitivity of the irradiated person, the so-called radiosensitivity and radioresistance. In 1990 The ICRP Commission carried out an extensive revision of the recommendations (due to the correction of dose estimates indicating increased risk from radiation exposure). The principles of justification, optimization and limitation of individual doses have been retained, and a distinction between 'activities' and 'interventions' has been introduced to account for differences between different types of exposure situations. These principles are used in all activities with an element of radiological risk. Compliance with requirements for radiation protection must be constantly monitored and verified. Slovak legislation respects the recommendations of international organizations and is created in

accordance with the legislation of the European Union. The legislative basis is Act No. 541/2004 Coll. on the peaceful use of nuclear energy (Atomic Law); Law no. 87/2018 Coll. on radiation protection and on amendments to certain laws; Decree no. 99/2018 Coll. Decree of the Ministry of Health of the Slovak Republic on ensuring radiation protection.

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## **L21: REDUCTION OF THE RADIATION LOAD ON THE PATIENT USING MODERN RADIOLOGICAL SYSTEMS**

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Modern radiodiagnostic and radiotherapy devices offer higher diagnostic information with a reduced radiation load on the patient. The hardware part has a significant influence on these facts. New production processes supported the miniaturization of components that are the main part of diagnostic equipment. The software part of the devices is improved by operating systems that can fully use ALARA principles. Low dose protocols and post-processing systems can effectively diagnose pathologies in all organ systems, but also in the arterio-venous and central nervous system. With the help of radiodiagnostic devices and modern systems, we can effectively create and implement preventive programs for oncological diseases, cardiovascular examinations, advocate for a significant impact on the survival of patients after sudden strokes and after serious traumatic injuries. In Slovakia, the DQC portal is used, where the patient's radiation exposure values are recorded during diagnostic and angiographic procedures. This portal offers us the opportunity to evaluate the impact of equipment modernization at workplaces and the use of innovative systems, post-processing reconstructions and their positive contribution to reducing medical radiation.

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## **L22: BURNOUT SYNDROME IN THE WORK OF NURSES**

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Introduction: The burnout syndrome is a current topic. Helping professions are most at risk. We include the profession of nurse to these professions. The work is demanding, it requires mental endurance and physical fitness. The nursing profession is one of the most risky once in relation to burnout syndrome. Objective: To map the occurrence of burnout syndrome in nurses and to find out whether the length of practice and the age of nurses have an effect on the occurrence of burnout syndrome. Methodology: The theoretical starting points were processed from domestic and foreign sources. We conducted the survey using the Maslach Burnout Inventory standardized questionnaire to determine the level of burnout. We verified the results statistically. Results: In the thesis, we present the results of the survey. Nurses with more than 10 years of experience showed a higher degree of burnout in the area of emotional exhaustion at the level of strength. Nurses with more than 20 years of experience were shown to have a higher degree of burnout in the field of depersonalization at the level of strength. Nurses with more than 20 years of experience showed the highest rate of burnout in the area of personal satisfaction at the level of strength. Nurses over the age of 40 showed a higher degree of burnout in the area of emotional exhaustion at the level of strength. Nurses over the age of 50 showed the highest degree of burnout in the field of depersonalization at the level of strength. We found out that the highest rate of burnout in the area of personal satisfaction in the level of strength was demonstrated by nurses over the age of 40. Conclusion: We came to the conclusion that with the increasing number of years worked in the healthcare sector, the risk of burnout syndrome increases. At the same time, we note that in our sample of respondents, the nurses are at risk of developing nurse burnout syndrome at a higher physical age.

**Keywords:** Treatment, Risk factors, Nurses, Symptoms, Burnout syndrome

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**L23: STANDARD ANTI-INFECTION PROCEDURES FOR PATIENTS WITH  
INFECTIOUS COMPLICATIONS AT THE CLINIC OF ONCOHEMATOLOGY AT  
NOI BRATISLAVA**

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Applying intensive chemotherapy is often accompanied by infectious complications that can lead to septic shock. The article deals with the possibilities of preventing infectious complications and nursing care for patients with clostridial infection. We describe the standard nursing procedures at the NOÚ at the Department of Oncohematology.

