



MEDICINOS FAKULTETAS

ĮRODYMAIS GRĮSTA PRAKTIKA: NUO SVEIKATOS – LINK SOCIALINĖS GEROVĖS

Tarptautinės mokslinės-praktinės konferencijos tezių leidinys

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FACULTY OF MEDICINE

**EVIDENCE-BASED PRACTICE: FROM HEALTH TO
SOCIAL WELL-BEING**

International Scientific-Practical Conference Theses Publication

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Vita Budvyte, Odeta Česnulevičienė. THE EFFECT OF DMK COSMETIC PROCEDURES WITH ENZYMES ON MATURE FACIAL SKIN	5
Evelina Jančiauskaitė, m.dr.doc. Judita Andrejaitienė. ASSESSMENT OF EARLY POSTOPERATIVE DELIRIUM IN PATIENTS AFTER CARDIAC SURGERY	7
Daiva Lenčiauskienė. RELATION BETWEEN KNEE JOINT STRUCTURAL AND FUNCTIONAL CHANGES AND BODY MASS INDEX AFTER TOTAL KNEE ARTHROPLASTY	9
Maija Malinovskienė, Jurgita Gulbinienė. CHANGES IN THE HEALTH STATUS OF PEOPLE CARING FOR A FAMILY MEMBER WITH DEMENTIA AT HOME	11
Aušra Rimantienė. THE POLICY OF PROFESSIONAL TRAINING AND ACTIVITY MANAGEMENT OF NURSES IN LITHUANIA	15
Edmantas Rėkus. CHANGES IN PARKINSON'S DISEASE PEOPLE BALANCE, GAIT, RISK OF FALLS, TREMOR OF UPPER LIMBS AND QUALITY OF LIFE THROUGH DIFFERENT BALANCE AND GAIT PROGRAMS	17
Danguolė Šakalytė. EVIDENCE-BASED PRACTICE IS A PREREQUISITE FOR CRITICAL THINKING AND SCIENTIFIC REASONING	18
Erika Tekoriūtė, M. dr. doc. Judita Andrejaitienė. CORRELATION BETWEEN PERIOPERATIVE ANEMIA AND POSTOPERATIVE OUTCOMES AFTER CARDIAC SURGERY	21
Edmundas Vaitiekus. SKILL LABORATORY IN SOCIAL WORK	23
Diana Valeikaitė, doc. dr. Milda Švagždienė. EFFECT OF TRANEXAMIC ACID ON POSTOPERATIVE BLOOD LOSS IN OPEN HEART SURGERY WITH CARDIOPULMONARY BYPASS	25

THE EFFECT OF DMK COSMETIC PROCEDURES WITH ENZYMES ON MATURE FACIAL SKIN

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Introduction. The skin is an integral part of the human body system, performing at least two very important functions - thermoregulation and the first barrier (protection) against external factors and pathogens (Touffaire et al., 2017). It is the most visible and most likely organ to reflect the aging process (Foster et al., 2019). Structural, cellular and molecular changes and the accumulation of senescent cells are observed in aging skin (Ho, 2021; Low, 2021; Wiley & Campisi, 2022). In the context of such challenges, the biomimicry approach is used, which is based on mimicking the processes and functions of living organisms in nature. This principle is also the basis for “DMK's“ Skin Revision approach. This method focuses on the cosmetic ingredients that are close to the natural biochemistry of the human body. “DMK“ Facial Care procedures with enzymes is a unique method in the world, based on the skin cells biochemical processes in the skin. This method consists of 4 essential steps: remove, rebuild, protect and maintain. It is a comprehensive approach to the facial skin care and improving skin functions at the cellular level. The active ingredients used must be biocompatible and bioadoptable. Only such substances are recognised and accepted by the skin cells. Enzymes play a key role in all biochemical processes as “without these molecular machines the genetic information stored in DNA is worthless“ (Punekar, 2018, p. 7). Enzymes are involved in all vital functions of the cell: DNA replication and transcription, protein synthesis, metabolism, signal transduction and etc. (Li et al., 2012; Pollard et al., 2017). Face cosmetic procedures using “DMK“ enzymes remove dead skin cells, purify the intracellular matrix, activate the internal enzyme system and mitochondrial functions and improve microcirculation. This restores the functional and structural integrity of the skin. Only a “clean“ cell can function normally. It is also important to note that “DMK“ philosophy is in line with another contemporary trend - skiminalism. The need for decorative cosmetics is decreasing after restoring the integrity of the skin and the natural radiance of it. This is a trend that is particularly relevant nowadays, as less use of cosmetic products reduces skin irritation and incompatibility of cosmetic ingredients and is more environmentally friendly and money-saving.

The aim of study. To evaluate the effect of “DMK“ cosmetic procedures with enzymes on mature facial skin.

Methods. A contract qualitative case study was conducted. Study sample is n=2. Subjects were selected using a criterion feature selection method. Methods and instruments used for data collection: questionnaire survey, open-ended questionnaire; assessment/measurement of facial skin condition, using visual methods of facial skin assessment and diagnostic devices for facial skin condition (Courage & Khazaka, VisioFace® Basic), as well as analysis of photographic documents; summary of the research results. The results were analysed and discussed after the study.

Results. Two mature women aged 40-45 with the same oily skin type but different facial skin problems were selected. The assessment of facial skin condition was carried out before the course of procedures and after a course of 5 procedures 1 week later. Subject T1, aged 40 years, with minimal signs of aging: fine wrinkles, uneven skin tone, loss of vitality, dilated capillaries in the face area. The subject suffered from skin stretching due to dehydration. T2 subject, aged 45 years, with fine wrinkles, hyperpigmentation, enlarged facial pores, loss of brightness, skin tightness due to dehydration. After the skin assessment with VisioFace® Basic equipment, the pore size of facial skin of the subject T1 reduced three times, the skin tone decreased from uneven to moderately even, and

the number of fine lines was reduced almost four times. The size of the pores in the facial skin of the subject T2 declined twice, the skin tone went from uneven to medium even, the number of fine lines declined three times. The evaluation of the skin condition of the subject T1 using Courage & Khazaka equipment showed a transepidermal water loss (TEWL) with a decrease of two scale units, a decrease of three scale units in the melanin content, and a decrease of three scale units in the hemoglobin content (erythema) compared to the pre-procedure course. The changes in the elasticity parameters of the facial skin were uneven: firmness and elasticity were better than before the procedures, but the elasticity and the ability of the skin to return to its initial state were worse. TEWL of the subject T2 decreased by two scale units, melanin by nine scale units, the erythema index twelve scale units. All elasticity parameters improved. In the assessment subjective signs, both subjects report positive changes in their facial skin condition: more even complexion, reduced feelings of tightness and skin firmness.

Conclusions. The pre- and post-procedure evaluation of the facial skin showed a positive effect of “DMK“ enzymes procedures on the reduction of signs of mature facial skin. Both subjects showed a reduction in TEWL and no longer experienced skin tightness due to previous skin dehydration. The amount of melanin in the skin was reduced, resulting in a more even complexion for both subjects. Facial pores decreased in both subjects. The elasticity indices of subject T2 improved evenly. The subject T1 showed uneven changes in elasticity. This was due to the diagnosis of anaemia in subject T1 at the time of the study and the deterioration in her general health.

