

Health for all?! Evidence-based healthy ageing in Europe!

MEDRI



FZSI



Rijeka, May 27-29, 2015.

The Third International Symposium
Health for all?!
Evidence-based healthy ageing in
Europe!
Rijeka, May 27-29, 2015.

Student Public Health Section
„Healthy ageing across ages“
May 28, 2015.

Organizers of the Symposium „Health for all!“

:

Department of Social Medicine and Epidemiology

Department of Social Sciences and Medical Humanities

Faculty of Medicine, University of Rijeka, Croatia

Department of Public Health

Faculty of Health Studies, University of Rijeka, Croatia

The co-organizers of the Symposium „Health for all!“

Croatian Society for Farmacoeconomics and Health Economic

Croatian Society for Public Health

Rotterdam University, Netherlands

The logo for MEDRI, consisting of the letters 'MEDRI' in a stylized, blue, sans-serif font.The logo for FZSRI, consisting of the letters 'FZSRI' in a stylized, blue, sans-serif font.

Research Centre
Innovations in Care

The patron of The Third Symposium „Health for all?! Evidence based“

Ministry of Health



Ministarstvo zdravlja

Ministry of Social Policy and Youth



REPUBLIKA HRVATSKA
MINISTARSTVO SOCIJALNE POLITIKE
I MLADIH

University of Rijeka



UNIRI

Organization committee of the Symposium Health for all?!

President:

Tomislav Rukavina

Administrative Secretary:

Meri Cucan i

Members:

Lovorka Bilajac (Rijeka), Vanja Vasiljev Marchesi (Rijeka), Aleksandar Dzakula (Zagreb), L.F.J. Martijn (Netherlands), Ranko Stevanovic (Zagreb), Darko Rovis (Rijeka), Branko Kolaric (Zagreb), Amir Muzur (Rijeka), Iva Rincic (Rijeka), ulija Malatestinic (Rijeka), Miroslav Mastilica (Zagreb), Morana Tomljenovic (Rijeka), Milena Kabalin (Rijeka)

Organization committee of student section:

President:

Kruno Topolski

Members:

Josip Aničić (Rijeka), Paula Senković (Rijeka), Franjo Carović (Rijeka), Roberto Štanić (Rijeka), Marko Dombi (Rijeka), Melvin van der Mark (Netherlands), Angela de Leeuw (Netherlands), Floor de Fockert (Netherlands), Niels Wigman (Netherlands), Piet Mourik (Netherlands), Eric Krommenhoek (Netherlands)

About the Symposium “Health for all?! Evidence-based healthy ageing in Europe!”

According to Population data bureau the Europe is facing increment in population of the elderly. Average proportion of people older than 65 in Europe is 18%, but in some cities as Rijeka, the proportion is already 20.

This year, the Organizing Committee has chosen "Evidence-based healthy ageing in Europe" for the main topic of the Symposium, with a focus on the latest improvements and trends, as well as future outlook of the field of healthy and active ageing.

The Organizing Committee is gearing up for an exciting and informative conference program including invited lectures, workshops on a variety of topics, poster presentations and various social programs.

We invite you to join us at the 3rd Symposium “Health for all?!”, where you will have certainly a meaningful experience. All members of the “Health for all?!” Organizing Committee are looking forward to meet you in Rijeka, Croatia.

Sincerely,

Professor Tomislav Rukavina, MD, PhD

Program

Wednesday, May 27th.2015.

FACULTY OF MEDICINE

The Main Hall

11,00 →	Registration
11,00 →	Poster display
12,00 – 13,00	Welcome drink

Room 1

13,00-13,30	Opening ceremony
13,30-13,45	Introduction: Milena Kabalin, Croatia: <i>Sociodemographic data of elderly population in Primorsko-Goranska County</i>
13,45 – 15,15	Section 1. INEQUALITIES IN SOCIAL AND HEALTH CARE
SI ISHC 1	Miroslav Mastilica, Croatia: <i>Health inequalities- from evidence to policy</i>
SI ISHC 2	Lovorka Bilajac, Croatia: <i>Inequalities - a consequence of living</i>
SI ISHC 3	Josipa Meštović Špoljar, Croatia: <i>Croatian Active Ageing Index</i>
SI ISHC 4	Dajak Lidija, Croatia: <i>Positive economic outlook on demographical aging</i>
15,15–15,30 Refreshment	
15,30 – 18,15	Section 2. CONTROL OF LONELINESS AND FRAILITY
S2 CLF 1	Tomislav Rukavina, Croatia: <i>Increased awareness of frailty in elderly – A key for better care in future</i>
S2 CLF 2	Ranko Stevanović, Croatia: <i>How to improve the treatment of elderly oncological patients- project by Croatian Society for Pharmacoeconomics and Health Economics- CSPHE and Oncology Foundation</i>
S2 CLF 3	Kristijan Zulle, Croatia: <i>Seniors in wellness</i>
S2 CLF 4	Kruno Topolski, Croatia: <i>Let's move together</i>

Thursday, May 28th, 2015.