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## **L24: ANALYSIS OF KNOWLEDGE ON FACTORS ASSOCIATED WITH THE DEVELOPMENT OF CARDIOVASCULAR DISEASES**

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**Introduction:** The decrease the mortality and morbidity from cardiovascular caused diseases is influenced in 44% by influencing risk factors; in 47% by effective pharmacotherapy. The results of the EUROASPIRE (2019) studies confirm that the management of RF in patients with coronary artery disease in routine clinical practice is inadequate and unsatisfactory. **Objective:** To analyse the knowledge of factors related to the development of cardiovascular diseases, to verify selected anthropometric and biological parameters in patients with coronary syndrome. **Methods:** In the study of 105 hospitalized patients, we used the standardized CADE-Q II questionnaire focusing on five domains: medical condition, risk factors, exercise, nutrition, and psychosocial risk. Data were collected between July 2021 and September 2022 at the Department of Acute Cardiology - Coronary Care and the Cardiology Department in Slovak Republic. We also used a questionnaire designed by us to verify tobacco use, anthropometric parameters, lipidogram values were obtained from medical records. **Results:** By analysing of the data we obtained in the study population, we found that the mean value was 60,6; 65%. Patients obtained low values of correct answers in the area of medical condition 52%; risk factors 46%; and nutrition 49%. 29% of patients were regular smokers. The mean waist circumference in men was 105.4 cm; in women 94.3 cm, BMI in men was  $28.67 \pm 3.84 \text{ kg/m}^2$ ; in women  $26.04 \pm 4.01 \text{ kg/m}^2$ . The mean age of the patients was  $58.65 \pm 8.39$  years, 79% of the patients were men and 21% were women. **Conclusion:** The European Society of Cardiology considers the role of the nurse and nurse-led interventions within a multidisciplinary collaboration of professionals involved in preventive cardiology to be important. The results of the EUROACTION study (2008) point to nurse-led management in secondary prevention; these interventions improve adherence to treatment and patient compliance, as well as improving patients' attitudes to lifestyle. Interventions to promote prevention in patients with cardiovascular disease are a sign of quality health care.

**Keywords:** coronary syndrome, preventive cardiology, management of risk factors

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## **L25: SARCOPENIC OBESITY IN GERIATRICS**

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**Introduction:** The prevalence of obesity in combination with sarcopenia (the age-related loss of muscle mass and strength or physical function) is increasing in adults aged 65 years and older. A major subset of adults over the age of 65 is now classified as having sarcopenic obesity, a high-risk geriatric syndrome predominantly observed in an ageing population that is at risk of synergistic complications from both sarcopenia and obesity. **Objective:** This study aims to identify the target group, map the group of seniors with sarcopenia. **Methods:** A randomised clinical trial (SPRINTT) comparing the efficacy of a multicomponent treatment (based on long-term structured physical activity, nutritional counselling/dietary intervention and an information & communication technology intervention) with a healthy ageing lifestyle educational programme (based on general counselling) in delaying incident mobility disability in community-dwelling physically frail sarcopenic older persons aged 70 years and older. **Conclusion:** A conclusion is that more exercise programs containing strength and aerobic exercise in combination with dietary interventions including a supervised weight loss program and/or protein supplements should be conducted in order to investigate possible positive effects on sarcopenic obesity.

**Keywords:** Sarcopenic; Obesity; Disability; Functional impairment; Nutrition; Physical activity

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# **P1: ANTIBIOTIC RESISTANCE GENES IN GUT MICROBIOTA OF HEALTHY INDIVIDUALS AND PATIENTS WITH LIVER DISEASE**