References

1. Foster, A. R., Chami, C. E., O'Neill, C. A., & Watson, R. E. B. (2019). Osmolyte transporter expression is reduced in photoaged human skin: Implications for skin hydration in aging. *Aging Cell*, *19* (1), 1-14. <https://doi.org/10.1111/accel.13058>
2. Ho, C. Y. & Dreesen, O. Faces of cellular senescence in skin aging. (2021). *Mechanisms of Ageing and Development*, *198*, 1-9. <https://doi.org/10.1016/j.mad.2021.111525>.
3. Li, S., Yang, X., Yang, S, Zhu, M. & Wang, X. (2012). Technology Prospecting on Enzymes: Application, Marketing and Engineering. *Computational and Structural Biotechnology Journal* *2*, (3), 1-11. <http://dx.doi.org/10.5936/csbj.201209017>
4. Low, E., Alimohammadiha, G., Smith, A. L., Costello, L. F., Przyborski, S. A., von Zglinicki, T. & Miwa, S. (2021). How good is the evidence that cellular senescence causes skin ageing? *Ageing Research Reviews*, *71*. 1-10. 101456. doi:10.1016/j.arr.2021.101456.
5. Montague - King, D. (2022) DMK Skincare. www.dmk.com
6. Plessis, A. & Broeckhoven, C. (2018). Looking deep into nature: A review of microcomputed tomography in biomimicry. *Acta Biomaterialia*, *85*, 27-38. <https://doi.org/10.1016/j.actbio.2018.12.014>
7. Pollard, T. D., Earnshaw, W. C., Lippincott-Schwartz, J. & Johnson, G. T. (2017). *Cell biology*. (3d ed.). Elsevier.
8. Punekar, N. S. (2018). Enzymes: Catalysis, Kinetics and Mechanisms. *Springer Singapore*, 1-7. <https://doi.org/10.1007/978-981-13-0785-0>
9. Toutfaire, M., Bauwens, E. & Debacq-Chainiaux, F. (2017). The impact of cellular senescence in skin ageing: A notion of mosaic and therapeutic strategies. *Biochemical Pharmacology*, *142*, 1-2. <http://dx.doi.org/10.1016/j.bcp.2017.04.011>.
10. Wiley, C. D. & Campisi, J. (2021). The metabolic roots of senescence: mechanisms and opportunities for intervention. *Nat Metab*. *3*(10), <https://doi.org/10.1038/s42255-021-00483-8>.

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ASSESSMENT OF EARLY POSTOPERATIVE DELIRIUM IN PATIENTS AFTER CARDIAC SURGERY

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Introduction. Postoperative delirium is one of the most common postoperative neurological complications for elderly patients [1]. Early recognition of postoperative delirium is very important to ensure patient safety and better understand the factors and situations that lead to delirium [2]. Early assessment of delirium can reduce the impact of brain dysfunction and provide targeted interventions to prevent adverse events [3]. Delirium is a common acute disorder in intensive care unit and is associated with longer hospital stays, higher healthcare cost and an increased risk of mortality [2,4,5]. There is no short, quick and easy-to-apply, high sensitivity suitable assessment tool for identify delirium [6]. In conclusion, it can be stated that there is a lack of data on more precise risk factors and there is no suitable tools for assessing delirium risk factors that is easy to understand and use by medical personal.

The aim of this research – is to investigate the frequency and risk factors of early postoperative delirium in patients after cardiac surgery.

Methods. It was a retrospective study, which was done in Hospital of Lithuanian health science university Kaunas Klinikos Cardiac surgery anesthesiology and intensive care unit . For research was used a sample of subjects from a selected period. The study sample consisted of 284 medical histories. The analysis of research data was using „SPSS for Windows 22.0” and (Statistical Package for Social Sciences) ir Microsoft 365® software. The Chi-square was used to determine the dependence of qualitative characteristics. In all cases, a difference with a reliability of more than 95 percents was considered statistically significant when $p < 0,005$.

Results. Delirium is diagnosed for 67 patients out of 284 patients in the Cardiac Surgery Anesthesiology and Intensive Care Unit. During the research, we find out that postoperative delirium is more common in men (23,2 %) than in women (24,7%). Patient over 65 years of age were the most frequently diagnosed with postoperative delirium (61,2%). Delirium is diagnosed more often for patients who smoked (34,6%) than patients who didn't smoke (19,2%). Patients who drank alcohol more than once time for month (18,4%) or never drank alcohol (22,8%). Postoperative delirium diagnosed more often for patients who have arterial hypertension (85,1%). Analyzing the risk factors on the first day after surgery, we notice that postoperative delirium was mostly diagnosed for patients who were extubated on the first day (35,0%). Analyzing data of patients sleep quality, we notice that postoperative delirium diagnosed more than half of patients who were able to sleep with the help of medication (52,2%). Patients who had diagnosed with postoperative delirium spent more than 4 days in intensive care (50,7%).

Conclusions.

1. Delirium is diagnosed for 67 patients out of 284 patients in the Cardiac Surgery Anesthesiology and Intensive Care Unit.
2. These results showed that older age, smoking, drinking alcohol, arterial hypertension, delirium in anamnesis, longer DPV time, poor quality sleep, longer time spent in intensive care unit, not removal of urinary catheter for long time may can affect delirium development.

Reference:

1. Ordonez – Velasco L.M., Hernandez-Leiva E. Factors Associated with Delirium after Cardiac Surgery: A Prospective Cohort Study. *Annals of Cardiac Anaesthesia* 2021; 24(2): 183-189. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8253013/>
2. Krewulak K., Stelfox H. H., Parsons Leigh L., Wesley Ely E., Fiest K. Incidence and Prevalence of Delirium Subtypes in an Adult ICU: A Systematic Review and Meta-Analysis. *Critical Care* 2018; 46 (12): 2029-2035. [https://journals.lww.com/ccmjournal/Fulltext/2018/12000/Incidence_and_Prevalence_of_Delirium_Subtypes_in.17.aspx](https://journals.lww.com/ccmjjournal/Fulltext/2018/12000/Incidence_and_Prevalence_of_Delirium_Subtypes_in.17.aspx)
3. Kotfis K., Szylińska A., Listewnik M., Strzelbicka M., Brykczynski M., Rotter I. et al. Early delirium after cardiac surgery: an analysis of incidence and risk factors in elderly (>65 years) and very elderly (>80 years) patients. *Clinical Interventions in Aging*. 2018; 13: 1061-1070. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5985796/>
4. Krewulak K., Stelfox H. H., Wesley Ely E., Fiest K. Risk factors and outcomes among delirium subtypes in adult ICUs: A systematic review. *Journal of Critical Care* 2020; 56: 257-264. <https://doi.org/10.1016/j.jcrc.2020.01.017>
5. European Delirium Association, American Delirium Society. The DSM-5 criteria, level of arousal and delirium diagnosis: inclusiveness is safer. *BMC Med* 2014; 12(141). <https://doi.org/10.1186/s12916-014-0141-2>
6. Kernauskaitė D., Kirtiklytė R., Navickas P., Šerpytis P., Navickas A. Organinio delyro hipodiagnostika: diagnostikos perspektyvos Lietuvoje. *Sveikatos mokslai* 2021; 31(4): 59-65. <https://doi.org/10.35988/sm-hs.2021.122>

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RELATION BETWEEN KNEE JOINT STRUCTURAL AND FUNCTIONAL CHANGES AND BODY MASS INDEX AFTER TOTAL KNEE ARTHROPLASTY

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Introduction. More than 50 percent of patients undergoing total knee arthroplasty (TKA) are obese. Obesity affects both the healing process and complications after surgery of tendons (Macchi *et al.*,2020). In addition to the local inflammation imposed by TKA, the body is exposed to low grade systemic inflammation caused by obesity, which produces a detrimental catabolic effect on the muscle tissue quality: intramuscular fat increases, muscle thickness decreases, insulin resistance develops. There is a lack of studies on the relationship between body mass index (BMI) and knee joint structural and functional changes after TKA.