FACULTY OF MEDICINE

Room 1

9,00 – 9,20	Actual moment in Croatia Health Care: Aleksandar Džakula, Croatia: <i>Health Care System in Croatia – what is going on?</i>
9,20-10,30	Section 3. MENTAL HEALTH ACROSS AGES
S3 MH 1	Anthony Polychronakis, European Programme Officer, Netherlands: <i>Family Justice Center: Domestic Violence Help</i>
S3 MH 2	Darko Roviš, Croatia: <i>Evidence based mental health promotion and prevention among adolescents: Developmental perspective</i>
S3 MH 3	Milorad Šuša, Germany: <i>Distortion of perception and stress: An alternative view of diagnostic and therapeutical approach</i>
10,30 –10,45 Refreshment	
10,45 – 12,15	Section 4. POLYPHARMACY
S4P 1	Jasenka Mršić Pelčić, Croatia: <i>Polypharmacy in the elderly</i>
S4P 2	Željana Margan Koletić, HALMED, Croatia: <i>Review of reported adverse drug reactions (ADR) to HALMED in elderly patients between 2013 and 2014</i>
S4P 3	Katarina Fehir Šola, Croatia <i>Providing pharmaceutical care in a nursing home in the city of Bjelovar, Croatia</i>
S4P 4	Sočan Maja, Slovenia: <i>Low influenza vaccine acceptance in the elderly in Slovenia – need for improved promotion practices</i>
12,15 – 13,15 Lunch break	
13,15 – 14,15 POSTER VIEWING AND DISCUSSION	
14,15 – 15,45	Section 5. HEALTHY AGING AND PREVENTION OF FALLS
S5PF 1	Dalibor Krpan, Croatia: <i>„BAR“ method in prevention of falls and fractures</i>
S5PF 2	Livia Puljak, Croatia: <i>Cochrane systematic reviews: prevention of falls and appropriate use of polypharmacy in older people</i>
S5 PF 3	Ivan Didović, Croatia: <i>Physical therapy in the secondary healthcare framework</i>
S5 PF 4	Roberto Čaćan, Croatia: <i>Biomechanical alterations in elderly walking and running gait</i>

15,45 – 16,00 Refreshment	
16,00-17,00	Section 6. CUTTING EDGE
S6 CE 1	Stjepan Orešković, Croatia: <i>Cutting Edge Issues in Public Health Leadership</i>
S6 CE 2	Zlatko Trobonjača, Croatia: <i>Theories of ageing</i>

18,30 – 22,00 Welcome dinner in the Campus Restaurant, Dancing music

Friday, May 29th, 2015.

FACULTY OF HEALTH SCIENCES

Room 6

9,00 – 9,20	<i>Future collaboration on Active ageing:</i> Romero Mas Montse, Spain: <i>Social Ecosystem for Active Ageing and Well- Being (SEACW)</i>
9,20 – 10,30	Section 7. ENVIRONMENT AND HEALTHY AGEING
S7 EHA 1	Elin Koppelaar, Netherlands: <i>The influence of the environment on the effectiveness of interventions</i>
S7 EHA 2	Paula Senković, Croatia: <i>The role of physiotherapist in healthy and active aging</i>
S7 EHA 3	Matea Babić, Croatia: <i>Healthy ageing/prevention of the first signs - the skin</i>
10,30 – 10,45 Refreshment	
10,45 – 13,15	Section 8. ICT TECHNOLOGIES FOR ACTIVE AND HEALTHY AGEING
INVITED LECTURES	
S8 ICT 1	Henk Herman Nap, Netherlands: <i>eHealth in long-term care: from robotics to serious gaming</i>
S8 ICT 2	Teo Rakočević, Croatia: <i>Software for managing of polypharmacy</i>

13,15 CLOSING CEREMONY AND CLOSING REMARKS

POSTER SECTION

1. Arbanas D, Jonjić D.- Consumption of drugs by nursing homes residents in the city of Karlovac, Croatia
2. Balorda Lj, Škrgatić Z - Subjective quality of life and psychological stress in elderly – Zadar County - CAHS 2008/2009
3. Brkić D. J, Tasić M. Lj, Marinković V, Geiger Zeman M, Zeman Z. - The possibility in regional cooperation of health and social care for older population
4. Dombi M, Perasz AK, Lekić A. The correlation between the years of physical activity performed during lifetime and the outcomes of Barthel Index examined in old age in people at the Home for the elderly persons 'Kantrida'
5. Jerliu N, Krasniqi P, Ramadani N. - Regular physical activity of older people in Kosovo
6. Grbović E. - Challenges and difficulties in work of social workers in homes for elderly
7. Puljak L. - Cochrane Croatia: promoting evidence-based medicine since 2008