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**Introduction:** The composition and functions of human gut microbiota contribute to the proper functioning of several important processes in the human body. Gut microbiota can also be inhabited by microorganisms resistant to antibiotics. They can enter the gastrointestinal tract from food, water, and the environment. **Aim:** The main aim of this work was to detect and compare the presence of 6 antibiotic resistance genes (ARGs) in total DNA isolated from the stool samples of healthy individuals and patients with liver disease. **Methods:** Samples of stool were collected from 147 healthy individuals and 35 patients with liver disease. Total genomic DNA was extracted with DNA isolation kit. Conventional PCR was used for detection of genes *bla*<sub>TEM</sub>, *bla*<sub>SHV</sub>, *bla*<sub>OXA</sub>, *vanA*, *tetA* and *tetE*. PCR products were evaluated after gel electrophoresis. **Results:** The most prevalent ARGs in healthy individuals were *bla*<sub>TEM</sub> in 28,6 %, *vanA* in 23,1 %, *bla*<sub>OXA</sub> in 10,2 %, *tetA* in 1,4 % and *bla*<sub>SHV</sub> in 0,7 % of samples. In patients with liver disease the presence of ARGs was following: *vanA* 46,7 %, *bla*<sub>TEM</sub> 24,4 %, *bla*<sub>OXA</sub> 22,2 %, *tetA* 20,0 %, *bla*<sub>SHV</sub> 13,3 % and *tetE* 4,4 %. Positivity for ARGs in healthy individuals was 49,0 % and in patients 77,8 %. *tetE* gene was detected only in patients. **Conclusion:** Health of the individual influences the gut microbiota and the presence of ARGs. In our work, we detected ARGs in total DNA from stool of patients, but also from healthy individuals. The occurrence of ARGs was higher in patients which could be result of their health and in some cases antibiotic treatment. **Acknowledgement:** This work was supported by VEGA 1/0464/21.

**Keywords:** gut microbiota; antibiotic resistance genes; total DNA; PCR

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## **P2: SUPPORT OF INNOVATIONS IN NURSING**

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Background: Innovation responds to unplanned needs by applying new ways of thinking and working with a special focus on needs. Putting innovations into practice depends on the skills of the manager. The aim of the project was to find out what importance the respondents attach to the management of changes in nursing, to identify the initiator and obstacles of changes. Sample and methods: 112 respondents from nurses - managers took part in the survey using the questionnaire method. We focused on the level of knowledge of nurses about nursing management, about change management, innovations in nursing and in nursing practice, opportunities and obstacles in the implementation of innovations. Results: We found that changes are important for making progress in nursing for most nurses, the obstacles being dominated by a lack of funding to implement innovation. We did not find a statistically significant difference in the perception of barriers to the introduction of innovations between nurses working in the Czech Republic and Slovakia. Conclusion: We recommend supporting nurses in the implementation of changes and new knowledge into practice by pointing out the importance of evidence-based nursing practice.

**Keywords:** nurse, management, manager, innovation, nursing

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### **P3: PATIENT SAFETY IN NUTRITIONAL THERAPY**

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Nutritional therapy is a separate medical field that deals with the physiological nutrition of all age groups of the population, the therapeutic nutrition of patients with all types of diseases related to nutrition and the provision of clinical nutrition in institutional health facilities. The goal of nutritional therapy is to maintain the quality of life by providing nutrition that is suitable from the point of view of the patient's health and helps prevent the onset, progression and complications of the disease. The issue of patient safety is closely related to the provision of nutritional therapy in institutional as well as home care. Patient safety in connection with nutrition can be defined in two closely related levels. The first level is ensuring proper nutrition, which respects the requirements arising from the patient's state of health (optimal supply of essential nutrients and protective substances) = elimination of the risk of malnutrition or obesity. The second level is hygienic safety in food selection and processing = elimination of the risk of foodborne diseases. Health care in the field of nutritional therapy is performed by a doctor (responsible for the indication of nutritional care for the patient), institutional dietitian / nutritionist - doctor (responsible for the professional guidance of medical personnel in the field of nutritional therapy), nutritional therapist (responsible for educating patients about physiological and therapeutic nutrition and for expert management of nutrition preparation in medical facilities), catering operations (responsible for the preparation of hygienically safe therapeutic nutrition), nutrition team (responsible for evaluating and solving the nutrition of hospitalized patients, nursing staff (responsible for distributing and serving nutrition to hospitalized patients).

