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Journal of Biomedical and Clinical Research

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JUBILEE SCIENTIFIC CONFERENCE WITH INTERNATIONAL PARTICIPATION

NEW APPROACHES IN PUBLIC HEALTH AND HEALTH POLICY

Dedicated to the 15th Anniversary
of the Faculty of Public Health,
Medical University – Pleven

26 – 28 NOVEMBER 2020
PLEVEN

PROGRAMME AND ABSTRACTS

Journal of Biomedical and Clinical Research

Vol. 13, No. 1, Suppl. 1, 2020

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PLENARY SPEAKERS



IVETA NAGYOVA

Dr Iveta Nagyova is the Head of the Department of Social and Behavioural Medicine at Pavol Jozef Safarik University (UPJS) in Kosice, Slovakia. She graduated in Clinical Psychology at UPJS and obtained her PhD in Medical Sciences from the University of Groningen, the Netherlands. She also followed a postgraduate training at the University of Oxford within the Oxford International Primary Care Research Leadership Programme. Her research interests are in biobehavioural and psychosocial innovations in chronic condition prevention and management, non-pharmacological interventions, behaviour change, improvements in functional status and quality of life in patients with a chronic disease and their implications for integrated care. She is a (co)author of more than 300 research papers, of which over 80 are peer-reviewed international scientific articles; her Scopus h-index is 23. She has been the co-founder and president of the EUPHA section on Chronic diseases (2016-2019). Apart from EUPHA, she is a member of several professional organisations and advisory boards,

including the European Advisory Committee on Health Research (EACHR) at WHO/Europe. At the national level, she serves as an advisor to the WHO Country Office in the Slovak Republic and the Slovak Ministry of Health in the field of chronic diseases, integrated care, behavioural insights, and public health. In November 2018, at the Annual Meeting of the Governing Body of EUPHA during 11th European Public Health Conference in Ljubljana she was elected as a President of EUPHA.

INTERDISCIPLINARY EVIDENCE-BASED PUBLIC HEALTH: MOVING FROM SILOS TO SYNERGIES

Iveta Nagyova^{1,2}

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SUMMARY

Despite the general belief that public health is a discipline that collaborates synergistically with other fields and disciplines, it still has a tendency to be more exclusive than inclusive when it comes to a concerted approach to interdisciplinary evidence-based practice and policy. Moving out of silos towards synergies requires a paradigm shift and a practical understanding of each other's agendas and languages. We should learn how to apply knowledge and expertise from other fields and disciplines; and based on the synergistic use of knowledge from multiple sources to obtain new useful knowledge elements. This is crucial if we want to be successful in achieving our ambitious public health targets, such as those related to Sustainable Development

Goals (SDGs). Health and well-being (SDG 3) are both enablers and major outcomes of sustainable development. However, achieving targets in SDG 3 can only be possible if actions in the other 16 SDGs are also advancing and if these actions are accelerated across the whole of government and society. Complex health systems, an exponentially expanding evidence base, and a lack of preparedness to react swiftly to public health challenges are all barriers that need to be addressed. Empirical evidence suggests that involving multiple disciplines in solving complex health problems improves work processes and narrows the gap between knowledge generation and knowledge translation. As such, our aim should be to foster interdisciplinary evidence-based public health practice and policy efforts and look for strategies to accelerate the translation of these efforts across disciplines. The European Public Health Association (EUPHA) promotes the vision of public health that includes the broader area of public health, health services research, health service delivery, and health systems design. This inclusive approach enables multidisciplinary, interdisciplinary, and transdisciplinary collaborations that should become a standard and not an exception in public health. Clearly, in order to achieve the vision for interdisciplinary evidence-based public health, conceptual development and capacity building will need to take place as well as leveraging a shift from silos to synergies.



JOHN KINSMAN

I started my public health career in 1992 with an AIDS behaviour survey of secondary school students in a community surrounding a gold mine in rural Zimbabwe. This led to an MSc degree in Health Promotion in London, after which I spent five years in provincial Uganda, working as a behavioural scientist with the Medical Research Council Programme on AIDS on behavioural HIV prevention research. My PhD in Medical Anthropology, completed at the University of Amsterdam in 2008, was based largely on the Ugandan work, and it examined the way in which scientific evidence had been used (and sometimes misused) in the formulation of AIDS policy over the course of the epidemic in Uganda and globally. Subsequently I worked as a Post Doc with the University of Amsterdam and WHO on issues to do with HIV testing and counselling in four African countries.

In 2010, I joined Umeå University in Sweden as a researcher and subsequently as Associate Professor in Global Health. The focus here moved away from HIV and towards a wide range of interconnected subject areas – in Africa, Asia, Latin America and the EU – including the social determinants of health, health systems, public health emergency preparedness, antibiotic resistance, and vaccine uptake. I also led a project on Ebola messaging in Sierra Leone during the 2014-15 West African outbreak.

I moved to ECDC (the European Centre for Disease Prevention and Control) early in 2019, taking up a position as their in-house expert on social and behaviour change. Since the emergence of the COVID-19 pandemic, my work has been focused exclusively on the response, with projects on countering online misinformation, preparedness for a COVID-19 vaccine, and addressing pandemic fatigue in the population.

QUALITATIVE RESEARCH WORKSHOP

John Kinsman

European Centre for Disease Prevention and Control

SUMMARY

This qualitative research workshop aims to introduce participants to the contribution that qualitative research can make to improving public health. We will discuss some of the major methodological approaches to conducting qualitative research, as well as their respective strengths and weaknesses; and we will also cover the basic principles of coding qualitative data (this section will include a hands-on exercise). The workshop will conclude with a discussion of the importance of reflexivity in qualitative research as a means of minimising bias and ensuring trustworthiness of the reported material. The workshop will be built around three core lectures:

- (i) An introduction to qualitative methods;
- (ii) Coding and analysing qualitative data;
- (iii) Reflexivity and the importance of standardised reporting of qualitative research.

During these lectures, key concepts will be introduced, including emic and etic perspectives, explanatory frameworks, fear management, and the Imagined Epidemic. Real-life case studies will also be taken from Dr Kinsman's own research experience

as illustrations of the various issues raised. These will include the early AIDS epidemic in Uganda (with reflections on the early COVID-19 epidemic in Bulgaria); and the inherent challenges of working as an 'outsider'. Qualitative data collected during a study will be used during the coding exercise.

Since the workshop will be held online, every effort will be made to ensure that it is interactive and engaging for participants. In addition to the three core lectures, online polls on different issues will be held, with instant analysis available; the chat function will be utilised to ensure that questions and comments are taken into account in real time; and a hands-on coding exercise will be held, with feedback and discussion on participants' experiences.

In advance of the workshop, participants are encouraged to browse through a document published by Family Health International, entitled '*Qualitative Research methods: A Data Collector's Field Guide*'. Participants are also requested to send a short statement outlining what they hope to learn during this workshop. In addition, those who have conducted qualitative research are requested to send details of:

1. The topic/s of the qualitative research that they have conducted;
2. The qualitative methodologies that were used;
3. Any challenges faced in the research process, and how (if?) these were overcome.

This will be important for helping to gauge the knowledge and expectations of the topic among the participants, which in turn will enhance the richness of our discussions.



DINA BALABANOVA

Dina Balabanova PhD, is a Professor in Health Systems and Policy in the Department of Global Health and Development at the London School of Hygiene and Tropical Medicine, with over 20 years of experience in health systems and policy research – governance, effective delivery models and health systems strengthening – across a range of low- and middle-income countries. She leads a research portfolio on anti-corruption Bangladesh, Nigeria, Malawi, Tanzania (SOAS-ACE and others) and co-leads research on barriers to hypertension control among poor populations in Malaysia and the Philippines (RESPOND) using surveys and a digital diary platform. She was Health Systems Global board member (2012-18), a commissioner on the Lancet Commission on Realigning Child Health in the SDG Era (2019-20) and is a Senior Editor for the BMC Health Services Research. She has established and runs the LSHTM Health Systems modules, and has delivered HPSR training worldwide – currently leading a NIHR funded project to accelerate the development of HPSR capacity in Western Pacific Region. Dr Balabanova's background is in sociology (Sofia University) and Social Policy and Planning (MSc, London School of Economics). She then completed a PhD at the London School of Hygiene & Tropical Medicine, that examined the feasibility and acceptability of the health financing reform in Bulgaria.
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TOWARDS EFFECTIVE HYPERTENSION CONTROL IN LOW- AND MIDDLE-INCOME COUNTRIES: THE PROMISE OF 'PEOPLE- CENTRED' CARE

Dina Balabanova

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SUMMARY

Hypertension is the leading preventable cause of illness and premature death worldwide¹. The number of people in the world with high blood pressure has doubled in the past two decades, leading to increased risk for heart disease, stroke, and kidney disease, with the greatest increases in the number of deaths in low- and middle-income countries (LMICs)². It is easily diagnosed and can be controlled with relatively simple interventions, using inexpensive and widely available medicine, but it requires life-long management which may pose demands on the patients. Moreover, while diagnosis and initiation of medication usually take place in primary care, hypertension management involves other levels of the health system, for example, through referrals to specialists in case of complications.

However, hypertension remains poorly controlled in countries of all income levels. A large multinational study has shown that 46.5% of participants with hypertension were aware of the diagnosis, and 32.5% of people on treatment had their blood pressure under control or 13.2% of all with high blood pressure³.

The poor outcomes led to the Office of the Surgeon General of the USA issuing a call to action to improve hypertension control as a national public health priority⁴. The problem is increasingly gaining attention in LMICs due to the disease and economic burdens it poses.

The reasons for the lack of progress are debated. In many LMICs hypertension is poorly controlled due to its asymptomatic nature, weak and pluralistic health systems and a lack of uniform treatment guidelines. This has led to WHO and other authors proposing the concept of people-centred systems (PCHSs) involving a fundamental shift of paradigm, from dominant models of care organised around health system hierarchies and clinical guidelines, towards ones that better reflect patient needs^{5,6}. The PCHS concept recognises that health systems are human and social systems⁷ involving interaction between the patient and providers, but also a microcosm of power and social norms. In its ideal form, PCHS entails integrated care organised around patient needs, delivery models that are oriented towards longer and closer contact between patient and system and adapt to changing patient circumstances. The concept emphasises the social aspects of the health systems, including mutual trust and respect for patient beliefs and preferences. All these system characteristics are expected to improve health outcomes.

Applying these ideas to hypertension, there are three areas where the PCHS approach can be promising. The first area is the need to capture the full trajectory of the patient – from diagnosis, to start of treatment and medication, and to follow up – and investigate where the problems arise. Clinical guidelines typically portray the patient pathway as a linear

process. However, in LMICs, most journeys are much more complex, and are best characterised as continual cycles of entry and re-entry into the system, as patients seek to accommodate multiple health and life priorities.

A recent systematic review of pathways to hypertension suggested that most studies have focused on diagnosis or start of treatment and then measuring retention after a period of time rather than exploring the full patient pathway⁸. This shows that there are considerable ‘blind spots’. Patients face different barriers at each stage of treatment and not clearly distinguishing these precludes effective responses. Thus, knowledge and beliefs about hypertension and health system resources are important at entry in the system, while social relationships, traditions and presence of comorbidities start to play a key role later on and determine whether the patient will continue with their treatment.

The second area where a people-centred systems approach can help to improve hypertension control, is in acknowledging the importance of patients’ understanding of disease. Findings from the Philippines show that patients’ own explanatory models of the causes of hypertension such as genetics, heat, stress and diet linked to cultural notions of blood⁹. Hypertension is conceptualised and experienced as a non-chronic condition which people believe can be self-managed without going to a health facility. This suggest that effective hypertension care needs to address these social constructs.

The third area where the PCHS approach is important is in highlighting the considerable patient agency and autonomy in shaping their pathways to care in LMICs¹⁰. Patients often make decisions about how and when to access the health system, often after receiving advice from their family and social networks. This involves trade-offs between decisions to seek care, self-manage, modify their treatment or abandon it and take care of other commitments. Understanding of the complex patients’ reality can help to design more feasible pathways that make sense to both clinicians and patients.

Given this considerable complexity, what are the implications for policy? It can be argued that addressing the persisting problem of poor hypertension control requires challenging the idea of a single clinically-oriented patient pathway. Instead, there is a need to re-think how patients engage with the health system at each step of their journey, understanding the role of individual agency and societal structures. The people-centred health systems approach suggest that diverse pathways may be needed that suit different patient groups. A nuanced understanding of barriers at each stage can help to transform these into enablers of care - e.g. strengthening social support for the patient may help them to stay on treatment but this means

engaging with social conceptions of disease. In this model of care, patients become co-producers rather than recipients of care. Interventions need to span health system and social spheres, including beliefs and relationships shaping patient progression through the health system, in order to achieve a successful and sustained outcome.

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MIROSLAV KLUGAR

Adj. Assoc. Prof. Dr. Miloslav Klugar, PhD is a Director and a founder of the Czech National Centre for Evidence-Based Healthcare and Knowledge translation and its three pillars which are: Cochrane Czech Republic; The Czech Republic EBHC Centre; JBI Centre of Excellence and Masaryk University GRADE Centre. Centres are hosted at the Institute of Biostatistics and Analyses, Faculty of Medicine, Masaryk University, Czech Republic. He is also an Adjunct Associate Professor of Public Health, at the Faculty of Health and Medical Sciences, University of Adelaide, Australia. Miloslav is focused on the development, implementation, advocacy and teaching of Evidence-Based Healthcare, especially on the

evidence synthesis and clinical practice guidelines. He is a member of several international method groups of Joanna Briggs Institute, GRADE Working Group, Cochrane and Guidelines International Network. (E.G. Diagnostic test accuracy, Public Health, Umbrella reviews, Rapid reviews, Evidence to Decision Frameworks, Guideline Updating, Guideline Adaptation, etc.) As a member of JBI GRADE centre, Miloslav is focused on the implementation and improvement of GRADE methods within systematic reviews and clinical practice guidelines. Miloslav is an authorised representative of Czech Health Research Council at Guidelines International Network, and he is also Head methodologist within the project of Czech Health Research Council, Ministry of Health of the Czech Republic and Institute of Health Information and Statistics of the Czech Republic with the name “Clinical Practice Guidelines”. Miloslav is a host and a chair of the scientific committee of the Global Evidence Summit 2021 in Prague.

CHALLENGES OF SYSTEMATIC REVIEWS IN 2020

Miloslav Klugar

Czech National Centre for Evidence-Based Healthcare and Knowledge Translation (Cochrane Czech Republic, Czech EBHC: JBI Centre of Excellence, Masaryk University GRADE Centre), Institute of Biostatistics and Analyses, Faculty of Medicine, Masaryk University, Brno, Czech Republic

We live in a world which could be called as “informational”. It was never so easy to access information in history. If we look at the healthcare research there are more than a thousand papers published every day and the number is still increasing. So, in healthcare, we live in an era which could be defined as information “congestion”. Information congestion gains new meaning with the COVID-19 pandemic where we can see new phenomena in research which is “urgent/rapid”. It resulted in a reality of preprints and not peer-reviewed research which might be problematic in terms of credibility, trustworthiness and certainty. To cope with this information congestion the Evidence-Based ... principles evolved for health professionals in the early nineties and since this time they are evolving every year. So important philosophical and practical aspects of Evidence-Based Medicine (EBM) in the

nineties are different in 2020. The cornerstone of any Evidence-Based approach is transparently, robustly, rigorously and trustworthily synthesizing of evidence known as systematic reviews.

Describing the reviews, we have to stop at the beginning and differentiate between an “overview” and “research” of primary studies. Nowadays, the concept of primary studies overview is usually called as “literature review”; “simple review”, “narrative review” or just “review”. It collates for us the evidence which might have a high risk of bias. When we think about the level of evidence, literature reviews would stand together with expert opinions on the lowest level of evidence in the terms of implementation into the practice, and the systematic reviews stand on the other pole. Many narrative reviews of the literature reflect the author’s prejudices or discourse which are preferred by some school, and therefore they are inherently biased. It must be remembered that the publication bias of primary research may be present in many journals. On the other hand, the advantage of the narrative reviews of the literature is less time consumption. They can be conducted in a month or two by one author and inform briefly what is new in a particular research field. However, they shall not be used for making clinical decisions.

A methodologically sound concept in the reviewing of primary research is the concept of secondary research which is usually called as “systematic review”, “evidence synthesis”, “meta-analysis” (for quantitative evidence) and “meta-synthesis” (for qualitative evidence). The concept of secondary

research is close in the principles to the concept of primary research. Secondary research also looks optimally for representative sample – by extensive search of published and unpublished literature; it also sets inclusion and exclusion criteria based on the objective/review question, it also collects data – by data extraction, it also analyses/synthesizes data by meta-analysis/meta-synthesis, it also creates the new knowledge by pooling results of primary research together, they show the new evidence. So with a little exaggeration, the systematic review is ideal study design dealing with information congestion. Ideally, the systematic review shows until the date, when its extensive search, was done the true answer to the clinical question. The systematic review development requires in most cases more time and cooperation of more experts than the development of most study designs in primary research. The team who develops the systematic review must have expertise in the subject of interest, research methodology and statistics, and literature searching. As whenever healthcare professionals are reading the papers, they should use critical thinking, it is double valid for the reading of systematic reviews. Since the systematic reviews have been lately very popular study design, we can find in databases many attempts for the systematic review. However, while critically appraising we will find many issues which can lead to meta-biases. Many “fake” systematic reviews are lacking a priory published protocol of the systematic review. This could lead to many serious problems, mainly related to false objectivity, reliability and confidentiality of results of such a systematic review. Therefore, a priory published/registered protocol of the systematic review is the basic principle of the systematic review development. The question is where to search for high-quality systematic reviews. Few international organizations whose focus is on the development of systematic review methodology provide also libraries/journals where we can find the systematic reviews of high quality, for example, Cochrane, JBI, Campbell. It would not be fair to say we cannot find high-quality systematic reviews out of these organizations; however, we have to be aware of the quality issues. We can imagine

disillusionment of healthcare professional after they transform their clinical question into search and then they retrieve three so-called “systematic reviews” published within the range of one year which are all relevant, however showing different results and conclusions. Unfortunately, it is no exemption that we can find several systematic reviews for one healthcare issue. We can see this issue which is called “research waste” in all layers of research. Evidence-Based Research Network is helping with this issue by definition of Evidence-Based Research starting to teach this approach to early and senior clinical health researchers, journal editors, funders and all other relevant stakeholders. However, the existence of more systematic reviews on one topic-initiated concepts and methodology known as “umbrella review”, “overview of reviews”, “review of reviews” or “meta-reviews”.

Currently, we have methodologies for synthesizing any existing evidence in healthcare. Reviews of Effectiveness, Etiology, Cost, Diagnostic, Methodological, Prevalence and Incidence, Prognostic, Psychometric and also Experiential (Qualitative) and Expert opinion/policy reviews. For each of the type of above-mentioned systematic review, we are able to develop an Umbrella review. Although the Umbrella review concept can differ in the details among different organizations, the principle is to compare and contrast published systematic reviews and to provide an overall examination of provided information which is available for a particular topic. The question here could be what will be next? What if will have the umbrella review concept the same destiny as the systematic review concept? Will we need to develop “systematic review of umbrella reviews” then? Where could this end? A wiser and more efficient solution for healthcare would be to appeal on the editorial and peer reviewers’ boards of journals worldwide to enforced with the authors to not title their study “systematic review” if they are not truly systematic reviews. Nowadays, enough open access guidance already exists in the development of systematic reviews.



CRISTINA GAVRILOVICI

Cristina Gavrilovici, MD, PhD, MA, is a Professor in Paediatrics at the University of Medicine and Pharmacy Grigore T. Popa, Iasi, Romania. She graduated from Medicine at the same university in 1996. During the next years she was a clinical instructor in paediatrics (1998-2001) and an assistant professor in paediatrics (2001-2004). In 2005 she obtained her PhD in Medicine. In 2002-2003 she studied in USA and got her Master degree in Bioethics in Case Western Reserve University, Cleveland, Ohio. She holds also a Doctor Habilitatus title. Since 2007 to 2018 she served as an associate professor in Biomedical Ethics and since 2018 she is a professor. Cristina Gavrilovici is a president of Research Ethics Committee and University Ethics Committee at the University of Medicine and Pharmacy “Gr. T. Popa”, a member of the Romanian National Ethics Council. She serves

in several research ethics committees, European and national professional organisations and advisory boards, including European Clinical ethics Network (ECEN). She participated in 9 European scientific projects as an expert or coordinator. Cristina Gavrilovici works as an expert in Research Ethics for the Ethics Sector of the European Commission since 2006. She is the author of 7 books and 47 books chapters in the field of bioethics and published over 60 articles in the both bioethics and medicine domain.