Contents

PAPER ABSTRACTS (IN ALPHABETICAL ORDER).....	15
INEQUALITIES AS A CONSEQUENCE OF LIVING	15
POSITIVE ECONOMIC OUTLOOK ON DEMOGRAPHICAL AGING	16
PHYSICAL THERAPY IN THE SECONDARY HEALTH CARE FRAMEWORK.....	17
HEALTH CARE SYSTEM IN CROATIA – WHAT IS GOING ON.....	17
PROVIDING PHARMACEUTICAL CARE IN THE NURSING HOME, CITY OF BJELOVAR, CROATIA.....	18
SOCIODEMOGRAFIC DATA OF ELDERLY POPULATION IN PRIMORSKO-GORANSKA COUNTY	19
THE INFLUENCE OF THE ENVIRONMENT ON THE EFFECTIVENESS OF INTERVENTIONS	19
“BAR” METHOD IN PREVENTION OF FALLS AND FRACTURES.....	20
REVIEW OF REPORTED ADVERSE DRUG REACTIONS (ADR) TO HALMED IN ELDERLY PATIENTS BETWEEN 2013 AND 2014.....	21
HEALTH INEQUALITIES IN REPUBLIC OF CROATIA, FROM RESEARCH TO POLICY	22
CROATIAN ACTIVE AGEING INDEX	23
POLYPHARMACY IN THE ELDERLY	24
EHEALTH IN LONG-TERM CARE: FROM ROBOTICS TO SERIOUS GAMING	25
CUTTING EDGE ISSUES IN PUBLIC HEALTH LEADERSHIP	26
FAMILY JUSTICE CENTERS : DOMESTIC VIOLENCE HELP	27
COCHRANE SYSTEMATIC REVIEWS: PREVENTION OF FALLS AND APPROPRIATE USE OF POLYPHARMACY IN OLDER PEOPLE	28
CONCEPTUAL SOFTWARE SOLUTION FOR MANAGING POLYPHARMACY.....	29
SOCIAL ECOSYSTEM FOR ACTIVE-AGEING AND WELL-BEING (SEACW)	30
EVIDENCE BASED MENTAL HEALTH PROMOTION AND PREVENTION AMONG ADOLESCENTS: DEVELOPMENTAL PERSPECTIVE	31
INCREASED AWARENESS OF FRAILITY IN ELDERLY – A KEY FOR BETTER CARE IN FUTURE.....	32
LOW INFLUENZA VACCINE ACCEPTANCE IN THE ELDERLY IN SLOVENIA – NEED FOR IMPROVED PROMOTION PRACTICES.....	32

HOW TO IMPROVE THE TREATMENT OF ELDERLY ONCOLOGICAL PATIENTS – PROJECT BY CROATIAN SOCIETY FOR PHARMACOECONOMICS AND HEALTH ECONOMICS - CSPHE AND ONCOLOGY FOUNDATION	33
DISTORTION OF PERCEPTION AND STRESS: AN ALTERNATIVE VIEW OF DIAGNOSTIC AND THERAPEUTICAL APPROACH.....	35
THEORIES OF AGING	35
'COMPETENCIES OF CROATIAN BACHELORS OF PHYSIOTHERAPY IN WELLNESS INDUSTRY"	36
SENIORS IN WELLNESS	36
STUDENT SECTION „HEALTHY AGEING ACROSS AGES“	38
HEALTHY AGEING/PREVENTION OF THE FIRST SIGNS - THE SKIN	39
BIOMECHANICAL ALTERATIONS IN ELDERLY WALKING AND RUNNING GAIT...	40
THE ROLE OF PHYSIOTHERAPIST IN HEALTHY AND ACTIVE AGING	41
LET'S MOVE TOGETHER	42
POSTER SECTION	43
CONSUMPTION OF DRUGS BY NURSING HOMES RESIDENTS IN THE CITY OF KARLOVAC, CROATIA.....	43
SUBJECTIVE QUALITY OF LIFE AND PSYCHOLOGICAL STRESS IN ELDERLY – ZADAR COUNTY - CAHS 2008/2009.....	44
THE POSSIBILITY IN REGIONAL COOPERATION OF HEALTH AND SOCIAL CARE FOR OLDER POPULATION	46
THE CORRELATION BETWEEN THE YEARS OF PHYSICAL ACTIVITY PERFORMED DURING LIFETIME AND THE OUTCOMES OF BARTHEL INDEX EXAMINED IN OLD AGE IN PEOPLE AT THE HOME FOR THE ELDERLY PERSONS 'KANTRIDA'	47
CHALLENGES AND DIFFICULTIES IN WORK OF SOCIAL WORKERS IN HOMES FOR ELDERLY.....	48
REGULAR PHYSICAL ACTIVITY OF OLDER PEOPLE IN KOSOVO.....	49
COCHRANE CROATIA: PROMOTING EVIDENCE-BASED MEDICINE SINCE 20	50
GENEROUS SUPPORT OF THE SYMPOSIUM “HEALTH FOR ALL?!”:	51

Paper abstracts (in alphabetical order)

Bilajac Lovorka

Bilajac, L.^{1,2} Vasiljev Marchesi V^{1,3}, Rukavina T^{1,2}

¹ Department of Social Medicine and Epidemiology, Faculty of Medicine, University of Rijeka, Croatia

² Teaching institute of Public Health Primorsko-goranska County

³ Department of Public Health, Faculty of Health Studies, University of Rijeka, Croatia