**Keywords:** patient safety, nutritional therapy, safety risks

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## **P4: THE IMPORTANCE OF PHYSIOTHERAPY IN THE HOME OF SOCIAL SERVICES**

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Physiotherapy is not very often used activity in the care of patients living in social services facilities. The purpose of the survey was to highlight the importance of physiotherapy and movement therapy. Sixty patients divided into two groups according to diagnoses were included in the survey. We assigned thirty cardiology patients with an average age of 72 years to group A. Thirty psychiatric patients with an average age of 66 were included in group B. To obtain the results, we used the Berg balance scale questionnaire, which evaluates 14 activities. These activities are focused on the risk of falls and the necessity of using rehabilitation tools. We identified that in group A (cardiology patients) there were no differences in the results before and after therapy in the individual activities of the Berg balance scale, and thus there was no deterioration in the postural stability or health condition of the patients. In group B - psychiatric patients, we achieved a significant improvement in results and thus also an improvement in postural stability, physical and mental condition. Based on the survey results, we confirm the importance and necessity of using physiotherapy in social service facilities under the supervision of a physiotherapist.

**Keywords:** physiotherapy, the home of social services, cardiological patients, psychiatric patients

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**P5: ASSESSMENT OF THE LEVEL OF KNOWLEDGE OF PREGNANT WOMEN  
ON THE TOPIC OF BREASTFEEDING**

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Breastfeeding is the main and most important way for a mother to meet her baby's basic need – hunger. Numerous studies indicate that this is also the most effective way, with positive consequences for both the child and the mother. Natural breast milk has a full range of properly matched ingredients for the proper development of the baby. Given its importance in providing the child with adequate nutrition, it is important that nursing mothers have an appropriate degree of knowledge about it and properly implement the acquired knowledge into practice. The aim of the study was to assess the level of knowledge of pregnant women about breastfeeding depending on social and demographic factors. Respondents were asked about appropriate methods, advantages, contraindications to breastfeeding and how to store breast milk. The survey was conducted among 102 pregnant women in the period April-May 2019 using the diagnostic survey method. Most of the respondents represented the age group between 26 and 35 years of age, had a good financial situation, had one or more births, had a vocational education and lived in the city. More than half of the respondents (57.80%) rated the level of their knowledge about breastfeeding as very high, but more than a quarter of them did not have any knowledge on this subject. The vast majority of women were aware of the benefits of breastfeeding for the baby, although a smaller proportion of them were aware of the benefits for the mother. The study showed that the majority of women surveyed (73.4%) have good or very good knowledge about breastfeeding. Additionally, the study found no relationship between the level of knowledge and sociodemographic factors.

**Keywords:** breastfeeding, baby development, lactation, breast milk, breast milk

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**P6: THE IMPACT OF PATIENT DEATHS ON THE FEELINGS AND BEHAVIORS  
OF NURSING STAFF ON THE EXAMPLE OF SELECTED DEPARTMENTS OF  
THE RADOM SPECIALIST HOSPITAL**

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In the face of the phenomenon of death, no one remains indifferent. This also applies to people who encounter the death of a sick person almost every day at work. The aim of this study was to investigate the impact of patient deaths on the feelings and behaviors of staff in nursing ego working at the Radom Specialist Hospital in Radom (Poland). The survey was conducted among 120 nurses. A diagnostic survey was used as a research method, and the tool used was an author's research survey. The questions included in the survey concerned the issue of how nurses perceive a patient's death and how it affects their emotions and the way they deal with them. The age and gender of nursing staff does not affect the emotional difficulties associated with the death of patients. Seniority has an impact on the emotional behavior of nursing staff in the event of patient death. Staff with shorter work experience take longer to analyze and reflect on the circumstances associated with this death. With the extension of seniority, the percentage of staff who think about these events after the patient's death decreases significantly. The incidence of deaths of patients in a given ward affects the willingness of nursing staff to change jobs. The fewer deaths in a given ward, the fewer respondents expressed a desire to change their workplace. On the basis of the conducted research, the main hypothesis has been confirmed that the death of patients has an impact on nursing staff working in selected departments of the Radom Specialist Hospital and may be one of the most difficult moments in the work of nursing staff. In addition, nursing staff have been shown to feel alone in this experience and expect more support in the form of education, training and the opportunity to talk to a psychologist or psychotherapist.