BIOETHICS IN ROMANIA: UNCERTAINTIES, ACHIEVEMENTS AND HOPES

Cristina Gavrilovici
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SUMMARY

The Bioethics development in Romania is a continuous effort to maintain the equilibrium between the remnants of the past communist period, and the current willingness to perform the medical encounter and medical research in a morally sound manner. While we would have expected that a transitional period, marked by instability and lack of legal support would last no more than few years, it looks like we still live in an eternal transition from “nothing” to ...” too many rules and regulations”. However, there are certain moral pillars in our medical horizon that helped us to integrate in the EU (when talking about ethics):

1. The medical ethics teaching is compulsory in all medical schools, from undergraduate to doctoral level.
2. The ratification of the main European regulations into national laws.
3. The conditioning of the research by an ethics screening.

The current presentation will focus on the achievements related to implementation of medical ethics in the three sectors (education, medical practice and research) and the barriers we still struggle with. I will present the general framework in Romania and provide practical examples, as case studies, from the Medical university where I work and I run the University Ethics Committee. I will conclude by saying and no matter what difficulties a university or even a country may encounter in the accomplishment of medical ethics structures, all these efforts are worth taking, since only a medical decision (clinical or in research) framed by moral values will end up in a real benefit for the patients and for the society.



JAROMIR MATEJEK

Dr. Jaromír Matějka, MD, PhD, ThD, pediatrician, clinical ethicist, founder and organizer of the ethics consultations services in the Czech Republic, co-founder of the Institute for Ethics Consultations in the Health Care, member of European Clinical Ethics Network, member of Akademie für Ethik in der Medizin, Trainer für Ethikberatung im Gesundheitswesen (AEM), member of the Ethics Commission of the Ministry of Health of the Czech Republic, chair of the Section of Ethics of the Palliative Medicine, member of the committee of the Section for Children Palliative Care or the Czech Society of Palliative Medicine.

ETHICS CONSULTATION SERVICES IN PRAGUE – EXPERIENCE AND METHOD

Dr. Jaromír Matějka

*Third Faculty of Medicine, Charles
University, Prague; University Hospital
Královské Vinohrady.*

SUMMARY

The ethics consultation service in the University Hospital Královské Vinohrady was founded on 1st September 2016. It was the first ethics consultation service at the Czech Republic at all. For founding we have used „The Six Implementation Steps Approach“. One of the tasks was to educate the staff of the hospital about concept of ethics consultation at all, about method used during the consultation, about the indications for calling of the ethics consultant (later members of ethics team). Besides of that we started to build up closer collaboration with palliative team, Burn Medicine Clinics and Clinics of Resuscitation and Intensive Medicine. Simultaneously we have

built up the working groups for clinical ethics, later transformed in Team for Ethics Consultation.

For the health care professionals from hospitals and hospices of the Czech Republic we have prepared the basic course of ethics consultation (now third round). The graduates of this course have the qualification K1 (ethics consultant) of the German Akademie für Ethik in der Medizin.

The method taught in the course and used in our Team for Ethics Consultation is based on combination of communication level anchored in bioethics mediation and defined methods of ethics reflection (e. g. Four Boxes Approach of Jonsen, Siegler, Winslade). As entry door for resolving ethics problem I use the emotions of the situation. The negative emotions say us about threatening of the genuine “interests” of the participants, however those interests are vigorously defended by so called “positions”. In the next step I help to build up the consensus. The consensus is built up on overlap of the interests of participant. Besides of that I make ethics reflection of a whole case, because the accepted consensus should step over the borders of ethics and law. The result is both well accepted by staff and family and ethically and legally safe.

PARALLEL SESSIONS

ABSTRACTS

Section A. EPIDEMIOLOGY OF NONCOMMUNICABLE DISEASES

ORAL PRESENTATIONS

GLYCEMIA CONTROL ASSOCIATED DIETARY BEHAVIOR IN TYPE 1 DIABETES WITH LONG DURATION

N. Usheva, R. Pancheva, R. Toneva, K. Tsochev, M. Popcheva, T. Chalakova, M. Boyadzhieva, S. Galcheva, G. Valchev, G. Bocheva, Y. Yotov, V. Iotova,

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Summary

Introduction: Close adherence to dietary behaviour recommendations is an important component of modern diabetes treatment.

Purpose: This pilot study aims to identify dietary habits of patients with type 1 diabetes (T1DM) with long duration and their association with deviations in a marker of glycaemic control.

Methods: The study was conducted in Bulgaria over a period 2017-2019. A total of 154 participants were included - 118 (53.4% male; mean age 42.6±10.5 years; BMI 25.2 kg/m²) with T1DM with long disease duration (25.43±8.3 years) and 36 matched controls. Anthropometrics such as weight, height, waist circumference was performed. Dietary habits were assessed by semiquantitative food frequency questionnaire. HbA1c was measured in a blood sample. The statistical analysis was performed by SPSSv.21.0.

Results: The results show that T1DM patients have significantly better dietary habits compared to controls regarding everyday presence of breakfast (71.6% vs 34.4%), lunch (88.2% vs 67.7%), dinner (94.2% vs 75.0%), as well as number of portions for fruits, but they eat significantly more often junk foods. There is also significant difference in the number of glasses (250 ml) sweetened beverages consumed by

patients (5±6.5) compared to controls (2.08±1.75) (p=0.003). The glycaemic control of diabetic patients (HbA1c=8.42% -patients versus 5.38±0.37% in controls) is lower when sharing their lunch or dinner as well as when having evening snacks in comparison to those eating alone (p<0.05).

Conclusion: Type 1 diabetes patients need additional education how to manage their dietary behaviour to improve their glycaemic control.

Key words: diabetes type 1 with long duration, dietary habits, glycaemic control

BULGARIA IN THE GLOBAL BURDEN OF DISEASES STUDIES

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Summary

Introduction: Global burden of diseases studies collect and analyse data from more than 195 countries, reflecting premature death and disability for more than 350 diseases and injuries, from 1990 to the present. The profile of Bulgaria in the surveys contains comparative data for 2007 and 2017.

The aim of the study is to analyse the dynamics of the leading risk factors and causes of global burden of diseases in Bulgaria.

Material and methods: A content analysis of published data from the GBD surveys for the period 1990-2017 was performed. The profile of Bulgaria in the studies includes: Live expectancy; Under 5 mortality; Causes of death expressed per 100,000 inhabitants; Years of lost life (YLLs); Years of life lost due to disability (YLDs); Disability adjusted live years (DALYs).

Results: The leading causes of years of life lost due to disability are mainly chronic non-communicable diseases - low back pain, falls, headaches, diabetes, etc. The summary indicator DALYs for 2017 again shows the leading role of ischemic heart disease and stroke.

Discussion: Preventable mortality in Bulgaria remains very high. Much of the overall burden of diseases is related to behavioural risk factors, including smoking, alcohol, dietary risks, and low physical activity.

Conclusion: Bulgaria's health system faces several major challenges - low life expectancy and alarmingly high behavioural risk factors, a rapidly ageing population and low healthcare expenditures. It must work in a way that allows effective use of strategically limited resources and preserves the resilience of the system.

Key words: global burden of diseases, Bulgaria, years of life lost

MOTHERNAL NUTRITION AND FETAL PROGRAMMING OF METABOLIC DISEASES

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Summary

Introduction: In this review we discuss the evidence in human studies for the role of epigenomic mechanisms in the transgenerational transmission of metabolic diseases. Nutrition during pregnancy can provoke lasting changes in the tissues of the foetus / embryo and has the potential to "program" the health of future generations. Among young women there is a high frequency of unhealthy eating. Eating disorders are also widespread.

Material and methods: publications in specialized medical literature have been used.

Results: Epigenetic alterations induced by suboptimal maternal nutrition/endocrine factors include DNA methylation, histone modifications, chromatin remodelling and/or regulatory feedback by microRNAs, all of which have the ability to modulate gene expression and promote the metabolic syndrome phenotype. Inadequate gestational growth is associated with an increased risk of diabetes, visceral obesity and hypertension in the offspring. Low protein intake and ketogenic diets during pregnancy program the development of insulin resistance in the next generation. An important role for immunomodulation of the maternal-foetal interface is played by vitamin D3 during pregnancy.

Discussion and conclusions: Weight management before and during pregnancy, together with healthy nutritional intakes may improve the maternal metabolic environment, which can reduce the risks of foetal programming of metabolic diseases.

Key words: epigenetic, maternal nutrition, foetal programming

POSTERS

DISTRIBUTION OF SMOKING AMONG SCHOOLCHILDREN AT THE AGE OF 10-19 YEARS IN THE REPUBLIC OF BULGARIA

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Summary

Introduction: Smoking is one of the leading preventable causes of chronic non-communicable diseases and premature death. The development is part of the National Survey of Health Risk Factors among the Bulgarian Population, 2014.

The aim is to study the frequency and intensity of smoking among students aged 10-19 in order to develop preventive activities.

Material and methods: 528 children aged 10-19, randomly selected from the 28 districts in the country, were interviewed. Sociological and statistical methods were used.

Results and discussion: The data show that 1/3 of the respondents have tried to smoke cigarettes, as every seventh is at the age of 10-14 years, every second - aged 15-19 years. Regular smokers are 24.9% of schoolchildren, more often girls and older children. One in four is an intensive smoker, one in ten - very heavy smoker. Over 80.0% of smokers procured cigarettes by buying them from a shop or kiosk, most often boys. One in four students reported being exposed to second-hand smoke at home every day. The data correspond to those of other international studies, which confirms the need to introduce new methods and approaches to curb smoking in childhood.

Conclusion: The obtained results require intensification of preventive activities to reduce smoking in order to improve the schoolchildren's health.

Key words: schoolchildren, frequency and intensity of smoking

HEALTH STATUS OF SCHOOLCHILDREN AT THE AGE OF 10-19 YEARS IN THE REPUBLIC OF BULGARIA

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Summary

Introduction: The assessment of the health status of children is of key importance for the formation of future policies to improve children's health and well-being not only in the health care system, but also in the field of education, culture, sports. The development is part of the National Survey of Health Risk Factors among the Bulgarian Population, 2014.

The aim is to study the health status of students aged 10-19, in order to develop preventive activities to improve it.

Material and methods: 528 children, randomly selected from 28 districts in the country, were interviewed. Sociological and statistical methods were used.

Results and discussion: The data show that the majority of children have normal blood pressure and weight. Only 6.1% of them reported a chronic disease diagnosed by a physician. The children's daily complaints in the last 6 months are mainly related to irritability/bad mood; sweaty hands and easy fatigue. The medicines they take are mainly for colds, coughs, headaches and abdominal pain. Improving children's health requires health knowledge, skills and habits formed in the school and family environment, which are the basis for building a positive attitude towards health and a healthy lifestyle.

Conclusion: The obtained results require raising students' awareness of health risk factors and building skills and attitudes for a healthy lifestyle.

Key words: schoolchildren, health status

Section B. EPIDEMIOLOGY OF INFECTIOUS DISEASES

ORAL PRESENTATIONS

IMMUNIZATION COVERAGE WITH MEASLES-MUMPS-RUBELLA VACCINE IN BULGARIA

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Summary

Introduction: Herd immunity against measles, mumps and rubella was a prerequisite for limiting the epidemic spread of these infections. In conditions of compulsory immunization of children in Bulgaria, the chain of infection in these infectious diseases depends on the immunization coverage.

Aim: To analyse the trends in the immunization coverage with measles-mumps-rubella vaccine and the incidence of the three infections.

Material and methods: A retrospective epidemiological study was applied and data on the immunization coverage with measles, mumps and rubella vaccine (MMR) and data on the incidence of the three infections for the period 2015-2019 were analysed.

Results: For the studied period, 286,523 children (13 months) were immunized with the MMR vaccine. With a second dose (at the age of 12) 354,253 children were immunized.

The immunization coverage (%) over the years varied - from 91.5% in 2015 to 95.1% in 2019 (first dose). With a second dose of vaccine were covered 86.9% of children in 2015 and 92.9% in 2019 respectively. For the period 2015-2019, 1410 cases of measles, 129 cases of mumps and 8 cases of rubella were registered in the country. The highest incidence of measles (17.59 per 100 000) was registered in 2019 as a result of epidemic situation in the country. The incidence of mumps varies from 0.25 per 100 000 in 2015 to 0.71 per 100 000 in 2019.

Discussion: The immunization coverage with the MMR vaccine in 2019 for the first dose has reached the requirements for vaccine coverage, which would

ensure the interruption of the spread of wild measles and rubella viruses in society. With a second dose of measles-mumps-rubella (MPR) vaccine, the immunization coverage is insufficient.

Conclusion: Data on MMR immunizations in Bulgaria for the period 2015-2019 show an unsatisfactory level of immunization coverage in both doses, which reflects a real risk of epidemic spread of the three diseases and puts at risk the maintenance of measles and rubella elimination.

Key words: measles, mumps, rubella, immunization coverage

SOCIAL AND HEALTH INEQUALITIES IN THE SPREAD OF SARS-COV-2 (COVID-19) IN BULGARIA

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Summary

Introduction: Health inequalities are influenced by: social, economic, environmental factors or the conditions under which a person is born, grows up, lives, works and ages.

Purpose: The purpose of this report is to analyse the impact of health inequalities on the prevalence of SARS-CoV-2 in Bulgaria.

Methods: A critical review of the available scientific literature in connection with the spread of SARS-CoV-2 in the world and Bulgaria was made to August 25, 2020.

Results: In August 25, 2020, 15,386 people are affected by SARS-CoV-2 in Bulgaria (morbidity 2,217 per million), 4,326 are active cases, and 563 have died since the beginning of the pandemic (mortality 81 per million).

Certain groups of the population can be defined as vulnerable.

- Among the medical staff the cases are 845 (5.5%).
- The second largest outbreak are centres for the elderly people (Oreshets station, Kula) and family-type accommodation centres for children and youth with disabilities (Vidin).
- Workers in the garment industry are also vulnerable to the spread of COVID-19.

- People from the Roma ethnic group, migrants and refugees stand out as more affected than majority population. On August 25, 2020 in the centre for temporary accommodation of foreigners in the town of Lyubimets out of 19 surveyed 5 have positive samples.

Conclusion: At a time of crisis due to COVID-19, equal quality of health care services for protection and treatment must be provided to all in society, with a special focus on the most vulnerable groups.

Key words: health inequalities, SARS-CoV-2, vulnerable groups

SOCIAL AND HEALTH SIGNIFICANCE OF SALMONELLOSIS IN HUMANS IN THE VARNA REGION FOR 2014-2018

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Summary

Introduction: Salmonellosis is an acute infectious disease caused by bacteria of the genus *Salmonella*, which are highly resistant and survive for a long time in the environment. Infection of humans occurs when consuming infectious food and healthy bacteria, **Aim and objectives:** To study the social and health significance of salmonellosis in humans in Varna district for 2016-2018.

Aim: To study the requirements of the law on the structure of the Black Sea coast and the normatively introduced terminology (concepts), which determine the tasks of the state health control in the areas on the Black Sea coast of Bulgaria - Varna Dobrich Burgas.

Material: Normative documents for the peculiarities of the Black Sea coast, the requirements for application of the state health control, visual materials, instructions, reports, researches of the environmental factors - drinking water, sea, mineral, etc.

Methods: documentary, statistical, graphic, epidemiological.

Results: Morbidity in humans from salmonellosis in Varna region is above the national average. Only in 2017 it is below the national average (11.21% 000 against 10.36% 000). A total of 5 epidemic outbreaks

were registered during the study period - one in 2014, three in 2015 and one in 2018. The proportion of salmonellosis in the structure of intestinal infections in Varna region for 2014-2018 has a downward trend until 2017, after which it increases slightly to 3.94%. **Conclusion:** The most often affected children were raised at home (49.37%) for 2016, followed by those in organized children's and students' organized groups. The most affected are the age groups up to one year, with a morbidity of 91.3% 000, followed by 1 to 4 years - 84.8% 000 and 5-9 years - 54.89% 000 for 2018.

Key words: morbidity, structure, epidemic outbreaks, social significance

EPIDEMIOLOGICAL ASSESSMENT OF THE CIRCULATION OF L. MONOCYTOGENES

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Summary

Introduction: Listeriosis is an acute contagious disease, which is rarely diagnosed, but represents a serious medical and social problem. The disease has a severe course and has high lethality, especially for newborns and elders. It is caused by *Listeria Monocytogenes*, microorganism with very wide adaptive capabilities. The ecological aspects of the circulation of this pathogen are poorly studied.

Aim: The purpose of this report is to make an in-depth study of the available data on the distribution of *L. Monocytogenes* in Bulgaria and in the European region.

Material and methods: An epidemiological study of all registered patients with listeriosis in Bulgaria in the period 2009-2018 - a total of 71 people. Researched are also the registered in the European Food Safety Authority foods with proved contamination of *Listeria Monocytogenes* for the period 2002-2017 - a total of 1310 samples.

Results and discussion: An ecological-epidemiological assessment was done of the characteristics of contamination of various foods and objects from the environment. The peculiarities of the saprophytic cycle of spread of the infectious agent are considered. A spatial model of the circulation of

Listeria Monocytogenes has been proposed.

Conclusion: The summarized results were used to assess the environmental aspects of the spread of the main cause of *Listeria* infection.

Key words: Listeriosis, contamination of food and objects, ecological-epidemiological characteristics, saprophytic cycle, spatial model of circulation.

POSTERS

FOREIGN STUDENTS AS A RISK GROUP FOR THE SPREAD OF HIV/AIDS

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Summary

Abstract: The university environment with the relative lack of parental supervision, predisposes to sexual experiments, inconsistent use of condoms and sex under the influence of alcohol or drugs. Globally, students are in the age group with the highest rate of new HIV infections. International students are an inhomogeneous population from different countries with different epidemiological characteristics of HIV/AIDS infection.

Aim: To study the level of knowledge of students from the English-language training program at MU-Varna, about HIV / AIDS infection, the country of origin and in which temporarily reside.

Material and methods: Sociological method with anonymous survey among 100 students. Statistically by SPSS v. 20.0, using variation and correlation analysis and a graphical method to display the results obtained.

Results: 81.00% of foreign students are familiar with the epidemic characteristics of HIV infection in the country they come from, 19.20% are from countries with endemic spread of HIV/AIDS, but only 2 of them have been tested. The analysis shows that 92.90% of the respondents would apply to MU - Varna, even if the presentation of a result for HIV/AIDS is required, although a positive result would create problems in the family and study. According to our survey, foreign students are not familiar with the control and prevention of HIV/AIDS in Bulgaria, 86.80%

express a desire to conduct additional training in this direction.

Conclusion: The data justify the need for further research in this area and emphasize the need to introduce effective HIV/AIDS prevention strategies targeted at students.

Key words: HIV/AIDS, knowledge, foreign students, prevention

STRUCTURAL MODEL OF THE EPIDEMIOLOGICAL EFFECTIVENESS OF IMMUNOPROPHYLAXIS

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Summary

Introduction: At the present stage of development of medical science, immunoprophylaxis of the population is the most affordable and cost-effective way of protection against infectious diseases, ensuring the protection and preservation of public health.

Aim: To study the main building blocks influencing the epidemiological effectiveness of immunoprophylaxis and to suggest a structural model.

Material and methods: A study of all systems for epidemiological surveillance at regional, European and global level using electronic databases. The normative base in the Republic of Bulgaria related to immunoprophylaxis has also been studied. A detailed description of the collected information is made.

Results and discussion: The immunoprophylaxis macrosystem is a complex of organizational, prophylactic, anti-epidemic and treatment-diagnostic measures, whose strategic goal is the control of infections by reducing morbidity, mortality and disability among the population. The management and proper functioning of immunoprophylaxis is determined by the components included in both systems: epidemiological surveillance, with its subsystems - information and diagnostic, and organizational structure, including regulatory-legal and research base, health culture of the population and qualification of medical professionals.

Conclusion: The epidemiological effectiveness of immunoprophylaxis interacts dynamically and is determined by the epidemiological surveillance and

organizational structure at regional and national level.

Key words: immunoprophylaxis, epidemiological efficacy, epidemiological surveillance

PARENTAL ATTITUDES ABOUT COMPULSORY IMMUNIZATIONS AND RE-IMMUNIZATIONS IN CHILD'S AGE

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Summary

Introduction: Parents' hesitancy to vaccinate their children is becoming an increasing focus of attention and concern among the health community, given its potential to lead to postponing and refusal to vaccination and increased risk to the public health.

Objective: To probe the attitudes of parents to vaccinate their children according to the immunization calendar of Bulgaria.