Inequalities as a consequence of living

Inequalities could be defined in several ways depending on a given subject of interest. In this work we put emphasize on differences in subjective perception of living in elderly population of the City of Rijeka. As a part of international collaborative project UHCE – Urban Health Centre Europe our group has conducted a survey using focus group methodology in the population of elderly with the aim to determine their needs, problems and demands regardless the statistical indicators. The results of two focus groups we conducted were surprisingly different and gave completely opposite results. The results were found to be ranging from loneliness, apathy and anger to optimism, joy and love of living. Some of the elderly are used to exercise, socialize, and go on excursions, while the others are used to stay alone in their homes. These differences are probably the consequence of different lifestyle habits acquired during the previous life but such assumption should be investigated in much more detailed manner in order to define the causes with the final goal to reduce them and to improve the quality of life in elderly population.

Dajak Lidija

Mastilica M, Dajak L

Andrija Štampar” School of Public Health, University of Zagreb, School of Medicine

Positive economic outlook on demographical aging

Goal: To use vast potential of aging in an innovative, creative and economically efficient way, which will enable elder people to have a quality filled and dignified life, and have multiple benefits for the community.

Methods

Over the course of 10 years we have worked with retired people in groups and individually on health preventive, sport recreational, work creative and cultural entertainment content.

Results

- Active and healthy aging
- Mentioned population for as long as possible should be kept active, healthy and independent in everyday life. They have to replace the existing passivity and social exclusion with healthy, active and productive aging.
- Volunteer work
- The transfer of valuable knowledge of elder people by volunteering is a proven way of local community’s free potential improvement, but which is not sufficiently used.
- Working in retirement

It’s necessary to support more flexible forms of employment, having in mind people, like the elder ones, who cannot or will not work full time.

Conclusions: Demographic aging is a challenge and a potential for a smart, sufficient and inclusive growth. It is a fact that a large number of elder people are in good health, have valuable skills and knowledge and want to give a significant contribution to the society. It is time to start making changes in the approach, practice and politics on every level and sector in order to be able to use the vast potential of aging.

Didović Ivan

Physical therapy, Health Centre Krk

Physical therapy in the secondary health care framework

Physical therapy in the secondary health care framework is very important for the patients, especially older people, because it has an impact on the quality of the life of the patients. One of the most common and difficult diagnosis in physical therapy are bone fractures. Bone fractures occur as a result of falls. Falls threaten independence, especially older people, and cause a variety of personal and socioeconomic consequences. Using timely and proper physical therapy treatment of fractures in secondary health care , we can directly reduce the complications of fractures in falls, and increase the quality of life.

Džakula Aleksandar

Social Medicine and Organization of Health Care

Andrija Štampar School of Public Health, Medical School, University of Zagreb

Health Care System in Croatia – what is going on?

The Croatian health care system is a mixed system financed from public and private sources. Funds are collected mainly from payroll taxes. All Croatian citizens have the right to health care. Health care provision is divided into three levels – primary, secondary and tertiary health care. The majority of primary care physicians offices were privatized. Secondary health care facilities were distributed among the State and the counties, tertiary health care facilities are State-owned. Primary care physicians are usually patient's first point of contact with the health system - gate keepers. During last years the health care reform introduced several structural and financial changes to primary health care. The national reform of Emergency medical service , which started in 2009, introduced a model of a county-wide network of County Institutes for Emergency Medicine. The key support for all successful changes were national health IT network (CEZIH). The main feature of the financial reform was the diversification of public revenue collection mechanisms.

In 2009 Croatia substantially reformed its pricing and reimbursement regulation for medicines with the aim of maximizing value for invested funds and increasing the efficiency and transparency. Croatia has decided to import and modify the Australian Refined-DRG system in Croatia. Croatian Ministry of Health published the “Strategy of the development of the Croatian health care system 2012–2020”. The priority areas for investment include: health infrastructure, e-health, providing access to health care for the most vulnerable groups, emergency health care, medical equipment etc.

Fehir Šola Katarina¹, Jonjić Danijela²

¹Health Institution Pharmacy Bjelovar, Croatia

²Croatian Chamber of Pharmacists

Providing pharmaceutical care in the nursing home, city of Bjelovar, Croatia

Providing support to residents of nursing home by taking regular drug therapy reviews done by pharmacist in order to detect and manage possible side effects and interactions. Initiative is also used as an incitement to talk about patients' medication experiences.

Summary of materials and methods: The project was conducted from June 20, 2014 to February 15, 2015 in the nursing home "Vita Nova" in the city of Bjelovar, Croatia. Pharmacist visits the home, and in consultation with the person responsible, does pharmaceutical interventions. First intervention is drug therapy review and education of groups of patients and medical staff on certain health topics. Second intervention is provision of individual consultation about therapy, dietary supplements and OTC medicines that patients are taking and managing possible side effects and interactions.

Results: Statistical analysis of data collected from 97 patients shows that residents of nursing home use on average 7 prescription and 2 nonprescription medicines. In the group of mobile and independent patients suffering from cardiovascular diseases, it was observed that 60% of them do not take their medicines properly. 10 adverse reactions were reported, 50 medication errors detected and 10 interventions performed towards physicians.