Research aim. The research aim was to investigate the relationship between the knee joint structural and functional changes and BMI after TKA.

Resources and methods. A cross sectional observational study of 21 patients was carried out one week after TKA from 2020-06-30 till 2020-09-30. All participants underwent standart physiotherapy protocol. The study was approved by the Ethics Committee of the Lithuanian Sports University. The mean age of the patients was 68,2±4,6 years, height -169,3±8,6 cm, weight - 93,9±17,7 kg. The inclusion criteria were as follows: patients diagnosed with osteoarthritis; planned primary unilateral total knee arthroplasty; prosthesis fixation type-cemented. The exclusion criteria included the partial or total knee revision; bilateral knee replacement; cognitive and psychiatric impairments; uncontrolled cardiovascular and neuromuscular diseases. BMI calculation was used to assign participants to overweight, obesity class I and obesity class II groups. The pain intensity was assessed using the Pain Numeric Rating Scale. Edema was examined using girth measurement. ROM (range of motion) was recorded using goniometry. The quadriceps muscle strength was measured using hand hold dynamometer Lafayette. The *rectus femoris* muscle thickness was evaluated using ultrasound machine *SonoSite Titan* (USA).

The statistical data analysis was carried out using SPSS 25.0 statistical analysis package. Data compliance with the normal distribution was verified using Kolmogorov-Smirnov test. Regularity of data differences was checked by non-parametric analysis tests: Mann –Whitney, Kruskal –Wallis. Non-parametric Spearman correlation coefficient r was used to determine relation between parameters. The outcome results were interpreted according to the degree of association as strong $|r| \geq 0.7$, moderate $0.3 \leq |r| < 0.7$, weak $|r| < 0.3$ after taking significant correlation ($p < 0.01$) or ($p < 0.05$) values into consideration.

Results. No significant effects and thus relationships were detected between pain intensity, knee ROM, Quadriceps strength, *Rectus femoris* thickness and BMI ($p > 0,05$). However, there was statistically significant moderately inverse relationship between BMI and edema ($r = -0.48$ $p < 0.05$). Obesity class II group showed statistically significant lower edema estimate averages in comparison to the overweight group (1.57 ± 0.78 vs. 1.85 ± 0.37 , $p < 0,05$), while knee ROM, isometric quadriceps strength and pain estimate averages did not vary among different BMI groups ($p > 0,05$).

Conclusions. BMI moderately inversely relates to edema after TKA, whereas the relationship between BMI and pain intensity, knee ROM, Quadriceps strength, *Rectus femoris* thickness are non-significant. While high BMI can be a barrier to postoperative success, this study demonstrates that BMI has no impact on knee joint functional and structural changes after TKA.

Reference

Macchi, M., Spezia, M., Elli, S., Schiaffini, G. and Chisari, E. (2020). Obesity increases the risk of tendinopathy, tendon tear and rupture, and postoperative complications: A systematic review of clinical studies. *Clinical Orthopaedics and Related Research*, 478(8), pp. 1839-1847, doi.org/10.1097/CORR.0000000000001261

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CHANGES IN THE HEALTH STATUS OF PEOPLE CARING FOR A FAMILY MEMBER WITH DEMENTIA AT HOME

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Introduction. With the rapid ageing of modern society, the number of people with dementia is increasing dramatically. Around 80% of people with dementia live at home, cared for by relatives. Family members are important people for the quality of life, care and safety of people with dementia [Ducharme, F. et al 2013]. However, the lack of social awareness of dementia causes psychological, social and financial difficulties for these patients and their families [Phinney, A. et al 2013]. In many European Union countries, ensuring adequate home care is one of the main priorities in the care of people with dementia. To achieve this goal, efforts are being made to create a more appropriate health care system, reducing institutionalisation [Jankauskienė L. et al 2016].

Aim. To analyse full-text articles from the last 10 years to identify changes in the health status of people caring for a family member with dementia at home.

Methodology. PubMed, BMC, LSMU scientific publication databases were used to analyse the scientific literature. Keywords used to search for scientific articles: dementia, caregiving, caregiving for relatives, caregiving and dementia, relatives and dementia, relatives' experience with dementia, relatives' needs. More than 70 full-text scientific articles were found for data analysis, from which 28 full-text articles were selected for further analysis.

Results. According to the WHO, dementia is a chronic syndrome caused by various diseases of the brain that impair memory, thinking, behaviour and the ability to carry out daily activities [Phinney, A., et al 2013]. Worldwide, dementia affects more than 10% of people over 65 years of age [Ahmad, K. 2012]. According to the International Alzheimer's Association, the number of people living with dementia worldwide in 2015 was approximately 46.8 million and is expected to reach more than 131 million by 2050 [Prince M., 2015]. In Lithuania, the incidence of dementia has almost tripled between 2007 and 2019 [State Centre for Mental Health].

A review of foreign and Lithuanian research's shows that over time, the cognitive function of a person with dementia tends to deteriorate, and the person's dependency and disability increases. Family members and relatives face not only physical but also psychological challenges when caring for a person with dementia [Karagiozi K. et al 2014, Terada S. et al 2019]. Research conducted in Lithuania by Sučylaitė J. (2015) and abroad by Terada S. et al. (2019) has shown that it is very important to analyse the problems that are related not only to the well-being of the person with dementia, but also to the quality of life of their relatives [Terada S., et al., 2019; Sučylaitė J., 2015]. Many relatives develop neuropsychiatric disorders such as depression, anger, aggression during long-term care. Joling K.J., van Marwijk H.W. (2012) point out that the psychological morbidity of depression in relatives is about 85% and anxiety about 45%. Home care of a person with dementia causes depression in 24.8% of relatives after 18 months of care [Joling K J. et al 2012]. Relatives complain of cardiovascular problems and elevated arterial blood pressure [Sundar V et al 2014]. Long-term caregiving leads to depression, anxiety episodes, headaches and muscle aches, digestive disorders, and elevated arterial blood pressure [Karagiozi K. et al. 2014; Gusdal AK. 2017]. In Lithuania, a study by Sulčylaitė J. (2015) found that family members caring for a person with dementia experience cardiac disturbances, frequent heart palpitations, gastrointestinal disturbances, weakness, sleep disturbances and chronic stress [Karagiozi K. et al., 2014]. Rabow M. et al. (2013)

in a study showed that family members who were stressed by caregiving of a relative were at high risk of myocardial infarction and sudden death [Rabow M. et al 2013].

