



ABSTRACTS

MASTER CLASS & E-POSTER SESSION

5th International Conference
MEDICAL SCIENCE PULSE
Interdisciplinary Science & Research
Opole, May 22-23, 2018

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Edited by:

Donata Kurpas, MD, PhD, Assoc. Prof.
Katarzyna Szwamel, MSc, PhD

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e-mail: wydawnictwo@impreso.studio
tel. (+48) 77 550 70 50

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THE NEED FOR EMOTIONAL AWARENESS AND THE POSSIBILITY OF ITS MEASUREMENT THROUGH EMPIRICAL RESEARCH

GERGANA AVRAMOVA-TODOROVA

University Assen Zlatarov, Burgas, Bulgaria

✉ E-mail: g.avramova@abv.bg • Phone: +35 988 590 5512

KEYWORDS: emotional awareness, children and adolescents, self-report questionnaire

Introduction. The scope of the emotional competence and the definition of this individual difference is still a matter of scientific debate, as well as emotional awareness as an important feature of emotional competence.

Aim of the study. To explore the level of emotional awareness in relation to a predefined six-factor model. Also, to observe the possibility of measuring emotional competence through empirical research.

Material and methods. For the purpose of this study, the method of self-reporting questionnaire

(EAQ30) was used that assessed emotional awareness of the children participating in the study. Participants were a representative group of 27 children aged 11 years old. The materials used outline the scope of emotional awareness as the “ability of people to differentiate, express, analyze and pay attention to their own and others’ emotions”.

Results. The group analyzed showed different results in two of the six dimensions: acting out emotions and bodily awareness, which were lower compared to the other four dimensions of emotional awareness.

Conclusions. All individual differences connected with emotional awareness have shown to bring a significant impact on important life outcomes for children and adolescents – mental and physical health, successful academic behavior and achievements and social relationships. It is of great importance to proceed with attempts to measure the emotional awareness with valid empirical research and to develop new models for emotional training, in order to increase an individual’s emotional functioning.

CHARACTERISTICS OF ANTHROPOMETRIC FEATURES OF STUDENTS IN RELATION TO THEIR CONSUMPTION OF WATER, JUICE, VEGETABLES AND FRUITS

IWONA BONIKOWSKA,
JUSTYNA JASIK-PYZDROWSKA

Department of Nursing, Faculty of Medicine and Health Sciences,
University of Zielona Gora, Zielona Góra, Poland

✉ E-mail: i.bonikowska@wlnz.uz.zgora.pl

KEYWORDS: lifestyle, health behaviour, nutrition

Introduction. Nutrition, consumption of fluids, physical activity or other elements of lifestyle are factors that affect human health and its development.

Aim of the study. To determine the relationship between the participation of individual tissue components students and their frequency of fluid and vegetable consumption, as well as socio-environmental determinants.

Material and methods. The research involved a group of students at the University of Zielona Góra attending their first year of study. Group selection of the sample was applied. The anthropometric research covered a total of 882 students, including 565 women and 317 men. Diagnostic survey method

using a questionnaire technique examining specific health behaviors of students, was implemented among 500 students. Mollison's index was used to differentiate the dimorphic features from somatic features, body proportion indicators and body components. Based on the measured parameters, body mass indexes, body composition by Chaniny (water, fat and dry weight) and LBM (lean body mass) by Crenier were calculated.

Results. In the areas of body tissue components within academic youth, within 15 years (2000-2015), the percentage of body water increased and the percentage of fat decreased. Over half of female students consumed less than one liter of water a day,

as did 25% of all students overall. Less than 10% of students met the standard recommended consumption of vegetables several times a day (5x). Most, as declared by respondents, ate fruit and vegetables once a day or several times a week.

Conclusions.

1. Intergenerational changes (2000-2015) of body composition, indicates a reduction in the percentage of water, in favor of increasing the percentage of fat in the composition of tissue components.
2. Health behaviors of academic youth show deviation from the recommended principles of nutrition. This is characterized by insufficient daily intake of water and natural juices, as well as vegetables.

CONTROL OF FASTING GLYCAEMIA OR ORAL GLUCOSE TOLERANCE TESTING IN DIABETES PREVENTION

IWONA BONIKOWSKA,
JUSTYNA JASIK-PYZDROWSKA

Department of Nursing, The Faculty of Medicine and Health Sciences,
University of Zielona Gora, Zielona Góra, Poland

✉ E-mail: i.bonikowska@wlnz.uz.zgora.pl

KEYWORDS: diabetes, prediabetes condition, patient

Introduction. The term 'diabetes' refers both to a single illness and a group of many chronic metabolic disorders. Absence of any other diseases results in late diabetes recognition and treatment. The early detection of disorders and prediabetes is becoming a priority.

Aim of the study. An attempt at preliminary analysis of laboratory research: i.e. fasting glycaemia and oral glucose tolerance testing in preventing diabetes in a group of people with high and very high risk factors for developing diabetes.

Material and methods. The study analysed the results of questionnaires during research conducted between January and February 2018 at a basic medical care centre. There were 120 participants, aged

15-99 years, who had not been diagnosed with diabetes and who during the previous year had not had diabetes screening tests. In the research group among participants who had ≥ 15 p. in the FINDRISK questionnaire and who conducted the OGTT, 64 participants were diagnosed with prediabetes and diabetes. The research was an observational study using document analytic methods and interviews. The applied technique was quantitative document analysis. The dependent variable was the results from the OGTT and the independent variable was from the scores of the FINDRISK questionnaire and the age of the patient.

Results. Amongst participants with high and very high risk of developing diabetes (≥ 15 p. in the FIN-

DRISK questionnaire), after performing the OGTT 39.17% patients were diagnosed with prediabetes and 14.17% with diabetes. The remaining group (46.66%) had normal results. In the prediabetes group 8.87% were initially found to have normal fasting glycaemia results, but the results in the second hour of the test were abnormal. The results comprised of 5 hypoglycaemic conditions (results 51-69mg/dl), 4 prediabetes-IGT conditions (143-181mg/dl) and 1 diabetes (201mg/dl).

Conclusions. To prevent diabetes, the risk factors for its development should be taken into account using the FINDRISK questionnaire. In patients with high or very high risk factors for developing diabetes one should consider performing the OGTT.

CHARACTERIZATION OF HUMAN MILK DONORS

BARBARA BROERS¹, MATYLDA CZOSNYKOWSKA-ŁUKACKA¹,
LUCYNA ŚWIDERSKA¹, ANNA HALAREWICZ-CIASULLO²,
BARBARA KRÓLAK-OLEJNIK¹

¹ Department of Neonatology, Wrocław Medical University,
University Hospital in Wrocław, Poland.

² 1st Department and Clinic of Paediatrics,
Allergy and Cardiology, Wrocław Medical University, Wrocław, Poland

✉ E-mail: barsamut@gmail.com

KEYWORDS: Human Milk Bank, human milk donors, preterm

Introduction. Nutrition for premature infants, especially those with an extremely low birth weight, is still a challenge for modern neonatology. Human milk from the professional Human Milk Bank (HMB) is the second choice, after mother's milk, for feeding newborns and infants. Breast milk has nutritional, protective, trophic and therapeutic effects. Human milk feeding significantly improves the clinical condition of patients within the Neonatal Intensive Care Unit, minimizing the risk of necrotizing enterocolitis and sepsis. Human milk donors can be healthy women during lactation, effectively feeding their own children. Usually women start to cooperate with the

HMB after stabilization of lactation and continue depending on their will and ability.

Aim of the study. The aim of this work was to characterize the Honorary Human Milk Donors and to assess whether the amount of milk donated is associated with the length of lactation and the end week of pregnancy.

Material and methods. This retrospective study included 24 human milk donors, who donated to HMB in the Neonatology Clinic at the University Hospital in Wrocław, during the 15 months of HMB activity.

Results. A total of 238 litres of human milk were donated to HMB. One third of the Honorary Donors were mothers of the preterm newborns who were born between 26 and 34 weeks of pregnancy. Mothers of the preterm newborns donated 3 times more milk. The average time of milk donation to HMB was 3 months, the minimum period was one week, while the maximum period was 9 months. The Donors started their cooperation with HMB between 3 weeks and 7 months of lactation.

Conclusions. During the 15-month activity, 5 women were not qualified as donors, due to incorrect test results.

THE USE OF COMBINATION THERAPY WITH 20% GLYCOLIC ACID AND FRACTIONAL MESOTHERAPY TO REDUCE ACNE SCARS - A CASE DESCRIPTION

KAROLINA CHILICKA¹,
KAROLINA PAGACZ²

¹ Cosmetology, Faculty of Health Sciences, Opole Medical School, Opole, Poland
² third year student of Cosmetology, Opole Medical School, Opole, Poland

✉ E-mail: karolina.jasionowska@poczta.onet.pl • Phone: +48 665 439 443

KEYWORDS: glycolic acid, exfoliation, fractional mesotherapy, acne scars, cosmetic treatments

Introduction. Acne scars a frequent problem in people who have experienced a sharp variation of acne. Acne scars can cause a decrease in the quality of life, problems in interpersonal relationships, and even lead to depression.

Aim of the study. To investigate how the use of 20% glycolic acid and fractional mesotherapy contributed to the reduction of acne scars.

Material and methods. Based on an interview and case analysis, an assessment of the effects of glycolic acid treatment and fractional mesotherapy in a 33-year-old patient who experienced a severe form of phlegmon acne (acne phlegmonosa) was made.

Before the series of treatments, the patient was examined for the quantity and quality of acne scars. For this purpose, the scales for the evaluation of Goodman and Baron's atrophic scars were used. The patient was classified as Grade 3, meaning the scars were not easy to cover with makeup and the scars only flattened when manually stretched. Then three treatments were recommended using 20% glycolic acid and three treatments using fractional mesotherapy, combined with the use of organic silica. The treatments were performed alternately every two weeks.

Results. After a series of treatments, the patient's skin condition was re-examined using the Goodman and Baron scales. The quality and structure of the skin

improved significantly, and the number of acne scars decreased. The patient qualified to grade 2 of the above-mentioned scale, meaning there was significant flattening of acne scars and ease to cover these under make-up. Alternating treatments using 20% glycolic acid and fractional mesotherapy with organic silica gave very good results. Strong epidermal exfoliation and fractional mesotherapy were used, during which growth factors in the skin are released, causing the reconstruction of collagen fibers.

Conclusions. Due to the above-mentioned treatments, acne scars significantly flattened, skin quality improved and the patient's mental state improved.

THE USE OF NEEDLE RADIOFREQUENCY FOR THE TREATMENT OF ACNE SCARS – A CASE DESCRIPTION

KAROLINA CHILICKA¹,
KAROLINA PAGACZ²

¹ Cosmetology, Faculty of Health Sciences, Opole Medical School, Opole, Poland

² third year student of Cosmetology, Opole Medical School, Opole, Poland

✉ E-mail: karolina.jasionowska@poczta.onet.pl • Phone: +48 665 439 443

KEYWORDS: needle radiofrequency, acne scars, cosmetic treatments, active repair ingredients, damage and regeneration of the skin

Introduction. Acne scars are often a problem for people struggling with a sharp variation of acne. They can cause a decrease in the quality of life, problems in interpersonal relationships and can even lead to depression.

Aim of the study. To examine the treatment effectiveness using needle radiofrequency for people struggling with acne scars.