**Keywords:** death of patients, emotions, nursing staff, seniority

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## **P7: PREVENTION METHODS AND THE ROLE OF MEDICAL PERSONNEL IN PREVENTING SURGICAL SITE INFECTIONS**

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Surgical site infection (SSI) is associated with surgical intervention and tissue disruption. These infections affect patients all over the world, are severely affected by patients' health and contribute to higher treatment costs. Infection can be superficial or deep cuts in organs or body cavities. The correct assessment of the risk of surgical site infection is not based solely on the degree of cleanliness of the wound. Patient-related risk factors (age, nutritional status, addictions, impaired immune response, carrier of microorganisms), the operating room environment, the surgical procedure and its technique, as well as factors related to the underlying disease and comorbidities contribute to the development of SSIs. with the number and virulence of microorganisms. Surgical site infections are caused by bacteria, viruses, parasites or fungi. The main etiological factor in exogenous infections is *Staphylococcus aureus*, including in particular methicillin-resistant strains - MRSA, the main source of which are carriers among medical personnel and other patients. Other factors of exogenous infections include: *Staphylococcus aureus* strains producing septic shock toxin (TSS), *Streptococcus pyogenes*, *Clostridium perfringens*, Vancomycin-Resistant Enterococci (VRE), as well as multiresistant strains of Gram-negative bacilli. During the surgical cutting procedure, the natural physiological barrier is damaged, which results in the penetration of microorganisms into deeper tissues and its contamination. Surgical site infections are mainly caused by pathogens of endogenous origin on the skin or from the environment of the operated organs. The basic method of preventing SSI is the awareness of the medical staff and the patient himself. Compliance with the rules of hygiene, adherence to and creation of new procedures and standards that relate to safe and effective conduct during surgical procedures.

**Keywords:** microorganisms, methods of prevention SSI, surgical site infections, skin breakdown

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## **P8: IDENTIFICATION OF FALL RISK IN SENIORS**

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Introduction: Falls are one of the most common causes of injuries in senior citizens and the fifth common cause of death. The first step to eliminate falls in the hospital environment is to identify at-risk patients. Methodology and characteristics of the sample: 480 senior respondents (average age 77.38 years) hospitalized in institutional health facilities in Bratislava participated in the research study. The standardized assessment tool Morse Fall Scale (MFS) was used to process the defined research objectives. Results: We diagnosed a high fall risk in up to 61.25% of the participants involved, and the incidence of fall in the personal history of hospitalized seniors was associated with their age ( $p < 0.00001$ ). The results confirm a statistically significant relationship between the incidence of fall in the past 3 months and the fall risk classification by MFS screening ( $p = 0.000$ ). Conclusion: Based on the research results, fall risk in hospitalized elderly patients was confirmed.

**Keywords:** seniors, fall, fall risk factors, nursing, standardized scale

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## **P9: MEANING OF THE DETERMINATION OF NONYLPHENOL IN BREAST MILK IN A SELECTED POPULATION**

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Nonylphenol belongs to a group of chemical compounds called alkylphenols. Nonylphenol usually decomposes to form nonylphenol ethoxylates, tris(nonylphenyl)phosphite, and nonylphenolformaldehyde condensation resins. These nonylphenol derivatives are effective and therefore they are added to industrial detergents, textile and leather processing, metalworking, pulp and paper production, cosmetics, other personal care products, and biocides. According to Council Directive 76/769/EEC on restrictions on the placing on the market and use of certain dangerous substances and preparations, which was implemented in all Member States by 17 January 2005, it was stated that nonylphenol and nonylphenol ethoxylate "shall not be placed on the market or used as a substance or component of preparations in concentrations equal to or greater than 0.1% by weight". Since the selected analyte has the lipophilic character and milk contains a large amount of fat, breast milk was chosen to verify whether transfer from mother to child during breastfeeding occurs.

The concentrations of nonylphenol in breast milk were obtained using high-performance liquid chromatography (HPLC) with fluorescence detection ( $\lambda_{\text{exc}}=227$  nm and  $\lambda_{\text{em}}=313$  nm). The chromatographic determination was performed on C18 column (150 mmx4.6 mm I.D., 5  $\mu\text{m}$ ). Mobile phase consisted of water (A) and acetonitrile (B). Gradient elution of mobile phase (30-100% B) was used with a flow rate of 1 ml/min. Solid-phase extraction (using C18 SPE cartridges) was applied for pretreatment of breast milk samples. The goal of the project was to introduce a methodology for the determination of nonylphenol in breast milk and apply it to real samples. This work was supported by internal project SZU in Bratislava, 07 /2021-SVG1.