Conclusions: It was found that residents of nursing home use a lot of medicines in the same time which increases the risk of medication errors, especially the occurrence of clinically relevant interactions and side effects. Regular and individual consulting patients living in nursing homes by pharmacist,

increases the trust, understanding of the need for therapy and adherence to the treatment.

Kabalin Milena, Tomljenović Morana
Department of Social Medicine and Epidemiology
Faculty of Medicine, University of Rijeka, Croatia

Sociodemographic data of elderly population in Primorsko-Goranska County

Aim: to present sociodemographic data of elderly population in Primorsko-Goranska County (PGC). *Methods:* the data were used from Health-statistical yearbook of the Teaching Institute of Public health PGC, Croatian Institute of Public Health and Croatian Bureau of Statistics and the World Health Organization. *Results:* the PGC has by latest population census in 2011, 296 195 residents with average population density of 85 resident/km². The percentage of elderly population above 65 years old in PGC is 18.91%, which is above the average of Croatian elderly population (17.7%). Mountain areas have the highest percentage of elderly population with 22.5%. Some of the settlements in PGC county are showing depopulation specially in mountains and islands region. *Conclusion:* natural increase and vital index is continuously decreasing with rising data of average age and index of aging which undoubtedly shows that PGC has a very old population. That kind of population requires specific health and social care which often are not satisfactory.

Koppelaar Elin
Research Centre Innovations in Care
University of Applied Sciences

The influence of the environment on the effectiveness of interventions

By 2050, the number Europeans over 65 will double, and the number of over 75 will almost triple. Older people are at risk for health decline and loss of independence. Maintaining independence and preventing decline as long as possible are goals of prevention in elderly. In order to establish that,

prevention can focus on physical, psychological and/or social functioning. The benefits of multifactorial interventions for the elderly have been demonstrated, such as for the prevention of falling.

Despite evidence indicating their effects, interventions are not always effective in new or different situations. Implementing effective interventions often requires adapting interventions to different conditions, especially when interventions are applied in different populations, places, and situations.

Different settings and populations present a range of environmental circumstances that affect the outcome. The process of implementing interventions that work, includes both scientific evidence regarding effective programs and knowledge of the context the intervention is implemented in. The adoption and implementation of interventions requires comprehensive approaches at different levels (elderly, individual professional, healthcare team, healthcare organisation, or the wider environment), tailored to specific settings and target groups.

Krpan Dalibor
Osteology
Polyclinic K-center

“BAR” method in prevention of falls and fractures

Osteoarthritis and osteoporosis are the most common medical problem in elderly population and one of the biggest public health issues of our civilization. The complications, such as fractures and disability associated with these diseases are big financial burden not only for the patient and their family but for the whole society. Despite this, skeletal diseases were ignored for many years and considered as a consequence of natural aging. The therapy was only partial and symptomatic and prevention was neglected. Unfortunately, even today the situation has not changed much despite the fact that significant scientific activities done in last twenty years give us the new insight in the skeleton and new technologies brings the new opportunities of treatment. It is shown that skeleton is complex organ which need to be treated as a whole, taking in consideration that it is consist of bone, cartilage and muscle-connective tissue. Therefore, treatment needed to be combination of methods which will improve skeleton in general.

What is the "BAR" method?

"BAR" stands for: B – biomechanics A – analgesia R – regeneration. It is an integrated, holistic approach to the treatment using a combination of methods to improve the "bio-mechanics" as well as stimulates regeneration of cartilage and bone formation. Thus, it reduces a risk of falls and fractures. In practice "BAR" method is combination of "Tae do" exercise, isokinetic dynamometry and therapeutic nuclear magnetic resonance (MBST). Each of this method is scientifically proven and it is recommended to all persons above 60.

Margan Koletić Željana

Department for Pharmacovigilance and Rational Pharmacotherapy
Croatian Agency for Medicinal Products and Medical Devices

Review of reported adverse drug reactions (ADR) to HALMED in elderly patients between 2013 and 2014

Aim/Objective: Adverse drug reactions are likely to appear in elderly patients due to aging and polypharmacy. This review will present the most common ADRs reported in elderly patients through a review of the national ADR database, as well as examine the importance of ADR reporting.

Summary of materials/examinees and methods: A review of Croatian ADR database (VigiFlow) was performed for the period between 1993 and 2014, with a special comparison of ADRs reported in 2013 and 2014 among elderly patients.

Results: In 2014 HALMED received a total of 3112 case reports, of which 30% were received for elderly patients (> 65 years). The number of reported cases is higher than in 2013 (934 vs 734). The number of concomitant medications reported in these cases is also higher.

Conclusions: In order to increase patient safety, especially of risk patient population such as elderly, and to improve available knowledge about drug administration, it is important that all stakeholders in health (HCP, patients/caregivers) understand the importance of ADR reporting and data that it provides.