Material and methods. An interview, case analysis and an assessment of the impact of needle radiofrequency treatments were made in a 28-year-old female patient who experienced severe acne during adolescence. Before the series of treatments, the patient

was tested with a device for cosmetic skin diagnosis - Nati Analyzer to examine skin quality. The quality and quantity of acne scars was evaluated using scales from Goodman and Baron atrophic scars. The patient was classified as Grade 4, meaning severe atrophy and scars which did not flatten even after manual stretching. 6 treatments were recommended, during which an ampoule containing, amongst others, minerals, vitamins, substances stimulating fibroblasts, firming and strengthening ingredients. Treatments were performed at 3-6 week intervals.

Results. After a series of treatments, the patient's skin condition was re-examined using the Goodman and Baron scales. Skin quality and structure improved sig-

nificantly and the number of acne scars decreased. The patient qualified to Grade 2 of the above-mentioned scale, meaning there was significant flattening of acne scars and ease to cover these under make-up. Radiofrequency treatments performed in combination with a repair ampoule gave very good results. Strongly applied treatment causes damage to the skin, which regenerates in response, resulting in stimulation of fibroblasts to produce new collagen and elastin. This means the skin was rebuilt and its quality changed.

Conclusions. As a result of the treatments, acne scars were significantly flattened, skin quality improved and the patient's mental status improved.

EFFECTS OF HIPPO THERAPY ON CHILDREN WITH AUTISM SPECTRUM DISORDER WITH HYPERSENSITIVE HANDS

ALEKSANDRA CZEKAJ,
GRZEGORZ ŻUREK

Opole Medical School, Opole, Poland

✉ E-mail: okops@spoko.pl • Phone: +48 606 952 339

KEYWORDS: equine-assisted therapy, hippotherapy, autism spectrum disorders, hypersensitive within hands, hypersensitive, therapeutic riding

Introduction. Hippotherapy is a form of therapy or treatment supported by a horse. Its aim is to improve a person's health as well as their level of fitness. Conducted research evaluates effects of a 5-week program of therapeutic riding for children with ASD. Hippotherapy in this case-study is defined as a therapy with children experiencing hypersensitivity from their hands.

Aim of the study. To show that horses have a positive effect for children with hypersensitive hands and could be helpful to control this.

Material and methods. Pre and post 5-week therapy sessions were carried out using a questionnaire created especially for this research. For each of the children who participated, this was their first

time having contact with a horse and such a type of a therapy.

Results and conclusion. In this case-group positive effects are improving with every week, notwithstanding the longer period of time which is needed to evaluate this research clearly.

PROJECT RISK MANAGEMENT – CASE STUDY OF THE INTERNATIONAL FOCUS PROJECT (2015-2018) UNDER THE 3RD HEALTH PROGRAMME OF THE EUROPEAN COMMISSION

MARTA DUDA-SIKUŁA,
DONATA KURPAS

Department of Family Medicine, Faculty of Postgraduate Medical Training,
Wrocław Medical University, Wrocław, Poland

✉ E-mail: marta.duda-sikula@umed.wroc.pl • Phone: +48 600 617 262

KEYWORDS: risk management, project management, mitigation activities, contingency plan, international consortium

Introduction. Leading and successfully completing the international project demands introducing management strategies and also a detailed plan for risk management that would support the project progress and mitigate the potential risks that could not only cause delays in the project but even result in total failure. The role of the manager, in cooperation with all the project's stakeholders, is to identify the potential risks, monitor them during the project's lifecycle, mitigate the risks if they appear and to have a decent contingency plan to keep one step ahead risk whenever possible.

The aim of the study. To present the ups and downs of risk management procedures on the international

project FOCUS which was developed under the 3rd Health Programme of the European Commission.

Material and methods. For this research, the literature of the subject, the Grant Agreement concluded between the members of the Consortium, and the reports on the implementation of the FOCUS project submitted to financing institutions were used. From this case study, the authors would like to express the importance of the risk management processes for successful project completion.

Results. Wrocław Medical University has recognized a few substantial internal risks regarding the project implementation. These are the complexity of the

administrative procedures necessary for the project settlement, fluctuation amongst the staff supporting the project, and overloading the project investigator with other duties, i.e. teaching activities.

Conclusions. The most dangerous factor for the project implementation was recognized as overloading the researcher with teaching hours and long administrative procedures. The action that could be undertaken to avoid these risks in the future is discussion with the university's authorities on reducing teaching hours for the academic staff involved in the most strategic projects, and as to the administrative procedures, a "fast track" mechanism should be introduced to support smooth project settlement.

EVALUATION OF THE EFFECTS OF MASSAGE USING A CHINESE BUBBLE AND ROLLER ON THE MYOFASCIAL SYSTEM

KINGA FRĄCKOWIAK, NATALIA RODEN,
TOMASZ MATUSZ, PIOTR TKOCZ

Biophysics and Physical Medicine Students Scientific Organization,
Clinical Physiotherapy Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: KingaCJ1405@gmail.com • Phone: +48 530 005 607

KEYWORDS: Chinese cupping massage, massage roller, myofascial system

Aim of the study. To analyze the effectiveness of two muscle relaxation techniques: Chinese cupping massage and rolling, as well as their popularity.

Material and methods. 14 females participated in this study, and were randomized into two comparison groups. Group I underwent a Chinese cupping massage in the triceps of the calf, while Group II underwent rolling. Seven interventions were carried out over a three-day interval, lasting 5 minutes each. The massage was based on a rubber acupuncture bubble. Roller Blackroll- standard was used for rolling. Measurement of resting gastrocnemius muscle tension (medial head) was used via EMG Myo-

Plus2Pro with a set of self-adhesive electrodes placed according to the SENIAM protocol. The range of dorsal flexion of the foot was measured using the “NovacelGoniometre” application and a finger-to-toe test. The measurements were repeated before the first and last treatments and 24 hours after.

Results. The results obtained before the last procedure showed an increase in muscle bioelectric potential when massage with a roller was used, and a decrease with Chinese cupping massage. However, 24 hours after the last intervention in both cases, the resting potential of the muscle reduced. In both combinations, better results were obtained in mas-

sages using a Chinese bubble: in the first by 8.8% and in the second by 2.5%. Both methods contributed to an increase in foot dorsiflexion, but better results by 0.5% was obtained by rolling. An increase in the number of repetitions made was also observed in the fingers-up test, the results obtained when rolling were higher by 8.6% than those from Chinese cupping massage.

Conclusions. From the obtained results it can be concluded that both methods are equally effective in relaxation of the muscular- fascia apparatus, however, the effects obtained from the Chinese cupping massage lasts longer compared to rolling.

‘FOREIGN’ IN HOSPITAL – CULTURAL INDIVIDUALITY OF THE PATIENT AS A CHALLENGE FOR MEDICAL TEAMS

DANIELA FRĄSZCZAK

PhD Cultural Studies
University of Wrocław

✉ E-mail: d.fraszczak@op.pl • Phone: +48 609 088 238

KEYWORDS: culture, minority groups, cross-cultural comparison, cultural deprivation

Introduction. The research topic addressed here concerns issues related to the widely understood cultural individuality of patients. I am particularly interested in the approach of medical teams, including doctors, nurses and physiotherapists, to the ‘otherness’ of a patient.

Aim of the study. Firstly, it is essential to establish what is viewed as ‘otherness’ or ‘foreignness’ of a patient. It is also vital to determine whether respondents treat the terms ‘foreign’ and ‘other’ as equal or mutually exclusive. The next question is what qualities of a patient are specified as ‘foreign’ or ‘other’. Differences in appearance, religious practices, language or behaviors deviating from previous patients’ reactions to standard medical procedures

may be amongst these. Subsequently, the question is whether being ‘foreign’ is a challenge for medical teams. Do people who come in direct contact with these patients experience fear related to ‘otherness’, have prejudices, communication problems, or are afraid of their care and treatment? Are there any cases of discrimination towards such patients? Finally, what mechanisms are formed in medical teams in contact with patients considered as ‘foreign’?

Material and methods. Interviews and questionnaires will be used as the research method. They will be carried out on doctors, nurses and physiotherapists working in the Opolskie Voivodeship.

Results. Data collected will be the basis for determining how professional groups see a culturally “different” patient and whether this depends on sex, age, type of profession, job seniority and the size of the city he or she comes from. As a result, it will be possible to determine what the problems are associated with the medical care of the “other” patient and what actions the community needs.

Conclusions. The main objective is to take into account cultural diversity in the therapeutic process and, consequently, adapt care provided by doctors, nurses and remaining medical personnel to the specific cultural conditions of a given patient. In order to achieve this, it is crucial to diagnose a problem and find solution to it.

EVALUATION OF THE IMPACT OF CLASSIC MASSAGE AND DEEP TISSUE MASSAGE ON BIOELECTRIC ACTIVITY OF RECTUS FEMORIS MUSCLE AND KNEE JOINT RANGE OF MOTION

KAMIL GALA, AGNIESZKA KOGUT,
KATARZYNA RAJFUR, ŁUKASZ KOSOWSKI

Biophysics and Physical Medicine Students Scientific Organization,
Functional physiotherapy Medicine Students Scientific Organization,
Department of Physiotherapy, Opole Medical School, Opole, Poland

✉ E-mail: kamil.gala94@wp.pl • Phone: +48 728 327 198

KEYWORDS: deep tissue massage, classical massage, electromyography

Aim of the study. To evaluate bioelectric activity of the rectus femoris muscle and knee joint range of motion after performing a selected technique from classical massage and a technique chosen from deep tissue massage.

Material and methods. The study included 20 healthy adults aged 20 to 22 years. All participants were students from the Higher Medical School in Opole. NeuroTrack ETS Verity Medical Limited was used to measure sEMG. Measuring the knee joint range of motion was done using a goniometer and

centimeter tape. The test was done both before and after the massage. The left lower limb was massaged by hand massage by the deep tissue method until tissue restriction was removed, or a reaction occurred over the period of time. The right thigh muscle was massaged by a transverse kneading technique for the same period of time as the left leg.

Results. Bioelectric activity parameters of the rectus femoris muscle revealed no statistically significant changes after the two different massages were

applied. There was an improvement in the range of knee joint motion with both methods.

Conclusions. Both deep tissue massage used to remove tissue restriction and the classical massage method carried out over the same period of time do not affect changes in bioelectric activity of the rectus femoris muscle after one application. A single treatment using the above deep tissue technique and technique from classic massage may have an effect on increasing the range of knee joint motion.

PSYCHOMETRIC EQUIVALENCE ASSESSMENT VALIDATED QUESTIONNAIRE - CAREGIVER QUALITY OF LIFE-CANCER QUESTIONNAIRE BASED ON THE ASSESSMENT OF THE QUALITY OF LIFE OF HOME CAREGIVER PATIENTS WITH CANCER

MARTA GAWLIK¹, MARIKA GUZEK²,
ARTUR PRUSACZYK², DOROTA BIELSKA³,
LUDMIŁA MARCINOWICZ⁴, DONATA KURPAS^{1,5}

¹ Opole Medical School, Opole, Poland

² Medical Diagnostic Center, Siedlce, Poland

³ Department of Family Medicine and Environmental Nursing, Medical University, Białystok, Poland

⁴ Department of Primary Health Care, Medical University, Białystok, Poland

⁵ Wrocław Medical University, Wrocław, Poland

✉ E-mail: martulagawlik@gmail.com • Phone:+48 781 957 268

KEYWORDS: cancer, home caregiver, questionnaire CQOL-C, quality of life

Introduction. The Caregiver Quality of Life-Cancer (CQOL-C) is a research tool to assess the quality of life of caregivers. The questionnaire measures important components of the quality of life: physical functioning, emotional functioning, social functioning, and economic functioning. In Poland there are no instruments to measure the caregiver's quality of life who takes care of cancer patients as indicated in the above aspects.