**Keywords:** nonylphenol breast milk, HPLC, solid-phase extraction

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## **P10: PREVENTIVE ACTIONS AGAINST COVID-19 AFTER PANDEMIC, DURING EPIDEMIC EMERGENCY**

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The coronavirus pandemic has significantly changed life, the perception of the world, modified the list of the most important values for humans putting health and life first. Pre-imposed orders, prohibitions, duties, rules of conduct transformed the previous life of society into a state of constant stress, frustration, fear for the lives of themselves and loved ones. For more than two years the pandemic managed to reorganize life and adapt to new rules of conduct and living or working conditions. Masks, gloves, keeping one's distance or disinfection became the norm in the prevention and fight against the SARS CoV-2 virus.

After the end of the pandemic was declared and a state of epidemic emergency was imposed, most of the restrictions were lifted or significantly reduced. The public is relieved, but still cautiously withdrawing from compliance with implemented and learned hygiene, safety rules. Cases of increasing incidence of Covid 19 confirm the fears of some scientists suggesting that the virus has been dormant, hidden, and in time will again spread and reshape the life of society around the world.

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## **P11: SAFETY CULTURE ASSESSMENT**

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**Background:** Culture safety is a prerequisite to achieve a providing of quality nursing care. The tools are defined policies for ensuring the safety of provided nursing care, a defined safety culture process and measures management. **Subject and methods:** We mapped the evaluation of the safety culture in relation to the provision of safe nursing care for the patient from the nurses' point of view. The pediatrics nurses of faculty/university hospitals in the West Slovak region were approached by the standardized questionnaire HSOPS (Hospital Survey on Patient Safety: Version 2.0). We analyzed 158 answer sheets completed by nurses of intensive care units used Chi-square ( $\chi^2$ ) test. **Results:** We mapped significant variability in the use of the EHR system in individual departments and incompleteness of information  $p < 0.001$ . We confirmed that the use of an electronic health record system has a statistically significant effect on the assessment of patient safety  $p < 0.001$ . We identified reserves in adverse event reporting  $p = 0.007$ . Nurses positively evaluate changes from management to improve patient safety  $p = 0.014$ . Effectiveness of communication in relation to the patient safety prevents repeating errors  $p = 0.022$ . **Conclusion and Recommendations:** Analysis and management of safety culture determinants is a tool for improving the quality of nursing care. We recommend to the nurse managers to evaluate a compliance with the minimum requirements for an internal patient safety assessment system.

**Keywords:** Safety culture, HSOPS (Hospital Survey on Patient Safety) scale, Nursing care

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## **P12: THERAPEUTICAL OPTIMIZATION OF ASSISTING PATIENTS TO SIT OVER THE EDGE OF THE BED**

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**Introduction:** Health care workers show a large proportion of the occurrence of musculo-skeletal disorders due to physical stress at work and disregard of work ergonomics. The goal is to reduce workloads and thus preserve the health of employees. **Methods:** The purpose of our research is to show current or the most common version of the implementation of the intervention to help patients sit over the edge of the bed, and then present the optimization model. For this purpose, a biomechanical-ergonomical model has been created. **Results:** The optimization includes execution with as little lifting as possible or with stepwise execution and rotation of the center of gravity. **Discussion:** Taking into account the principles of ergonomics and biomechanics of movement, it is possible to achieve a lower physical load to the locomotor system of health care workers. At the same time, safety of the health care worker and the patient is ensured. Last but not least, our model includes greater activation of the patient and thus the achievement of higher independence and functionality of the patient. **Conclusion:** A modified version is recommended for patient mobility education curricula for health care workers.