Material and methods: A survey was conducted among 1195 parents of children under age of 7, from 2015 to 2017 at an average age of 30.9 (\pm 6.4), of Bulgarian or other ethnic groups, living in Varna, Shumen, Sliven and Ruse.

Results: The relative share of parents who would refuse to immunize their children, should the mandatory scheduled immunizations and re-immunizations become recommended is 20.9% (n=225). These are mostly parents aged 30-39, with higher education, of Bulgarian ethnicity. The low trust in GPs, as well as the use of information from other sources (electronic media, Internet, friends, and relatives), increases parental hesitation towards vaccines ($\chi^2=21.58$; $p<0.0001$). Parents' low self-esteem of vaccine knowledge increases disbeliefs of the benefits and necessity of immunizations ($\chi^2=33.19$; $p<0.0001$). Previous experiences with side effects after vaccination have formed negative attitudes towards vaccination ($r = -0.14$; $p<0.0001$).

Conclusion: Measures are needed to increase parents'

knowledge of the benefits of vaccines for individual and public health and to increase the amount of reliable information in their preferred media. Socio-demographic differences in parental attitudes towards compulsory vaccination require a differentiated approach to health prevention work for overcoming the growing anti-vaccine attitudes.

Key words: vaccines, parents, attitudes

DIABETES MELLITUS – THE RISK FACTOR FOR HERPES ZOSTER

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Summary

Introduction: Herpes zoster (HZ) is a viral disease caused by the reactivation of latent Varicella zoster virus (VZV) infection. The proven risk groups for HZ are elderly people and immunocompromised persons. Identification of unrecognized risk factors such as diabetes mellitus, is crucial in interpreting the epidemiology of HZ.

Aim: The aim of the study was to determine the role of diabetes mellitus as a risk factor for HZ.

Material and methods: We performed a retrospective epidemiological analysis of data from the hospital records of 78 patients diagnosed with HZ treated in the Clinic of Infectious Diseases, University Hospital “Dr. G. Stranski”- Pleven during the period January 2010 - September 2020.

Results and discussion: The age of the hospitalized patients ranged from 10 to 91 years (65,17±16,91), with the highest rate of patients over 60 years (78,21%). The study on comorbidity shows a high proportion of patients with concomitant diseases (76,3%), of whom 15,8% have diabetes mellitus.

Conclusion: The results of the study show that the main risk factors for HZ are increasing age and comorbidities. Diabetes mellitus can also be identified as an important risk factor, and in such patients the possibility of complications such as postherpetic neuralgia is higher.

Key words: herpes zoster, risk factors, diabetes mellitus.

Section C. ENVIRONMENT AND PUBLIC HEALTH ORAL PRESENTATIONS

DIETARY FIBER INTAKE IN YOUNG PEOPLE TO PROTECT THEIR HEALTH

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Summary

Introduction: The unique role of dietary fibre is associated with protecting the health of the digestive tract, maintaining body weight and reducing the risk of chronic non-communicable diseases. Dietary fibre is imported from foods with low energy density, but rich in vitamins, minerals and phytochemicals. Dietary fibre is an integral part of a healthy diet.

The **aim:** of the present study is to assess the dietary intake and dietary sources of fibre in young people.

Material and Methods: A total of 240 university students (73 % women) from MU-Pleven participated in the study. 24-hour recall for three non-consecutive day's method was applied to assess the nutrition of university students. Statistical analyses were performed with SPSS Statistics 22.0 for Windows.

Result and discussion: The average daily intake of fibre in men was 25,5 g /day, and in women it was significantly lower – 21,7 g / day (p=0.006). The relative share of university students who consumed fibre above the reference value is 39,4% for men and 23,1% for women. The preferred sources of dietary fibre were cereals – 46,6%, fruits – 26,9% and vegetables – 20,1%. The total dietary fibre intake from legumes and nuts was 6,4%.

Conclusion: The intake of dietary fibre in university students improves their diet and promotes early prevention of chronic non-communicable diseases.

Key words: university students, dietary fibre, food intake

A PROSPECTIVE STUDY OF NUTRITIONAL PRACTICES IN CHILDREN WITH GASTROESOPHAGEAL REFLUX AND FOOD ALLERGY

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Summary

Introduction: Regurgitation and vomiting are some of the most common manifestations of gastroesophageal reflux in infants. They are also observed in children with cow's milk allergy.

The purpose of our study was to investigate nutrition in children with gastroesophageal reflux and manifestations of food allergy up to one year of age and to evaluate the effect of elimination diet on the severity of reflux in these patients.

Material and Methods: We followed 180 healthy infants and 94 - with food allergies. We performed statistical processing and visualization of the results with Statgraphics Plus and Microsoft Excel.

Results: The average age of breastfed healthy children was 5.47 ± 2.27 months, while the average age of children with food allergy was 2.12 ± 2.73 (<0.001). The children were fed at an average age of 4.5 ± 0.51 months. About 35% ($n = 33$) of infants with manifestations of allergy had gastroesophageal reflux and 8.32% - of the control group (<0.001). More than 40% were with daily regurgitation, 17% with crying and restlessness, 12% with body curvature, 23% with daily hiccups, 5% with respiratory symptoms and coughing.

Discussion: Gastroesophageal reflux is common in children up to one year of age. Some forms of severe reflux are associated with cow's milk protein allergy. Elimination of cow's milk in children with allergies and reflux improves the clinical condition.

Conclusion: Children with manifestations of gastroesophageal reflux and allergy are with more common manifestations of regurgitation, vomiting and crying compared to healthy infants.

Key words: gastroesophageal reflux, food allergy, infants

COMMERCIAL FOODS FOR INFANTS AND YOUNG CHILDREN IN BULGARIA

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Summary

Introduction: Nutrition in infancy and early childhood has a key role for optimal child health, growth and development. The aim of this study is to obtain what products for babies and toddlers are being marketed in Bulgaria, as well as which nutrients they contain.

Methods: The survey is part of WHO project. The data was collected in November 2017 in two districts in Sofia city. A user-friendly mobile questionnaire using open-source technology was developed by WHO. On the information on the labels, the nutrient contents of products were recorded.

Results: The energy values in the products ranged from 0 to 488 kcal per 100 g. The most common categories were fruit and vegetable puree and juice that provided less than 60 kcal per 100 g.

The protein content ranged from 0 g to 11 g per 100 kcal. Most of the meat or fish-based products provided more than 3 g per 100 kcal (average 4.3 g). The fat content ranged from 0 g to 5.38 g per 100 kcal. The half of the meat and fish-based meals and the soups and over half of the puddings/desserts derived 30% or more of their calories from fat.

The total sugars content ranged from 0 g to 25 g per 100 kcal, as the energy from sugars was 15 E% in 67%; >30E% in 49% and >40E% in 42% of studded foods.

Conclusions: The commercial foods offer great potential to improve infant and young child nutrition and to promote health throughout the life-course.

Key words: commercial foods, infants

REGULATORY REQUIREMENTS FOR ORGANIC FOOD IN BULGARIA AND THE EUROPEAN UNION - BEGINING, DEVELOPMENT AND REFORM

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Summary

Introduction: The production and trade with organic food in Bulgaria and the European Union is subject to the application of specific standards and regulations.

Aim: To study the legal framework and analysis of the current legislative changes in the European and national legal framework in the field of organic production

Material and methods: The identified national and European regulations applicable to organic food are discussed.

Results: The documents with which the beginning of permitting the activities of organic production in Bulgaria and in the European Union have been studied. The European Union regulatory framework is detailed with the subsequent documents, which set out rules for organic production, labelling requirements for organic food, conditions for importing organic products and foodstuffs. The national legislation after Bulgaria's membership in the European Union is presented through synchronizing regulations. In 2021, a new regulation on organic production will enter into force.

Discussion: There is a compliance with the rules of organic production guarantees consumer confidence.

Conclusion: The legislation - developed, introduced and regulating organic production, the control system and the organic foods labelling, is constantly updated and improved, reflecting the sector changes. Compliance of the Bulgarian legislation with the legally binding acts of the European Union on organic production and labelling of organic products is ensured.

Key words: organic products, EU logo, official controls, analyses

ALLERGENS - NEW MOLECULAR GENETIC METHODS FOR DETECTION

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Summary

Introduction: Food allergies are a serious health problem affecting millions of people around the world. In order to protect the health of consumers, Regulation (EU) № 1169/2011 requires the provision of information on the presence of allergens listed in Annex II in food or restaurants. The principle of "zero" tolerance is followed - i.e. not to be present in the food. The National centre for Public Health and Analysis is a representative of Bulgaria in the European network of laboratories for the determination of food allergens, and has the task of introducing new methods for the determination of allergens.

Objective: Introduction of new methods for detection of DNA from allergens by real-time polymerase chain reaction (RealTime PCR)

Material and methods: The object of the study are samples from the market, analysed for the content of gluten (qualitative and quantitative) and peanuts (qualitative).

Standardized methods were used with DNA analysis of the respective allergens by RealTime PCR using thermostable polymerase.

Results: Methods in terms of repeatability and reproducibility were verified (RSD < 25%). The identified allergens also correspond to the information on the label. A quantitative DNA method was used to determine the judgment of gluten.

Discussion: The methods using DNA are highly specific. The exact DNA sequence of a genetic marker for the respective plant species or of a gene responsible for the synthesis of a risk protein (gluten) is determined.

Conclusion: Accurate, fast and highly specific methods for detection and quantification of gluten and for detection of peanuts by RealTime PCR have been introduced, which is an innovation for Bulgaria.

Key words: allergens, gluten, peanuts, RealTime PCR

INTERNAL HYGIENE CONTROL SYSTEM IN THE PRODUCTION OF CULINARY DESSERTS

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Summary

Introduction: In modern catering, desserts have a relatively small share, when it comes to volume of production, but have a fairly serious epidemic potential to be a source of foodborne toxic infections and intoxication. Both primary and secondary contamination with microorganisms is possible and any deviation in the conditions and terms of storage can lead to serious consequences to the health of the consumers.

The purpose of this study is to evaluate the Internal Control System of a catering enterprise and of HACCP – the plan for culinary desserts.

Material and Methods: The subject of the research is an enterprise for catering production. The audit required for the purpose of the research was applied in accordance with the algorithm developed by us. The algorithm is based on the methodology of the Codex of Alimentarius, presented in the document “Food Quality and Safety Systems – A Training Manual on Food Hygiene and the Hazard Analysis and Critical Point (HACCP) System.

Results and Discussion: There have been identified serious gaps in the technological documentation in the standardization of the physical-chemical characteristics and the criteria for microbiological safety. The analysis of the technological efficiency shows that it actually concerns two separate group of catering culinary desserts, which requires the development of two separate HACCP plans.

Conclusion: It has been proposed specific recommendations for the revision of the Internal Control System and standards for the optimization of the microbiological requirements with the inclusion of the criteria for *Escherichia coli*, *Bacillus cereus* and *Salmonella* spp.

Key words: culinary desserts, HACCP-plan, microbiological safety

5G TECHNOLOGY. PUBLIC CONCERN AND PROBABLE HEALTH CONSEQUENCIES

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Summary

Introduction: Over the past two years, civic organizations against the development of wireless technologies have become more active, especially at the time of the COVID-19 pandemic, which was linked extremely illogical with the introduction of 5G technology.

Purpose: Establishment of an effective communication program that counteracts to the fake news and provides adequate scientific information on the health impact of radio frequency fields.

Methods: Proven methods of communication are applied, such as: measurement data, information materials, web page, interviews, publications, banner, based on the WHO, EC and other international organizations' statements.

Results: The results of the campaign significantly reduced the fears among the population regarding the impact of radio frequency fields on humans. The scientific thesis about the thermal effect of radio frequencies and the fact that millimetre waves do not penetrate into the body was confirmed in the information space.

Discussion: It becomes clear that population would accept the new wireless technology with less fear if it will be included in the process of its introduction and if there is appropriate information and interpretation of scientific data.

Conclusion: The fears of the population regarding the new wireless technology will be reduced by improving the quality of scientific research. A positive result would be the creation of a common concept for informing the population on the basis of the EU Action Plan from 2016, which would present scientific data from the member states, compared to the results of measurements. This will actually counteract the huge number of publications with fake

news in the world press and in social networks, most often distributed by non-professionals in this field.

Key words: public concern, 5G, RF fields, fake news

HUMAN HEALTH PROTECTION ON USING OPTICAL RADIATION SOURCES FOR THE THERAPEUTIC AND COSMETIC PURPOSES

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Summary

Introduction: Numerous sources of optical radiation emitting high levels of optical radiation are used by humans for therapeutic, cosmetic, and entertainment purposes. The legislation for human health protection is missing or is not adequately applied. Considering that a large part of the consumers are young people the control of optical radiation sources is issue of great public health and social importance.

Aim: The aim of the study is to propose an approach for health protection on using optical radiation sources for therapeutic and cosmetic applications on the basis of scientific literature and our own experience.

Material and methods: There are many proven harmful health effects of optical radiation. For many optical sources, only technological standards exist that regulate only the product's performance. For others, the requirements are set in voluntary standards. Generally, the legislation does not cover applications of optical radiation not defined as medical treatment. Serious problem with the cosmetic applications is the fact that they are used at a personal choice of the consumer - exposure is voluntary.

Results and discussion: The problems of protection are addressed for the common sources for cosmetic (solaria, IPL systems), therapeutic purposes (lasers, therapeutic lamps, etc.). The specific risks connected to the sources application and problems of protection are discussed. Following the problem analysis, we propose an approach for development of specific legislation

for these sources corresponding to the health risks.

Conclusion: There is a need to develop specific policy for human health protection on using optical radiation sources. It should contain as a minimum: technical requirements, use, protection, control, communicating risks, etc.

Key words: optical radiation, solaria, cosmetic and therapeutic applications, public health protection

PNEUMOTOXIC EFFECT OF PARAQUAT DICHLORIDE IN RAT EXPERIMENTAL MODEL

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Summary

Introduction: Paraquat dichloride is bipyridyl pesticide, widely used in agriculture. Pulmonary toxicity of the herbicide is associated with its accumulation in type I and type II pneumocytes and also by provoking oxidative stress in the organism.

Aim: The aim of our study was to investigate the influence of paraquat on biochemical markers responsible for toxic pulmonary lesions in rat bronchoalveolar lavage fluid (BALF).

Material and methods: The study was carried out on 64 male Wistar rats (weight 200-250g), divided into two treatment groups: group I, controls; group II, treated with paraquat, solely, administered per os at a dose of 40 mg/kg body weight. Enzyme activities of lactate dehydrogenase (LDH), alkaline phosphatase (AP), acid phosphatase (AcP) and total protein content in BALF were investigated on days 1, 5, 15 and 28 after paraquat treatment.

Results: Isolated administration of paraquat significantly increased the activities of LDH and AcP on days 1 and 5 and the AP activity on day 15 to the control groups. Total protein content in BALF increased sharply (227.4%) on day 1 in the paraquat treated group.

Discussion: Increased activities of the investigated biochemical markers in BALF confirm the pneumotoxic effect of paraquat through increased cell permeability, destructive changes in pneumocytes and proliferation of type II pneumocytes in rat lung tissue.

Key words: paraquat dichloride, BALF, pneumotoxicity

MODERN METHODS AND TECHNOLOGIES FOR DENITRIFICATION OF DRINKING WATER

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Summary

Introduction: In modern conditions, finding suitable water sources with sufficient flow and meeting health requirements is a topical problem. One of the most common deviations in the quality of groundwater in Bulgaria and around the world is the excessive content of nitrates.

Objective: To study the advantages and disadvantages of methods for denitrification of water from nitrate-contaminated water sources.

Material and methods: A literature review of the methods for denitrification of drinking water and the possibilities for their practical application has been performed.

Results and Discussion: The methods developed to the level of “full-scale” technologies are biological denitrification (autotrophic or heterotrophic), reverse osmosis and the use of ion exchange resins. The construction of heterotrophic denitrification plants prevails the autotrophic due to the better efficiency and simplified construction. There are data for a small number of actually functioning drinking water denitrification stations, mainly in Germany, France, the Netherlands, Great Britain, the USA and Canada, whose capacity varies from 30-40 m³/h. up to 400-800 m³/h. (in some cases up to several thousand m³/h).

A small number of experimental and pilot stations using reverse osmosis are currently constructed. Stations based on ion exchange technologies are more numerous and are mainly in the United States.

Ion exchange technologies compared to those based on reverse osmosis are technically simpler and significantly more economical.

Conclusion: The application of biological denitrification technologies must be combined with additional treatment of denitrified water before submission for consumption.

It is necessary to introduce new modifications and improvements of the technologies in order to optimize processes, increase the efficiency and reduce the costs. This will facilitate their mass application in practice.

Key words: drinking water, nitrates, denitrification

ADDITION TO THE CHARACTERISTICS OF ALLERGIC PATHOLOGY IN CHILDREN FROM SETTLEMENTS WITH ATMOSPHERIC POLLUTION

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Summary

Introduction: The EU creates legislation to protect the purity of ambient air, sets limits for the concentration of pollutants. Directive 2008/50/EU sets standards for air quality is the main element of policy on clean air.

Aim: To compare the manifestation of allergies in children from areas with different air quality.

Material and methods: Presented characteristic of allergic pathology in children from two regions is presented with approximately the same levels of development, living, material and cultural living conditions, but with differences in composition of

air environment. Often exceeding the permissible concentrations, cyclic hydrocarbons and their derivatives, ammonia, sulphur gases, fine particulate matter (FDP) are measured in air from region A. The content of these chemical pollutants in Region B is within the norm. An analysis was made on medical documentation of children aged 3-7 years from both regions according to pathological manifestations with allergic etiology.

Results and Discussion: FDP are solid or liquid particles suspended in air as FDP (coarse) and FDP (small) depending on their size. These include many substances from pollen and mineral dust to human carcinogens such as benzopyrene and soot. When using fossil fuels, emissions of pollutants are increasing in winter. In urban settlements, transport is a leading polluter. Toxic gases NO₂, SO₂ and tropospheric ozone are associated with the development of allergic diseases. In Region A children with allergic pathology are 18.97% of all, and in Region B - 11.90%. By comparison, cases of bronchial asthma in Region A are twice more, and allergic dermatitis is 10 times more, frequent exacerbations and recurrence and a combination of different allergic conditions occurred. Airborne chemical pollutants act like haptens, sensitizing children's bodies and influencing allergic reactions to food and drugs. EU policies have helped to reduce emissions, but air quality has not improved at same rate, which has significant impact on public health.

Conclusion: The data confirm the allergenic effect of aerogenic chemical components on the child's body. Recommendations are directed at complying with Directive 2008/50/EU, promoting effective action, coordinating policies, informing the public.

Key words: atmospheric air, allergies in children

REASONING FOR RE-EVALUATING THE INTRODUCTION OF BREAKS WHEN WORKING IN A NOISY ENVIRONMENT

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Summary

Introduction: Information on results of the introduced work and rest regimes in conditions of adverse effects of intensive production noise isn't enough

Aim: Determining length of breaks and their distribution throughout work shift, taking into account the noise level.

Material and methods: Find out noise effect on 9 weavers by nature of change in physiological parameters (auditory sensitivity, indicators of conditioned reflex reactions of a light stimulus, concentration ability, muscle strength, pulse rate). Conducted 3 tests during work shift.

Results and discussion: Principal factor is broadband non-stationary noise average level LpA93dB(A). After lunch break, indicators of visual-motor reaction and attention were not restored, (P<0.05) maintaining deviations after lunch break. Average increase in threshold of auditory sensitivity of 10dB was registered, more pronounced in workers with more than 5 years of noise exposure. Differences in muscle strength indicators and heart rate changes turned out to be insignificant. When comparing effect of three rest options, the restoration of attention functions is reliable. After 15 minutes of rest, concentration of attention approaches baseline (P<0.05). There is no significant difference between physiological parameters at 15- and 20-minute breaks. We accept 15 minutes break, for more appropriate.

Conclusion: At noise levels 91-101dB (A), physiological performance of workers deteriorates after 3 hours noise exposure. Physiological deviations dynamic and breaks distribution, require a break in the second hour after lunch. Optimal duration of intermediate breaks is 15 minutes. During breaks, workers must be in acoustically favourable conditions.

Key words: regime of work and rest, noise.

SCHOOL WORKABILITY WITHIN ONE- OR TWO-SHIFT REGIME OF EDUCATION AMONG PUPILS FROM THE PRIMARY COURSE

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Summary

Introduction: The organization of the learning process in two shifts presents challenges for the schools due to the conflict between the high expectations of educational efficiency and the physiological requirements of a daily regime in the primary school age.

Aim: Comparative research of the annual dynamics of mental and physical performance in pupils from first to fourth grade, divided according to the organization of education - either in one or two shifts.