Karagiozi K. et al. (2019) found that family members who give up work to solely care for a person with dementia experience emotional exhaustion, depersonalisation, reduced activity due to sleep deprivation, irritability, and decreased appetite. Researchers point out that most of the problems are caused by insomnia when caring for a person with dementia at night [Sučylaitė J. 2015]. This was demonstrated in a study conducted by Chenlu G et al. (2019), which showed that relatives caring for a person with dementia have a poorer quality of sleep compared to those without relatives caring for the person at home [Gao C et al., 2019].

The involvement of healthcare professionals in the home care of a person with dementia is essential to reduce the stress experienced by relatives, to provide advice in the event of changes in physical health, and to provide training. Caregivers need to continuously assess the physical and mental health of relatives, care options, support and resources [Tyrell M. et al 2015]. Group or individual free psychotherapy sessions should be used to improve the emotional state of relatives [Karagiozi K. et al 2014]. Lukianskytė R. et al (2017) point out that relatives need services that allow them to take a break from the daily routine of home care, change their environment, listen to others, share their thoughts, and learn how to communicate with their caregiver [Lukianskytė R. et al 2017]. There is a need for more support from health and nursing institutions, more diversity and accessibility of home-based services, development of psychosocial services for relatives, promoting their social participation, reducing dependency on long-term care, focusing on physical health of relatives, stress management (Kudukytė-Gasperė R. et al. 2015; Lukianskytė R. et al. 2017).

Enabling people with dementia to 'live well' is a policy and research priority for many countries [Ahmad, K. 2012]. In Lithuania, depending on how advanced the disease is, relatives have access to social day care services. This is a set of services that provide a person with complex, permanent specialist care during the day, short-term social care services that provide a person with complex, permanent specialist care in times of crisis, as well as family members, carers, temporarily for certain reasons [Cattin IM. et al 2021; Catalogue of Social Services of the Republic of Lithuania. 2006]. For relatives, there is the possibility of using outpatient home care services. These are licensed personal care services provided in the patient's home to ensure continuity of care, to meet the patient's care needs in the home and to promote self-care [Ministry of Health of the Republic of Lithuania].

Conclusions. The role of relatives in caring for a person with dementia is enormous, but they have to give up their hobbies, friends or even their careers in order to ensure that the person with dementia is cared for continuously. Home care for a person with dementia has a negative impact on the health of family members. Continuous care for a relative affects the physical health and mental state of the carers. When caring for a person with dementia at home, the importance of specialist home care is crucial for relatives.

References:

1. Aarsland D. (2020). Epidemiology and Pathophysiology of Dementia-Related Psychosis. *J Clin Psychiatry*.;81(5)
2. Cattin IM., Kühne N., Brorson A., Nygard L. (2021). Familiarity and participation outside home for persons living with dementia. *Dementia*. (20): 7;2526-2541
3. Terada S., Nakashima M., Wakutani Y., Nakata K., Kutoku Y., Sunada Y. Et al. (2019). Social problems in daily life of patients with dementia. *Geriatr Gerontol Int*; 19: 113–118.
4. Colledge L, Whitfield T, Walker Z. (2017). Do pa mine trans porter im ag ing. In: Kosaka K, ed. *De men tia with Lewy bod ies. Clin i cal and bi o log i cal as pects*. Springer Ja pan,; 141–55.
5. Sučylaitė J. (2015). Asmenų, slaugančių artimuosius, emocinių išgyvenimų, savo sveikatos vertinimo ir gyvenimo kokybės sąsajos. *Visuomenės sveikata; priedas 1*. 56-62
6. Gao C., Chapagain N., Scullin M. (2019). Sleep Duration and Sleep Quality in Caregivers of Patients With Dementia: A Systematic Review and Meta-analysis. *JAMA Netw Open*.; 2;2(8)

7. Kudukytė-Gasperė R, Štaras K. (2015). Integruotų slaugos ir psichosocialinių paslaugų poreikis namuose slaugomiems sunkios būklės pacientams ir jų šeimos nariams. Atvejo analizė VšĮ Centro poliklinikoje. Sveikatos mokslai.; 25(1): 15-23
8. Ahmad, K. (2012). Informal Caregiving to Chronically III Older Family Members: Caregivers' Experiences and Problems. *Journal of South Asian*, 27, 101-120.
9. Piščalkienė V., Juozapavičienė R., Smaidžiūnienė D., Nemčiauskienė D., Rastėnienė V. (2017) Šeimos globėjų, prižiūrinių negalę turinčius asmenis, gyvenimo pokyčiai ir pagalbos galimybės: patirčių analizė. Sveikatos mokslai. 27 tomas, Nr. 6, p. 33-41
10. Lukošienė Ž. (2013) Pagalbos ištekliai senatvine demencija sergančiojo artimojo globos proceso metu: moterų – globėjų perspektyva. Socialinis darbas. patirtis ir metodai. 12 (2).
11. Leišytė R. (2014). Sergančiųjų senatvine demencija geriatrinės reabilitacijos ypatumai. *Gerontologija*. 15(3). 184–192 p
12. Cattin IM., Kühne N., Brorson A., Nygard L. (2021). Familiarity and participation outside home for persons living with dementia. *Dementia*. (20): 7, 2526-2541
13. Bennett S., Voigt-Radloff S., Clemson L., Graff M., Wiseman J., Gitlin L. (2019) Occupational therapy for people with dementia and their family carers provided at home: a systematic review and meta-analysis. *Journal List .BMJ Open v.9(11); 2019*
14. Karagiozi K, Papaliagkas V, Giaglis G, Papastavrou E, Pattakou V, Tsolaki M. (2014). Combined Intervention for Caregivers of Patients with Dementia: A Randomized Controlled Trial. *International Journal of Academic Research in Psychology*. 1(2): 77-95.
15. Sundar V, Fox SW, Phillips KG. (2014). Transitions in caregiving: Evaluating a person-centered approach to supporting family caregivers in the community. *Journal of Gerontological Social Work*. 57: 750-65.
16. Lukianskytė R, Černiauskaitė R, Bukartienė L. (2017). Šeimos narių, slaugančių paliatyvų ligonį namuose, problemos ir jų sprendimo galimybės. *Mokslo taikomieji tyrimai lietuvis kolegijose*. 13: 45-50.
17. Gusdal AK. (2017). Family caregiving for persons with heart failure. Perspectives of family caregivers, persons with heart failure and registered nurses [doctoral dissertation]. [Sweden]: Mälardalen University 99 p.
18. Lietuvos Respublikos socialinių paslaugų katalogas, 2006
19. Tyrell M., Hilleras P., Skovdahl K., Fossum B., Religa D. (2019) Voices of Spouses Living with Partners with Neuropsychiatric Symptoms Related to Dementia. *Dementia (London)* Apr;18(3):903-919.
20. Rabow M, Kvale E, Barbour L, et al. (2013). Moving upstream: a review of the evidence of the impact of outpatient palliative care. *J Palliat Med* 16:1540.
21. Joling KJ, van Marwijk HW, Smit F, van der Horst HE, Scheltens P, van de Ven PM et al. (2012). Does a family meetings intervention prevent depression and anxiety in family caregivers of dementia patients? A randomized trial. *PLoS One*. 7(1): 1-10
22. Lietuvos Respublikos sveikatos apsaugos ministerija. Įsakymas dėl ambulatorinių slaugos paslaugų namuose teikimo reikalavimų iš šių paslaugų apmokėjimo tvarkos aprašo patvirtinimas. Nr. V-1357, 2020-06-02, paskelbta TAR 2020-06-03, i. k. 2020-12046
23. Ducharme, F., Kergoat, M.-J., Antoine, P., Pasquier, F. and Coulombe, R. (2013) The unique experience of a spouse in early dementia. "American Journal of Alzheimer's Disease and Other Dementias", 28, 634-641.
24. Phinney, A., Dahlke, S., & Purves, B. (2013). Shifting patterns of everyday activity in early dementia: Experiences of men and their families. *Journal of Family Nursing*, 19(3), 348–374.
25. Jankauskienė L., Rapolienė L. (2016). Bendruomenės slaugytojo ir globėjo partnerystė. *Visuomenės sveikata. priedas* Nr. 2. 10-19.
26. Ahmad, K. (2012). Informal Caregiving to Chronically III Older Family Members: Caregivers' Experiences and Problems. *Journal of South Asian*, 27, 101-120
27. M. Prince. (2015) „World Alzheimer Report . The Global Impact of Dementia: An analysis of prevalence, incidence, cost and trends.“ Alzheimer's Disease International