**Keywords:** manual handling and lifting, ergonomics, biomechanics, body mechanics, health care workers

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# **P13: THE NURSE'S ROLE IN MAINTAINING PATIENT SAFETY DURING ANESTHESIA**

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**Background:** Worldwide, approximately 230 million operations are performed under general anesthesia. Today, we cannot imagine that such a number of operations could be performed if we did not have such an important field of medicine as anesthesiology and intensive care medicine. Anesthesiology is considered a key specialty in medicine, taking responsibility for the quality and increasing the safety of patients during surgery. **File and methods:** In our survey, we chose a questionnaire of our own construction as the methodology, which we distributed to nurses in two departments of anesthesiology and intensive care medicine. The goal of the questionnaire was to find out how they perceive the importance of nurses' tasks after the introduction and during anesthesia. The survey was attended by 72 respondents, nurses working in the anesthesia department with different levels of education and length of experience. Relative numbers, percentages, arithmetic mean were used for data processing. **Results:** From the results of our survey, we found that among their tasks, nurses most often perform the assessment of current vital signs (98.61%), eye treatment (100,00%), control of the respiratory curve and etCO<sub>2</sub> (83,33%), control of the skin condition and mucous membranes (75,00%). **Conclusion:** Patient safety is characterized as a fundamental principle of health care that emphasizes the reporting, analysis and prevention of errors leading to adverse events. Based on our results, we can say that nurses perceive their tasks as very important, while there are rarely tasks that they do not do or do only occasionally. Nurses fulfill their obligations specified in the Declaration of Helsinki.

**Keywords:** patient safety, anesthesia, the role of the nurse, Declaration of Helsinki

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## **P14: ANALYSIS OF THE FREQUENCY OF FOCAL LIVER LESIONS IN YOUNG ADULTS**

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Focal liver lesions are an increasingly common diagnostic and therapeutic problem in the world. Liver diseases are detected and diagnosed more and more often thanks to the growing popularity of many imaging tests, such as ultrasound, computed tomography or magnetic resonance imaging. The main aim of the study was to assess the frequency of focal lesions in the liver in adults under 40 years of age and create a list of the most common changes diagnosed. The materials for the study were histopathological results and medical history of patients under 40 years of age with focal lesions of the liver treated surgically in the Department of General Transplantation and Liver Surgery of the Medical University of Warsaw and diagnosed in the Department of Pathomorphology of the Medical University of Warsaw during the period 2002-2012, patients admission books of the Department of General, Transplant and Liver Surgery Medical University of Warsaw during the period 2010-2012. The most frequently diagnosed focal lesions in the group were hepatic metastases, then focal nodular hyperplasia, and the least common lesion hepatocellular carcinoma. Focal changes of the liver are almost twice as frequent in women. In the group of young adults, focal liver lesions are present almost 10 times less often than in the group of patients over 40 years of age. Patients with focal liver lesion under 40 were more often treated with surgery compared to patients over 40 years of age.

**Keywords:** liver, focal lesions, young adults

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## **P15: COVID-19 AND PIMS AS NEW CHALLENGES IN PEDIATRIC PATIENT CARE**

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The coronavirus pandemic, which lasted from March 20, 2020 to May 15, 2022, mainly affected adults. Initially, no infections were observed among children, but it was suspected that children often "transmit" infections to adults or infections among children are asymptomatic. Sore throat, weakness followed by nausea, diarrhea and smell and taste disorders have become symptoms that are increasingly common among children of all ages. Pediatric multisystemic inflammatory syndrome, temporarily associated with SARS-CoV-2 infection (PIMS-TS) or pediatric multisystemic inflammatory syndrome (MIS-C) is an acute inflammatory syndrome that can develop cardiac complications (primarily: acute myocarditis with decreased left ventricular ejection fraction,) or shock. PIMS occurs after SARS CoV-2 infection (often asymptomatic or sparsely symptomatic) about 2-4 weeks earlier. It is comforting to know that timely and effective treatment undertaken allows the vast majority of young patients to recover within days. Inpatient therapy should be carried out with the participation of a multispecialty consortium (infectious disease physicians, cardiologists, rheumatologists, hematologists, possibly a pediatric intensive care specialist). The goal of treatment is primarily to suppress inflammation. In some patients with a mild, self-limiting course of the disease, symptomatic treatment may be sufficient. The fight against SARS CoV-2 virus, and consequently PIMS syndrome, requires further knowledge and learning about ways to prevent the disease and new methods of treatment for both adult and young patients so as to prevent complications and sequelae of the infection.