Aim of the study. Psychometric equivalence assessment the CQOL-C based on a comparative analysis of the results in individual domains of the questionnaire with the following questionnaires: Maslach Burnout Inventory (MBI) and General Health Questionnaire 28 (GHQ 28).

Material and methods. The study covered 83 patients and caregivers, in a stay at home environment. The research tool was: validated Quality of Life Cancer-Caregiver questionnaire, which has been correlated with the Maslach Burnout Inventory and General Health Questionnaire-28. Spearman's rho rank correlation and the Shapiro – Wilk test were calculated.

Results. Caregivers, who have experienced an increased positive adaptation to the disease of a family member (CQOL-C) obtained lower results in depersonalization compared to emotional exhaustion (MBI), (0.29 vs. 0.64, $p=0.015$). In this group of caregivers, along with the increased adaptation to the disease of a family member, the presence of somatic symptoms ($rs=0.26$ $p=0.034$), higher anxious feel-

ings and insomnia ($rs=0.48$ $p<0.001$) and a low general welfare rate of caregivers ($rs=0.36$ $p=0.005$) were observed. The results regarding the financial situation correlate positively with symptoms of the caregivers' depression ($rs=0,27$ $p=0.031$).

Conclusions. The equivalence results of the questionnaire in correlation with the MBI and GHQ28 questionnaires indicated that positive adaptation to the disease of a family member and the financial situation of the family have a significant impact on the assessment of the quality of life in the group of caregivers. The development of a coherent support system for families affected by cancer by qualified interdisciplinary therapeutic teams, will prevent the burn-out of caregivers.

INTENSIFICATION OF CORONARY ARTERY ARTERIOSCLEROSIS RISK FACTORS OCCURRENCE IN PATIENTS WITH TYPE A AND TYPE B PERSONALITY FEATURES QUALIFIED FOR CORONARY DISEASE OPERATIVE TREATMENT

PIOTR JERZY GUROWIEC¹,
JÓZEFA DĄBEK², EDYTA KĘDRA¹,
JUSTYNA SEJBOTH³

¹ Nursing Faculty, Opole Medical School, Opole, Poland

² School of Health Sciences, Cardiology Clinic and Faculty,
Medical University of Silesia, Katowice, Poland

³ School of Health Sciences, Department of Anaesthesia and Intensive Therapy,
Medical University of Silesia, Katowice, Poland

✉ E-mail: piotr73-1973@o2.pl

KEYWORDS: coronary disease, risk factor, type A personality, type D personality

Introduction. Coronary disease is still the most frequent cause deaths, including premature deaths, although during recent years in many European countries there has been a remarkable decrease in the number of deaths caused by this condition. It is a disease which develops on the grounds of sclerotic changes and by the time clinical symptoms appear it insidiously progresses until an advanced state is reached.

Aim of the study. Evaluation of classic risk factor occurrence in patients with Type A or Type D personalities who qualified for coronary disease operative treatment.

Material and methods. The examinations were carried out in the Silesian Medical University Cardiac Surgery Clinic and Clinical Cardiac Surgery and Transplantology Department of Silesian Centre for Heart Diseases in Zabrze, and included all patients who met the required criteria. 310 patients were in the group being tested (1+2), and were divided according to the tests results which were obtained into: (1) Patients (n=261) qualified for coronary disease operative treatment, (2) Control group (n=49) including patients in which coronary disease was excluded with the correct indicator of coronary artery cal-

cium score in CT (CACA=0). The Type D Personality Scale-14 (DS14) and TYPE-A - Type A-Framingham Scale were used.

Conclusions. In patients who qualified for coronary disease operational treatment, Type A and D personality qualities predominantly occurred, in the control group – none of being tested. In the group being tested, Type A and D personality qualities were marked more frequently together with lipid disorders, hypertension, smoking and an inadequate diet.

ULCERATIVE COLITIS – A CASE STUDY INCLUDING NURSING CARE SPECIFICS

NATALIA GUZENDA¹, BARBARA WIERZBICKA²,
KONRAD WORONOWICZ³

¹ The Institute of Internal Medicine Nursing, The Department of Clinical Nursing,
The Faculty of Health Sciences, Wrocław Medical University, Wrocław, Poland

² The Institute of Propaedeutics and Rare Diseases, The Department of Paediatrics,
The Faculty of Health Sciences, Wrocław Medical University, Wrocław, Poland

³ The Department of Vascular Surgery, Multidisciplinary HMO Hospital, Nowa Sól, Poland

✉ E-mail: natalia.guzenda@wp.pl • Phone: +48 691 291 726

KEYWORDS: nursing care, ulcerative colitis, ulcerative chronic ileocolitis, non-specific enterocolitis, chronic condition, nursing issues, case study

Introduction. Colitis ulcerosa is a chronic, non-specific, phlogistic intestinal condition. Inflammation and ulceration involve only the mucous membranes and do not concern all the intestinal layers. The most frequently engaged part is colon, yet inflammation may appear in the rectum and throughout the whole bowel's length. The course of the disease consists mostly of stages of exacerbation and remission. Extending the remission stage is the main aim of successful treatment. The diagnosis of the disease is often agonising for the patient, especially for young people, whom it affects most often. The treatment is based not only on pharmacology, but also on an entire lifestyle change.

Aim of the study. To present characteristics of colitis ulcerosa, including pathophysiology of the disease, its symptoms, possible complications, disease course, epidemiology, and prevalence rate. The specification of nursing care and its issues, together with nursing interventions regarding the case study were taken into account.

Material and methods. Based on recent writings, an overview of the literature was made. Moreover, an analysis of the presented case's medical documentation was performed.

Results. The following work aims to present, first of all, the characteristics of colitis ulcerosa in reference to this case study – a teenage girl who suffered eye

and joint complications - but most of all, the scope of nursing care and nursing issues regarding this case during the her latest hospitalization.

Conclusions. Non-specific bowel diseases occur in remarkably varied age groups. Despite the mild course of ulcerative chronic ileocolitis, the patient had numerous extra-intestinal complications. Joint complications may appear even a year before the first intestinal symptoms. Due to inflammatory arthritis, pharmacological treatment for this may have caused the delay of these symptoms. During the exacerbation of the colitis ulcerosa, cutaneous changes and symptoms of uveitis were observed. The long-term use of corticosteroids causes numerous side effects, e.g. cataract, osteoporosis and hypokalaemia.

FETAL DEATH AND LATE MOTHERHOOD – A CASE STUDY

IWONA KIERSNOWSKA¹, GRAŻYNA BĄCZEK^{2,3},
PIOTR WĘGRZYN¹

¹ Department of Obstetrics and Perinatology,
Medical University of Warsaw, Warsaw, Poland
² Department of Obstetrics and Gynecology Didactics,
Medical University of Warsaw, Warsaw, Poland
³ St. Sophia Specialist Hospital, Warsaw, Poland

✉ E-mail: iltrena@wp.pl • Phone: +48 501 203 128

KEYWORDS: fetal death, late motherhood, obstetric failure.

Introduction. Intrauterine fetal death may occur during any stage of pregnancy, regardless of the mother's age. In 2015, standards were introduced with regards to the care provided to women who have experienced obstetric failures. The standards regulate the procedures for providing care to women who have suffered from fetal death syndrome.

Aim of the study. To focus on fetal death in the context of late motherhood by an analysis of medical literature and semi-structured interview.

Material and methods. A 41-year old primipara, who felt no fetal movements for 2 days, was diag-

nosed with intrauterine fetal death. The pregnancy was physiological, and patients suffered from hypertension and obesity.

Results. As a result of induced labor, the woman gave birth to a deceased son weighing 2260 g, 49 cm long. After the birth it was established that the infant died due to an umbilical cord cord accident; it was wound twice around the child's neck and once around his torso. The mother was given time to see the infant for the last time and received the baby's foot impression as a memento. During her stay in hospital, the patient was isolated from other women in labor and

new mothers. Her labor took place in a separate delivery room. The patient stayed in a single room, where she could be supported by her family. During her hospital stay, the patient was under the care of an obstetrician, midwife and clinical psychologist. She was discharged from hospital after 6 days.

Conclusions. The loss of a child is one of the most traumatic experiences for a mother, in particular in the case of older mothers, when becoming pregnant again might prove difficult as a women's fertility declines with age.

ANALYSIS OF MANUAL THERAPY ON ACTIVE TRIGGER POINTS OF PAINFUL TRAPEZIUS MUSCLES

AGNIESZKA KOGUT, KAMIL GALA,
BEATA FRAS-ŁABANC

Biophysics and Physical Medicine Students Scientific Organization,
Functional Physiotherapy Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: agnieszka.kogut96@gmail.com • Phone: +48 509 117 782

KEYWORDS: shock wave therapy, controlled pressure, trapezius, trigger points, algometer

Aim of the study. To verify the analgesic effects of shock wave therapy and controlled pressure with a point algometer at the trigger points of trapezius muscles.

Material and methods. The study involved 20 participants aged 19-25, with pain in the descending part of the trapezius muscles. For all subjects on the left side, the technique of controlled pressure was performed using the Wagner FPX electronic algometer, and on the right side shock wave therapy was used using the parameters recommended by the device manufacturer. Before starting the therapy and

a week after, the patients were measured using Wagner's electronic FPG algometer. The test consisted of recording the minimum pressure required to trigger a painful reaction.

Results. A highly significant difference in results was found depending on subsequent measurements. Both on the right and left sides, the same pattern is observed: lower pressure results relate to the first measurement, and in the second measurement they are significantly higher. There was no significant difference ($p > 0.05$) between the left upper limb and right upper limb. No significant interaction was found

($p > 0.05$) between the measurement and the side of the measurement. This means that on both compared sites an increase in the pain threshold was observed in the testing area. However, there was no significant difference between the side after the shock wave procedure and the side treated with controlled pressure.

Conclusions. The use of manual techniques, i.e. controlled pressure and shock wave therapy at the triggering points of trapezius muscles, can reduce pain and increase the threshold of pain in this area.

COMPARISON OF THE ANALGESIC APPLICATION OF KINESIOLOGY TAPING AND DYNAMIC TAPE ON TRAPEZIUS TRIGGER POINTS

AGNIESZKA KOGUT, KAMIL GALA,
ŁUKASZ KOSOWSKI, KATARZYNA RAJFUR

Biophysics and Physical Medicine Students Scientific Organization,
Functional Physiotherapy Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: agnieszka.kogut96@gmail.com • Phone: +48 509 117 782

KEYWORDS: Kinesiology Taping, Dynamic Tape, trapezius, trigger points, algometer

Aim of the study. To compare the effectiveness of an analgesic application consistent with the concept of Kinesiology Taping and Dynamic Tape at trapezius muscle trigger points.

Material and methods. The study involved 20 participants aged 19-25 years, with pain in the descending part of the trapezius. In all patients, on the left side an analgesic application was made for trigger points according to Kinesiology Taping principles, and on the right side a comparable technique was used according to the Dynamic Tape concept. Before therapy, after removing the patches (72 hours), and one week after the start of the tests,

the subjects were measured using Wagner's electronic FPX algometer. The test consisted of recording the minimum pressure required to trigger a painful reaction.

Results. A highly significant ($p < 0.01$) difference in results was found between on subsequent measurements. Both on the right and left sides, the same pattern was observed: the lowest pressure results concerned the first measurement (before tapping), and in the second measurement (after removal of tapes) they were significantly higher. A slight decrease in the third measurement (1 week from application) was not significant from the second one, but

these results were still significantly higher than the first. The results of the third and second measurements do not differ significantly. This means that an increase in the pain threshold in the area tested was observed on both compared sites. However, no significant ($p > 0.05$) differences between the Kinesiology Taping and Dynamic Tape application side were found.