28. Valstybinis psichikos ir sveikatos centras. <https://vpsc.lrv.lt/lt/> [Tikrinta 2022.01.25]

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THE POLICY OF PROFESSIONAL TRAINING AND ACTIVITY MANAGEMENT OF NURSES IN LITHUANIA

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Introduction. This study analyzes the policy of professional training and activity management of nurses in Lithuania. Based on the scientific literature, the main concepts related to the nursing profession and professional training are described, legal regulation from the restoration of independence to the present day is analyzed. A qualitative study was conducted, during which semi-structured interviews were used to obtain expert assessments of nurses' professional training and performance management in order to identify the main reasons affecting the shortage of nurses. The challenge facing the nursing profession is in ensuring that the core principles of dignity, respect, compassion and person (people) centered care become central to all aspects of nursing practice (McSherry, Pearce, Grimwood & McSherry, 2012). Globally more registered nurses need to be recruited to meet the needs of aging populations and increased co-morbidity. Nursing recruitment remains challenging when compared to other healthcare programs (Wu, Wang, Holroyd, Lopez & Liaw, 2018). A new report has revealed how the COVID-19 pandemic has made the fragile state of the global nursing workforce much worse, putting the World Health Organization's (WHO) aim of Universal Health Coverage at serious risk. It suggests up to 13 million more nurses will be required over the next decade, the equivalent of almost half of the world's current 28 million-strong workforce (Buchan, Howard & Franklin, 2022). Lack of nurses does not ensure quality health care services. This study identifies gaps in the regulation of nurses' professional training and activity management policy.

Problem: Why does the policy of professional training and performance management of nurses not ensure a sufficient number of nurses?

The aim of study is to study and evaluate the policy of professional training and activity management of nurses in Lithuania, in order to determine the main reasons that affect the shortage of nurses.

Work tasks are:

1. To describe the main concepts related to the nursing profession.
2. To review the policy of professional training and activity management of nurses in Lithuania since the restoration of Independence.
3. To conduct a qualitative study of nurses' professional training and performance management policies.

Methods. Analyzing the policy of professional training and activity management of nurses, a review of scientific sources and documents was carried out, the period of legal regulation related to the profession of nurses, studies of nurses and policy of activity management was evaluated. In order to reveal the comprehensiveness of the researched phenomenon, an empirical study was conducted, a qualitative research method was chosen, during which answers to the questions asked during the interview were obtained. A semi-structured interview of experts aims to identify the main reasons that influence the shortage of nurses. A semi-structured questionnaire was used for data collection.

Using interview method for assimilating the required records is the useful way, which may be suitable to exact problem, using data, questionnaires and conducting careful tests, preserving facts, categorizing it and thereby interpreting it. After recognizing and identifying the problems, the researcher tries to figure out investigational plan to collect the desired facts in effective manner (Buriro, Awan & Lanjwani, 2017).

Results. The results obtained during the empirical study revealed the opinions of experts and confirmed that the professional training of nurses affects the number of nurses, but not all trained nurses stay to work in Lithuania. It is important to retain nurses not only in our country, but also in the workplace, because of competition between healthcare facilities. According to experts, legal acts are often unenforceable and legal regulation does not correspond to the peculiarities of practical work. This profession is very important and necessary, so it should be evaluated not only financially, but also from the point of view of society. The future of the profession depends on the nurse's own ability to deal with challenges at work, to be a leader, to participate in nursing policy in solving problems of role distribution, salary and prestige issues.

Conclusions. After Independence, there were significant changes in the professional training of nurses, but these did not have a significant impact on the nursing shortage, as government programs and legislation did not give sufficient attention to nursing management policies. Only in the programs of the last two governments has more consideration been given to nurse planning, work quality, patient safety and nursing science. The problem of nursing shortage is complex, it exists all over the world and the solution requires the exclusive attention of the government, society, education and health care institutions and all of them focus on solving the planning of the need for nurses.

References:

1. Buchan, J., Howard, C., & Franklin, Sh. „The global nursing workforce and the Covid-19 pandemic”, ICN. Retrieved from, <https://www.icn.ch/news/new-report-calls-global-action-plan-address-nursing-workforce-crisis-and-prevent-avoidable>
2. Buriro, A., Awan, J., & Lanjwani, A. (2017). Interview: A Research Instrument for Social Science Researchers. *International Journal Of Social Sciences, Humanities And Education*, 1(4), 246-259. Retrieved from <http://www.ijsshe.com/index.php/ijsshe/article/view/56>
3. McSherry, R., Pearce, P., Grimwood, K., McSherry, W. (2012). The pivotal role of nurse managers, leaders and educators in enabling excellence in nursing care. *J Nurs Manag.* Jan;20(1):7-19. doi: 10.1111/j.1365-2834.2011.01349.x. PMID: 22229897.
4. Wu, LT., Wang, W., Holroyd, E., Lopez, V., Liaw, SY. (2018). Factors deterring dentistry, medical, pharmacy, and social science undergraduates from pursuing nursing as a healthcare career: a cross-sectional study in an Asian university. *BMC Med Educ.* Jan 26;18(1):23. doi: 10.1186/s12909-018-1118-1. PMID: 29373973; PMCID: PMC5787325.

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CHANGES IN PARKINSON'S DISEASE PEOPLE BALANCE, GAIT, RISK OF FALLS, TREMOR OF UPPER LIMBS AND QUALITY OF LIFE THROUGH DIFFERENT BALANCE AND GAIT PROGRAMS

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Introduction. Parkinson's disease is a progressive, neurodegenerative disorder of the central nervous system that affects patients quality of life and places a burden on their caregivers. Physiotherapy is an excellent complement to pharmacological effects and should be continued throughout the treatment period (1). Many training programs are possible for the patients with Parkinson's, but so far balance and gait are the most commonly observed and leads to disease progression reduction. Balance exercises both on a stable base and on unstable planes, and single or dual-task gait exercises of varying difficulty can improve patients' physical performance, reduce the risk of falls, and improve their quality of life (2-6).

The aim of this study: to evaluate the effectiveness of different balance and gait programs for Patients with Parkinson's disease.