Mastilica Miroslav

Dept. of Medical Sociology and Health Economics

Andrija Štampar School of Public Health, Medical School, University of Zagreb

Health inequalities in Republic of Croatia, from research to policy

Aim of this presentation is to review the evidence of the health inequalities in the Republic of Croatia and the health and social policy responses, measures taken to reduce the unacceptable inequalities.

Objective is to show that there exist the wide gap in the knowledge of social inequalities in health and health care utilization and the policy responses to these health inequalities

The presentation is based on the review of the research evidence on health inequalities in RC, and the policy responses

Summary: Socio-economically determined health inequalities has been found in the Croatian society (Mastilica 1994, 1996 1998, 1999, 2002, 2005, L.Voncina et al. 2007, Mastilica & Benkovic 2010, Bjelajac L. 2014/5).

Policy responses addressing health inequalities either directly or indirectly in Croatia are insufficient.

Health inequalities have not been afforded a high amount of priority on the political agenda as the recognition of the issues involved and solutions required differs among politicians. Policy responses that have been implemented tend to be devised at the national level

An overview of policy responses addressing health inequalities in can be found in the EuroHealthNet Policy Database.

Key actors in Croatia working on health inequality issues:

- Ministry of Health
- Croatian National Institute of Public Health (CNIPH and
- Andrija Štampar School of Public Health, Medical School, University of Zagreb

Meštrović Špoljar Josipa
Department for Health Care Contracting
Croatian Health Insurance Fund

Croatian Active Ageing Index

Aim/Objective: The aim of this work is to present the Active Ageing Index (AAI) project and their results and benefits as a basis for future internationally comparable national policy decisions.

Summary of materials/examinees and methods: Active ageing means growing older in good condition and to be full member of society, feeling more fulfilled in our/their jobs and social engagements, more independent in our/their daily activities and more engaged as citizens. All national and local policies for older people are changing because of modern demographic changes (ageing, lengthening of life, falling of fertility rate)... And those policies should be not only focused on the health and pension sustainability, they should be also focused on active contribution of elder in our/their society.

The AAI is European project which goal is to identify areas in which different policies and programs can promote contribution and potential of older people. The AAI is a toolkit taking into account twenty-two individual indicators dividend in four domains: Employment, Participation in Society, Independent Living and Capacity for Active Ageing and available separately for men and women.

Results: The AAI is constructed that scores range from 0 to 100. The goalpost value is 57.5 point for the overall AAI. Croatia is defined in a group of countries where the AAI is below the EU28 average score (33.9) but with very good ranking in the Participation in Society domain there is above the EU average and one of exceptions in its group of countries.

Conclusions: The results of AAI project are great opportunity for policymakers to base their interventions on the comparative and substantial evidence of active ageing indicators, and to identify priority areas for future policy development.

Mršić-Pelčić Jasenka
Pharmacology
Faculty of Medicine, University of Rijeka

Polypharmacy in the elderly

Aim/Objective: To discuss the problem of polypharmacy in elderly as one of the fundamental problems in the modern pharmacotherapy and growing burden on global health systems.

Summary of materials/examinees and methods: Extensive literature search was done including MEDLINE and EMBASE databases (2004-2014).

Results: In 2010, about 11% of the population was aged 65 and over. By the year 2030, this proportion will increase to more than 16%, and predictions for Europe are up to 29%. Polypharmacy, defined as use of multiple medications and/or the administration of more medications than are clinically indicated, representing unnecessary drug use, is common among the elderly. Nearly 50% of population 65 years of age and older consume between five and nine medicines weekly, and 18% consume more than 10 medicines on a weekly basis. Based on polypharmacy and age-related pharmacokinetic and pharmacodynamic changes, the risks of unnecessary increase of adverse drug reactions, geriatric syndromes (like cognitive impairment and delirium) and healthcare costs is evident. In fact, it is estimated that elderly people have four times greater odds of being hospitalized for adverse drug reactions than those < 65 years of age (16.6% vs. 4.1%).

Conclusions: Several different interventions that have been developed in order to improve polypharmacy will be discussed. These interventions include the education of healthcare professionals, medication review clinics, the promotion of generic prescribing or computerized decision support systems.

eHealth in long-term care: from robotics to serious gaming

eHealth will increasingly play a supporting role in long-term care and can contribute to a world in which people can live more comfortable, independent and self-reliant at home. Yet, we too often see that implementations are difficult or even fail, because eHealth systems do not communicate well with each other or are simply too complex to use. It is therefore essential to gather an in-depth insight on how the technology or service is best suited to the daily life of the client and carer.

To keep long-term care accessible and affordable, we should continuously innovate in eHealth. In the upcoming years we will see a boost in eHealth (mobile) apps, meaningful games and robotics that are all interconnected with a strong focus on privacy and personal ownership of data. eHealth should be proven technology, validated in evaluation- and impact studies. Nevertheless, user reviews and shared experiences are decisive in value creation and end-user acceptance.

Within the (e)Health domain it will become increasingly important to support self-management. Since people differ, it is necessary to enhance our understanding of behaviour and to personalize eHealth technologies and services as such that they can provide feedback and interventions that are compatible with people's abilities and preferences. Overall, social and motivational aspects play an important role in the uptake and success of eHealth. eHealth is a co-design process and should mediate a valuable dialogue between the client and carer to eventually maintain continuity and quality in long-term care.