Conclusions. The analgesic application compatible with the concept of Kinesiology Taping and Dynamic Tape with trapezius muscles trigger points may influence pain reduction and increase the threshold of pain perception in this area.

POSTUROGRAPHIC ANALYSIS OF THE INFLUENCE LOWER LIMB LATERALIZATION IN YOUNG FOOTBALL PLAYERS AGED 10 TO 13 YEARS

JULIA KONRAD, MAGDALENA STRZELECKA,
TOMASZ MATUSZ, KATARZYNA RAJFUR

Biophysics and Physical Medicine Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: julia_konrad@interia.pl • Phone: +48 788 257 367

KEYWORDS: posture, lateralization, equilibrium indicators

Introduction. One of the most popular sports is football. With each successive year, more and more young boys are involved in this sport. However, the occurrence of postural defects in young football players is becoming an increasingly common observation and may be caused by lateral asymmetry typical for the specialized training.

Aim of the study. To evaluate whether lower limb lateralization in young football adepts has an impact on posture and equilibrium indicators.

Material and methods. Thirty-one football players aged 10 to 13 years old participated in the study. The participants were assigned to two study groups depending on their dominant leg – right or left. Players of both groups were tested for scoliosis using the Bunnell scoliometer and for postural stability disorders using the Stabilometric Platform CQStab2P.

Results. A highly significant relationship between the occurrence of scoliosis and lower limb laterality was observed. In cases of left-leg dominance, lev-

oscoliosis occurred in 75% of the examined players, whereas in cases of right-leg dominance, dextroscoliosis was detected in over 42% of players. For the equilibrium indicators, highly significant differences were observed between the measurements with open and closed eyes, however they were not related with lateralization.

Conclusions. The occurrence of scoliosis in young football players may be related to lower limb lateralization. Further studies in this field are planned.

EVALUATION OF MEAL PREFERENCES OF THE ELDERLY IN RELATION TO THE FOOD PYRAMID FOR SENIORS

EWELINA LEPSY¹, GRZEGORZ ŻUREK^{1,2},
ALINA ŻUREK³, MAGDALENA GOLACHOWSKA⁴

¹ Faculty of Physiotherapy, Opole Medical School, Opole, Poland

² Department of Biostructure, University School of Physical Education, Wrocław, Poland

³ Institute of Psychology, University of Wrocław, Poland

⁴ Faculty of Health Sciences, Opole Medical School, Opole, Poland

✉ E-Mail: m.golachowska@gmail.com • Phone: +48 511 868 421

KEYWORDS: elderly nutrition, seniors' food pyramid, nutritional habits

Introduction. Daily choices of meal composition is an important risk factor in disease development regardless of age but has an especially high impact on elderly people. Seniors infrequently follow nutritional guidelines, adjusted to their age, health and life-style and food choices.

Aim of the study. Evaluation of seniors' meal preferences in relation to the seniors' nutritional guidelines.

Material and methods. 100 participants, women and men, age 79-93 years, were asked to answer ques-

tions about their nutritional choices, in the form of a questionnaire by the authors.

Results. Only 40% of responders declared drinking 2 liters of water daily. Whole grain products were consumed by 30%. Milk and milk products were eaten once daily by 50% of seniors. Vegetables and fruits were eaten in inadequate quantities: only 10% of responders declared eating vegetables and fruits twice a day or more often. 45% of elderly chose meat, including red meat and its products,

three to four times a week, and 66% chose fish once a week. Almost 50% of responders ate three meals a day.

Conclusions. Based on the results of this study, most responders did not meet the nutritional requirements recommended for elderly people. Intake of water, dairy products, vegetables and fruits were inadequate. Incorrect food preferences in the elderly may have an impact on their health status and well-being.

QUANTIFICATION OF α -LIPOIC ACID BY CONDUCTOMETRIC TITRATION

PAULINA MAŁKIEWICZ, SŁAWOMIR MICHAŁKIEWICZ

Institute of Chemistry, Faculty of Mathematics and Natural Sciences,
Jan Kochanowski University in Kielce, Poland

✉ E-mail: p.malkiewicz@vp.pl • Phone: +48 508 865 002

KEYWORDS: α -lipoic acid, conductometry, titration, pharmaceuticals

Introduction. α -lipoic acid (LA) is a biochemically important organic substance found in plants and products of animal origin. The wide scope of application of LA includes, amongst others, antioxidative protection of cellular structures, treatment of diabetic neuropathy, chelation of metal ions and restoration of the reduced forms of vitamins C, E and glutathione. Due to the great importance of LA, its quantification within different materials is a key issue. The most commonly used methods for determining LA include chromatography (HPLC, GC), and capillary electrophoresis. However, these methods are expensive and samples are time-consuming to prepare. The electrochemical methods may be an attractive alternative. They offer fast analysis and obtain the results at a satisfactory level. Conductometric titration is one of these methods.

Aim of the study. The purpose of this work was to assess the applicability of conductometric titration to determine the α -lipoic acid content in selected pharmaceutical formulations using a standard NaOH solution as titrant.

Material and methods. To analyze LA content in real samples 3 pharmaceutical preparations which were available on the market were chosen: one prescription drug and two dietary supplements. The LA content in the samples was determined by conductometric titration based on the NaOH reaction with LA as a weak acid.

Results. The amounts of analytes obtained by the experimental route were comparable to those declared by the manufacturer. The relative error ranged from +1.6 to + 2.8%. The positive error for each prepara-

tion is most likely related to the partial consumption of NaOH in reactions with acidic excipients present in each pharmaceutical. The differences between the declared and experimentally obtained amount of LA can be considered as a method error that cannot be eliminated.

Conclusions. Based on the results obtained, it was found that conductometric titration compared to the other methods used is simpler, cheaper and gives reliable results, and thus may be successfully used for the quantification of α -lipoic acid in pharmaceutical preparations and in food supplements.

EPIDEMIOLOGY OF INFLUENZA AND FLU-LIKE ILLNESS IN THE OPOLE PROVINCE IN 2008–2017

ANNA MATEJUK, URSZULA POSMYK

Opole Medical School, Opole, Poland

✉ E-mail: ulapo@wp.pl • Phone: +48 604 780 886

KEYWORDS: influenza, flu-like illness, complications, vaccination, incidence

Introduction. Influenza is an acute, highly contagious viral disease that causes many serious complications, including deaths. Due to its prevalence and post-flu complications, it is a serious public health problem. The most effective way to prevent influenza is by vaccination, which is recommended for e.g. health care workers.

Aim of the study. To present data defining epidemiological trends for influenza and flu-like illnesses in the Opole province against the background in Poland.

Material and methods. Data were obtained on the basis of reports of flu and flu-like illnesses reported

by physicians to the State Sanitary Inspection (in accordance with Article 27 of the Act of 5 December 2008 on the prevention and control of infections and infectious diseases), diagnosed on the basis of clinical symptoms, according to weekly reports on infections and suspected cases of influenza Mz - 55. The test method was used to develop the data, i.e. documents research and research technique was based on the analysis of existing data.

Results. Epidemiology of influenza and flu-like illnesses in the Opole province in 2008–2017 differed from the rest of Poland. In 2008 - 2010, incidence

rates of influenza in the Opole province were higher than in Poland. In 2011 levels of incidences were similar, whereas from 2012 there are clearly lower incidence rates of influenza in the Opole province compared to the average incidence in Poland.

Conclusions. Analysis of the average incidence of influenza from the period 2008-2017 in districts of the Opole province showed large territorial differentiation, which may result from the difference in incidences of diseases or the quality of reports to the Sanitary Inspection.

SUBJECTIVE AND OBJECTIVE ASSESSMENT OF ATHLETES AFTER A SINGLE ANKLE SPRAIN

KAROLINA MOJZA¹, KRZYSZTOF KRZAK²,
DAWID BĄCZKOWICZ³

¹ Faculty of Physiotherapy, University School of Physical Education in Wrocław, Poland

² Rehabilitation Center "Bądź Zdrow" in Opole, Poland

³ Faculty of Physical Education and Physiotherapy, Opole University of Technology, Opole, Poland

✉ E-mail: mojza.karolina@gmail.com • Phone: +48 665 450 517

KEYWORDS: ankle sprain, postural stability, FADI, functional evaluation

Introduction. Ankle sprains are one of the most common sport injuries of lower limb. Resulting deficits can lead to decreased functional status. However, there are few papers that show deficits after a single lateral ankle sprain, whether in the subjective assessment of the patient (e.g. questionnaires) or measured objectively (e.g. by evaluating postural stability).

Aim of the study. Subjective and objective assessments of the functional status of athletes after a single lateral ankle sprain.

Material and methods. 40 athletes participated in study and were divided into 2 groups: 20 peo-

ple after single lateral ankle sprain - LAS (n=20) and 20 subjects with no injury in history - CTRL (n=20). Subjective assessment was based on Foot and Ankle Disability Index questionnaire (FADI-Q). The dynamic platform Biodex Balance System SD was used to assess postural stability. The test was performed in a single-leg stance in static and dynamic conditions.

Results. Statistically significant differences were observed during the comparison of LAS and CTRL groups in FADI-Q in parts FADI (p=0.017) and FADI TOTAL (p=0.049). Moreover, statistically significant differences were observed in the LAS group between

persons with instability (N-STAB), and without instability (STAB), of the ankle in parts: FADI (p=0.006), FADI SPORT (p=0.011) and FADI TOTAL (p=0.002). During the postural stability test, in both static and dynamic conditions, no significant differences were found between sprained and healthy limbs, between LAS and CTRL groups, and between STAB and N-STAB groups.

Conclusions. Deterioration of the functional status after a single lateral ankle sprain has been observed. Almost half of respondents declared instability after a single ankle sprain. There were no differences in postural stability between the compared groups.

BIRTH CENTRE – IS IT AN INNOVATION IN POLISH HEALTH CARE? WOMEN’S VIEWS ON NEW MODEL OF MATERNITY CARE

JULIA NAWROT, ANETA SUDER

PhD studies, Faculty of Health Science,
Jagiellonian University in Krakow, Poland

✉ E-mail: julusnawrot@gmail.com • Phone: +48 501 041 443

KEYWORDS: midwife-led care, birth center, normal birth

Introduction. Birth centers/midwife-led units are maternity settings where the caregivers during birth are midwives. The care during childbirth is provided in a way which enables its natural, undisturbed progress whilst achieving medical care in the form of a healthy mother and a healthy child. The conditions guaranteed at birth centers are similar to those for domestic or hotel rooms but provide the medical facilities necessary to assist in the incidence of complications.

Aim of the study. The aim was to find out women’s’ opinions on the midwife-led model of care in

birth centers. The purpose of the study was also to describe the characteristics of this model of care and its functioning.

Material and methods. A survey was conducted among 153 women aged 21 to 49 who agreed to participate in the study. A questionnaire made by the author was used in the study. The survey was distributed from January to May 2017 via Internet or on paper.

Results. Knowledge of a birth center as a form of perinatal care provided by midwives was reported by 44% (N = 67) respondents. Almost 79% of the respond-

ents declared that a natural delivery is interesting for them. The analysis showed a statistically significant relationship between the interest in delivery in the birth center and women’s assessment of the level of satisfaction of the current model of care, their opinion about the safety of childbirth in the birth center and the perception of childbirth as a normal life event ($p < 0.05$).

Conclusions. Women value the normality of the birth-center approach and the opportunity to experience the birth of their child with support from a midwife.