Research methods and organization. 20 people with diagnosed Parkinson's disease and also members of Kaunas Parkinson's Disease Society were included in this study. The research was approved by Lithuanian University of Health Science Bioethics Center (BEC-SR(M)-53). The period of study was from 2021.09.15 till 2021.11.15. 6 males and 14 females were the subjects of this study and the median age of participants were between 60 and 90 years 74 (60; 83; 72,8). Cases were randomly divided into two groups of 10 subjects. Selection criteria: 1. People with Parkinson's disease who are at least 60 years old and not older than 90 years; 2. People who are able to control the torso, upper and lower limbs independently. Exclusion criteria: 1. People who refused to participate in the study; 2. Acute conditions/diseases; 3. Disease stage 4 and 5 (according to the Hoehn and Yahr scale). The first group of subjects performed balance exercises on a stable base and single task gait exercises on the special feet, and the second group did balance exercises on unstable planes and dual gait exercises on special feet. Before and after the procedures, all cases were assessed for balance and gait by the Tinetti test, the risk of falls was evaluated by the dynamic gait index and up and go test, the upper limb tremor was assessed by a special mobile phone application, and the quality of life before and after the study was recorded with 39 Parkinson's disease questionnaire (part of the evaluation of mobility and daily activities). Statistical analysis was done using "IBM SPSS Statistics 27". Differences were considered statistically significant at $p < 0,05$. The study used statistical methods, such as: 1. Wilcoxon criteria; 2. Mann-Witney U test; 3. Spearman correlation coefficient.

Results. First patient group included in the study had a statistically significant improvement of gait by evaluating results of Tinetti gait test ($Z = -2,070$; $p = 0,038$). Also the second group of patients had statistically significant improvement of gait, using the same test ($Z = -2,714$; $p = 0,007$). Statistically significant improvement of balance was observed by Tinetti balance test. After the test, first group of cases had statistically significant improvement on balance ($Z = -2,449$; $p = 0,014$), also the second group of patients had statistical improvement of the same test ($Z = -2,428$; $p = 0,015$). There were also statistically significant results on risk of falls: first group dynamic gait index results was ($Z = -2,111$; $p = 0,035$) and the second group ($Z = -2,309$; $p = 0,021$). First group of participants up and go test results ($Z = -2,090$; $p = 0,037$) and the second ($Z = -2,703$; $p = 0,007$). There were statistically significant results of right upper limb tremor power. First ($Z = -2,599$; $p = 0,009$) and the second ($Z = -2,701$; $p = 0,007$) group results showed statistically significant change of right extremity tremor power. After the study there were a statistically significant changes of right extremity tremor power between the groups

($U=22,000$; $p=0,035$). Left upper extremity tremor power outcomes after the procedures also shown statistically significant improvement. First ($Z=-2,803$; $p=0,005$) and the second ($Z=-2,293$; $p=0,022$) group of cases left extremity tremor power results also revealed statistically significant changes.

Conclusions. Balance with unstable platform and dual tasking gait program was not more effective than balance on stable platform and gait while single tasking program between the groups. The only significant difference between the cases was shown on right upper limb tremor power.

References:

1. Armstrong M J, Okun M S. Diagnosis and Treatment of Parkinson Disease A Review. *JAMA*. 2020 Feb 11; 323(6):548-560.
2. Yitayeh A, Teshome A. The effectiveness of physiotherapy treatment on balance dysfunction and postural instability in persons with Parkinson's disease: a systematic review and meta-analysis. *BMC Sports Science, Medicine and Rehabilitation*. 2016; 8(17).
3. Maslivec A, Fielding A, Wilson M, Norris M, Young W. 'Recoupling' the attentional and motor control of preparatory postural adjustments to overcome freezing of gait in Parkinson's. *J Neuroeng Rehabil*. 2020 Oct 31; 17: 146.
4. Heinzl S, Maechtel M, Hasmann SE, Hobert MA, Heger T, Berg D ir kt. Motor dual-tasking deficits predict falls in Parkinson's disease: A prospective study. *Parkinsonism and Related Disorders*. 2016 May; 26: 73-77.
5. Kluger BM, Miyasaki J, Katz M, Galifianakis N, Hall K, Pantilat S ir kt. Comparison of Integrated Outpatient Palliative Care With Standard Care in Patients With Parkinson Disease and Related Disorders. *JAMA Neurol*. 2020;77(5):551-560.
6. Claudia B, Debû ME, Bastiaan BB, Ursulla FM. The Practicalities of Assessing Freezing of Gait. *Journal of Parkinson's Disease*. 2016 Oct 19; 6(4): 667-674.

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EVIDENCE-BASED PRACTICE IS A PREREQUISITE FOR CRITICAL THINKING AND SCIENTIFIC REASONING

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Introduction. Evidence-Based Practice (EBP) requires that decisions about personal care are based on the best available, current, valid and relevant evidence. These decisions should be made by those receiving care, guided by their values and the knowledge and experience of the professionals who provide their care [3]. One of the more radical attacks on EBP involves the assertion that both doing and understanding research are social activities and, far from being objective pursuits, are heavily influenced by the social world in which they take place. This critique has recently broken out of the postmodernist philosophical context [6].

Postmodernist criticisms have often been expressed in polemical tones, for example when EBP is characterised as an obscene banality, a fascist regime of truth which is colonising other life area with medical ideas [6], or as a violent hierarchy that needs to be overturned [6].

In the background, two of the main criticisms coming from those of a postmodernist persuasion, as follows:

- The idea of best evidence implies a hierarchical and exclusivist approach to knowledge which excludes other forms of evidence that are needed to understand the complexity of care.
- Evidence based guidelines tend to stifle critical thinking and professional responsibility among specialists [6].

During the training of evidence-based practice, by selecting appropriate relevant clinical questions, it is possible to provoke cognitive conflict, which brings the teaching of evidence-based nursing closer to the cognitive theory of education. Representatives of the cognitive theory of education pay attention to thinking, understanding and awareness [1] J. Bruner stated that the training must be planned and implemented in such a way that it matches the thinking of the learners and enables them to think scientifically, with the ultimate goal of solving the problem at hand [2].

Thus, evidence-based practice enables students to create evidence-based statements and decisions: ask questions and define problems, create and use theoretical models of professional activity, plan and conduct research, analyze and interpret data, present empirical arguments, obtain, evaluate and share information, which forms the prerequisites for the development of scientific thinking [5]. In other words, the application of scientific thinking skills during evidence-based practice training helps to make informed decisions and avoid erroneous decisions that may have negative consequences for patients during the application and evaluation steps of evidence-based practice.

Emphasizing evidence-based practice as a prerequisite for the development of scientific thinking, it should be taken into account that scientific thinking occurs when developing new theories, designing experiments, testing hypotheses, interpreting data, and discovering new evidence for problem solving [4].

The aim of this study: to analyse evidence-based practice as a prerequisite for critical thinking and scientific reasoning

Research methods and organization. A three-stage action research was conducted. A questionnaire survey was carried out. Data from the questionnaire survey were analysed using the independent samples t-test, setting the significance level at $p < 0.05$. 74 second-year students took part in the study.

Results. Teaching the subject of Child care and nursing starts with developing students' critical thinking and scientific reasoning skills. Second year students have less clinical experience, so the

formulation of questions at the beginning of the course starts with the use of words: "who?" and "how?".