Orešković Stjepan

Dept. of medical Sociology and health Economics

Andrija Štampar School of Public Health, Medical School, University of Zagreb

Cutting Edge Issues in Public Health Leadership

Aim: Defining methods, tools and criteria for evidence based and science based public health leadership at individual, organizational and systems level

Summary of materials and methods: Comparative analysis of public health and health care performance indicators and employed in different EU member state countries compared to Croatia

Results: Leadership is a critical component for any organization seeking to drive improvements in health care quality and patient safety. As health care delivery systems shift from structure and volume-based to process oriented output based and finally to outcome oriented value-based systems, leaders face new and different challenges that require new ideas, behaviours, and actions. Leaders at all levels in care organization, financing and delivery from Ministries of Health and Health Insurance Funds to County Level Health Departments should find solutions to focus their leadership efforts and achieve Triple Aim results — better health, better care, at lower cost — for the populations they serve. Cutting edge issue in the public health leadership is how to create high-impact leadership creating: New Theoretical Framework and Value Model, High Impact Framework, High Impact Leadership Behaviors. Analysis of different approaches, standards and types of national public health reports and health care services performance reports we can define the level of triple aim leadership approach in different countries.

Conclusions: Cutting edge issue in public health leadership are related to three critical questions:

- a) How employ new tools and methods of management
- b) How would re-orient individuals, organizations and systems from self-sufficient structures and process
- c) How to manage individuals, organizations and systems by outcomes creating a citizen and patient oriented public health services.

Polychronakis Anthony
Department of Maatschappelijke Ontwikkeling (Social Development)
City of Rotterdam

Family Justice Centers: Domestic Violence Help

Aim/Objective: To prevent and stop domestic violence and child abuse.

Summary of Materials/examinees and methods: Each year law enforcement agencies around the world respond to frightening incidents of domestic violence. Even more alarming considering the estimation that only 25 % of cases are reported. There are many reasons why victims fail to report including love, fear, religious beliefs, threats, lack of resources, or simply not knowing that help is available. Most criminal and civil justice systems make it difficult for victims to seek help and unintentionally wear them down. Victims are often required to travel from location to location to seek services. They have to tell their story over and over again (multiple intakes).

The Family Justice Center model, can provide a combination of services and interventions from one location to help victims and offenders break the cycle of violence and develop healthy relationships (one-stop-shop). The idea of the FJC came from the United States where the first multi-agency centre was launched in 2001. They served victims of intimate partner violence, sexual assault and related dating violence, stalking, elder abuse, forced marriage, and human trafficking. All centres cooperated closely for the common goal of intervention and prevention. As mentioned by Gael Strack, the CEO of the American Alliance, “domestic violence is an international issue.” She stressed that all the countries involved made tremendous progress thanks to the cooperation. They learnt from each other, identified best practices and adapted their services to the local cultural context. This model has been identified as a best model in domestic violence intervention and prevention services by the US Department of Justice.

Europe was inspired by this success and opened six pilot Family Justice Centers (Daphne III): in Antwerp, Berlin, Milan, Warsaw, Tilburg, and Venlo. The initiative started in January 2013 and aimed at opening multi-disciplinary centers which were meant to provide all the help needed for the victims of violence, including police, law advice, health consultancy and others, in one place.

Results: Documented outcomes in the Family Justice Centers model have included:

- reduced homicides;

- increased victim safety;
- increased empowerment for victims;
- reduced fear for victims and their children;
- increased efficiency and coordination among service providers.

Simultaneously, three other countries developed similar centres in Derry (Northern Ireland), Croydon (England), and Malmö (Sweden). During a conference in Brussels on the 14th of January 2015 the European Family Justice Center Alliance (EFJCA) was officially launched. EFCJA will support, train and assist FJCs all over Europe.

Conclusions: Combined effort of all the agencies needed to combat and prevent violence, resulted in improved quality of service support and development of high international standards.

Puljak Livia
 Cochrane Croatia
 University of Split School of Medicine

Cochrane systematic reviews: prevention of falls and appropriate use of polypharmacy in older people

Aim: To present methodology of Cochrane systematic reviews and two Cochrane reviews, on prevention of falls and appropriate use of polypharmacy in older people.

Summary of methods: Systematic reviews are considered the highest level of evidence in the hierarchy of evidence in medicine due. Systematic reviews produced by the nonprofit organization The Cochrane Collaboration are considered a golden standard for systematic reviews because of the rigorous and high-quality methodology that is uniformly applied across different Cochrane editorial review groups. Authors of systematic reviews search literature systematically, appraise the literature, extract data and formulate appropriate conclusions. For a high-quality review, each step of this process needs to be performed by at least two independent authors. If possible, statistical summary of extracted data can be performed via meta-analysis. In the end, conclusions for practice and conclusions for research are made, indicating what the results mean for clinical practice and what kind of future research should be performed to clarify a specific clinical question.