STRUCTURE OF THE RELATIONSHIPS BETWEEN SELECTED FACTORS SHAPING THE STATE OF HEALTH OF POLISH FARMERS

LECH PANASIUK¹, ANNA WILMOWSKA-PIETRUSZYŃSKA²,
ANDRZEJ HOROCH³, ANNA MAZUR⁴,
MAGDALENA CZARKOWSKA¹, ROBERT CHMURA³,
TOMASZ SARAN⁴

¹ Witold Chodźko Institute of Rural Health, Lublin, Poland

² Faculty of Medicine, Rzeszów University, Rzeszów, Poland;
Agricultural Social Insurance Fund, Warsaw, Poland

³ Department of Epidemiology and Biostatistics,
Witold Chodźko Institute of Rural Health, Lublin, Poland

⁴ Department of General and Neuro Rehabilitation,
Witold Chodźko Institute of Rural Health, Lublin, Poland

✉ E-mail: annamazur10@o2.pl • Phone: +48 692 496 718

KEYWORDS: state of health, farmers, Occupational Health

Introduction. Approximately 40% of Poles live in rural areas. These areas differ from urban centres, which effects the specificity of health problems which occur. To a great extent this results from hindered access to medical services, level of education and knowledge within the scope of health prophylaxis, and the occurrence of specific health hazards influenced by environmental factors. These factors indicate the need for conducting cyclic studies oriented towards prevention of health hazards present within the environment of workers on private farms in Poland.

Aim of the study. The objective of this study was to determine the structure of the relationships between selected factors reflecting the state of health of farmers.

Material and methods. The study group included 9125 farmers; mean age was over 52 years. In the

model developed, the following parameters were analyzed: concentration of glucose in blood serum, physical activity, self-reported state of health, body mass index (BMI), effort tolerance diagnosed using a 6-minute walk test, occurrence of depressive symptoms, pro-health practices which included eating habits, mental attitudes, prophylactic behaviours, functional consequences of motor system complaints, and duration of sick leave due to disorders of this system. Analysis of multi-dimensional relationships between variables was performed by means of structural equation modelling SEM, using the software IBM SPSS AMOS 24.

Results. Models were developed within the sub-groups of males and females, which were structurally analogous but differed by the values of path coefficients, which explains variance in: self-reported

health (M-3.0%; F-2.0%), intensity of depressive symptoms (M-11.0%; F-10.0%), BMI (M-5.0%; F-9.0%), functional consequences of pain (M-15.0%; F-14.0%;), effort tolerance measured using the 6-minute walk test (M-9.0%; F-11.0%), mental attitude (M-12.0%; F-14.0%), prophylactic behaviours (M-11.0%; F-11.0%), health practices (M-42.0%; F-42.0%), duration of sick leave due to motor system disorders (M-23.0%; F-22.0%) and eating habits (M-4.0%; F-5.0%).

Conclusions. The data obtained may be used to design actions directed towards an improvement in the state of health and quality of life of farmers, which in consequence, will contribute to the reduction of health inequalities occurring between rural and urban inhabitants.

TELOMERE LENGTH IN CERVICAL SMEARS OF WOMEN WITH HIGH-RISK HUMAN PAPILLOMAVIRUS (HPV HR)

ANNA PAŃCZYSZYN¹, EWA BONIEWSKA-BERNACKA¹,
GRZEGORZ GŁĄB²

¹ Department of Biotechnology and Molecular Biology, University of Opole, Poland

² Opole Medical School, Opole, Poland

✉ E-mail: gregglab@poczta.onet.pl

KEYWORDS: human papillomavirus, telomeres, cervical cancer

Introduction. Human papillomavirus (HPV) is transmitted by direct contact, mostly through sexual behavior. Infection with the most oncogenic type 16 and 18 viruses increases the risk of developing cervical cancer over 200-fold. The persistent HR HPV infection leads to the development of squamous intraepithelial lesions and these changes may progress to invasive cancer. The commonly used cytodiagnostic method – Pap test and colposcopy – allow pathological changes within the cervix to be detected. The detection of HR HPV infection using molecular biology methods allows patients to be classified those with an increased risk of progression to invasive cancer.

Aim of the study. The aim of our study was to investigate any differences between telomere length in cervical smears of women with high-risk HPV and control women.

Material and methods. The ethics committee approved the protocol. Eighty women were divided into three groups: a control group, a cases group (women with cytological diagnosis of Low Grade Squamous Intraepithelial Lesions (LGSIL) or High Grade Squamous Intraepithelial Lesions (HGSIL), and a carriers group (women with HR HPV without LGSIL and HGSIL). Telomere length was analyzed in cervical smears and blood cells using quantitative real-time polymerase chain reaction (qPCR).

Results. The cases group had shorter telomeres in cervical smears compared with the control group. There were no differences between telomere lengths in blood cells and cervical smears in the cases and carriers groups. The control group had longer telomeres in cervical smears compared with blood cells.

Conclusions. The results suggest that telomere length assessment may be a useful future prognostic factor to help identify early carcinogenesis and allow women at risk of faster progression to be identified at the preclinical stage.

THE EVOLUTION OF THE EPIDEMIOLOGY OF INVASIVE MENINGOCOCCAL DISEASE IN OPOLE VOIVODESHIP IN THE YEARS 2005-2017

URSZULA POSMYK, ANNA MATEJUK

Opole Medical School, Opole, Poland

✉ E-mail: ulapo@wp.pl

KEYWORDS: Neisseria meningitidis, meningitis, sepsis

Introduction. Invasive Meningococcal Disease is caused by the gram-negative diplococcus *Neisseria meningitidis*. The epidemiology of Invasive Meningococcal Disease is unstable and changes across the world in a dynamic way. Endemic occurrences of *Neisseria meningitidis* strains fluctuates and often is observed in the appearance of strains previously not present in an area.

Aim of the study. Analysis of the epidemiology of Invasive Meningococcal Disease in Opole voivodeship in 2005-2017 in relation to the situation in Poland and other various voivodeships. The group studied

consisted of 85 people residing in Opole voivodship, who from January 1st, 2005 to December 31st, 2017 were registered in the Opole district epidemiological stations appropriate for the place of residence of patients with Invasive Meningococcal Disease.

Material and methods. In order to achieve the research goals, analysis of documents held by the State Sanitary Inspection agencies in Opole voivodship and with *Neisseria meningitidis* infections were used.

Results. In Opole voivodeship an increase in the incidence of disease from one case in 2005 to 39

cases in 2007 was observed (incidence of 0.1 to 3.75 / 100,000), and a decrease in the incidence 2008-2017 from 6 to 1 cases (incidence of 0.6 to 0.1).

Conclusions. In Poland in the above-mentioned period there was an increase in the incidence of the Invasive Meningococcal Disease, in addition to cases of occasional epidemic outbreaks, mainly caused by the meningococcus serogroup C. Epidemiological and microbiological surveillance was strengthened and the National Reference Centre for the Diagnosis of Bacterial Infections of the Central Nervous System 'KOROUN' was set up.

STIFF TAPING OF THE HALLUX VALGUS AS AN ELEMENT OF THERAPY AFFECTING HIP JOINT BIOMECHANICS

NATALIA RODEN, KINGA FRĄCKOWIAK, ŁUKASZ KOSOWSKI,
TOMASZ MATUSZ, MAŁGORZATA PASTERNOK

Biophysics and Physical Medicine Students Scientific Organization,
Functional Physiotherapy Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: rnatalia014@gmail.com • Phone: +48 575 781 794

KEYWORDS: hallux valgus, stiff taping, stabilometric platform

Introduction. Hallux valgus is a defect with many complications such as transverse flatfoot and knee valgus. These defects indirectly contribute to decrease in the quality of walking and may cause injuries or pain in the ankle, knee, hip and spine. Treatment of this type of defect uses methods of laying the patient in correct movement patterns, not only during therapy, but also beyond. Aim of the study. To verify if stiff taping of hallux valgus affects hip joint biomechanics.

Material and methods. Twenty people aged 20-24 years with hallux valgus were classified to two groups. In the control group placed a patch without tension,

and in the test group a patch was applied in accordance with the guidelines. The study involved assessment of the dominant lower limbs. Patients' postures were assessed and measurements were taken before and after application. The study used a CQ2Stab stabilometric platform. The test was performed with open and closed eyes, and each measurement took 30 seconds. In addition, a hip rotation test was performed in a 1/4 squat in all patients before and after stiff taping of the hallux valgus.

Results. There was a tendency to improvement of the results of posturographic studies. During the hip rotation test in 1/4 squat, the degree of pelvic descent

and the posture of the patient were corrected. Statistical significance was not demonstrated.

Conclusions. On the basis of the information we can suppose that correction of hallux valgus with rigid tape supports the patient to the correct walking pattern and allows them to maintain the correct posture. The pelvic fallout rate is also significantly reduced, which may indicate an improvement in the function of the middle gluteal muscle.

TATTOO MOBILIZATION USING SOFT TISSUE TECHNIQUES WITHIN THE BICEPS MUSCLE AND CHANGES IN BIOELECTRICAL POTENTIAL OF THE ASCENDING PART OF THE TRAPEZIUS MUSCLE – CASE REPORT

NATALI RODEN, KINGA FRĄCKOWIAK,
ŁUKASZ KOSOWSKI, TOMASZ MATUSZ

Biophysics and Physical Medicine Students Scientific Organization,
Functional Physiotherapy Students Scientific Organization,
Department of Physiotherapy, Opole Medical School, Opole, Poland

✉ E-mail: rnatalia014@gmail.com • Phone: +48 575 781 794

KEYWORDS: tattoo, mobilization of soft tissues, bioelectric potential

Introduction. Tattoos are a widely used form of self-expression, but do they have an impact on the human body in addition to aesthetic values? The patient subjected to this study was characterized by an increased tension of the biceps muscle and the inability to activate the ascending part of the trapezius muscle. Despite several therapies, mobilization of the tattoo gave positive results.

Aim of the study. To verify whether tattoo mobilization on the biceps arm affects changes in the shoulder joint and the resting potential of the ascending part of the trapezoidal muscle.

Material and methods. A 29 years old patient participated in the study, with a tattoo on the greater

pectoral muscle, deltoid muscle, biceps and triceps muscles on the left side. Within the biceps muscle, mobilization of soft tissues, especially of skin tissue, was performed. The movement was carried out in an easier direction. In the subject, before and after the therapy the bioelectric potential of the biceps muscle and the ascending part of the trapezius muscle were assessed. The electromyography was made using EMG MyoPlus2Pro, with using self-adhesive electrodes. They were arranged in accordance with the SENIAM protocol. In addition, a USG examination of the biceps tendon was performed before and after mobilization. The study used an analog pain scale (VAS).

Results. After tattoo mobilization on the biceps muscle, during ultrasound examination, the cross section of the tendon sheath of the biceps muscle of the arm decreased. During electromyographic evaluation, the bioelectric potential of the ascending part of trapezius muscle increased significantly. In addition, the intervention significantly reduced the patient's pain.

Conclusions. Soft tissue mobilization within the biceps muscle increases the bioelectric potential of the ascending part of the trapezius muscle. Further research should be carried out taking into account a larger number of people, in order to verify the effect of tattoo on the functioning of skin, fascial, muscle and nervous tissue.

ASSESSMENT OF THE KNOWLEDGE OF OBESE PEOPLE ABOUT PROPER NUTRITION AND BENEFITS OF PHYSICAL ACTIVITY

JANINA RZESZOT

Vincent Pol University in Lublin, Poland

✉ E-mail: danuta.rz@op.pl • Phone: +48 882 030 345

KEYWORDS: obesity, nutrition disorders, feeding behaviour

Introduction. In Poland, 61 percent of men and 50 percent of women are overweight or obese.

Aim of the study. To examine the knowledge of obese people about proper nutrition and the impact of physical activity on preventing obesity.