Material and methods: In four schools in the city of Varna there were used proofreading and graphical thermometry tests among 96 pupils in the study group and 228 pupils in the control group.

Results: At the beginning of the school year on Fridays, 21 pupils, or 30% of the children studying in shifts, and only 32 pupils, or 17.4% of those studying in one shift show fatigue. ($p < 0.05$). At the end of the school year, the difference is even more extreme, when 37 pupils or 48.1% of the children in shifts and only 13 pupils or 6.8% of the children without different shifts are tired. ($p < 0.001$).

Discussion: Fatigue accumulates and despite the age advantage of pupils studying in shifts, during the primary school age the two-shift regime conflicts with the requirements of an adequate daily routine.

Conclusion: Despite the improved forms of teaching, the non-compliance of the organization of the learning process with the anatomical and the physiological features of the pupils poses risks for their workability and health.

Key words: school workability, shift regime

DISTRIBUTION AND TIME DYNAMICS OF PLASTIC POLLUTION IN A COASTLINE SECTOR OF THE CITY OF VARNA

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Summary

Introduction: Water pollution has become a major environmental concern affecting not only governments but also every single person on the planet. The problem of plastic pollution is ubiquitous and is observed both in the waters of the large oceans and in the smaller inland seas, such as the Black Sea. **Objective:** To increase public understanding of plastic pollution in the Black Sea and, in particular, the condition of beaches in terms of the amount and types of plastic debris.

Material and methods: Two samplings were performed at intervals of 9 months, on a certain coastal area of the city of Varna and samples of plastic debris were collected, sorted and documented. Quantitative, categorical and comparative analysis was performed. The survey method was also used to study the awareness and attitudes of the population in terms of plastic pollution.

Results: A total of 1794 plastic fragments were selected and categorized. The most common category is unidentifiable debris. Time variations in the quantities of the different categories are observed after the comparative analysis between the two samplings.

Discussion: The observed time quantitative variations in the different waste categories in the two samplings may be due to different environmental and anthropogenic factors.

Conclusion: In view of the growing data on the pathophysiological impact on animals and humans due to plastic pollution, more accurate analyses and development of a unified monitoring system for this type of pollutants in the environment are necessary in order to protect marine ecosystems and prevent the penetration of plastic derivatives into the human body.

Key words: Plastic pollution, Black Sea, debris, monitoring.

NATURAL AND GEOGRAPHICAL FEATURES OF THE BLACK SEA COAST OF BULGARIA, DETERMINING THE DIRECTIONS OF THE STATE HEALTH CONTROL AT REGIONAL LEVEL

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Summary

Introduction: The Black Sea coast, in terms of the constitution and law, covers the Black Sea with the country. The restrictions provided in it introduce independent relations of the legal status of the legislation, and set important tasks of state health control in this area.

Aim: To study the requirements of the law on the structure of the Black Sea coast and the normatively introduced terminology (concepts), which determine the tasks of the state health control in the areas on the Black Sea coast of Bulgaria - Varna Dobrich Burgas.

Material and methods: Normative documents for the peculiarities of the Black Sea coast, the requirements for application of the state health control, visual materials, instructions, reports, researches of the environmental factors - drinking water, sea, mineral, etc.

Methods: documentary, statistical, graphic.

Results: Peculiarities of the Bulgarian Black Sea coast are related to the specific features of the relief: climate, water, soil, flora and fauna. The assessment of the natural resource potential of the Black Sea coast determines the tasks of the state health control, over products, goods and activities important for the health of the population, and of environmental factors.

Conclusion: The main natural-geographical characteristics of the three districts in the Black Sea coast Burgas, Varna and Dobrich and the terminology used (concepts) in determining the directions of the state health control along the Black Sea coast are determined.

Key words: Black Sea coast, Sea beach, Black Sea region, climate, relief, state health control

Section D. HEALTH ECONOMICS

ORAL PRESENTATIONS

UNIVERSAL HEALTH COVERAGE IN THE CONTEXT OF HEALTH SYSTEM PERFORMANCE ASSESMENT

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Summary

Introduction: Universal health coverage (UHC) is defined as ensuring that all people have access to needed health services of sufficient quality to be effective while also ensuring that the use of these services does not expose the user to financial hardship. This definition suggests a relation between the progress towards UHC and the improving performance of the health system.

Aim: The study aims to examine the relationship between universal health coverage and different dimensions of the health system performance assessment.

Material and methods: Descriptive analysis of relevant scientific publications and reports from international and national organizations is applied.

Results and Discussion: The set of indicators used for assessing the progress towards UHC are identified. Comparison between this set and various health system performance assessment reports shows that there are indicators applicable for both types of assessment. The universal health coverage relates to access (including financial protection), quality, effectiveness and other dimensions of the health system performance assessment.

Conclusion: A countries progress towards universal health coverage is assessed by a uniform methodology and a limited predefined set of indicators. On the other hand, health system performance assessment is more complex and relative to the national specifics. The progress towards universal health could be applied as a complementary indicator when assessing the performance of a health system.

Key words: universal health coverage, health system, performance assessment

IMPACT OF POVERTY AND SOCIAL EXCLUSION ON THE HEALTH STATUS OF THE POPULATION IN BULGARIA

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Summary

Introduction: High levels of poverty and unsatisfactory levels of key indicators of the health status of the population in Bulgaria compared to EU countries continue to be a serious challenge.

Aim: The aim of the present study is to analyse the main economic indicators and their impact on the health status of the population in Bulgaria.

Material and methods: An overview of official data from the NSI, the European Commission, the World Bank. The data were processed for the needs of the study with statistical methods.

Results and discussion: In 2017, 39% of the population in Bulgaria was at risk of poverty or social exclusion, and 30% were experiencing severe material deprivation. Poverty is particularly high among the most vulnerable groups - the elderly, especially women, people with disabilities, the Roma living in rural areas. Worker poverty is on the rise and is particularly high among low-skilled workers and temporary workers. Income inequality is widening, with the gap being significantly higher than the EU average. In 2017, the number of people without health insurance was 719,000 (over 10%). Preventable mortality in the period 2011-2015 in the EU decreased by 1.1%, while in Bulgaria it increased by 4.3%.

Conclusion: Low incomes leading to material deprivation related to nutrition, poor living conditions and inability to provide basic medical services, medicines and products, combined with a high share of direct payments for health care, are a significant risk factor for disability and premature death in our country.

Key words: Poverty, material deprivation, health status of the population

POPULATION CHANCES OF ACCESS

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Summary

Introduction: If a Covid-19 vaccine is developed, then there will be a limited supply. That raises the questions of cost and access to the vaccine in Bulgaria.

Aim: To study Bulgarian population chances of access to a potential Covid-19 vaccine in terms of cost and supply.

Material and Methods: Literature review and content analysis of the most recent (by September 2020) online publications on Covid-19 vaccine were conducted.

Results: There are 42 candidate vaccines in clinical evaluation, of which 5 in phase 3. The prices range from \$75.5 to \$4 per dose with two-dose regimens prevailing. The prices of small-volume supply contracts are ranging from \$32 to \$37 per dose. A handful of rich countries have already pre-purchased more than half the world's expected short-term supply of 3 billion vaccine doses. To support the vaccine development and procurement of sufficient volumes and equitable access the COVID-19 Global Vaccine Access Facility (Covax Facility) is being developed.

Discussion: The vaccine price range is very wide. The expected price for Bulgaria should be the one for small-volume orders. Still mean price of \$35 per dose may discourage most Bulgarians from getting a vaccine.

Conclusion: Even if a Covid-19 vaccine is developed and licensed in Bulgaria the limited supply and the high cost might hinder population access unless public funding is provided. Until now there are no legal steps towards that in contrast to the developed countries that are well prepared.

Key words: Covid-19 vaccine, cost, access, Bulgaria

Section E. HEALTH PROMOTION

ORAL PRESENTATIONS

DENTAL HEALTH CARE PROPHYLAXIS FOR PREGNANT WOMEN – SYSTEMATIC CARE OR SYSTEMATICALLY UNDERESTIMATED PROBLEM DURING PRENATAL HEALTHCARE

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Summary

Introduction: Pregnancy, even if normal and with no complications, puts the female body to the test if systematic monitoring and prevention of risk factors are not monitored. Turbulent hormonal changes, immunosuppression, the growing body of the foetus, some accompanying pregnancy problems such as vomiting and others, are a strong prerequisite for dental health problems that can lead to serious consequences in the future.

Aim: To observe the organization of prenatal midwife healthcare services towards monitoring dental health of pregnant women and to identify opportunities for role optimization while providing these services.

Material and methods: A research has been conducted among pregnant women, women at labor in MBAL Silistra (50) in August 2020. Used **methods:** documentary, sociological surveys, statistical and graphical analysis.

Results and discussion: A midwife was part of the team monitoring pregnancy in less than half of the women in the sample (42%). Scheduled examination by a dental specialist in relation to pregnancy monitoring was performed in slightly more than a third of the respondents in the survey (40%). Almost half of them reported worsening of their dental status during pregnancy (46%). The majority of surveyed women believe that it would be useful to introduce mandatory consultation of the pregnant woman with a dentist when registering the pregnancy (72%). More than half of the respondents would trust a midwife to consult and guide them on dental health care in connection with pregnancy and childbirth (52%).

Conclusions: The organization of dental care for pregnant women needs rethinking and remodelling. The knowledge and competencies of modern midwives are a poorly used resource in the light of the dental health care advice towards pregnant women.

Key words: midwife, pregnant woman, prophylaxis, dental health care

NUTRITION POLICY OF BULGARIA – IMPORTANT ELEMENT OF PUBLIC HEALTH

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Summary

Risk factors such as unhealthy diet, low levels of physical activity, smoking and harmful alcohol consumption contribute to premature mortality from cardiovascular diseases, cancers and other chronic diseases in Bulgaria and affect quality of life in general. Negative characteristics of nutrition and adverse trends in eating patterns of population in Bulgaria lead to increasing the incidence of overweight and obesity, including children, high morbidity and mortality from chronic diseases related to nutrition.

Public Health in Bulgaria is coordinated by the MoH, which is responsible for overall planning and supervision. By 2014, Bulgaria adopted a National Health Strategy, 2014–2020 that envisages interventions to reduce risk factors, health promotion and disease prevention, promotion of healthy nutrition, improving the quality of health education and training, coordination and synchronization of sectorial policies and the active involvement of different stakeholders.

The National Programme for Prevention of Chronic Noncommunicable Diseases, 2014-2020 has implemented a wide range of activities to encourage healthy attitudes and behaviour. One of the goals of the programme is strengthening positive changes in the national dietary pattern and achieving new ones for reducing the risk from nutritional deficiencies and chronic diseases associated with nutrition.

Key words: food policy, chronic diseases, public health

NECESSITY OF PREVENTIVE PROGRAMS FOR HPV-ASSOCIATED DISEASES

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Summary

Introduction: Population screening program for early diagnosis is proven as the best method for reducing morbidity and mortality from preventable diseases. Human papillomavirus (HPV) related diseases may present as benign pathogens, with borderline malignancy, but HPV is also responsible for cancer of the cervix uteri, the penis and even the larynx.

Objective: Discussion and confirmation of the need for a comprehensive prevention program and the application of an obstetric model for prevention of HPV-associated diseases in Bulgaria.

Material and methods: A critical review of the available scientific literature in concerning of prevention of HPV-associated diseases was performed.

Results: Mass screening for early diagnosis of cervical cancer was introduced in Bulgaria after 1974. In 2012, the National Program for Primary Prevention of cervical cancer was adopted for a period of 4 years, and after its expiration it was extended until 2020. The program aims to reduce the spread of infection through vaccinoprophyllaxis. However, the death rate from cervical cancer in Bulgaria has increased 3 times - from 1.8 / 100,000 in 1980 to 5.7 / 100,000 in 2015. In addition, at present in Bulgaria there is no developed and implemented comprehensive program and organized mass screening for prevention of variety of HPV-associated diseases.

Conclusion: There is a need for the development of a comprehensive prevention program and implementation of an obstetric model for the prevention of HPV-associated diseases in Bulgaria. They can reduce the risk of these problems in both women and men.

Key words: prophylaxis, human papilloma virus, HPV-associated diseases

CRITICAL POINTS IN ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS IN BULGARIA

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Summary

Introduction: United Nations Sustainable Development Goals (SDGs) for the period 2015-2030 set out a vision for a world free from poverty, hunger and disease. Health has a central place in SDG 3 “Ensure healthy lives and promote well-being for all at all ages”. All of the other goals however are also related to health or their achievement will contribute to health indirectly. The aim of this study is to emphasize on health-related indicators with the most unfavourable values or trends in our country for the study period.

Material and Methods: A descriptive study of health related indicators for the period 2015 – 2030 have been conducted using a statistical database of the Institute for Health Metrix and Evaluation, USA.

Results: Achievement of the sustainable development goals moves in a wide range - from 12 to 85%. With an overall index of 61% for 2020, Bulgaria ranks one of the last places among the European Union countries, as well as among the Balkan countries. Critical indicators that reduce the index of our country in achieving the sustainable development goals are widespread smoking (34.5%), increasing prevalence of alcohol consumption, high relative share of overweight children up to 4 years (30.1%) and high mortality due to circulatory diseases, cancer, diabetes and chronic pulmonary diseases in persons aged 30-70 years (517.4 / 100,000).

Conclusion: Bulgaria’s delay in achieving the sustainable development goals is the widespread prevalence of behavioural risk factors and the associated high morbidity and mortality from chronic non-communicable diseases.

Key words: sustainable development goals, Bulgaria, Health-related index

INFORMATION SOURCES ON CHRONIC DISEASES AMONG A POPULATION OVER 20 YEARS

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Summary

Introduction: The growing number of people living with chronic diseases, combined with the increased use of the Internet for health information and social networks for online support, is changing the way people search for information on illnesses.

Objective: To study sources through which people receive information about chronic diseases.

Material and methods: Through a direct individual anonymous survey, 804 people over 20 years from 28 regional cities were surveyed about information sources on chronic diseases, taking into account socio-demographic factors - age and education. Descriptive analysis, graphical analysis and Z-test were used to establish significant differences.

Results: Physicians are main information source on chronic diseases (98.6%). Secondly, is the Internet (33.6%). A close person (19.6%) and printed materials (18.7%) are used significantly less frequently than the Internet. Television is the least used for information about chronic disease (14.1%).

Discussion: There are significant differences in information sources on chronic diseases by age and education. The Internet is used most frequently by people aged 20 to 59, with higher education (38.1%), followed by secondary education (21.8%) and very rarely by respondents over 60 (5.3%) and low-educated (2.4%), ($p < 0.001$). Close people and printed materials are most frequently used by graduates (19.8%) and the least by low-educated, respectively 7.1% and 0.0% ($p < 0.001$).

Conclusion: The constant change in communication landscape and the increasing use of the Internet require an ongoing study of trends in health information sources.

Key words: chronic diseases, information sources

STUDY OF HEALTHY LIVING HABITS IN REHABILITATORS STUDENTS

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Summary

Introduction: One of the main and effective ways of promotion and prevention is providing health information and knowledge to the population to support a healthy lifestyle choice. The health culture is a collection of knowledge, attitudes, beliefs and behaviour for the restoration, protection and strengthening personal and public health.

The purpose of this study is to explore the health habits and health culture of rehabilitators students in order to overcome some behavioural risk factors and strengthen their health.

Material and methods: The study included 43 female students and 37 male students from Medical College at Trakia University. The following methods are applied: alternative analysis (the relative share of the given answer is calculated of the total number of respondents), questionnaires, graphic analysis, comparative analysis of relative shares.

Results and discussion: Healthy eating has the largest relative share (31%), followed by physical activity (26%) and healthy habits (21%) are the factors that determine the health according to rehabilitators students. It is clear that the relative share of students who eat three meals is predominant (54%). They are followed by students who consume more than three meals a day (27%), and the proportion of students with double meals is (18%). The relative share of comparatively frequently practicing sports is (41%), of those practicing sports regularly (22%). Half of those surveyed (51%) said they had increased their motor activity over a period of one year. The current status of students with regard to their physical activity shows that the relative share of these who do not train is large (54%) and of those who are physically active is (46%). The students have created healthy motor habits and a good self-assessment of their health status. They clearly see the link between physical activity and health and consider it very important.

Key words: behavioural risk factors, healthy lifestyle, physical activity, habits, health promotion, health culture

SELF-ASSESSMENT OF HEALTH STATUS AND NEED FOR PHYSICAL ACTIVITY DURING THE EDUCATION

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Summary

Introduction: Is it possible that sports and healthy diet have a positive effect on the development of habits and skills that will integrate quickly and fully the young specialist in his profession? A working hypothesis was developed that physical activity is an integral part of student development today.

The aim of the study is to analyse the self-assessment of the health status of medical students in MU - Pleven.

Material and methods: A direct individual self-administered questionnaire was conducted among medical students in MU-Pleven, during the period 27.02.-11.03.2020; the questionnaire contains 16 questions. 142 persons were included, 84 of which were women and 58-men, mean age 22.5 years.

Results and discussion: The data show that 53.5% of respondents believe that they lead a healthy lifestyle; 21.8% indicate the presence of a disease - obesity, diabetes. There are 36.6 smokers, with 9.9% smoking more than 15 cigarettes per day. 68.3% use alcohol occasionally. The self-assessment of nutrition shows that half of the participants believe that they have healthy diet, 63.4% declare daily consumption of fruits and vegetables.

Before starting the education in MU, 75% of the students had good physical activity, and at the time of the study, only 45.8% do sports, spending an average of 6-8 hours per day in sitting position.

57.7% of respondents believe that sports would support the education, and 33.1% - "maybe".

Conclusion: Students in MU-Pleven lead a relatively healthy lifestyle with low physical activity. This fact is mainly due to high workload at the university. Better physical activity would improve the education and increase student achievement.

Key words: healthy life, health culture, medical students, physical activity, education

BULGARIAN FOLK DANCES - ACADEMIC DISCIPLINE AND INTEGRATIVE HEALTH DETERMINANT

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Summary

Introduction: Bulgarian folk dances (BgFD) are an integrative health determinant improving holistically health. BgFD are culture and art. BgFD are a protective lifestyle determinant. Herewith, BgFD are an academic elective discipline and as such are a social determinant as well.

The aim is twofold: 1) to present BgFD as an integrative health determinant; and 2) to disseminate the results of a research carried out among the students' community of the Medical University-Varna, related to the impact of BgFD on health.

Material and methods: The study included 184 students from different courses and specialties, randomized into two groups - studying sports or BgFD. The mixed-methods approach employed the following instruments: three questionnaires - one standardized for stress assessment and two specifically structured for the project, applied at the semester' beginning and the end. The driving hypothesis was that BgFD are equal to sports as a physical activity. The obtained data were processed with SPSS v.23.

Results: Studying BgFD leads to a reduction in unhealthy behaviours (smoking, alcohol use, etc.).

The health is assessed on three levels: physical, mental and social. A health assessment comparison shows identical levels of health in both groups. Over 50% of the participants in the study have high levels of stress, and the differences between the two groups are in favor of the BgFD-students.

Conclusion: After a comprehensive evaluation of the results, it can be concluded that BgFD are equivalent to sports physical activity. The quantitative results were presented to a group of higher education, sports and BgFD experts (qualitative Delphi study), who consented the integrative nature of BgFD and

supported the idea that BgFD should be universally included in the higher educational curriculum in Bulgaria. Studying BgFD is both primary prevention and complementary art therapy.

Key words: Bulgarian folk dances (BgFD), academic discipline, Medical University of Varna, integrative health

HEALTH PROMOTING UNIVERSITIES – PRACTICAL APPLICATION OF THE APPROACH

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Summary

Introduction: Universities have been established as key places to protect and improve the health and well-being of the university community and society as a whole. The Health Promoting Universities (HPU) have a strong theoretical basis. Of particular interest to us is the application of the campaign in practice.

Objective: To monitor the practical implementation of the HPU concept internationally and to present initiatives identified as an example of “good practice”.

Method: A review of the literature with the Key words “health promoting universities”, “universities for health promotion”, “healthy universities”, “application”, “systematic review” was performed. Criteria for selection of publications were defined. The search for literature was conducted in 2018 and was repeated in 2020.

Results: Four publications meeting the main goal and the selected criteria are included for analysis. The literature sources of the selected articles were additionally reviewed manually. Most universities do not apply in practice all components of the approach.

Conclusion: Although higher education institutions implement the approach in different ways, they are united by similar goals - they strive to create an environment and organizational culture that improves the health of their community and enables people to reach their full potential.