For example, when explaining to students about the care of premature newborns, students were asked to identify three possible causes of neonatal overheating. Students are motivated to look beyond the obvious explanations, but also to acknowledge the gaps in their existing knowledge of child nursing and to seek information to fill these gaps.

It was found during the study, that the highest scores were found for the dissemination of information to colleagues, the apply of evidence and the evaluation of active results. And there is a need to improve students' understanding of the formulation of questions and the use of critical evidence assessment tools

Conclusions. Evidence-based practice is the use of a range of evidence (not limited to research), combined with experience and patient/client preferences, to solve an identified patient/client problem. Teaching evidence-based practice improves students' self-efficacy, critical thinking and scientific reasoning skills.

References:

1. Aliakbari, F., Parvin, N. Heidari, M. & Haghan F. (2015). Learning theories application in nursing education. *Journal Education Health Promotion* 4:2, 1-12. Doi:10.4103/2277-9531.151867.
2. Bruner, J. (1960). *The Process of Education*. Cambridge, Mass, London: Harvard University Press, 97+xxvi
3. Dawes, M., Summerskill, W., Glasziou, P., Cartabellotta, A., Martin, J., Hopayian, K., ... Osborne J. (2005). Sicily statement on evidence-based practice. *BMC Medical Education*, 5:1. doi:10.1186/1472-6920-5-1
4. Dunbar, K. & Fugelsang, J. (2005). Scientific Thinking and Reasoning. In *The Cambridge Handbook of Thinking and Reasoning* (p. 705-726). Cambridge University Press
5. National Research Council (2012). *A framework for K-12 science education: Practice, crosscutting concepts, and core ideas*. Washington, DC: National Academies Press. Retrieved from <https://nap.nationalacademies.org/download/13165>.
6. O'Halloran, P., Porter, S. & Blackwood, B. (2010). Evidence based practice and its critics: what is a nurse manager to do? *Journal of Nursing Management* 18, 90-95.

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CORRELATION BETWEEN PERIOPERATIVE ANEMIA AND POSTOPERATIVE OUTCOMES AFTER CARDIAC SURGERY

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Introduction. Anemia is a decrease in hemoglobin concentration in the blood [1]. Anemia is diagnosed in men when hemoglobin is less than 130 g/l, and in non-pregnant women when it is less than 120 g/l. [2] Anemia can occur due to bleeding during and after surgery, insufficient amount of iron, vitamin B12, folic acid in the body, lack of growth factors (kidney disease, anemia of chronic diseases), myelophytic process (cancer metastases, infection, fibrosis) [3]. The main task after every operation is to avoid postoperative complications. However, as people's life expectancy increases, the number of patients with chronic diseases, which can cause anemia, increases. As a result, the number of patients with preoperative anemia is increasing. After cardiac surgery, a lot of blood is lost using cardiopulmonary bypass. For this reason, there is a high probability of developing anemia after heart surgery, which causes tissue hypoxia and can lead to postoperative complications. For this reason, it is important to find out the correlations between perioperative anemia and postoperative outcomes after cardiac operations under conditions of cardiopulmonary bypass. The perioperative period includes the following 3 periods: preoperative, intraoperative and postoperative.

The aim of this study is to determine the frequency of occurrence of perioperative anemia and its outcomes on postoperative complications in patients after heart surgery under conditions of cardiopulmonary bypass.

Research methods and organization. The study was conducted in the department of Cardiac, Thoracic and Vascular surgery at Lithuanian University of Health Sciences Hospital Kaunas Clinics. A non-interventional, retrospective method was used, to analyze medical histories. Collection of data began on 12.01.2022 and ended on 01.06.2022.

Statistically significant is considered $p < 0.05$. Descriptive statistics were applied. The Chi-square criterion was used to assess the independence of two qualitative variables, and in the case of a small number of cases, the Fisher's exact test was applied.

Results. It was established that before the operation a little more than one fifth of the patients (22,70 percent) had preoperative anemia. Two-thirds of patients (67,00 percent) were diagnosed with anemia during the operation, and the vast majority (83,30 percent) of the patients were anemic after the operation.

After heart surgery, the most common complication with cardiopulmonary bypass was anemia (83,30 percent), less frequently pneumonia (22,00 percent), delirium (18,10 percent), kidney failure (18,10 percent), reoperation (13,10 percent), myocardial infarction (12,40 percent), and 3,50 percent patients developed sepsis, 2,10 percent a stroke.

Among all patients who developed postoperative stroke statistically significantly ($p = 0,025$) more often had preoperative anemia (66,67 percent) compared to patients who did not have preoperative anemia (33,33 percent).

Among all patients who developed renal failure after surgery statistically significantly ($p = 0,013$) more often during operation had anemia (82,35 percent) compared to patients who did not have during operation anemia (17,65 percent).

Among all patients who developed post-operative arrhythmias statistically significantly ($p=0,024$) more often had preoperative anemia (66,10 percent) compared to patients who did not have preoperative anemia (33,90 percent).

Conclusions

1. In the study was found that one in five patients were anemic before surgery, two-thirds of patients were anemic during surgery, and the vast majority of patients were anemic after surgery.
2. Patients with preoperative anemia statistically significantly more frequent had postoperative stroke and arrhythmias.
3. Patients who were anemic during surgery had a statistically significant higher incidence of postoperative renal failure.

References

1. Lanier, J. B., Park J. J., Callahan, R. C. (2018). Anemia in Older Adults. American family physician, 98(7), 437-442. Prieiga per internetą: <https://www.aafp.org/pubs/afp/issues/2018/1001/p437.html>
2. Dhir, A., Tempe, D. K. (2018). Anemia and Patient Blood Management in Cardiac Surgery— Literature Review and Current Evidence. Journal of cardiothoracic and vascular anesthesia, 32(6), 2726-2742. Prieiga per internetą: <https://pubmed.ncbi.nlm.nih.gov/29307702/>
3. Cascio, M. J., DeLoughery, T. G. (2017). Anemia Evaluation and Diagnostic Tests. The Medical clinics of North America, 101(2), 263-284. Prieiga per internetą: [https://www.medical.theclinics.com/article/S0025-7125\(16\)37354-0/fullt](https://www.medical.theclinics.com/article/S0025-7125(16)37354-0/fullt)

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SKILL LABORATORY IN SOCIAL WORK

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Introduction. In preparing future social work specialists who will work in a practice that increasingly integrates modern technologies, social work study programs must also transform, teachers' competencies must change and expand. As the approach to technology in social work changes, the development of educational competencies in technology requires time, as well as institutional and technological support. [4]. The greatest challenge for social work academic staff may be the reconceptualization and recognition of new technologies not only as a learning tool, but also as an object of future social work practice. In other words, a very important new competence acquired during studies will be the ability to practically use technology (e.g. robots, various techniques, IT). One of the most important tasks in training social workers is to provide students with the opportunity to develop social work skills during their studies, which they can use in practical activities to help clients. This component of social work practice, learned in the learning process, must become a whole of practical activity. The success of the process depends on what knowledge and skills social workers have, what values they follow and how they are able to integrate it into practical activities [2]. '*Skill Laboratory*' means a self-designed module of learning in which values, principles, methods, techniques and tools of social work will be translated by the students of social work into practice skills, that is, 'learning by doing' [3].

The aim of this study: to review the application possibilities of the social work skills laboratory in the study process.