**Keywords:** children, SARS CoV-2, COVID-19, PIMS syndrome

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## **P16: URINARY TRACT INFECTIONS AMONG HOSPITALIZED PATIENTS WITH A URINARY CATHETER**

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Urinary tract infections (UTIs) are one of the most common infections encountered by both outpatients and inpatients. Catheterization and the length of time the catheter is maintained in the patient significantly increase the risk of infection. Treatment of patients with UTI is a very big problem not only therapeutically but also financially for hospitals. The purpose of this study was to determine whether the number of urinary tract infections among catheterized patients increased during the Sars-Cov-2 virus pandemic. In addition, whether the pandemic period contributed to an increase in the frequency of catheterizing patients. The study was conducted using information on the number of urine culture tests ordered and the number of positive results among patients with suspected UTI. Patients were qualified for the test on the basis of their clinical symptoms, and the test was carried out by inoculating the urine on Blood Agar with 5% sheep blood dehydrate and MacConkey medium. The result was presented as the number of grown microbial cells in 1 ml of urine. The results showed that during the COVID-19 pandemic, the number of patients with a urinary catheter increased but the number of nosocomial urinary infections decreased. Continuously increasing the awareness and knowledge of medical personnel about catheterizing patients and taking care to maintain a sanitary regime results in a decrease in the incidence of hospital-acquired urinary tract infections among catheterized patients.

**Keywords:** urinary tract infection, urinary catheter, nosocomial infection

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## **P17: THE IMPORTANCE OF VITAMIN D IN HUMAN HEALTH**

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**Objectives:** Proper eating habits ensure health human, so it is important to eat a balanced diet and learn the basics of proper eating from an early age. Adolescence is considered very important for maintaining good health, including in terms of nutrition. **Methods:** In the study, we monitored the eating habits of 182 adolescents aged 14 to 19 years with different eating habits (73 vegetarians and 109 non-vegetarians) using a questionnaire on nutrition and determination of selected blood parameters - vitamin D, iron and n-3 fatty acids.

**Results:** Insufficient levels of vitamin D were determined in the whole group of adolescents, regardless of eating habits. Low iron concentrations negatively affect the biosynthesis of long-chain n-3 fatty acids, which was also reflected in our adolescents with alternative diets.

**Conclusions:** Based on the obtained results, it is necessary to place increased emphasis on the composition of the diet in adolescent age. This work was supported by internal project SZU in Bratislava, 06 /2021-SVG1.

**Keywords:** nutrition; vitamin D; iron; n-3 fatty acids; adolescent

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## **P18: BIOFILM FORMATION BY STAPHYLOCOCCUS AUREUS IN DEPENDENCE ON ENVIRONMENTAL CONDITIONS**

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The influence of water activity (in range of  $a_w$  1.0-0.86), pH (6.5-4.0) and their combinations (pH 6.0; 5.5 and 5.0 and  $a_w$  0.99 and 0.97) on the biofilm formation by two *S. aureus* isolates on two different contact materials - plastic material and stainless steel was described. It was found that there weren't statistically significant differences ( $p < 0.05$ ) in ability of two isolates to form biofilm on two different stainless-steel plates, type M and L. Based on results it can be stated that the biofilm formation by both isolates was promoted with salt addition to 5% and with further decrease of  $a_w$  *S. aureus* ability to produce biofilm decreased. However, the biofilm formation was noticed also at  $a_w$  0.855, on both materials. Further, the biofilm formation by two isolates started gradually to decrease with decreasing of pH value. The lowest pH value at which *S. aureus* was able to produce biofilm was pH 4.0. The effect of combination of factors on biofilm formation on plastic material was inhibited compared to their individual effect. The amount of biofilm produced on stainless steel surface has been reduced, insufficiently, by the addition of salt and reducing of the pH value to 5.0. It can be concluded that the combination of  $a_w$  and pH did not reliably eliminate the formation of biofilm but by using aggressive combination of factors, better results can be obtained. The most effective way to inhibit biofilm formation on both materials was at pH 4.0.

**Keywords:** *S. aureus*, biofilm, environmental factors

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