Key words: health promoting universities, practical application, good practice

POSTER

CHALLENGES TO SCHOOL HEALTH CARE IN COVID – 19 SITUATION

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Summary

Introduction: The pandemic situation of COVID - 19 updates the discussion on the importance of the problem for the organization and quality of school health care.

The purpose is to outline the role of the organization of school health care and of the medical specialists in school as a part of team work on health protection and health promotion in emergencies, including epidemics.

Material and methods: Survey, document analysis, review of European practices

Results: Recommendations, methodological and training materials have been developed on the bases of established factors with a negative impact on the quality and the results of preventive and health promotion activities of medical professionals in schools, to support their work in this field, based on European quality standards and good practices.

Discussion: The need for additional measures for effective participation of school health specialists in all activities, including normatively regulated, to deal with an epidemic situation has been proven.

Conclusion: An effectively functioning school health care model is a significant factor in preventing and protecting the health of children at school in emergencies, such as the COVID - 19 pandemic.

Key words: health promotion in school, school health specialists, COVID - 19

Section F. FUNDAMENTAL ETHICAL PROBLEMS AND CLINICAL ETHICS

ORAL PRESENTATIONS

ETHICAL DIMENSIONS OF DISTANCE LEARNING IN AN EMERGENCY SITUATION

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Summary

Introduction: The COVID-19 pandemic forced educational institutions to implement distance learning (DL) even in specialties which are traditionally taught face-to-face on a full-time basis. The aim of this report is to investigate the ethical aspects of DL during a state of emergency.

Methodology: Moral reasoning through principlism and the concept of moral responsibility.

Results and discussion: The respect for autonomy requires the teachers and the students to be considered autonomous, i.e. they have to be sufficiently informed and to decide whether they wish to participate in DL. However, in a state of emergency there is a lack of freedom of choice and there are no alternatives. The principle of beneficence is restricted to a choice of “the lesser evil”, i.e. DL versus no learning at all. Justice requires equal opportunities for everyone to participate in DL, i.e. there should be no discrimination based on physical or financial means, nor on technical competence and access to facilities. The inability of many institutions to provide technical resources for staff and students threatens this principle. The inability to create equal opportunities for DL for people suffering from blindness and deafness is a classic example of discrimination. The involvement of many people in DL prevents determining moral responsibility for the outcome of the process, i.e. there is a responsibility vacuum (problem of many hands).

Conclusion: DL engenders a range of ethical issues requiring a large social and professional debate, development of strategies for staff qualification, standardized teaching materials, and adequate preliminary information to students.

Key words: distance learning, principlism, moral responsibility, institutional strategies

THE CONCEPT OF IDENTITY AND THE CARE FOR PEOPLE WITH DEMENTIA

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Summary

Introduction: The role of the family in elderly care is gradually being re-evaluated – from supporting persons and surrogate decision-makers in classical hospital care, through an individual object of care in hospices, to holding the identity of the patient.

The aim of this report is to introduce the concept of identity and its possible implementation in caring for people with dementia.

Methodology: Content analysis of the concept of identity. Direct individual anonymous survey with the audience via google forms.

Results and discussion: Identity consist of a tissue of stories about an individual in first-person and third-person perspectives. These are stories about important events, actions and relations that characterise the individual and allow him and others to understand what he truly is. Identity is formed primarily in the family. Then who is most likely to know the identity of the patient? These are patient’s relatives and only they are able to hold his identity when it is threatened by a disease like dementia. This specific component of care cannot be provided by external caregivers even if they are experienced professionals. Holding patient’s identity may also lead to insights about the identity of the caregiver. To what extent it is possible to implement the concept of identity in the care for people with dementia is to be assessed live through investigating the audience’ opinion.

Conclusion: The concept of identity provides a new perspective on the role of the family in caring for people with dementia without undermining the responsibility of providing professional care.

Key words: identity, care for people with dementia, role of the family

THE CASE OF THE 65-YEAR-OLD MOTHER THROUGH THE PRISM OF FAMILY ETHICS

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Summary

Introduction: In 2010 Bulgaria featured in world news with the successful in-vitro fertilization of a 62-years-old woman. The case reverberates so resoundingly that it catalyzed national legislative changes. Three years later the same woman required another in-vitro procedure.

The aim of this report is to subject the case of the 65-years-old mother to moral deliberation.

Methodology: Family ethics through the perspective of life cycles (age norms, phase ideals and developmental tasks) and classical principlism.

Results and discussion: Age norms consider reproduction at this age unnatural. Through the perspective of phase ideals, the woman should be satisfied with her life achievements so far. Developmental tasks point towards the raising of grandchildren as a more suitable task compared to the raising children at that age. Since the woman is autonomous, respect for autonomy would imply undertaking the in-vitro fertilisation. But how far do patient's rights stretch and is it obligatory for the physician to fulfil patient's wish? What is beneficence for the patient, for the new-born and for society? Non-maleficence is not restricted to the medical risks of pregnancy at that age, but it also concerns the threat to traditional family values and the risk of social stigmatization. Can the refusal to perform the procedure be regarded as age discrimination?

Conclusion: Technological advance in medicine has paradoxically led to a re-evaluation of our relationships with others. The newly-formed fields in bioethics, including family ethics, offer new dimensions of moral deliberation and a better understanding of the patient as an individual with history.

Key words: 65-years old mother, family ethics, principlism, moral deliberation

KNOWING WHAT IS BEST: PUBLIC HEALTH AT THE INTERSECTION BETWEEN ETHICS AND SOCIAL EPISTEMOLOGY

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Summary

Public health programmes are designed in accordance with relevant science-based, peer-reviewed evidence, but their intellectual foundations ultimately draw on philosophical ideas. Because of its intricate connections to issues such as justice, fair resource distribution, (dis)advantage and poverty, public health presents a social and ethical challenge in the sense that it requires active commitment to maximizing general welfare. However, because of the involvement of epistemically authoritative figures (scientists, medical professionals, and politicians, among others), any occasions in which the interventions fail to achieve their proclaimed end are often critically regarded as the result of inefficient policy-making, careless planning, or unsuccessful campaigns. While not entirely incorrect, this narrow view downplays the impact that factors like values, rational self-interest, lifestyle and personal views on health could have on the general health of the population. In this paper I will argue that these factors have the potential to produce, fuel and disseminate health trends – alternative, user-driven forms of health-related group knowledge. Natural living movement supporters, vaccination opponents, and therapeutic nihilists are all examples of alternative perspectives on healthy living, which can have a profound influence on the effectiveness of government-imposed public health interventions and campaigns, or even shape the disease profiles of entire populations. Two questions that need to be addressed are: 1) what is usually meant by 'health', and 2) how do people's differing concepts of health, together with their differing values, influence public health practices? Both questions can be answered upon closer inspection of the social dynamic involved in producing medical knowledge.

Key words: public health, medical ethics, social epistemology, promoting health

IDEAS FOR ETHICAL GUIDELINES FOR CRISIS RESPONSE

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Summary

Introduction: The study of professional codes of ethics is part of the training of medical professionals. The health aspect of the crisis caused by COVID-19 raises the question of whether modern codes of ethics provide guidance on how a medical professional should act in a health crisis.

Aim: To present contemporary documents that provide ethical guidance for crisis response.

Methodology: Literary review and philosophical reflection on literary sources.

Discussion: In its structure, the National Codes of Ethics for Professional Conduct covers the attitude towards society. They give a general picture of how a professional should treat society, what values he should respect, and how society should treat him. The Code of the Bulgarian Health Care Association even states what should be the attitude towards specific groups of patients. National codes do not include ethical guidelines for dealing with crises such as COVID-19.

On an international level, ethical guidelines for dealing with a crisis are not part of Codes of Professional Conduct but are present in separate documents. The central point in UNESCO's statement on COVID-19 are ethical guidelines for interdisciplinary dialogue; allocation of resources at macro and micro level should be based on the principles of justice, beneficence, and equity; protection of vulnerable groups; ensuring the right to health on individual and group level; transparency of information; observance of the principles of research ethics. The right to health is the most provocative.

Conclusion: Although the presence of ethical guidelines for dealing with a crisis in the Codes of Professional Conduct is not mandatory, it is necessary to create such documents.

Key words: Codes of professional conduct, ethical guidelines, crisis

NEW IDEAS FOR ALLOCATING NEW RESOURCE

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Summary

Introduction: The race for a vaccine against COVID-19 reached the stage of "how should we distribute the vaccine?" Since this is a completely new resource that no one has in stock, the problem of distribution of vaccines has greater ethical sensitivity. This report aims to present current problems and models for the distribution of scarce vaccines; to discuss the applicability of traditional and new approaches to allocating scarce resources to problem of allocating vaccines.

Methodology: Literary review and philosophical reflection on literary sources.

Results and discussion: The main values in the allocation of resources are: benefit to people and limitation of harm; prioritizing disadvantaged people; equal moral concern.

There are two models for distributing vaccines on international level. The first one is WHO's model, which proposes that vaccines should be distributed in proportion to the population of the countries (first stage 3% of the population receives a vaccine; final stage 20% of the population is vaccinated). The second model is to distribute vaccines according to the number of first-line medical professionals, the proportion of the population over 65 years of age and people with comorbidities. The fair priority model is a new way to distribute the new vaccines that aims to mitigate the various future adverse effects of COVID-19. It focuses on three types of harms (death or permanent damage to organs; the pandemic damages by overloading health systems, increases mortality, psychological damage, the spread of the disease; damage to the global economy).

Conclusion: The new model is flexible and it would help to distribute vaccines fairly. However, it will have to deal with interdisciplinary difficulties (vaccine nationalism).

Key words: vaccines, resource allocation, equitable allocation, the Fair Priority Model

OWNERSHIP OF PATIENT INFORMATION IN LIGHT OF THE BIG DATA REALITY

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Summary

Introduction: Healthcare delivery systems nowadays are undergoing a peculiar change, partly because of the rapid digitalization and the evermore increasing capabilities of deriving, storing and transferring information. In regard to patient's data, technological improvements and information phenomena like the Big Data seem to bring new set of issues. The obscure answer to the question who owns the patient's data becomes notably interesting in the context of rapidly changing information environment.

Aim: To address the important, but largely ignored issue, of whether patients should be recognized as owners of their data, and what are the pros and cons of such decision in the context of today's information revolution.

Material and methods: Historical, documental and ethical research.

Results: People are sensitive in terms of "ownership", rights and privacy, although the idea for specific ownership of patient information tend to be unpopular. Major concern regarding patient's ownership is that it might limit, or even prevent public benefits and utilization.

Discussion: We face greater prospects to utilize the information we have, but we need to think of a reasonable compromise between individual and public interests. Big data provides a lot of positive avenues for improvement, and in healthcare data analytics opens the door for improvements in disease prevention and health promotion - traditionally neglected in favour of clinical care.

Conclusion: It is questionable whether granting patient's ownership rights will be recognized as reasonable in the long term, even though from an ethical perspective and in regard to patient's autonomy sounds justified.

Key words: Patient data, Big Data, ownership

NON-INTERVENTIONAL STUDIES – INVESTIGATOR OPINION ON LIMITATIONS FOR THEIR CONDUCT IN BULGARIA

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Summary

Introduction: The Non-interventional studies (NIS) ratio to the total number of clinical trials in Bulgaria is significantly lower than the rest of the countries in the EU and US.

Aim: The current study aims to track the development of Non-Interventional Studies in Bulgaria as a rapidly growing niche of the clinical trials market worldwide and to assess some of the main factors that may affect this process.

Material and methods: 411 medical doctors completed a questionnaire, in a representative sample for Bulgaria, using the method of a direct individual anonymous survey. The questionnaire is structured on a funnel principle, starting from general questions and moving to questions related to the objectives of the specific study.

Results: The opinion of the respondents confirms the benefits from the conduct of NIS as the main reasons they point out are: contribution to the development of medicine, closer follow-up of the patients, acquiring of in-depth knowledge for a specific treatment. The main limiting factors are lack of resources of the healthcare facilities, increasing price of the study procedures, which is not covered by the study Sponsor, low investigator budgets.

Discussion: The answers in both groups of respondents prove the low awareness of the healthcare workers not involved in clinical trials on the NIS and show a need for additional information campaigns. The main limiting factors pointed out from the respondents – MDs significantly differs from the "Strategy for development of NIS" published by MH and the regulatory obstacles.

Conclusion: The healthcare professionals in Bulgaria demonstrate high interest but low awareness of

the specifics of the NIS and the requirements and regulations for their execution. The results of the study prove that the high potential for the execution of research studies of the country is not fully utilized due to regulatory and awareness issues.

Key words: Clinical trials, Non-interventional trials, regulatory, pharmaceutical legislation

Section G. DIGITAL PUBLIC HEALTH

ORAL PRESENTATIONS

DIGITAL HEALTH AND ARTIFICIAL INTELLIGENCE PROSPECTS FOR THEIR APPLICATION IN MEDICINE

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Summary

Introduction: Artificial intelligence, digital health, telemedicine, portable sensors, virtual reality - these new technologies will completely change the way patients and doctors perceive healthcare. These new technologies are expected to significantly affect artificial intelligence (AI) in medical practice and healthcare delivery in the near future. In addition, the coronavirus pandemic has caused an explosive increase in the need for digital services, including those related to health and medicine.

Aim: this article is to give a brief overview of the impact that artificial intelligence, digital health, telemedicine will have on the guidelines for the development of medicine. The interaction between artificial intelligence, telemedicine, digital health and the possibility of introducing new technologies to influence and deal with modern challenges to medical science and practice

Material and methods, Source of information: Searched in the databases of Google, Google Scholar, Medscape, Medline, LinkedIn, Twitter by

Key words: telemedicine, digital health, artificial intelligence.

Results and Conclusion: There is no doubt that I.I. telemedicine, digital health will play a beneficial role

in healthcare and can enter medical practice only if medical professionals serve as knowledgeable and supportive leaders and leaders in the process.

Therefore, it is extremely important for physicians to understand the basics of technology in order to be able to evaluate studies based on artificial intelligence and clinical validation;

The development of AI in medicine benefits patients, doctors and the healthcare community. As a general rule, however, we could assume that those medical professionals who use AI will replace those who do not.

The development of AI in medicine benefits patients, doctors and the healthcare community. As a general rule, however, we could assume that those medical professionals who use AI will replace those who do not.

Key words: telemedicine, digital health, artificial intelligence, COVID 19

SURVEY OF THE OPINION OF THE ACADEMIC STAFF AND THE STUDENTS IN THE SPECIALTIES OF FACULTY OF PUBLIC HEALTH OF MU-PLEVEN FOR THE EDUCATION IN ELECTRONIC ENVIRONMENT

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Summary

Introduction: In a state of emergency due to the COVID-19 epidemic, Medical University-Pleven entirely implemented e-learning. Until now only the master degree “Public Health and Health Management” existed as distance learning. The teaching materials for the other specialties had to be prepared seriatim between March and May.

The **aim:** of this report is to investigate and analyse the opinion for e-learning of 54 teachers and 153 students from the Faculty of Public Health.

Methodology: Direct individual anonymous survey with a 10-questions questionnaire in google forms within the period of 17-20 July 2020.

Results and discussion: 53.7% teachers and 43.1% students deem the organisation of e-learning

good. 75.9% teachers and 46.4% students deem the teaching content well-assimilated. 42.6% teachers think that virtual exams require more efforts. These exams are objective according to 27.5% teachers and 53.9% students. The results raise questions regarding teachers' prejudice towards e-learning and the degree of influence of the subjective component in live exams. The main deficiency of e-learning is the inability to accumulate practical skills (83.3% teachers and 61.8 % students). The main advantage for teachers is that no time is wasted in moving between educational facilities (67.9%), while for students the greatest benefit is the convenience for those who reside elsewhere (77.1%).

Conclusion: The first attempts in wide-ranging e-learning are promising. The investigation of opinions of various groups in Bulgaria and in EU provides a basis for amelioration and standardization. More flexible forms of teaching are welcome in specialties where students from other localities prevail.

Key words: e-learning, teachers, students, public health

DYNAMICS OF THE LEARNING PROCESS IN an ELECTRONIC ENVIRONMENT UNDER EXTRAORDINARY CONDITIONS

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Summary

Introduction: Blended learning combines the possibilities provided by the new technologies and internet with the classical methods of training. The idea is to align the interactivity of the online and face-to-face education with the independence from time and place which characterizes electronic and distance learning.

Purpose: The study aims to analyse the dynamically changing roles and specify the levels of interaction during the virtual learning process imposed due to the coronavirus pandemics.

Material and methods: It is based on the communication via various channels, including the “Blackboard” educational platform. The observed

group consists of 18 second-year students from the specialty of speech therapy, who underwent training in “Healthcare Projects and Programmes Management” at the Medical University “Prof. Dr. Paraskev Stoyanov” - Varna.

Results: The following dynamic levels of interaction were established: of students and teachers with the teaching material; between the teacher and the students; among the students. The dynamics of the learning process requires a more intensive communication, revision of the lecture course and development of additional materials. The students themselves can determine their groups and roles in the preparation of their project proposals, distribute their tasks and plan the time and manner of their fulfilment. At a personal level, electronic training contributes to the development of the students' critical thinking, independent learning, self-discipline and freedom to determine their own learning rate.

Conclusion: The real advantage of the virtual learning environment is seen in the possibilities it gives for synchronic and asynchronous communication. Under extraordinary conditions, blended learning has proved to be an optimal form of learning combining the advantages of the classical and the virtual forms.

Key words: dynamics, learning process, virtual education, blended learning, extraordinary conditions

THE QUALITY OF DISTANT LEARNING FOR STUDENTS IN MEDICAL SPECILATIES IN A PANDEMIC SITUATION

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Summary

Introduction: The coronavirus pandemic has suddenly forced society to find new ways to work, interact and live. Information technology occupies an important place in the process of modern learning. The appropriate use of modern information technologies and various electronic forms of education increase the effectiveness of teaching and learning.

The aim of the present study is to identify the advantages and imperfections of distance learning and the quality of training received.

Material and methods: Altogether 357 students in

three different specialties in Medical University of Pleven were observed. For proper comparison, the specialties were selected according to the similarity in the curricula and training programmes in Informatics. The results of the summer semester exams during 2017/2018 -2019/2020 academic years were analysed: the first two with traditional training and the last one with online course. Data processing was done by SPSS Statistics v.25 implying descriptive and inferential (t-test, ANOVA and Mann-Whitney U-test) statistics. Statistically significant differences were supported by probability level 95% ($p < 0.05$).

Results: There were no statistically significant differences between the mean results in all three specialties for 2017/2018 and 2018/2019 ($F=0.163$, $df=2$, $Sig.=0.849$). Significantly higher results were observed in all three specialties during 2019/2020 ($t=8.149$, $df=272$, $Sig.=0.000$). The same situations were found for each of the three specialties: Medical Rehabilitation and Ergotherapy ($U=2262.000$, $N=117$, $Sig.=0.000$); Midwifery ($U=788.000$, $N=71$, $Sig.=0.000$), and Nursing ($U=4278.000$, $N=169$, $Sig.=0.000$).

Conclusion: The quality of e-learning is related to the different way of its provision compared to the traditional face-to-face learning, although supported by technology. Online courses have difficulty in controlling fraud in tests and exams precisely because of the lack of teacher control. There are also challenges for teachers and their digital competencies.

Key words: information technologies, quality, distance learning

USE OF TELECOMMUNICATIONS BY OUTPATIENT PHYSICIANS WITH PEDIATRIC PRACTICES IN BULGARIA DURING THE COVID-19 PANDEMIC

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Summary

Introduction: With the outbreak of the COVID-19 pandemic, public health is facing a state of emergency. Nowadays telemedicine is crucial in reducing the risk of human-to-human transmission.

Aim: To explore the attitudes of primary health physicians with paediatric practices toward the use of

telemedicine before, during and the likelihood after the COVID-19 pandemic.

Material and methods: A pilot study was conducted with a questionnaire created by the European Academy of Paediatrics Research in Ambulatory Settings network among 36 primary health doctors with paediatric practices in Bulgaria – women: 89% ($n=32$), men: 11% ($n=4$), of whom the most are in the age group 51-60 years, in the period May-June 2020. The questionnaire included questions concerning the use of telemedicine before, during and presumably after the pandemic has passed.

Results: The data show that 5,6% ($n=2$) of respondents conduct more than 50% of their daily telemedicine consultations through telephone conversations before COVID-19, compared to 27,7% ($n=10$) during and probably 13,8% ($n=5$) after the pandemic. Over 50% of all consultations are made via text messages to 5,6% ($n=2$) of respondents before, 19,4% ($n=7$) during and 8,3% ($n=3$) after COVID-19. Only 2,7% ($n=1$) of participants consulted up to several times a week via video call before, compared with 13,8% ($n=5$) during and 5,6% ($n=2$) after the end of COVID-19. The largest percentage – 38,8% ($n=14$) have access to medical records of their patients in 5-25% of cases of telemedicine consultations.