Research methods and organization. A targeted literature search was carried out. Articles were selected for analysis using the following selection criteria: scientific article published in a peer-reviewed journal, full-text article. The article analyzes the development of social worker skills and the integration of the skills laboratory into the study process.

Results. During the analysis, it was established that the rapidly changing social and economic environment and realities led to the emergence of new institutions, attitudes, management practices, practice models, methods, techniques, people's needs and reactions, etc. Therefore, social work's response to these changing realities is also changing daily. Under these circumstances, it is more difficult for students to understand how to properly use social work methods, skills, techniques, principles and values in a real social work field environment. [1]. A skills laboratory is a social laboratory where students are taught to test their theoretical knowledge and skills in practical situations of social life [3]. The main aim of skill laboratory should be to build the confidence and strengthen knowledge, skills, aptitude and the attitudinal base of students of social work of the educational institution through the workshops and special sessions. Generally, the objectives of skill laboratory should be as follows:

1. To develop skills required for professional practice such as - planning, organizing, coordinating and implementing programs;
2. To develop professional attitudes, values and commitment;
3. To give an opportunity to learn to make use of various tools such as - role plays, motivational songs, case studies, street plays, simulation exercises, advocacy, networking, lobbying etc.;
4. To enhance communication skills, especially writing skills to document the various component of field work activities;
5. To develop sensitivity towards self-awareness, self-development, analysis and observation, goal setting, time management and stress management [1].

The social work laboratory provides opportunities to apply the SIMS video game, the latest social work practices, and virtual reality glasses in the study process. Also solving real social work situations and cooperation with students of other specialties (nursing, physiotherapy). In the future, the social work laboratory will create the prerequisites for the creation of a dictionary of social work terms and the application of simulation. The created technological environment will facilitate the conduct of social work research.

Conclusions. The skill laboratory is a value addition to the students of social work in strengthening their knowledge and skills, bringing uniformity and high quality standards in practice learning. Thus, the outcomes of this laboratory are very useful for producing well-trained professional social workers. Besides, it also is a unique resource for students of social work of other educational institutions.

References:

1. Atul Pratap Singh (2013). Skill Laboratory in Social Work: An Effective Tool for Developing Professional Attitude. *Journal of Social Work and Development Issues*, Vol. II, Udaipur School of Social Work.
2. Ivanauskienė, V., Cervin, S. (2010). Socialinio darbo praktinių gebėjimų lavinimas mokomąja praktika. *Socialinis darbas. Patirtis ir metodai*, 2010 5(1), 85-95.
3. Forte, James. (2014). *Skills for Using Theory in Social Work: 32 Lessons for Evidence-Informed Practice*. DOI:10.4324/9781315856049.
4. Žalimienė, L. ir kt. (2021). Šiuolaikinės technologijos ir socialinio darbo profesijos bei studijų transformacija: Lietuvos ir Japonijos aukštųjų mokyklų dėstytojų išvalgos. *Socialinė teorija, empirija, politika ir praktika*. 2021, vol. 23, pp. 84–103 DOI: <https://doi.org/10.15388/STEPP.2021.39>

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EFFECT OF TRANEXAMIC ACID ON POSTOPERATIVE BLOOD LOSS IN OPEN HEART SURGERY WITH CARDIOPULMONARY BYPASS

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Introduction. Postoperative bleeding is the leading cause of death in patients undergoing open-heart surgery for coronary artery bypass grafting [1]. In the early postoperative period, it is important to monitor blood loss: after cardiac surgery performed with cardiopulmonary bypass, urgent re-sternotomy is performed in 2-5 % of the cases. Massive bleeding, as a complication after open heart surgery, is more common in emergent cases, but elective surgery also has several risk factors increasing risk of post-operative bleeding. Postoperative bleeding is also directly associated with longer hospitalization time and more frequent complications: sternal wound infection, renal or respiratory dysfunction, postoperative arrhythmias, as well as increased need for blood transfusions [2].

The use of antifibrinolytic drugs helps to reduce blood loss during and after cardiac surgery. The synthetic analogue of lysine - tranexamic acid - has been used for more than 60 years, but still many questions remain. Different types of dosage and administration methods were discussed in various studies and there was no consensus on the ideal dose of tranexamic acid, whether it should be administered intravenously or topically, continuous infusion or bolus injection should be used [3].

The aim of study is to find the relationship between the method of administration of tranexamic acid and its cumulative total dose on postoperative blood loss.

Research methods and organization. Study type – retrospective. Only data from the hospital electronic information system (“LIS“), state electronic health care information system ("esveikata" system) and archived medical documents were analyzed. This research did not require the researcher to have direct contact with the subjects. The sample (N = 140) was divided into two groups: in group A tranexamic acid was administered by automatic syringe pump, in group B tranexamic acid was given in three bolus injections.

Statistical analysis was made using “SPSS” 29 statistical software. Spearman's correlation coefficient was used to assess the correlation between tranexamic acid total dose and postoperative blood loss. A difference when the p value was less than 0.05 was considered statistically significant.

Results. The groups did not differ in the distribution by sex, age, weight, and surgery type ($p > 0.05$ with every variable above). Total tranexamic acid doses are presented as median and interquartile range (Q1-Q3). There is significant difference between group A median of total tranexamic acid dose (1,85 (1,6-2,2)) and group B median of tranexamic acid dose (3(3-3)) ($p < 0,001$). On the first postoperative day blood loss medians did not differ between groups: groups' A median of blood loss 350 (300-500), groups' B 400 (297-600) ($p = 0,261$).

Tranexamic acid administration by automatic syringe pump was not related with first postoperative day blood loss (Spearman's correlation coefficient $r = 0.140$, $p = 0,294$), as well as intravenous bolus administration method (Spearman's correlation coefficient $r = - 0,167$, $p = 0,166$).

Conclusions. There were found no significant difference between postoperative blood loss using different methods of administration of tranexamic acid. Also, there was no correlation between tranexamic acid total dose and postoperative blood loss. These results also show that tranexamic acid is effective and safe given by intravenous bolus as well as by automatic syringe pump. Lower tranexamic acid total doses are as effective as higher total doses.

References

1. Biancari, F., Mikkola, R., Heikkinen, J., Lahtinen, J., Airaksinen, J., and Juvonen, T. (2011). Estimating the risk of complications related to re-exploration for bleeding after adult cardiac surgery: a systematic review and meta-analysis. *European Journal of Cardio-Thoracic Surgery*. <https://doi.org/10.1016/j.ejcts.2011.04.023>
2. Elassal, A. A., Al-Ebrahim, K. E., Debis, R. S., Ragab, E. A., Faden, M. S., Fatani, M. A., ... and Eldib, O. S. (2021). Re-exploration for bleeding after cardiac surgery: reevaluation of urgency and factors promoting low rate. *Journal of Cardiothoracic Surgery*, *16* (1). <https://doi.org/10.1186/s13019-021-01545-45>.
3. Guo, J., Gao, X., Ma, Y., Huran, L., Hu, W., Zhang, S., Ji, H., Wang, G., and Shi, J. (2019). Different dose regimes and administration methods of tranexamic acid in cardiac surgery: a meta-analysis of randomized trials. *BMC Anesthesiology*, *19* (1), 129. <https://doi.org/10.1186/s12871-019-0772-0>

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