Material and methods. The research material was collected amongst patients from the Clinic of Proper

Nourishing and Weight Loss in Zwolen, and by part-time students who constituted a group of 30 respondents. Due to the nature of the work, a diagnostic survey and survey technique was used, for which an original questionnaire was created.

Results. The analyses show that 95% of respondents are overweight, 4% are obese and 1% suffer from pathological obesity. Amongst the group studied, very

low knowledge about proper nutrition was observed, which resulted in permanent obesity.

Conclusions. The conclusions drawn from the studies conducted show that the influence of nutritional habits is important in maintaining a healthy body mass, and the low physical activity among the respondents contributes to a lack of effective therapy.

ASSESSMENT OF THE IMPACT OF MOTOR REHABILITATION ON PHYSICAL EFFECTS AND PSYCHOSOCIAL FUNCTIONING OF PATIENTS WITH HAEMOPHILIC ARTHROPATHY OF THE KNEE JOINT

TOMASZ SARAN¹, ANNA MAZUR¹, PRZEMYSŁAW POGORZELSKI¹,
JACEK ŁUKASIEWICZ², ADAM RACZKOWSKI², ROBERT CHMURA³

¹ Department of General and Neuro Rehabilitation,
Witold Chodźko Institute of Rural Health, Lublin, Poland
² High School of Economics and Innovation, Lublin, Poland
³ Department of Epidemiology and Biostatistics,
Witold Chodźko Institute of Rural Health, Lublin, Poland

✉ E-mail: sarantomasz@gmail.com • Phone: +48 817 184 552

KEYWORDS: haemophilic arthropathy of the knee joint, effectiveness of rehabilitation

Introduction. Haemophilia is the most common congenital plasma deficiency (1:10000), inherited on the X chromosome. The blood of those affected has insufficient numbers or activity of one of the coagulation factors (VIIIc-hemophilia A, IX-hemophilia B). Intra-articular haemorrhages can cause joint destruction in severe forms of haemophilia, where activity of the coagulation factor is less than 1%. Early rehabilitation plays an important role in the treatment of haemophilic arthropathy, increasing the range of motion in occupied joints and preventing disability, which in turn may improve the quality of psychosocial functioning of patients.

Aim of the study. The object of our research was to assess the impact of motor rehabilitation on physical and psychosocial functioning in patients with haemophilic arthropathy of the knee joint.

Material and methods. The research group consisted of 12 males with severe haemophilia participating in a 28-day rehabilitation cycle at the Rehabilitation Clinic with the Neurological Rehabilitation Sub-Department of the IMW in Lublin. Tests were carried out in the test-retest model on the 1st and 28th days of the kinesitherapy cycle. Patients were tested twice with use of the standardized WOMAC and KOOS questionnaires with objective determination of the range of motion, mass and muscle strength of the damaged joint. Before starting rehabilitation, they were given prophylactic doses of the appropriate clotting factor, and were under constant medical supervision during the exercise. The applied program of kinesiotherapy included: muscle strengthening exercises: quadriceps, sci-sacs, active exercises in conditions of reduced load, general improvement exercises, exercises

in closed and open kinematic chains, training of proprioception and proper limb load (gait re-education).

Results. As a result of the rehabilitation program, patients achieved the desired changes in terms of mobility, strength and muscle mass, severity of disease symptoms (swelling and stiffness of the knee joint, difficulty or slowing movement during bending and/or straightening the knee), self-service ability, social activity, emotional functioning and also their perceived quality of life.

Conclusions. The results obtained indicate that the kinesiotherapy program proved to be effective in the studied group, and the early introduction of rehabilitation has a beneficial effect on the outcomes of treatment in patients with haemophilic arthropathy of the knee joint.

THE RELATIONSHIPS BETWEEN GLYCEMIC LOAD, GLYCEMIC INDEX, NUTRITIONAL STATUS AND THE OXIDATIVE STATUS IN PLASMA IN PATIENTS WITH LUNG CANCER

KATARZYNA SKÓRSKA¹, KATARZYNA ZABŁOCKA-SŁOWIŃSKA¹,
SYLWIA PŁACZKOWSKA², ANNA PRESCHA¹,
KONRAD PAWEŁCZYK³, MONIKA KOSACKA⁴,
IRENA PORĘBSKA⁴, HALINA GRAJETA¹

¹ Department of Food Science and Dietetics, Wrocław Medical University, Poland

² Diagnostics Laboratory for Teaching and Research, Wrocław Medical University, Poland

³ Department and Clinic of Thoracic Surgery, Wrocław Medical University, Poland

⁴ Department and Clinic of Pulmonology and Lung Cancers, Wrocław Medical University, Poland

✉ E-mail: katarzyna.skorska@umed.wroc.pl • Phone: +48 728 952 147

KEYWORDS: lung cancer, total antioxidant status, total, oxidative status, glyceemic load, glyceemic index

Introduction. In lung cancer, as well as many other site-specific cancers, the redox state is altered, and depletion of antioxidant capacity is observed as the tumor progresses, however the mechanisms of this are not entirely clear. High glyceemic index (GI) and high glyceemic load (GL) diets leads directly to post-prandial hyperglycemia, which independent from other factors may lead to decrease in serum total antioxidant status (TAS) level and increased in total oxidative status (TOS) level.

Aim of the study. To assess the relationships between dietary GL, GI and nutritional status and oxidative status in patients with lung cancer.

Material and methods. The study was conducted amongst 180 lung cancer patients and compared with

results obtained in 171 controls. Anthropometric measurements were also performed, the nutrition method was evaluated and GI and GL were calculated on the basis of a 3-day nutritional interview.

Results. It was found that serum glucose levels, insulin, HOMA-IR, TOS and oxidative stress index (OSI) were higher, whilst TAS level was lower, in lung cancer patients compared to the control group. The intake of dietary fiber per 1000 kcal was lower, whilst energy provided from diet, as well as total and digestible carbohydrates, the ratio of digestible and total carbohydrates, and the value of dietary GL and GI were higher in lung cancer patients than in the control group. The nutritional status of patients with lung cancer was worse, indicated by measure-

ments of body weight, and arm and calf circumferences. We found a negative correlation amongst female patients with lung cancer between OSI value and energy supply, carbohydrate and total carbohydrates, and a positive correlation between TAS level and waist and hip circumferences, body mass and BMI as well as between OSI and glucose concentration. In men, a positive correlation was found between GI and the TOS level.

Conclusions. Lung cancer patients' redox status, their dietary GI and GL values and nutritional status were significantly different from the control group. The total antioxidant status of these patients was significantly dependent on nutritional status and oxidative stress indicators on blood glucose and dietary GI.

THE IMPACT OF PHYSICAL ACTIVITY AND DIET ON THE RISK OF FALLS, DAILY FUNCTIONING AND PRO-HEALTH BEHAVIOR OF ELDERLY PEOPLE WITH FRAILTY SYNDROME

ANETA SOLL^{1,2}, KATARZYNA SZWAMEL^{1,2},
MAGDALENA GOLACHOWSKA³, IWONA WILK⁴,
KRZYSZTOF KASSOLIK⁴, LESZEK WARSZ⁵,
ARTUR PRUSACZYK⁵, MARIKA GUZEK⁵,
JAROSŁAW ZACHARA⁶, JULIA JAWNY⁷,
DONATA KURPAS^{1,2}

¹ Department of Medical Science, Opole Medical School, Opole, Poland

² Department of Family Medicine, Wrocław Medical University, Poland

³ Department of Health Science, Opole Medical School, Opole, Poland

⁴ Department of Physiotherapy, University School of Physical Education, Wrocław, Poland

⁵ Medical and Diagnostic Centre, Siedlce, Poland

⁶ "REMEDI" Non-Public Health Care Center, Borzeczyn, Poland

⁷ M. Domański, V. Domańska Primary Health Center, Wrocław, Poland

✉ E-mail: aneta.soll@op.pl • Phone: +48 783 221 961

KEYWORDS: physical activity, diet, elderly people, frail, pre-frail

Introduction. The frailty syndrome is a dynamic state of the body leading to the exhaustion of reserves, the weakening of strength and the muscle mass as well as a decrease in efficiency and immunity. One of the most important aspects of preventing weakness and its complications is physical activity and a properly balanced diet.

Aim of the study. The aim of the study was to analyze the impact of physical activity and diet on functional fitness and risk level of risk of falling of elderly people with frailty syndrome and pre-frail syndrome.

Material and methods. The study was conducted among 45 patients with frailty syndrome and pre-frail syndrome, aged 60 years and older (mean 70.80 SD 6.09). A 60-minute workout was prepared for the patients, which they did twice a week. In addition,

menus were reviewed on the basis of which patients received recommendations for daily use. The control group included 63 patients (mean age 79.13 SD 9.04) who did not undertake any additional physical activity or dietary changes. In both groups, TUG (Timed Up and Go) assessing the risk of falling and functional fitness of the elderly, the Health Behavior Inventory (HBI) and the test defining the Instrumental Activities of Daily Living (IADL) were performed before the start of the intervention. The tests were repeated after 3 and 6 months of the intervention.

Results. Before starting the exercise and introducing nutritional recommendations in the intervention group, the average duration of the TUG test was 11.52s, and in the control group - 15.6s; after 3 months from

the beginning of the intervention, the test execution time in the intervention group was 10.69s, in the control group 16.31s ($p = 0.728$), after completing the intervention after 6 months respectively: 9.38s ($p = 0.001$) and 16.79s ($p = 0.728$). HBI values were respectively at each of the stages: (mean / SD): 86.78 / 9.99, 95.30 / 5.65, 95.72 / 7.93 ($p = 0.001$), and in the control group: 87.29 / 14.5, 88.84 / 12.9, 90.10 / 13.5 ($p = 0.743$). In turn, for IADL (mean / SD): 25.14 / 2.54, 25.52 / 1.43, 26.00 / 2.76 ($p = 0.013$), and in the control group: 19.24 / 6.49, 20.19 / 6.57, 21.37 / 5.46 ($p = 0.256$).

Conclusions. The introduction of a nutritional intervention and physical activity has a positive effect on reducing the risk of falls, daily activities and enhances pro-health behavior in elderly people with frailty syndrome.

INFLUENCE OF LOW LEVEL LASER THERAPY AND HIGH INTENSITY LASER THERAPY IN THERMOGRAPHIC TERMS

MAGDALENA STRZELECKA, JULIA KONRAD,
KATARZYNA RAJFUR, JOANNA RAJFUR

Biophysics and Physical Medicine Students Scientific Organization,
Functional Physiotherapy Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: m.strzelecka94@wp.pl • Phone: +48 609 211 490

KEYWORDS: LLLT (Low Level Laser Therapy), HILT (High Intensity Laser Therapy), thermography

Introduction. Laser light as a form of therapy is used today in most fields of medicine. The heat may be one of the effects of its application.

Aim of the study. Thermographic analysis of the impact of Low Level Laser Therapy and High Intensity Laser Therapy was the purpose of this research.

Material and methods. Twenty-two participants were qualified for the research and underwent laser treatment. The anterior thighs were exposed to laser

light. One limb was treated with Las Expert Physiomed low level laser, and the other limb was treated with Cyborg Cosmogamma high intensity laser. Thermovision analysis of the temperature of superficial tissue was performed using the Fluke thermographic camera both before and after the treatment.

Results. Significant skin temperature changes ($p < 0.0001$) were observed, between both legs. The temperature of left and right leg did not differ before the treatment. The increase in temperature after the

treatment was prominently higher in high intensity laser treatment compared to low level laser treatment ($p < 0.01$) and remained so for the duration of observation.