Conclusion: The data show that due to the pandemic, telemedicine is more applicable in the daily lives of medical specialists and its convenience is realized by physicians with extensive practice.

Key words: telecommunications, outpatient physicians, paediatricians, pandemic, COVID-19

POSTER

DIGITAL TECHNOLOGIES IN SUPPORT OF PARENTAL CARE FOR CHILDREN IN EARLY CHILDHOOD BY SPECIALISTS FROM OUTPATIENT MEDICAL CARE

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Summary

Introduction: The health care system has a key role to play in supporting parents in providing stimulating child development care in the first three years of life. The pandemic of COVID 19 provokes the need for digital counseling of parents, the development of which is forthcoming in our country.

The purpose is to create a model for digitalization of the counseling practice in outpatient medical care in support of parent's nurturing care for children in the period of early childhood.

Material and methods: Analysis of programs, digital platforms and mobile applications used to support parental care for young children in Europe, USA, Australia and of the approaches used in our country.

Results: The results of analyzes reveal opportunities to combine digital tools to support stimulating parental care with e Health approaches.

Discussion: The partnership between outpatient care professionals and young children care providers, facilitated by digital technologies, is in line with standards for quality health services.

Conclusion: The use of digital technologies by GPs and pediatricians in their counseling practice for parents helps to achieve quality care including by facilitating access to health care.

Key words: e-health, nurturing care, digital counseling, early childhood

The aim is to analyse the situation in Bulgaria.

Material and methods: Documents and publications of national importance have been compared and sociological and statistical methods have been applied.

Results and discussion: Labour market globalisation still negatively affects health systems. There will be an increase in the labour force deficit, as well as a deepening of the disparities between the population's demand and supply of medical professionals not only now, but also in the future. Especially, the deepening and clustering of regional migration is observed in the large territorial centres in the country (doctors in the southwestern region in 2018 are 9339, while in the north-western region there are 3307, which also applies to other health professionals), as well as the outflow of young specialists to rich countries. This fact corresponds to the global practice and is a serious challenge for the health systems.

Conclusion: Many researchers at home and abroad still cannot find an unambiguous solution for the balance between the rights and needs of both healthcare professionals and patients. It is necessary to strengthen the capacity and build on the professional knowledge and skills of future healthcare professionals in order to meet the new challenges.

Key words: human resources, health policy, cooperation, capacity, health migration

Section H. MANAGEMENT AND QUALITY OF HEALTH CARE

ORAL PRESENTATIONS

STRENGTHENING THE CAPACITY OF WORKERS IN THE HEALTHCARE SYSTEM

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Summary

Introduction: One of the priorities set in the Sustainable Development Goals is related to the preparation and development of health workers.

OPPORTUNITIES TO PROVIDE QUALITY HEALTH CARE IN A SHORTAGE OF HUMAN RESOURCE

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Summary

Introduction: A main goal of every healthcare system is to provide quality health care to the population. One of the conditions for high quality is to enable sufficient number of health care professionals. Decrease in their number and the increasingly difficult provision of health care to the population is an alarming trend in recent years in Bulgaria.

The aim of the study is to summarize the students' opinion in "Management of Health Care" Master degree at the Medical University – Pleven about the opportunities at their workplaces to provide quality

health care in a shortage of human resources.

Material and methods: It is used a content analysis of 16 master degree students' written opinion essays during pre-graduating training in June 2019. The students in specialty "Management of Health Care" are nurse and midwife practitioners and laboratory assistants. The results are statistically performed and graphically designed with Excel 2010.

Results: The proposed measures to ensure quality health care in case of shortage of staff are grouped into three areas: human resources management, working conditions and the opinion of patients. Over 80% of the students believe that training and raising the qualification of employees is a key moment for increase the motivation to work. More than half of the trainees (63%) indicated taking various approaches to attract staff, and 44% consider that recruitment should start during the basic nursing/midwifery education. Only in 3 (19%) of the written works paid attention to the importance of periodic monitoring of patient's opinion about the quality of care provided.

Key words: health care professionals, quality of health care, opportunities, lack of human resources.

NURSING STANDARDS - A NECESSITY IN PROFESSIONAL PRACTICE

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Summary

Introduction: The health reforms that are conducting in our country significantly increase the needs of society for high quality medical care, increase the need for nurses who have the knowledge and skills to apply different methods of care in line with international standards.

Objective: To study and analyse the possibilities for applying of health care standards in the professional activities that nurses can perform independently.

Material and methods: A comparative legal analysis of laws and regulations governing the professional activities of the nurse is applied. A survey and a structured interview were conducted to clarify the links between the various factors influencing the readiness to apply health care standards.

Results and discussion: Health care standards are a

priority in nursing practice (78%, n = 223). The nurses interviewed are clearly aware of the responsibility of the actions that are guaranteed by the ones introduced in the world practice, with a proven positive effect, professional health care standards. Most of the respondents, acknowledge positively the influence of rules and norms for good nursing practice (85%, n = 241).

Conclusion: The modern conditions of practicing the nursing profession form skills, abilities and motivation for an adequate style of professional behaviour and brings to the fore the responsibility for the health of the individual. The introduction of health care standards will outline clear parameters and scope of the nurse's activity.

Key words: health care, standard, nurse, professional behaviour

TRAINING WOMEN-LEADERS FOR NURSING CARE MANAGEMENT

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Summary

Introduction: The training of women's leadership has an impact on global health policy and practice as well on the improvement of the quality of health care provided to communities.

Purpose: The study is aimed at studying the key leadership skills which women leaders have to possess in the management of nursing care, at identifying the impediments to their career development and at suggesting potential solutions to the overcoming of these barriers.

Material and methods: Based on a retrospective study of databases, publicly accessible in PubMed and Web of Science, good practices were studied for training, developing leadership skills and career advancement for women in nursing care management.

Results: The main barriers to the career development of women-leaders in the healthcare are associated with ensuring their institutional career development, tension between the professional and family responsibilities and problems, related to women's health and safety.

The career advancement of women in global healthcare

could be stimulated through the inclusion of training in leadership in the curriculum of university medical education, continuous postgraduate courses for leadership training, training in leadership in a clinical environment and field training in communities, involvement of health professionals as co-researchers in scientific research projects.

Conclusion: The training of leadership skills has been recognised as a crucial component of medical education as it prepares the nursing care professionals to meet the increasing needs for quality health care.

Key words: women's leadership, skills, nursing care, training, career development

OPTIMIZING THE WORK OF SENIOR NURSE USING ELECTRONIC SHIFTS SCHEDULE

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Summary

Introduction: Major and time-consuming part of the senior nurse responsibilities is to prepare shifts schedule for the nurses and orderlies in the ward and the related Form 76 for work hours and overtime and night work report.

Aim: To create electronic shifts schedule optimizing the senior nurse work.

Material and methods: Microsoft Excel 2016 was used to create electronic shifts schedule with implementation of additional programming code and user functions with Visual Basic for Applications.

Results: Form 76 for calculation of work hours and Overtime and night work report were created as a group of related worksheets. Additionally, worksheets for work and non-work days in the month and the type of employment contract (full-time or part-time) were created. User data is entered mainly in Form 76. The report for overtime and night work is completely automatically calculated.

Discussion: The use of electronic shifts schedule reduces the workload of the senior nurse and the potential mistakes in his/her work. The possibility for

miscalculation of the work hours of the staff or their incorrect copying in the overtime and night work report is completely eliminated. The empirically calculated senior nurse workload reduction is 40 hours per month.

Conclusion: The electronic shifts schedule is an indispensable tool in the work of the senior nurse, reducing errors and saving time to be used for other elements of the work process in the ward.

Key words: electronic shifts schedule, optimization, senior nurse

THE ROLE OF PATRONAGE CARE IN POLICIES TO IMPROVE MOTHER AND CHILD HEALTH

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Summary

Introduction: Improving care for pregnant women and young children by high quality services is an essential part of policies to improve mother and child health in healthcare system.

The purpose is to evaluate the effectiveness of home visiting care for pregnant women and children to 3 years of age from vulnerable target groups.

Material and methods: The progress in the activities under the NFP program named „Together-healthy baby, healthy future“ - a service for patronage care provided by nurses for pregnant women and children up to 2 years from Roma community, with over 200 users, is described.

Results: The results of 6316 home visits of pregnant women and mothers at an average age of 16 years, newborns and young children from Roma community are presented.

The experience of working in an emergency epidemic situation by the application of a methodology for remote visits is shared too.

Discussion: Along with the improved health indicators, other positive changes have been reported in the attitude towards one's own health, the birth and child care, acceptance and evaluation of health care and building trust in medical care.

Conclusion: Patronage care through home visits by a nurse/midwife is an effective form of quality health care for pregnant women and young children from vulnerable groups.

Key words: patronage care, mother and child health

NURSING AND PROMOTING OF CHILD HEALTH CARE IN BULGARIA

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Summary

Introduction: The prophylactic care for children in their age between 0 and 6 years old, traditionally provided by Well-child care, today is delivered by a general practitioner in the “Child healthcare” program, where the role of the nurse was minimized if not missing. A research of the past traditional involvement of the nurses in child healthcare and the reasons behind their diminished role in the present can be a starting point for optimizing child health care.

Aim: To analyse in dynamics and asses correctly the organization of the nurses’ health and promoting care for child from their creation until nowadays.

Methods: Historical and documental analysis, SWOT analysis of the contemporary organization of nursing promotional health care.

Results and discussion: In 1920s the non-governmental organization “Union for child protection in Bulgaria” started the prophylactic care for children by creating health advisory stations. A significant role had played the visiting nurse, who has been a prototype of the patronage nurse. In the 1950s, child’s healthcare became a priority of social and health policy. A legislative framework, regulating the health protection of mothers and children, had been approved. A centralized health system had been established. Well-child care had been acquired organizational form of preventive care. The nurse

work as a advisor, health educator and practicing professionals. During the healthcare system reforms (1990-2000) there was a contradiction between the legalization and the new professional acquired competencies of the nurses – their capacity for child prevention was hardly used.

Conclusion: Both traditional and innovative organizational forms for promotional pediatric care are proposed

Key words: Promotional child health care, nurses, child healthcare

INFANT MORTALITY IN BULGARIA DURING THE SOCIOECONOMIC TRANSITION

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Summary

Introduction: Infant mortality (IM) is one of the most important indicators for assessing public health. Researches show that infant mortality and related perinatal indicators are strongly influenced by wars and rapid socio-economic transformations. The unique transition of the former socialist bloc states experienced after 1989 is an appropriate period to study these indicators.

Aim: To study the indicators of total and age-related infant mortality in Bulgaria (1990-2018) in the context of changes in national policies and local practices and compare their trends with those in 10 other countries in transition.

Methods: Historical, documentary, statistical; in-depth interviews with 15 persons involved in the management and / or practice of child health during that period.

Results and discussion: The total IM rate in Bulgaria increased in 1990 - 14.8 %, remained until 2000 and decreased at a slower pace than other countries in transition to 5,8% in 2018. The same are the tendencies in the neonatal (7.7 % to 3,6%) and in the early neonatal IM rate - initial deterioration and slow

decrease. Perinatal mortality increased to 12.2‰ and persisted for almost 2 decades, with a significant contribution of stillbirth. A high growth of early births, combined with low levels of education and socio-economic status was found at the beginning of the transition. The interviewees point out socio-economic problems and lag of good practices in terms of combating IM such as a survey of each deceased child, patronage activities, care for increasing the culture of raising children and others as factors for the course of IM trends.

Conclusion: During the transition, Bulgaria worsened or held the IM indicators, which differentiated it from other countries that have a good declining rate.

Key words: infant mortality, Bulgaria, socio-economic transition

ANALYSIS OF NURSING AND MIDWIFERY RESEARCH IN BULGARIA ACCORDING TO NACID DATA

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Summary

Introduction: The changes in the training for nurses and midwives in Bulgaria in accordance with the European requirements at the end of the XX century and developing the specialty "Management of health care" (bachelor's and master's degree) are prerequisites for development of research in health care. Following training in a doctoral program is an opportunity for professional development of nurses and midwives in our country. The first nurses defended doctoral dissertations in Bulgaria were in 2000.

The aim of the study is to analyse public information in the National Centre of Information and Documentation database about the nursing and midwifery research.

Material and Methods: It is used documental analysis of public information available in the National Centre of Information and Documentation database. A special questionnaire was developed to extract information on a total of 91 nurses and midwives defended doctoral dissertation in the period between 2000 and June 2019.

Results: The proposed measures to ensure quality health care in case of shortage of staff are grouped into three areas: human resources management, working conditions and the opinion of patients. Over 80% of the students believe that training and raising the qualification of employees is a key moment for increase the motivation to work. More than half of the trainees (63%) indicated taking various approaches to attract staff, and 44% consider that recruitment should start during the basic nursing/midwifery education. Only in 3 (19%) of the written works paid attention to the importance of periodic monitoring of patient's opinion about the quality of care provided.

For the period 2000-2019 in Bulgaria 71 nurses and 20 midwives defended doctoral dissertation. There is no information in the register of NACID for 86% of the persons about the scientific specialty. The largest number are in the position "Head assistant" and "Associate professor" and their number is equal (n=28). During the analysis of annotations, 10 areas of professional interest are formed. Most dissertations concerned health care for adults with different diseases (16,5%), followed by studies about basic education (15,4%) and the area of management of health care in hospitals (14,3%).

Key words: dissertations, nurses and midwives, National Centre for Information and Documentation /NACID/.

HOME VISITS OF MIDWIFES – EXPECTATIONS OF PREGNANT AND POSTPARTUM WOMEN

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Summary

Introduction: Antenatal midwifery care includes health assessment, promotion of health and well-being, detection of complications. Postnatal activities are intended the health assessment of mother and infant, health education, support for breastfeeding, detection of complications, and provision of family

planning services. Home visits are recommended to improve antenatal care utilization and postnatal health outcomes.

In Bulgaria prenatal and postnatal care is providing by general practitioners or obstetricians and not includes regular home visits.

The aim of this presentation is to study the expectation on home visits of women during pregnancy and postnatal period.

Methodology: Originally developed self-administered questionnaires of direct individual and postal type were applied to 76 pregnant and 48 women after childbirth.

Results: Pregnant women expectations are: 51.3% support for parenthood, 25% better life style, 17.1% improve emotional stability and 10.5% an opportunity for advice for the whole family. Also, 77.6% believe that home visits will also be useful after birth. After childbirth 93.8% of mothers confirmed this opinion. Professional support is among the leading expectations of postpartum visits in both groups of respondents with an equal rate of 54%. Successful breastfeeding increases its significance from 35.5% among pregnant women to 62.5% after birth. The need for advice in baby care from 35.5% to 81.3% among women who have already given birth.

Conclusion: Although home visits by a midwife not performed, our results confirm the need by them during pregnancy and after discharge from the maternity unit. By opinion of women home visits will improve quality of maternity care.

Key words: expectation, home visit, midwife.

ALGORITHM FOR ACQUISITION OF PROFESSIONAL COMPETENCIES OF ONCOLOGY CARE

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Summary

Introduction: Oncology care is complex and very specific area of nursing. As part of an interdisciplinary team, the nurse must possess specific competencies as

a prerequisite for high quality oncology care. Given the increasing rates of oncology diseases, the demand for oncology nurses is increasing and issues related to basic and continuing education and certification are becoming particularly relevant.

Objective: The aim of the present survey was to study the main steps and the regulatory framework for building specific professional competencies of the oncology nurse.

Material and methods: A comparative and content analysis of international and national documents regulating the establishment of professional competencies of oncology nurses has been made. The following were analysed: Recommendations of American society of oncology nursing, European reference framework for core competences, Ordinance № 30 for validation of the medical standard “Medical Oncology”, etc.

Results: The world experience outlines four main stages in the development of specific competencies of the oncology nurse: basic four-year training for obtaining a bachelor’s of science in nursing degree, including topics with oncology focus; continuing education in the form of postgraduate qualification courses and specialization in oncology ending with certification. In some countries (USA) there is also the possibility of obtaining a master’s degree in oncology nursing. Each of these degrees requires not only theoretical training, but also a certain number of hours of clinical practice in oncology units.

Conclusion: The acquisition of specific competencies for the implementation of health care for patients with cancer is a long and multi-stage process, following which will lead to building the necessary knowledge, skills and attitudes needed to maintain high standards in oncology practice.

Key words: specific competencies, oncology care

THE OPINION OF VARNA MOTHERS ABOUT THEIR NEED FOR OBSTETRIC CARE AT HOME

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Summary

Introduction: Preparation for raising a new born at home, after discharge from the maternity ward, begins

with the establishment of pregnancy. The postpartum period is exciting for all parents. Mothers anxiously await their return home with the baby, but then the worries begin. New-born care is great and follows one after another. Only timely provided assistance helps to follow the rhythm of life and commitments.

Purpose: The aim of the present study was to determine the need for obstetric care at home after discharge from the maternity ward.

Material and methods: A sociological method was used, and a total of 72 mothers were surveyed individually and anonymously through an e-survey in August and September 2020.

Documentary method, analysing literature sources examining the subject of the present study.

Statistical method used in the analysis of the results of our own research.

Results: 93.75% of mothers consider continuing obstetric care necessary in the puerperium.

About 75% of women who have given birth would rely on independent obstetric practice for home monitoring.

93.75% of the respondents are of the opinion that independent obstetric practices have a place in modern healthcare.

Conclusion:

1. The results of the survey show that women feel the lack of obstetric care at home after discharge from the maternity ward.

2. The creation of independent obstetric practices is a necessity for modern healthcare.

3. The Internet is a major source of information for many young mothers.

Key words: care, supervising midwife, needs, mothers

THE ROLE OF HEALTHCARE PROFESSIONALS IN THE COVID-19 PANDEMIC

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Summary

Introduction: In the early 2020, humanity faced a new strain of coronavirus that rapidly progressed to the

COVID-19 global pandemic, causing unprecedented and far-reaching impact on the health, social and economic well-being of communities around the world. This challenge significantly affects the physical and psycho-emotional state of physicians, healthcare professionals and the thousands of volunteers who come to the forefront in the fight against the disease. Given the severe shortage of medical professionals, their well-being and emotional stability are key components in maintaining basic healthcare services during the pandemic.

Aim: To present and analyse the most up-to-date information on SARS-CoV-2, COVID-19 and the role of health professionals in the fight against the global pandemic.

Material and methods: Review and analysis of world data and scientific literature regarding the set goal.

Results and discussion: To anticipate and minimize the COVID-19 consequences, research support to improve knowledge of the causative agent, adequate funding for the healthcare sector, protection of healthcare professionals, integrated actions to mitigate health, economic and social impact of the pandemic and efforts to limit it are required. Each affected country imposes specific measures and takes adequate actions to deal the specific situation. There are synchronization of policies, experience exchange, compliance with national characteristics and the real threat to the population.

Conclusion: A world free of COVID-19 requires great teamwork of academic and scientific community, business and politics. Sharing knowledge and experience, the joint efforts of governments, scientists, healthcare professionals and society, are more necessary than ever. In order to successful overcome the challenges of the situation and continue to be useful to their patients and society during a public health emergency, healthcare professionals need protection and logistical support.

Key words: healthcare professionals, pandemic, COVID-19, measures, policies.

THE IMPORTANCE OF LIFE-LONG EDUCATION IN NURSING CARE (A STUDY IN THE PLEVEN REGION)

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Summary

Introduction: The importance of lifelong education and its contribution to the professional improvement of nurses is beyond doubt. It rightfully gains a central place in the nursing profession as it leads to development and a positive change in providing nursing care.

Aim: To research and analyse the forms, methods and factors that influence the importance of life-long education in nursing.

Material and methods: A sociological research was held between 723 nurses working in the medical facilities and the public healthcare system in the Pleven region.

Results: The nurses that took part in the research acknowledge the importance of life-long education for their professional development. 389 (53.8%) of the nurses that took part in the research claim to have a strong desire to continue their education or have already done so. 546 (75.5%) have set their expectations of life-long education in acquiring new skills and knowledge by practice. 192 (26.6%) of the nurses who took the survey think that in order to improve the effect of life-long education a change in motivation and overcoming inertia is needed.

Discussion: Over 300 (45.4%) of the respondents think that improving the prestige and the overall image of the community is of the highest importance. The pursuit of higher education is connected to the opportunity to acquire a specialisation according to 211 (29.2%) of the respondents. According to 314 (43.4%) it's a necessity as it "leads to a better workflow".

Conclusion: The analysis of the results from the research shows a mostly positive attitude of the respondents towards lifelong education and its impact.