Conclusions. LLLT and HILT cause a prominent increase in skin temperature which may be beneficial in acquiring therapeutic effects. Special care should be taken when tending to patients with inflammation due to heat treatment being contraindicated.

MANUAL THERAPY OF SICKLE FOOT – A CASE REPORT

ANETA SUDER, JULIA NAWROT

PhD studies, Faculty of Health Science,
Jagiellonian University in Krakow, Poland

✉ E-mail: anetasuder@gmail.com • Phone: +48 503 019 379

KEYWORDS: sickle foot, three-plane manual foot therapy

Introduction. Medial deviation in all five tarso-metatarsal joints (Lisfranc joints) and the attachment of the forefoot to the hindfoot is referred to as sickle foot. The external arch of the foot is convex and stretched, and the medial arch is concave. There is no heredity cause for this type of defect. Sickle foot most often develops due to a lack of space in the uterus. Three-plane manual foot therapy allows for its treatment at an early stage of development and is based on the knowledge of the general physiologi-

cal motor pattern of infants. The therapist uses special mobilization grips, the effects of which are fixed due to a corrective bandage.

Aim of the study. To present the effectiveness of regular manual therapy in the correction of congenital sickle foot.

Material and methods. A 4-month-old girl diagnosed with bilateral affection of the forefoot was subjected to a specific therapy of the foot manulas

along with functional bandaging. Exercises were performed by the physiotherapist or mother of the girl twice a day for 4 months.

Results. The applied therapy brought satisfactory results as a significant reduction of foot defects.

Conclusions. Three-plane manual foot therapy is currently the most effective method for treating foot deformities in infants, taking into account the functional conditions of foot development.

RESOURCE UTILIZATION OF EMPLOYEE TRAINING FOR MODIFIED CLUSTER ASSIGNMENT AND HEALTH RISK ASSESSMENT IN PHC ORGANIZATIONS IN POLAND

SYLWIA I. SZAFRANIEC-BURYŁO^{1,2}, MARIKA GUZEK²,
ARTUR PRUSACZYK², PAWEŁ ŻUK², GRZEGORZ BUKATO²

¹ Department of Pharmacoeconomics, Institute of Mother and Child, Warsaw, Poland

² Medical and Diagnostic Centre, Siedlce, Poland

✉ E-mail: grzegorz.bukato@centrum.med.pl

KEYWORDS: resource use, population management, stratification, Poland

Introduction. Cluster analysis can be used to identify groups of patients with similar but specific healthcare needs and resource utilization, and to perform risk stratification to achieve integrated, personalized care, in which a tailored care model can be attributed to each patients' cluster.

Aim of the study. To assess the resource utilization needed for employee training required to introduce a new modified cluster assignment and health risk assessment in PHC organizations in Poland.

Material and methods. Training was performed in the Medical and Diagnostic Center in Siedlce (33 loca-

tions including 27 PHC units covering over 84,000 patients), operating in Mazovian and Lublin Voivodships. Training was performed by 5 instructors. One instructor was the supervisor for the remaining 4. The timeframe for performing the training and further validation of the criteria for assigning patients to specific risk groups by PHC doctors was 2015–2016.

Results. 412 employees working within PHC units: doctors, nurses, midwives, call center staff, nurse coordinators, medical receptionists and dieticians, participated in the training. The supervising instructor trained 212 people. Each of remaining 4 trainers

instructed 50 people. Each training session lasted an average of 90 minutes. There were 40 training sessions in 27 PHC locations needed for adequate training of all staff involved. The average number of students was 10.3 for each 90 minute training session. This was assessed by students as adequate for understanding and applying the new cluster assignment method and its proper use in future practice.

Conclusions. Significant amount of training is needed to introduce new cluster assignment and health risk assessment methodology in a large ICO and to ensure smooth implementation of changes.

OUTCOMES OF CERVICAL CANCER SCREENING PROGRAMME IN PHC IN POLAND

SYLWIA I. SZAFRANIEC-BURYŁO^{1,2}, EWA PROKURAT²,
GRZEGORZ BUKATO², MARIKA GUZEK²,
ARTUR PRUSACZYK², JACEK GRONWALD²

¹ Department of Pharmacoeconomics, Institute of Mother and Child, Warsaw, Poland

² Medical and Diagnostic Centre, Siedlce, Poland

✉ E-mail: grzegorz.bukato@centrum.med.pl

KEYWORDS: cervical cancer, prophylactic programme, cytology, Poland

Introduction. Identification of patients with changes in cytology is a key outcome in preventive programmes, as early diagnosis of cervical cancer improves its prognosis.

Aim of the study. To present data regarding to percentage of preventive programme execution (cervical cancer screening), in the PHC integrated care organization in relation to the voivodship average.

Material and methods. The cervical cancer screening programme was available for patients of the PHC integrated care organization located in Mazovian and Lublin Voivodships (responsibility for over 84,000 patients), being a part of the structure of the Medical

and Diagnostic Centre (CMD) in Siedlce, Poland. Data were collected by midwives employed by their respective PHC. Test results were reported to SIMP (NHF database for control of preventive programmes), and additionally collected locally in an MS Excel database.

Results. CMD Patients' participation in the preventive programme is relatively high: 59.5% for CMD patients from the Mazovian voivodship vs. 18.0% for the entire region, and in Lublin voivodship it is 65.3% for CMD patients vs. 23.0% for entire region. The percentage of abnormalities found increased during these years from 1.05% to 2.04%; the percentage of cases requiring further diagnostics increased

from 0.30% to 0.85% respectively. The increase was due to the increasing number of data derived from the newly screened population (no cervical cancer screening for 5 years; then new site opened). Amongst the 2310 patients tested, abnormalities were found in 5.24%, and 2.25% of all patients required further diagnostics.

Conclusions. Implementation of preventive programmes, especially in new populations, helps to increase the level of detection of cervical cytology abnormalities. Data for newly tested populations are outstandingly high, which shows the value of program continuity.

PROPOSAL OF HEALTH RISK ASSESSMENT AND CLUSTER ASSIGNMENT REFERRING TO CERVICAL CANCER SCREENING FOR USE IN PHC POPULATION IN POLAND

SYLWIA I. SZAFRANIEC-BURYŁO^{1,2}, EWA PROKURAT²,
GRZEGORZ BUKATO², MARIKA GUZEK²,
ARTUR PRUSACZYK², JACEK GRONWALD²

¹ Department of Pharmacoeconomics, Institute of Mother and Child, Warsaw, Poland

² Medical and Diagnostic Centre, Siedlce, Poland

✉ E-mail: grzegorz.bukato@centrum.med.pl

KEYWORDS: resource use, population management, stratification, Poland

Introduction. Identification of patients' groups based on their specific healthcare needs and future resource utilization can be done by performing cluster analysis and risk stratification to achieve integrated, personalized care in which a specific set of procedures can be attributed to each cluster of patients.

Aim of the study. To prepare the proposal for a health risk assessment scheme and cluster assignment referring to cervical cancer screening for use in PHC population.

Material and methods. Cluster structure and procedure set proposals were prepared for use in 27 PHC having their seats in 33 locations in Mazovian and Lublin Voivodships (responsibility for over 84,000 patients), being a part of the structure of the Medical and Diagnostic Center in Siedlce, Poland. Literature review + interviews with 2 experts was carried out.

Results. 5 subgroups (coded as having the status from 0 to IV) of patients were identified and defined for future assignment of procedures: 0 – non-compliant, not participating in program, kept in medi-

cal records only; I – healthy, next cytology in 3 years; II – healthy-high risk, next cytology in 1 year; III – for observation, LGSIL, coloscopy or next cytology in 6 months; IV – ill, HGSIL, for further diagnostics and/or treatment.

Conclusions. The proposed clusters' structure enables personalized but well-structured care to be assigned, aimed to achieve better results of care provided in parallel to a reduction of resources in Institute of Oncology (ICO).

ASSESSMENT OF THE IMPACT OF QUADRICEPS FEMORIS MUSCLE ENERGIZATION WITH A BLACKROLL ROLLER DEPENDING ON ITS DURATION

MICHAŁ SZEWCZYK, MAGDALENA STRZELECKA,
JULIA KONRAD, PIOTR TKOCZ, ŁUKASZ KOSOWSKI

Functional Physiotherapy Students Scientific Organization,
Clinical Physiotherapy Students Scientific Organization,
Opole Medical School, Opole, Poland

✉ E-mail: michal12szew@wp.pl • Phone: +48 518 418 455

KEYWORDS: roller, energization, quadriceps femoris muscle, thermography

Introduction. Self-myofascial release with foam rollers have attracted increasing interest in recent years. It also can be used as a method of muscle energization. However, the available literature does not specify how long such automatic massages should last or how often they should be carried out. Nevertheless, it is observed to have significant effects on tissues.

Aim of the study. Analysis any changes as a result of using different times pre-workout energy of quadriceps femoris muscle using foam roller Blackroll.

Material and methods. 45 people participated in the research and were randomized to three groups. In

group I (n = 15), a roll time of 20 seconds was applied, while in group II (n = 15), 40 seconds were applied. Group III was the control group. All measurements were taken before and after self-myofascial release. The following parameters were examined: range of knee joint movement using metric tape, strength of the quadriceps femoris muscle using the StabilizerT-MPressureBio-Feedback, and the surface temperature of skin in the area under intervention using a FLIR Exx thermal imaging camera.

Results. There was an improvement in the range of motion in the knee joint in group I by 10%, in group II

by 6%, but in the control group it was reduced by 2%. Observing the changes in muscle strength, growth was registered in groups II and III respectively by 3.6% and 3.2%, while in the group I no changes were noted. In addition, an increase in skin temperature was observed within the quadriceps muscle in group I by 2% and in groups II and III by 1%.

Conclusions. Rolling as a warm-up element can be an effective tool to improve selected parameters of the efficiency of the quadriceps muscle. However, further research should be carried out to select more effective rolling times.

EVALUATION OF COMPLIANCE WITH THE MEDICAL RECOMMENDATIONS OF PATIENTS WITH CARDIOVASCULAR DISEASE IN PRIMARY CARE

ELŻBIETA SZLENK-CZYCZERSKA¹, MARIKA GUZEK²,
ARTUR PRUSACZYK², DOROTA EMILIA BIELSKA³,
ANNA ŁAWNIAK⁴, PIOTR POLAŃSKI⁵,
DONATA KURPAS^{1,6}

¹ Opole Medical School, Opole, Poland

² Medical and Diagnostic Centre (MDC), Siedlce, Poland

³ Department of Family Medicine, Medical University of Białystok, Poland

⁴ Faculty of Health Sciences and Social Sciences, Pope John Paul II State School in Białą Podlaska, Poland

⁵ Family physician's practice, Non-Public Healthcare Center, Mieroszów, Poland

⁶ Department of Family Medicine, Wrocław Medical University, Poland

✉ E-mail: szlenke@pmwsz.opole.pl

KEYWORDS: adherence, compliance, cardiovascular disease

Introduction. The prevalence of cardiovascular disease (CVD) and non-compliance with the recommendations prove to be the main cause of adverse health effects and generate significant costs. Adherence to compliance with doctors' recommendations is a major problem for most patients. This phenomenon creates many dangers, especially in the treatment of chronic diseases.

Aim of the study. To evaluate compliance with recommendations regarding the systematic use of medicines and compliance with recommendations regarding lifestyle changes and normal eating habits of people with CVD in primary care.

Material and methods. The study included 350 patients: 193 in home care supervised by district

nurses and 157 patients coming for a control visit to the primary care doctor. The study used the authors structured interview questionnaire and the Health Behavior Inventory (HBI) Questionnaire.