Key words: nursing, nursing education, importance, life-long education

INNOVATIVE MODEL FOR MIDWIFE'S CONTINUING EDUCATION ASSESSMENT

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Summary

Introduction: The continuing education of midwife in Bulgaria uses a quantitatively measurable method of assessment based on input data. The trend in modern continuing education is the introduction of innovative approaches and models for quality estimation.

Purpose: on the studied literature basis and opinion of midwives and health care managers to make a SWOT analysis of the existing reality in our country and to offer an innovative model for quality assessment of the results of continuing education.

Material and methods: Normative documents of the WHO, the EU and Bulgaria have been researched. Documentary method, SWOT analysis, statistical methods have been used. An anonymous survey has been conducted with 324 midwives and 58 health care managers.

Results: The survey has found that 15% of midwives are not aware of the need for continuing education, 42% do not have certificates, and health care managers – 1/3 do not have certificates. The SWOT analysis shows that the Bulgarian continuing education for the most part meets the requirements of the WHO, but there are no standards, qualitatively measurable assessment, financing and incentives from employers and the state.

Discussion: A weak point in the system of continuing education in our country is the assessment, which is a strong motivated factor when it is objective. The proposed Assessment Model includes the formation of a "Quality Council" at the local BAHCP company in the medical institution, with representatives of the "Health Care Council" and the employer.

Conclusion: The introduction of an Assessment Model will contribute to quality control and evaluation, will motivate midwives also. The involvement of employers in the Model will increase their awareness and participation in the planning, management and financing of continuing education.

Key words: continuing education, midwife, model, assessment

ACCREDITATION AS A TOOL FOR QUALITY ASSESSMENT AND MANAGEMENT IN HYPERBARIC MEDICINE

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Summary

Introduction: The provision of quality, safe and effective health services is a major goal and priority of health systems and policies around the world. In the process of quality management in the healthcare organizations, including hyperbaric therapy facilities, various methods are used to assess and control quality and safety.

Purpose: The aim of the present study is to exam the characteristics of accreditation as a tool for quality assessment with a view to its application in hyperbaric oxygen therapy internationally and nationally.

Material and methods: A review and analysis of relevant literature, scientific publications, regulations and reports of various organizations and authorities.

Results and Discussion: The main theoretical concepts of accreditation as a specific model for management and quality assessment of health care are presented. Recommendations, reports and results of accreditation programs in hyperbaric therapy centres in the USA, Canada, Australia, countries of the European Union are analysed and a comparison is made according to their scope and legal regulation.

Conclusion: The application of an appropriate and effective accreditation program, ensuring that hyperbaric facilities are staffed with properly trained specialists, properly maintained equipment and perform safe operational procedures, may be part of the overall system for assurance, continuous improvement and total quality management in hyperbaric medicine both worldwide and in Bulgaria.

Key words: accreditation, assessment, quality management, hyperbaric medicine

POSTER

HEALTH CARE PROVIDED BY THE NURSE IN OUTPATIENT MEDICAL CARE AND THEIR IMPORTANCE IN MODERN HEALTH CONDITIONS

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Summary

Introduction: The development of nursing and its support as a profession depends on the perception, understanding and evaluation of the importance of health care provided by the nurse.

Objective: To study and analyse the strengths and weaknesses, opportunities and threats of modern nursing care to solve problems related to individual and public health.

Material and methods: In order to establish the possibilities of modern care for solving problems related to individual and public health, we have identified the critical factors for the success of the profession today. A method of SWOT analysis is applied to assess the health care provided by the nurse in outpatient care, as well as opportunities and threats to them for the introduction of professional standards.

Results and discussion: Medical professionals have competencies, are motivated to provide quality health care, in line with European standards. The professional training of the nurse meets the constantly growing health needs of the population. The lack of specific nursing documentation to register and report the activities of the nurse, as well as the lack of criteria for assessing the quality of care have a negative impact on the assessment of care. Nursing is upright in front of health, political and managerial challenges, on the solution of which the social and professional prestige of the profession depends.

Conclusion: Today, nursing is faced with serious tasks aimed at solving problems related to individual and public health. There is a need to develop the autonomy of nursing, related to taking over the management and responsibility for health care, within the acquired competencies.

Key words: health care, nurse, competence, autonomy, challenge.

Section K. MEDICAL AND SOCIAL REHABILITATION AND INTEGRATION

ORAL PRESENTATIONS

KINESITHERAPY AND OCCUPATIONAL THERAPY IN COXARTHROSIS AFTER ENDOPROTHESIS OF THE HIP JOINT

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Summary

Introduction: In the treatment of chronic joint diseases and fractures in the hip joint, different types of surgical therapy are used. Coxarthrosis is common and affects 1% of the population.

The goals of surgical treatment and subsequent kinesitherapy and occupational therapy are to provide a painless hip joint, a stable joint with sufficient volume and strength to perform daily activities.

Objective: To study the effectiveness of kinesitherapy in patients with hip arthroplasty.

Material and methods: Kinesitherapy was performed and functional tests were performed on eleven patients. They all have unilateral hip arthroplasty due to advanced coxarthrosis. Patients are divided into two groups - control and experimental.

Results: After the kinesitherapy, the patients from the experimental group can walk well with one aid, go up and down stairs, sit and get up. In the control group of patients, more of them can walk with one aid, but with difficulty.

Discussion: Exercises in a closed kinematic circuit stimulate and accelerate the recovery of the muscles involved in walking in the arthroplastic joint and are an effective means of reducing pain when walking in the moderately protective phase of kinesitherapy after hip arthroplasty.

Conclusion: The applied complete kinesitherapy technique is effective and suitable for application in the moderate-protective phase after hip arthroplasty.

Key words: Hip joint, coxarthrosis, arthroplasty, kinesitherapy, occupational therapy.

INFLUENCE OF IN-HOSPITAL REHABILITATION ON HEART RATE IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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Summary

Introduction: Rehabilitation of patients with myocardial infarction has developed significantly in recent years and is a well-established practice in most countries.

Purpose: Study of the effect of rehabilitation on heart rate in patients with myocardial infarction.

Material and methods: The total number of patients with acute myocardial infarction in whom we conducted an in-hospital rehabilitation program is one hundred and eleven. We divided the patients into three groups: first group - patients with acute myocardial infarction and percutaneous coronary intervention was performed up to 12 hours after the onset of infarction; second group - patients with acute myocardial infarction and performed percutaneous coronary intervention after 12 hours from the onset of infarction; third group - patients with acute myocardial infarction without percutaneous coronary intervention.

Results: The values of resting heart rate are the highest in the first procedure, gradually decreasing during the rehabilitation.

Discussion: The dynamics of the heart rate in the course of the procedures corresponds to the set methodical instructions and the largest increase is during the most intensive load in the main part, after which it recovers approximately to the initial values.

Conclusion: The applied in-hospital rehabilitation program is well tolerated by patients with acute myocardial infarction and does not cause significant subjective complaints.

Key words: Acute myocardial infarction, rehabilitation program, percutaneous coronary intervention

EVALUATION WITH CONSTANT-MURLEY SCALE OF EARLY RECOVERY RESULTS OF PATIENTS WITH PROXIMAL HUMERAL FRACTURES

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Summary

Introduction: Fractures of proximal humerus (FPH) are third most common fractures in adults after fractures of proximal femur and distal radius. They present about 4 to 5% of all fractures. Constant-Murley scale is the most commonly used one for assessing shoulder function. This scale includes following subjective and objective factors: pain, everyday activities, range of motion and strength.

Purpose: Analysis of results of rehabilitation in patients with proximal humeral fractures, using Constant-Murley scale.

Material and methods: The study evaluates the results of soft tissue mobilizing techniques in 50 patients with proximal humeral fractures

Results: Analysing the results we find statistically significant ($p < 0.05$) increasing of final scores in patients after applying the above described techniques. At the beginning of rehabilitation mean score is 28.4, and at the end this result is 52.8

Conclusion: Rehabilitation techniques we used leads to increasing the results of all described components. Constant-Murley scale is easy applicable and suitable for the purpose of our study.

Key words: proximal humeral fractures, rehabilitation, evaluation

A COMPREHENSIVE APPROACH TO OUTPATIENTS' CARE FOR PATIENTS WITH MULTIPLE SCLEROSIS

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Summary

Introduction: Multiple Sclerosis (MS) is a chronic and debilitating disease. MS is among the most common causes of serious physical impairment in adults of working age. The main role in the care of the patients is played by the health care specialists, who have to plan, organize and implement comprehensive care.

Objective: To propose an algorithm for comprehensive nursing activities in outpatients' care in response to the needs of MS patients.

Material and method: A questionnaire study was performed and the opinions were analysed of patients with MS ($n=86$), neurologists from the outpatients' care ($n=50$), general practitioners ($n=50$) and nurses from outpatients' care ($n=50$).

Results and discussion: The path of the MS-patient is presented, which leads him/her to the outpatients' MS specialist. After the relevant specialized medical activities have been carried out, the necessary information is available, which, supplemented by individually conducted interviews with the patient and their relatives, forms the basis for planning comprehensive care. An algorithm is presented including mandatory elements of action and solutions based on unified sources and indicators.

Conclusions: The knowledge and the systematic application of the successive steps ensure that the requirements for sufficient information, compliance with the special rules and the full implementation of health care are met.

Key words: Multiple sclerosis; comprehensive care; outpatients' care

HEART RATE VARIABILITY BIOFEEDBACK TRAINING INFLU- ENCE STUTTERING SYMPTOMS IN ADULTS WHO STUTTER

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Summary

Introduction: Most stuttering therapies are focused on reducing the “visible” symptoms such as repetitions, prolongations, and blockages of sounds, syllables, words, pauses. At the same time, there is almost no research that can objectively measure the “invisible symptoms” such as increased heart rate, rapid breathing, sweating of the hands, flushing which are a direct consequence of anxiety, tension and fear during certain speech situations. With the application of the Biological Feedback method, these processes can be measured objectively and observed in real time, and can be applied in therapy in order to minimize non-fluent speech and its accompanying symptoms.

Purpose: The inclusion of HRV training in speech therapy shows evidence of a reduction in the severity of stuttering in adults who stutter.

Methods: The contingent includes 18 adults who stutter. The complex diagnostic assessment was performed with the SSI-4 “Stuttering Severity Tool” for speech therapy parameters, and a computerized system for registration, monitoring and processing of physiological signals to measure cardiac variability (HRV) Alive Clinical Version, Somatic Vision.

Results: The therapy went through six phases and lasted for 3 months. The results show a 64% reduction in the incidence of dysfluency, which reduced the overall severity ratio from moderate to very mild.

Discussion: The results show a significant reduction in severity, but the extent to which these results are effective and sustainable over time will be demonstrated by future measurements in the third, sixth and ninth months.

Conclusion: The inclusion of Biofeedback as an assistive technology allows to consider the problem holistically and individualization of therapy for each case.

Key words: Stuttering Treatment for Adults, Biofeedback, Heart Rate Variability (HRV).

TESTS FOR DETERMINATION OF KINESITHERAPEUTIC POTENTIAL IN NEUROLOGICALLY PATIENTS

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Summary

The aim of the study is to trace the use of specialized tests to determine the kinesitherapeutic potential in neurologically ill patients. To select and compare the scales used in neurological practice to determine the quality of life.

Material: The study was conducted for the period 2013-2015 in the Multi-profile Hospital for Active Treatment-Blagoevgrad. Fifteen patients participated in the present study. Patients were divided into two groups (experimental and control). In the research methods we have included the study of the senses as a qualitative assessment. For a full analysis of the kinesitherapeutic potential, we compared the four most commonly used tests to determine daily life activities - Bartel Index, Fim test, Rankin scale and SF 36. The first two tests were used in the experimental group and the other two in the control group. The Prizm statistical package was used for statistical data processing and graphical presentation.

Results: The mean age of the studied contingent was 69 ± 3.8 years. The result of our research defines the Bartel index as the test that is the easiest to apply and has a good assessment of the patient’s condition in terms of quality of life. Statistical data processing by nonparametric Wilcoxon test certifies that the groups are homogeneous - Asymp. Sig. $p < 0.05$ (in our study $p = 0.003$). This allows for a correct comparison, with a statistically significant difference between the initial and final results.

Discussion: In conclusion, we can say that the assessment must be complex. For the correct determination of the kinesitherapeutic potential, specialized tests and tests for determining the quality of life must be used.

Conclusion: The results of our research show that the choice of specialized tests will allow for quality and rapid analysis and the correct determination of kinesitherapeutic potential, and this will help the patient recover faster.

Key words: kinesitherapy, kinesitherapeutic potential, neurological tests, quality of life tests, neurorehabilitation

INCLUSION OF OCCUPATIONAL AND LABOR THERAPY ACTIVITIES WORKING WITH SOCIALLY DISADVANTAGED CHILDREN

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Summary

Introduction: Socio-pedagogical and medico-social work with disadvantaged children requires professional competences adequate to the dynamic social changes associated with preparing children for independent and self-sufficient living.

In cases of inadequate parental care, the child needs to be trained to perform the various activities of daily living within a social service.

The aim is to study the opinion of students related to the possibilities of occupational and labor therapy activities for the formation of skills for independent living in working with disadvantaged children.

Methods of empirical research – a survey among students majoring in “Medical Rehabilitation and Occupational Therapy” of the Medical University – Pleven, including assessment of: motivation, activity, increasing interest in the activity; striving for expression and independence in activity; skills development; level of assessment and self-assessment.

The results of the survey show that the inclusion of occupational and labour therapy activities in working with children using social services will have a positive impact on increasing their motivation (54,90%),

activity (45,10%) and interest (54,90%) to the offered activities and striving for self-expression (45,10%).

Purposeful work with children will affect the formation of independence in the implementation of activities related to self-tendence (49,02%) and activities of daily living (43,14%). Skills for working with different materials are developed (62,75%). Their assessment skills (47,06%) and self-assessment (52,94%) will increase to a relatively good extent.

In conclusion, it can be summarized that the surveyed students assess as positive the inclusion of occupational and labour therapy activities in working with disadvantaged children and will stimulate the formation of skills for independent living.

Key words: student, occupational therapy, ergotherapy, independent living skills

TEAM APPROACH IN ASSESSMENT AND TREATMENT OF COMMUNICATION DISORDERS FOR PEOPLE AFTER STROKE

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Summary

Introduction: The stroke is one of the most common conditions, often leading to death or permanent limitation of a number of functions and limitation of quality of life. According to data of The National Statistical Institute in Bulgaria, more than 30 000 cases of stroke are registered annually. In a large part of them communication disorders are detected.

Purpose: The purpose of this presentation is to present the communication disorders that occur as a result of a stroke and to indicate the ways of teamwork in their assessment and treatment.

Material and methods: For the purpose of the present study, global databases were used, providing the necessity of a team approach in assessment and treatment of communication disorders in people after stroke.

Results: The results show that globally about one third of people with a stroke experience communication disorders such as aphasia, dysarthria and speech apraxia.

Discussion: Unfortunately, in Bulgaria the Health

system still does not offer the necessary services for recovery of language and speech functions in people with a stroke. Rehabilitation centers and neurological departments at hospitals do not appoint speech therapists to participate in the complex treatment of these conditions.

Conclusion: Lancet studies (2014) based on data from the GBD/Stroke Expert Group show that by 2030 about 70 million stroke survivors are expected worldwide. This should draw attention to the development of an effective health product that will provide recovery of all impaired functions, including language and speech.

Key words: stroke, assessment, rehabilitation, aphasia, dysarthria

EVALUATION QUALITY OF LIFE OF PEOPLE WITH APHASIA

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Summary

Introduction: Aphasia is a language disorder that most often is caused by a stroke and affects the quality of life.

Purpose: The purpose of the present study was to investigate the effect of aphasia on the quality of life in adults after stroke.

Material and methods: An adapted version of Mississippi screening test for aphasia and a questionnaire for assessment quality of life were used. One-way analysis of variance was applied for statistical data of processing.

Results: Data show that aphasia affects quality of life. Based on ICF model of the WHO, it was found that impaired language functions lead to limitation of activities and participation, and environmental factors.

Discussion: Damage of the brain cortex in the frontal and/or temporal and/or low parietal lobes causes impairment of language functions. Spoken and written language are affected. The affected language functions are a reason for limitation of performance of a number of activities and the participation of people with aphasia. Impaired communication due to the manifestation of aphasia often leads to variety

of psycho-emotional reactions in these individuals. Therefore, the impairment of quality of life in people with aphasia is a significant problem for them and their relatives, which is a prerequisite for impaired well-being in all aspects in life.

Conclusion: Aphasia is a disorder that always leads to decreasing quality of life of the individuals in many activities. Therapy should be focused on comprehensive approaches that, through the improvement of impaired language, speech and cognitive functions, lead to the social reintegration of people with aphasia.

Key words: stroke, quality of life, rehabilitation, aphasia, dysarthria

PROFILE OF THE PERSONS WHO UNPROFESSIONALLY TAKE HOME CARE SERVICES

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Summary

Introduction: Persons taking home care services are heterogeneous group. They have not employment relationship or involved in National programs for municipal and social services in home environment – the great number of them are close relatives to the persons they take care of. The main difference between them and professional assistants (personal and social, as well carers, domestic workers and hired persons on the new programs for integrated health-social cares) is training, awareness of preliminary training.

Objective: To investigate and analyse the profile of the non-professional, rendering assistance in domestic environment.

Material and methods: Standardised, questionnaire card, containing 20 closed questions.

Results and discussion: Eighty persons have been interviewed who take care in domestic environment, not enrolled in the national programs for taking cares of disability people. The persons who they take cares of are in permanent incapacity to take care of themselves. Support for them is rendered predominantly by women, of the age group: 46 years old to retirement age. Almost all of the respondents have not passed training course.

Conclusion: The government has not yet implemented entirely formed mechanism to settle the issues of the people with disabilities who are in permanent incapacity to manage activities of their daily routine of life. The person who takes care encounters a number of problems but when we are discussing about unprofessional cares the problems are mainly due to lack of training and awareness. For many of the people with disabilities, unprofessional persons (close relatives) are taking care of, which reflects on the quality of cares or income of the family.

Key words: domestic care disability persons

GRAPHOMOTOR SKILLS IN CHILDREN WITH LANGUAGE DEFICITS IN PRE-SCHOOL AND PRIMARY SCHOOL AGE 6-7 YEARS, PREREQUISITE FOR FORMATION AND DEVELOPMENT OF THE WRITTEN LANGUAGE

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Summary

Introduction: The disturbance in graphomotor skills and written language are among the most widespread deficits and thus are subjected to the most intensive research.

Aim: The aim of this research is to show the level of graphomotor skills in children with language deficits in pre-school and primary school age (6-7 years old) as a basis for formation and development of written language- before and after implementation of a system of therapeutic techniques, approaches and methods, based on both world's and Bulgarian's experience in the subject of disturbance in graphomotor skills.

Material and methods: The study encompasses a total of $n = 43$ children in pre-school and primary school age- 6 to 7 years old, who were subjected to logaoedic therapy aimed to overcome difficulties in graphomotor skills. They were tested before and after the implementation of „Test sample of the level of graphomotor skills“-author's version.

Results: The age between 6 and 7 years plays a key role in development of gnostic functions. The

improved visual-motor coordination and increased functionality of the visual and motor memory leads to pronounced dynamics in the development of graphomotor skills.

Conclusion: The age period between 6-7 years plays a key role in formation of visual- special orientation and ideomotor praxis. Hence the implementation of a system of therapeutic approaches in children with language deficits shows a positive dynamic in the progress of formation and development of graphomotor skills which in turn is the basis for development of the written form of language.

Key words: Language deficits, gnosis, ideomotor praxis, graphomotor skills.

LONG-TERM CARE DELIVERY FOR PEOPLE WITH DISABILITIES – MECHANISM „PERSONAL ASSISTANCE“

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Summary

Introduction: People with disabilities frequently need help when performing daily life routine activities—household, maintenance of personal hygiene, those of social functioning. The services for cares and support in the community, provided in domestic environment give opportunity to people with disabilities to live better, have longer, full and fair life in community. The mechanism „Personal assistance “guarantee on one-part opportunity for people with disabilities to choose from whom, when, where and in what manner realise the activities, corresponding to their individual needs and on the other part regulating the informal care, rendered by friends and relatives of the family as employment law relationships with the respective payment and retirement pension rights.

Objective: Survey the opinions of the involved persons on the mechanism „Personal assistance“ regarding the regulation of the cares they provide to people with disabilities.

Material and methods: Documented method and survey.

Results and discussions: Four months after the commencement of the mechanism “Personal assistance“ there were interviewed 27 persons, hired

as assistants to people with disabilities from Dolni Dabnik municipality, Pleven district, two thirds of them providing cares for a family member with lasting harm. The analyses of the results show that considerable part of the opinions of interviewed are positive: regarding the legal settlement of the cares for relatives; the payment they receive for that; the preventive role of the mechanism for institutionalization of the people with lasting harms.

Conclusion: „Personal assistance“ provides to people with disabilities a long term access to radically new mechanism for empowerment and self-determination of people with disabilities.

Key words: people with disabilities, care, personal assistance

IMPORTANCE OF SOCIALLY SIGNIFICANT DISEASES FOR THE QUALITY OF FOSTER CARE SOCIAL SERVICE

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Summary

Introduction: The issue of socially significant diseases is especially relevant when the family is committed to caring for a child in the role of foster parents.

Objective: To assess the opinion of specialists in the field of social work on the problem related to socially significant diseases in foster families and the quality of their social care.

Methods: Methods of empirical research - a survey among professionals working in the field of social activities in foster care, including assessment of: risk factors for socially significant diseases; impact of training on a topic related to socially significant diseases on the interest, awareness, responsibility for health as a value on the members of the foster family; influence of an existing socially significant disease of a member of the foster family on the quality of child care.

Results and discussion: The results of the survey show that the surveyed specialists identify as particularly important for socially significant diseases risk factors such as style and lifestyle (52.83%), genetic and biological factors (49.06%).

The possibilities to increase the interest (50.94%), the awareness (50.94%), the responsibility for one's own health (49.06%) and the health of the child in the training of the foster parents on a topic related to the socially significant diseases are assessed. 72%). A categorical opinion is expressed that the presence of a socially significant disease of a member of the foster family would lead to a risk of re-leaving the child (73.58%).

Conclusion: It can be summarized that including the topic of socially significant diseases in social work with foster families will have a positive impact on the quality of child care.

Key words: child, foster family, socially significant diseases, quality of care

ATTITUDE OF ROMA GIRLS TO THEIR OWN EDUCATION AND ETHNIC TRADITIONS

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Summary

Introduction: During the last years the educational level of Roma girls has been improving, including among the girls who are in the so-called "children marriage". According to National Statistic Intitule data the number of early childbirths has been decreasing. Researches on educational status of Roma people and educational attitude among the Roma community reveal that main reason for early school leaving for older generations was early marriage. For the last two decades leading reasons are related to social and economic situation of families and lack of financial means, low level of education and low interest towards it on behalf of the parents, and these factors are interrelated.

Purpose: Research of opinion and attitude of Roma girls towards traditions and education.

Material and methods: The research includes semi-standardized questionnaire that covers 15 and 2 open questions. Questions related to demographic characteristics of the respondents (age, school class) are outside these 17 questions.

Outcome and **discussion:** Average age of the respondents is 14,7 years old. Considerable part of them observes the most typical customs and holidays

for the ethnos. Most of the Roma girls want to get education, to develop and do not wish to conclude early marriage. Almost all of them share that they have good chances to reach the educational targets they have set.

Conclusion: Most of the Roma girls choose education instead of following traditions and concluding early marriage. The number of Roma girls who wish to complete their education increases; to some extent it is dependent on parental motivation.

Key words: Roma girls, traditions, education

FUNCTIONAL RECOVERY OF THE KNEE COMPLEX THROUGH APPLICATION OF JOINT MOBILIZATION TECHNIQUES

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Summary

Introduction: Impaired joint kinematics due to various pathological factors is a leading cause of functional deficits of the knee complex. In this regard we present some specialized techniques for joint mobilization with analytical and complex impact.

Object: To follow the effect of mobilization techniques according to Maitland for the restoration of arthrokinematics in the knee complex.

Material and methods: The contingent of patients was selected at random in an identical recovery period. The total number of patients is 20 people divided into two groups:

1. Control group consisting of 10 patients treated with clinic-specific agents.

2. Experimental group including 10 patients in whom we evaluated the effect of the application of manual mobilization techniques according to Maitland in combination with the typical for the clinic kinesitherapy.

We divided the patients intragroup according to gender, age, sports orientation and the causes of impaired knee arthrokinematics.

Results: To determine the effect of the treatment we used the results at the beginning and end of the kinesitherapy course. We worked on an outpatient basis for all patients. The treatment lasted 15

procedures performed every single day.

The following functional-diagnostic methods were applied:

- Goniometry of the knee joint
- Centimetric

Comparative analysis of goniometric data shows that the application of manual mobilization techniques is significantly more effective in improving the joint kinematics of the knee.

The results of the centimetric show the advantage of the tested manual-therapeutic technique by mainly secondary reflex mechanism.

Conclusion: Our studies prove a significant effect of the tested method in functional recovery of the knee complex.

Key words: kinesitherapy, Maitland's mobilization techniques

POSTER

A COMMUNICATION MODEL IN PATIENTS WITH MULTIPLE SCLEROSIS

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Summary

Introduction: The medico-social model in nursing care is increasingly applied in persons with multiple sclerosis (MS). The impact of the disease is studied on the functioning of patients in a family and professional environment, their communication and working capacity.

Purpose. To study and analyse the communicative model in patients with MS.

Material and methods: A theoretical analysis was performed and the documentation approach was applied in order to analyse the communication and interaction in patients with MS.

Results and discussion: The medical professionals interact with the patient using their skills for effective communication. The social aspects of MS are determined by a complex of heterogeneous factors resulting from the epidemiological, demographic, clinical, psychological and socio-economic

peculiarities of the disease. Ensuring sufficient time for the expression of fears, anxiety or worries is of major importance in the communication with the patient. Various types of speech difficulties can additionally deteriorate the communication. The issues of home care, support and rehabilitation are essential to these people. A key to the solution of these problems can be found in the cooperation within a multidisciplinary team approach.

Conclusion: The adequate information is a prerequisite for the medical decision making and for the management of the disease. For many of the patients the diagnosis creates the feeling of abandonment and isolation, a need for various forms of educational and psychological support services.

Key words: patient, multiple sclerosis, communication, multidisciplinary team

Section L. MENTAL HEALTH

ORAL PRESENTATIONS

ORTHOREXIA AND BIGOREXIA – NEW FACES OF EATING DISORDER. CASE REPORT

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Summary

Introduction: Eating disorders (ED) are common, often chronic, and potentially life-threatening conditions affecting predominantly adolescents and young people. An especially common problem in the latest years is Orthorexia Nervosa (ON) and Bigorexia (Big). Unlike the well-known Anorexia nervosa, often the symptoms of ON and Big are well disguised and the condition is not included in the differential diagnosis of most medical professionals.

Material and Methods: Two case studies are presented from the practice of a medical specialist in nutrition and dietetics - women with ON and Big.

Results: both patients received nutritional training and specific nutritional instructions. The motivation to change their dietary habits and create new ones is maintained through regular communication with the physician, through regular meetings with a

clinical psychologist. Both women are encouraged to participate in group psychotherapy sessions under the guidance of a clinical psychologist.

Discussion and conclusions: This clinical case demonstrates that when diagnosing ON and Big there are not always large deviations in the clinical and laboratory indicators. Only the careful recording of the anamnesis and the in-depth conversation with the patient allows the correct diagnosis to be made. Insufficient awareness among medical staff (including doctors and nurses) about symptoms and diagnosis of eating disorders requires further training on this issue.

Key words: orthorexia nervosa, bigorexia, eating disorders, diagnosis, treatment

LOSS CAUSED BY DEATH OF AN EMOTIONALLY SIGNIFICANT PERSON - SPECIFICS OF EXPERIENCE

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Summary

Separation caused by death leads to both emotional shock and physiological problems, but also disturbs the whole functioning of the grieving person. Suffering such loss in case of a strong emotional connection, reaches so intensive cataclysm that exceeds the usual adaptation abilities. Dominating acute and chronic negative emotions hinder the whole cognitive action of a person.

The present report aims to represent the specifics in the reactions in relatives of deceased persons after a chronic illness or an accident.

This report includes 170 cases (relatives of deceased people), separated into two groups – group A (death results after long suffering, n=59); and group B (death is caused by an accident, n=111).

The reactions are studied (somatic, cognitive, behavioural and emotional) according to the gender, age and position in the family.

The contact of the clinical psychologist with the grieving relative is made within the first 30 min to the 18th hour after being informed about the death.

Group A – the observed experience is fast entering into the depressive stage of grieving process, with its

usual characteristics of sadness, cry and anxiety, in lack of active daily routine.

Group B – this group endures specific patterns of psychological shock. The relatives share feeling of unreal situation, emotional paralysis and anger – anger to the medical team (A type) or anger to an abstract object (B type). The death itself and especially the personal experience is repelled. In order to preserve its mentality, the relative uses mechanisms of psychological defence such as “denial” and “dislocation”.

Psychological crisis resulting after death of a dear one can be one of the most traumatic mental condition that requires psychological support.

Key words: death, grieving, grieving stages, grieving reactions, mechanisms of psychological defence

INFLUENCE OF COGNITIVE DISORDERS ON DISABILITY IN PATIENTS WITH PARANOID SCHIZOPHRENIA

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Summary

Schizophrenia is associated with significant social and occupational dysfunction and ranks in third place in disability worldwide.

The aim of the study was to evaluate the impact of cognitive impairments on disability in patients with paranoid schizophrenia.

Methods: We studied 108 patients (66 male and 42 female), treated at the First Psychiatric Clinic of UMHAT Pleven in 2017-2018 after signing an Informed Consent. Patients' mean age was 38.9 ± 10.0 years with disease duration 12.8 ± 8.2 years and mean onset of disease 24 years. Severity of disease was assessed by Positive and Negative Syndrome Scale (PANSS), disability level - by WHO – DAS 2.0, and cognitive function - by neurocognitive battery. The relationship between variables was measured by Spearman's rank correlation coefficient (r_s) at a probability $p < 0.05$. Data processing was performed by IBM SPSS v.24.

Results and discussion: The average severity of disease according to PANSS was 71.8 ± 5.1 . The speed of information processing ($r_s = 0.38$; $p = 0.0001$), visual memory ($r_s = -0.30$; $p = 0.0014$) and focused attention ($r_s = -0.33$; $p = 0.0005$) moderately related to „participation in society“. Episodic memory ($r = -0.28$; $p = 0.0032$) was weakly linked to „understanding and communicating“. Executive functions showed moderate correlations with all domains on WHO-DAS 2.0 scale ($r_s = 0.38$; $p = 0.0001$). Verbal fluency ($r_s = -0.27$; $p = 0.0048$) had weak correlations with „understanding and communicating“, „getting along with people“, and „participation in society“.

Conclusions: Cognitive impairments in paranoid schizophrenia contribute to low employment / retention opportunities in a competitive labour market.

Key words: schizophrenia, disability, impairment cognitive impairment, WHO-DAS 2.0

POSTER

MENTAL HEALTH PROTECTION IN THE CONDITIONS OF COVID -19

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Summary

Humanity more than once in its history faced serious health crises, the overcoming of which requires adequate and quick reactions from the competent international bodies and state authorities. Despite this experience, the current global health crisis caused by the infectious disease COVID-19 has posed serious challenges to nation states and the international community. At the beginning of this health crisis, the main goal of state bodies and international organizations was to take various measures to limit the spread of the disease and reduce the number of victims. As the measures taken led to severe economic consequences for all countries and for the international community, they focused on finding adequate solutions to overcome these negative consequences. Undoubtedly, the initial objectives described should be a priority, but the issue of protecting the mental health of the population has remained out of the public's attention. In this regard, in basic international human rights instruments, including international law doctrine, health is defined

as “a state of complete physical, mental and social well-being and not necessarily the absence of disease or infirmity”, and in this sense, mental health has been raised by the international community as an integral part of everyone’s right to health. Therefore, in the context of the health crisis caused by COVID-19, should be taken as a matter of priority an adequate measure should be taken to protect the mental health of citizens, especially vulnerable groups, such as children, people with disabilities, people with low socio-economic status.

Section M. VARIA

ORAL PRESENTATIONS

ESTABLISHMENT, FIRST STEPS AND DEVELOPMENT OF SPECIALIZED FORENSIC MEDICINE DEPARTMENT IN PLEVEN DISTRICT

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Summary

Introduction: Forensic medicine, as a branch of medical science, was created to serve the judiciary in society. For this reason, it is inextricably linked not only with medicine and health care, but also with the state, society and law.

Purpose: The purpose of the study is to search, summarize and present the available data concerning establishment, first steps and development of specialized forensic medicine department in Pleven district.

Material and methods: Historical and archival-documentary methods of research have been used.

Results: The study reveals that forensic medicine in Pleven district is related to the establishment and

development of one of the oldest civilian hospitals in the country – Pleven regional hospital. The data indicate a number of facts, including those for the first real autopsies performed in Pleven district. It is stated that as early as 1906, three medical autopsies were described and that a department of pathological anatomy was established in 1950. A forensic medicine facility in Pleven region was established in 1963, and a forensic medicine department in 1966 with the appointment of the first forensic doctor. Dr. Penko Totev. The peak in the development of forensic medicine as a science and practice is reported to have been reached in the period 1978-1988, when Professor Dr. Georgi Tsekov created and equipped “Department of Forensic Medicine” within the structure of the “Medical Faculty” (1974) in Pleven.

Conclusion: Today, despite financial and personnel problems, forensic medicine continues to fulfill its obligations to the state, law and society in Pleven district.

Key words: forensic medicine, forensic report, Pleven regional hospital

DEVELOPMENT OF DISASTER MEDICINE UNTIL 2000 IN BULGARIA: CONTEMPORARY DISCIPLINE WITH TRADITIONS SINCE THE 20TH CENTURY

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Summary

Introduction: Disaster Medicine (DM) is defined as the science of medical provision of the population in emergencies of a mass nature, disasters, accidents and catastrophes (DAC).

Purpose: To study and present the development of DM until 2000 in Bulgaria as a modern discipline with traditions since the 20th century.

Material and methods: Archival-documentary methods.

Results and discussion: In Bulgaria, at the end of

the 20th century, the DM discipline was created. Until this period, since 1951, the “Medical and Sanitary Protection” (MSP) has been developing. In medical schools in the country until 1957 the training of the health personnel about MSP was carried out partially. In 1972, a department of DM was established in the structure of the Medical Academy, headed by Prof. Dr. Yordan Naumov (1960-1979). The names of Prof. Dr. Teofil Dronzin, Prof. Dr. Lulcho Krastanov (1979-1986), Assoc. Prof. Dr. Veselin Konsulov (1986-1989), Prof. Dr. Hristo Nechev (1989-1992), Assoc. Prof. Dr. Stefan Krusev (1992-1997) also are associated with the DM to the millennium. The DM as medical discipline includes not only basic topics about toxicological, radiological and biological protection, but also surgical care, resuscitation, medical triage, contemporary disasters – terrorism etc. Gradually and naturally the organization of medical provision and health risk management are aimed both for limiting and dealing with DAC, and for reducing the risk of disasters.

Conclusion: Focused on the protection of human life, the discipline DM is developed over time in favor of public health in the country. Health risk management due to disasters is improved from the past to the future as well as medical provision of the affected population. Many prominent Bulgarian scientists during the study period have dedicated themselves to DM, contributing to its development.

Key words: disaster medicine, history of medicine, Bulgaria

COMMUNICATION SKILLS IN THE UNDERGRADUATE AND POSTGRADUATE MEDICAL EDUCATION

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Summary

Introduction: The idea of communication skills education to medical students originated in the 70s of the twentieth century, goes through resistance and first general recommendations in the 80s and 90s, and reached the implication at the beginning of the 21st century that communication skills can and should be

learned by medical students.

Aim: To study the experience of countries with traditions in the field of good medical practice in education of medical students in communication skills and to compare with the experience of our country in this field.

Material and methods: A wide range of studies available in medical databases have been used and analysed as material. The curricula of the higher medical schools in the country are considered.

Results and discussion: Currently, in the United Kingdom, the EU, the US and Canada, communication skills education is a mandatory part of the curriculum of higher medical schools with different duration at universities and different place in the student program, the assessment of knowledge is usually done with the OSCE. In Bulgaria, the teaching of students' communication skills is not included in the mandatory curricula. At the Medical University of Pleven, communication skills have been taught as an optional discipline since 2007 and so far 1984 students have passed this education.

Conclusion: It is not yet fully clear the best option for teaching students in communication skills, but most authors agree with the idea of a mandatory “longitudinal” course that will last several semesters to include more practical student training using lectures, seminars, group discussions, role-plays, simulated patients.

Key words: communication skills, medical students

ANALYSIS OF THE SPECIFICS IN THE EDUCATION OF STUDENTS MAJORING IN „MEDICAL LABORATORY ASSISTANT“ IN BULGARIA AND EU

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Summary

Introduction: The medical laboratory assistant is part of the health team and has its own specific tasks, professional responsibility and personal skills. His level of training must correspond to the medical science and practice, as well as his continuous development.

The purpose of this study is to derive the specifics and training of the professional activity of a laboratory assistant and to compare the information related to the specialty in different countries European Union.

Methods: A documentary method was used for comparative analysis of the specifics of the training and professional activity of the medical laboratory assistant in Bulgaria and EU. References have been made to scientific publications, laws and regulations, websites of professional organizations and educational institutions, as well as various platforms offering guidelines and information about the study.

Results: The study research revealed the need to optimize and improve the higher education system that is able to respond to the dynamics of social processes for sustainable development. The change of the level of education and the design of a master's program for medical laboratory will increase the quality of training and will be answer the specific features of the specialty.

Conclusion: Knowing the examples of good practice in Europe will allow for timely and adequate changes for the development of the profession and the formation of the image of the modern medical laboratory assistant.

Key words: specificity of training, medical laboratory technician, EU countries

ANALYSIS OF THE CURRICULA FOR ACQUIRING A SPECIALTY IN THE HEALTHCARE SYSTEM IN BULGARIA

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Summary

Introduction: At the beginning of 2015, a new ordinance was adopted in Bulgaria for acquiring a specialty in the healthcare system. This normative

document imperatively states the obligation for the training in each specialty to be conducted according to a curriculum approved by the Minister of Health.

Purpose: To make an analysis of the content of the current curricula for acquiring a specialty in the healthcare system in Bulgaria.

Material and methods: Information was collected and summarized about the curricula for acquiring a specialty in the healthcare system in our country. The methods of comparison and expert evaluation were used. The information was processed with the statistical program SPSS and several research hypotheses were tested.

Results: A specialty in the healthcare system is acquired after the implementation of the curriculum and successfully passed practical and theoretical exams before a state examination commission, determined by an order of the Minister of Health. As of September 2020, according to the ordinance, there are a total of 148 specialties in the healthcare system. For two of them, no program was found that was approved by the Minister of Health. The analysis shows an extremely large variety in the structure and content of the programs. Their updating takes place over long periods of time, and one third of the existing programs were approved more than 10 years ago.

Discussion: The results show the need for standardization in the structure and content of curricula. Greater activity is needed on the part of the chairmen of the state examination commissions to acquire a specialty, who according to the ordinance are responsible for proposing corrections and changes in them.

Conclusion: With the adoption of a new ordinance for acquiring a specialty in the healthcare system, many changes were made in the order and organization of this process. However, the Ministry of Health has not yet taken sufficient care and effort to update the content of the curricula for the specializations. Greater activity is also needed on the part of the chairmen of the state examination commissions.

Key words: curriculum, PGE, specialty, healthcare system, Bulgaria

POSTER

MULTIPLE INTELLIGENCES FOR PERSONAL ENHANCEMENT

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Summary

Introduction: The IQ test are often big challenge for the people who know several foreign languages and are good at their field. This is the main focus in “the Multiple intelligence theory” by Howard Gardner, pointing that there are different type of intelligences which are not related by each other. All human beings possess all type of intelligence and they are developed on a different level.

Aim: The report aims to present the idea of multiple intelligences and break it through national cultural characteristics.

Material and Methods: Intelligence is the ability to solve problems and create products that are valuable to a culture environment or society. MI theory is based on the biological progression of every problem-solving skill, and according to the same theory, we can distinguish 8 types of intelligence: musical, body-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, intrapersonal, naturalistic and after the last additions of the author – existential intelligence. The development of intelligence goes through certain chronological cycles. According to MI, there are three of them. From 0 to 7 years of age, where interests are broadly set and are associated with a specific field search, the period 7-14 years places the field found in a narrower specialization and the last 14-21 years are the period of reaching new horizons and height and re-placement of a wider frame.

Results and conclusion: Using MI theory, we can more easily identify occupational activities and interests that have the strongest potential of our own biology, and occupational activities will be able to relate to the psychology of optimal experiences.

Key words: Multiple intelligence, enhancement, talent, psychology, development

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