Results. It was found that patients coming to the general practitioner for a follow-up visit were significantly more likely to comply with lifestyle recommendations, normal eating habits and systematic drug intake compared to patients under the care of nurses, respectively: 70.7% (111) and 53.4% (93) ($p = 0.001$); 70.1% (110) and 48.2% (93) ($p < 0.001$); 86% (135) and 75.6% (146) ($p = 0.021$). It was found that in 30.4% (51) of patients in home care, a low level of severity of health behaviors was observed, in the group being compared in 26.9% (35). There were no

statistically significant differences in the assessment of health behaviors according to HBI, between groups ($p = 0.753$).

Conclusions. Patients with CVD do not show adequate cooperation during the course of therapy, compliance in taking the drug with the therapeutic regimen and persistence in adherence to these recommendations. There is a need for education, support and building a broad cooperation regarding compliance with therapeutic recommendations of patients in primary care. Patients who are in home care require more support in this area.

HEALTH LOCUS OF CONTROL (HLC) AS AN IMPORTANT ASPECT OF CARE COORDINATION

KATARZYNA SZWAMEL¹, DONATA KURPAS^{1,2}

¹ Opole Medical School, Opole, Poland

² Department of Family Medicine, Wrocław Medical University, Poland

✉ E-mail: k.szwamel@interia.pl • Phone: +48 605 513 431

KEYWORDS: delivery of health care, general practice, internal-external control, self concept, emergency service, hospital

Introduction. Determining the relationship between patients' perception of their illness and their predispositions for taking pro-health behaviors can be an important issue for the coordination of services.

Aim of the study. To establish the differences between emergency department patients (EDP) and general practice patients (GPP) in terms of level and dimensions of HLC (internal, powerful others, chance).

Material and methods. A cross-sectional study was conducted among 200 EDP and 200 GPP. Health Behavior Inventory, Multidimensional Health Locus of Control Scale (MHLCS) and an original questionnaire were used.

Results. EDP patients had higher results of MHLCS in the dimension of powerful others (EDP M=24.16 vs. GPP M= 22.62, $p = 0.017$) and chance (EDP M=24.77 vs. GPP M=22.04, $p < 0.001$). EDP and GPP did not differ in terms of MHLCS results in the dimension of internal control (GPP M= 24.44 vs. EDP M=24.42, $p = 0.562$). EDP with internal HLC lower than the median had a 2.6 times greater probability of hospitalization than those with internal HLC higher than the median. In both groups the coexistence of a high level of internal HLC with low levels of health practices was observed. The level of internal HLC in EDP decreased as: number of chronic diseases ($r_s = -0.47$, $p < 0.001$), age ($r_s = -0.46$, $p < 0.001$), number

of drugs taking per day ($r_s = -0.33$, $p = 0.001$), number of hospitalizations ($r_s = -0.31$, $p < 0.001$), BMI, serum glucose, creatinine, INR, systolic BP increased. The low level of internal HLC was more common in widows/ widowers and in divorced patients.

Conclusions. In healthcare coordination, the ability to manage one's own health and illness should be considered as an integral part of care plans. As important determinants of health behaviors, the HLC should be measured by a GP nurse by means of a standardized tool.

ACETIC ACID AS A SOLVENT IN ELECTROCHEMISTRY AND IN PHARMACEUTICAL INDUSTRY

DARIA ŚLEFARSKA, SŁAWOMIR MICHAŁKIEWICZ

Institute of Chemistry, Mathematics and Natural Sciences Department,
Jan Kochanowski University, Kielce, Poland

✉ E-mail: daria367@op.pl • Phone: +48 667 422 436

KEYWORDS: acetic acid, solvent, pharmaceutical industry, conductivity

Introduction. Acetic acid (AcH) is one of the best-known carboxylic acids with a wide spectrum of applications: in the food industry as a preservative (E260) or in the form of vinegar (5 - 10%), in the perfumery and pharmaceutical industries or as a solvent in non-aqueous titrations of medicinal compounds, which are often of weak alkaline or weak acidic nature. AcH also plays an important role in cellular metabolism as acetyl-coenzyme A.

Aim of the study. The research presented was aimed at characterizing solutions of selected electrolytes in anhydrous acetic acid with regards to their applicability in the electrochemistry of pharmaceuticals and preservatives. An important element of this research was to compare the properties of solutions of the same electrolytes in acetic acid and aqueous

solutions. The investigations also included the effects of water and acetonitrile on the properties of acetic acid solutions.

Material and methods. Research was conducted using the conductometric method. Conductivity measurements were made using InoLab 720 conductivity meter (WTW, Germany) with TetraCon 325 conductivity cell (cell constant, $k = 0.453 \text{ cm}^{-1}$), with an automatic temperature compensation sensor. Reagents used in the research were: anhydrous acetic acid (AcH), acetonitrile (AN), anhydrous sodium acetate (AcNa) and sodium chlorate (VII).

Results and conclusions.

1. NaClO_4 and CH_3COONa show limited solubility in acetic acid to 86 g L^{-1} and 98 g L^{-1} respectively;

2. NaClO_4 and CH_3COONa are strong electrolytes in aqueous solutions and weak in acetic acid;
3. NaClO_4 provides a higher electric conductivity in AcH solutions than CH_3COONa ;
4. Dissociation of electrolytes proceeds differently in water ($\epsilon = 78.39$) and acetic acid ($\epsilon = 6.15$);
5. AcH has weaker solvating properties than water which promotes the formation of associates such as ion-pairs, triple ions, and even higher structures. For this reason, the relationships between the specific conductivities and concentrations of electrolytes are non-linear;
6. The presence of water in AcH increases the degree of acid dissociation, thus increases the conductivity;
7. Acetonitrile ($\epsilon = 35.9$) increases acetic acid conductivity.

THE HABIT OF MAMMARY GLAND SELF-EXAMINATION AS KEY TO IMPROVING BREAST CANCER PREVENTION AMONGST WOMEN

EWA TOBOR, CECYLIA JENDYK

Opole Medical School, Opole, Poland

✉ E-mail: cecyliajendyk@op.pl • Phone: +48 515 236 605

KEYWORDS: prevention, women's health, self-examination of mammary gland

Introduction. As the motto of this poster let's use the quotation from the essay: "On health care" by Francis Bacon (1561-1626); "Apart from the indications of the art of medicine, as wise shall be perceived the rule, that the best means for preserving health is own observation (...)." According to WHO, social objective is attained by inhabitants of the earth at such level of health, which enables them to lead a creative life in social and economic aspects. The implemented health promoting programmes transpose the main objective of medicine from treating ill people into illnesses prevention. Developing the habit of self-examination of mammary glands by very young women should become a priority educational task of paediatricians, midwives, family doctors and gynaecologists.

Aim of the study. Making women aware of the necessity to develop the skill of breast self-examination.

Material and methods. The observation included women over 15 years of age participating in educational campaigns on the subject of breast self-examination. By using a diagnostic survey, their basic knowledge of the anatomy of mammary gland, as well as their skill to perform breast self-examination by using one of the selected techniques, were verified.

Results. On the basis of the observation data collected, there has been a substantial deficit in women's knowledge on the subject of the anatomy of mammary gland, and of their familiarity with self-examination techniques. This occurred irrespective of their age group and has proven that women are

aware of the necessity to perform breast self-examination, however, due to insufficient knowledge and little training, they do not believe in their own skills and do not feel competent in self-diagnosis.

Conclusions. In summary, it has to be emphasised, that for effective prevention of breast cancer, what's most significant is to develop the habit of caring for that attribute of womanhood, just like for any other organs. An educational starter should be incorporated as a permanent element of health promoting programmes realized in schools.

ASSESSMENT OF THE METHODOLOGICAL ASPECTS OF SELECTED HAEMODIALYSIS PATIENTS' QUALITY OF LIFE RESEARCH

DANIEL WIŚNIEWSKI

Pomeranian Medical University in Szczecin, Poland

✉ E-mail: d.wisniewski1984@wp.pl • Phone: +48 792 471 273

KEYWORDS: quality of life, methodology, haemodialysis, research

Introduction. Amongst medical and health science researchers in particular, quality of life is certainly one of the more eagerly undertaken research topics. A comprehensive framework, as well as methodological availability determined by the number of tests, encourage conducting research. It must also be mentioned that not only standardized tests come into play as research tools. Against the background of a very extensive literature dedicated to quality of life, the problem of the quality of life of haemodialysis patients not only is popular, but perhaps even exceeds other areas (except perhaps the quality of life of oncological patients).

Aim of the study. To demonstrate the usefulness of specific (targeted) tests measuring the quality of

life of hemodialysis patients on the background of non-specific tests. The second goal is to determine the level and directions of statistical interpretation of research materials on the above-mentioned topic. The final goal is to identify gaps in knowledge from previously unexplored areas of research.

Material and methods. Desk research.

Results. Paradoxically, neither the Polish Medical Bibliography nor the queries of foreign sources, show the popularity which has previously been registered in a cursory analysis of the literature. This may mean that the above-mentioned studies require a methodological grind to become full-fledged in the pages of indexed journals. In this presentation I will meet

this expectation and analyze the 'technical' aspects of selected studies on the quality of life of hemodialyzed patients: the methodological core in the form of research problems, and primarily all the types of tests. I will show how they are used in research. I am particularly interested in whether targeted tests really translate into a greater range of research problems (they are, of course, more reliable).

Conclusions. Finally, I will propose a sketch of my own research, where I intend the size of center, qualifications of staff and infrastructure resources to be intervening variables. I assume these variables affect the quality of life which is recorded in research.

PHENOMENOLOGICAL AND HERMENEUTIC ASSUMPTIONS OF ETHICS AND PHILOSOPHY IN NURSING – ANALYSIS, COMPARISON AND RECONCEPTUALIZATION OF NOTIONS

DANIEL WIŚNIEWSKI

Pomeranian Medical University in Szczecin, Poland

✉ E-mail: d.wisniewski1984@wp.pl • Phone: +48 792 471 273

KEYWORDS: nursing, philosophy, ethics, phenomenology, hermeneutics, scientific research in nursing

Introduction. The problem of philosophy, a subject which is rarely undertaken by nursing researchers and reluctant to host in branch magazines, is important for determining the distinction of scientific nursing research against the background of the medical model. The essence of the distinction is to consider the humanistic context in nursing research. Such a criterion opens up a controversial but - in the author's opinion - interesting discussion about the scientific and methodological status of nursing.

Aim of the study. To determine how specific assumptions of phenomenology and hermeneutics have inspired specific theories of nursing. Newman and Benner theories are considered, also Gilligan, Leininger and Watson to lesser extents, and the Pars theory is barely mentioned. The analysis is preceded by

the determination of the philosophical meanings of these concepts. The author goes beyond solely recalling the definitions and reconstructs the broader contexts of the philosophical theories in which they have been formulated. Further in the presentation, the mutual significance relations in these theories are analyzed. At the same time, phenomenological and hermeneutic inspirations lead to a much wider research problem which is to show the evolution of philosophy and the ethics in nursing both in Poland and the rest of the world.

Material and methods. Systematic review of literature encompassing 38 reference titles both in Polish and English, including: comments, synthesis and original theoretical concepts.

Results. Hermeneutic inspirations of the Benner's theory rely on understanding situations as a condition of professional efficiency. In addition, Benner claims that theoretical knowledge experiences constant reinterpretation under the influence of new professional situations. As a result, both knowledge and practical experience become elements of continuous interpretation processes.

Conclusions. The Newman's theory links to phenomenology through the threefold function of consciousness: integration in the individual's experience function, behavioral regulation function, and discovering values function.



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