Results: Two Cochrane systematic reviews will be presented, the one about interventions for preventing falls in the elderly people living in the community and the other one about interventions to improve the appropriate use of polypharmacy for older people.

Conclusions: The two Cochrane systematic reviews on prevention of falls (159 trials with 79.193 participants) and appropriate use of polypharmacy in older people (12 trials with 22.438 participants) provide evidence-based recommendations about the successful interventions in these areas of healthcare.

Rakočević Teo

Grbavac Z, Rako evi T.
Jadran Informatika d.o.o.

Conceptual software solution for managing polypharmacy

The objective of developing conceptual software solution for managing polypharmacy is to provide simple, practical, timely and dependable information exchange among interested users. The anticipated key users of proposed system include employees of Medical University in Rijeka – administrators, doctors with their teams, nurses, persons 75+ and other interested persons (family members of persons 75+, employees of the social care centers, and others). The project entails participation of certain number of persons 75+ who take at the same time five or more of the most prescribed medications for this age group . These persons will be nominated by the selected doctors who also participate in the project. The most prescribed medications will be researched on the sample of 15 pharmacies in Primorsko Goranska County during 2014. and Q1 2015. All relevant information necessary for taking care of the patients will be uploaded in the central computer via developed application. Central computer has a permanent internet connection and all system users exchange information with the central computer via specially designed web module (doctors' teams, pharmacists) or through client application for a tablet device (persons 75+, nurses). The interactive and simple nature of the entire system ensures timely and targeted information exchange among all system users. All necessary IT infrastrucure is already available at the Medical University in Rijeka which has the possiblity to freely use virtual server (service SRCE Cloud Virtual Private Server “VPS”).

Romero Montse Mas

Romero M.¹, Jordi Villà², Mihaela Vancea², Jaume M March², Margarita Pla¹
¹Faculty of Health Sciences and Welfare, University of Vic-Central
University of Catalonia

²Faculty of Sciences and Technology, University of Vic-Central University of
Catalonia

Social Ecosystem for Active-Ageing and Well-Being (SEACW)

Project Abstract: SEACW is a two year European project funded under the CIP-ICT-PSP Work Programme 2012. The project involves a consortium of nine partners from five European countries with expertise in the fields of health and new technologies, among which is also the University of Vic. The aim of the project is to create a digital Ecosystem on active and healthy ageing, based on open technologies and cloud computing. The Ecosystem will be focused on three target groups: social inclusion agents (professional and non-professional), elderly people, and general population. The project is intended to have a wide dissemination, meaning 15.000 final users from 15 regions of 7 European countries.

Summary Project: Population ageing has become one of the major challenges for the future of our societies. In Europe, in the last three decades, birth and death rates have gradually decreased while life expectancy has significantly increased. The Eurostat's population projections suggest that the number of older persons in the EU-27 will increase to such an extent that there will be barely two persons of working age for each person aged 65 or more by 2060 (Eurostat, 2013). Beside persistently low fertility rates, strongly linked to the progressive inclusion of women in the labour market, improvements in the quality and availability of health care are likely, at least in part, to explain the process of population ageing.

Rovis Darko
Department of epidemiology and social medicine
Faculty of Medicine, University of Rijeka

Evidence based mental health promotion and prevention among adolescents: Developmental perspective

Aim: Mental health is an important component of overall health and many of the mental health problems in older age can effectively prevented at earlier stages of life. The aim of this presentation is to provide an overview of current state of mental health among Croatian adolescents and an overview of existing evidence based interventions.

Method: A review of scientific and grey literature related to mental health promotion and prevention in Croatia was conducted.

Results: Croatia is facing serious challenges in mental health promotion and prevention among adolescents especially regarding, alcohol and substance use and peer violence. Majority of the programs are locally developed and not evaluated. There have been several attempts to pilot some of the world best evidence based prevention program in Croatian setting (PATHS, Noththlad, CAP, UNPLUGGED, Life skills Training). A local adaptation based on life skills program is the only one being conducted for extended period of time (over 10 years) and on the population level. The public health model used to implement the program was detected as being useful for assuring quality for implementation and sustainability. There is also interesting approach developed by Teaching Institute for Public health of Rijeka, of screening the mental health of 7th grade students connecting the screening measures and intervention services.

Conclusion: A strong investment in individual and organisational capacity building is needed in order to build more effective prevention system and to achieve the population outcomes.

Rukavina Tomislav
Department of Social Medicine and Epidemiology
Faculty of Medicine, University of Rijeka

Increased awareness of frailty in elderly – A key for better care in future

The world's demographic structure has been changed dramatically during the last few decades. Proportion of population older than 65 years in most European countries is rapidly reaching 20%. Ageing is associated with a health condition defined as frailty. Although the concept of frailty is present in medical literature since the eighties, the degree of public awareness of its importance is still questionable. Although health and social care professionals has during the last decade become aware that the consequences of this geriatric condition could be numerous. These consequences include different adverse outcomes resulting primarily in impaired quality of life in elderly. Literature data suggest the significance of preventive measures in order to reduce such undesirable outcomes. These preventive measures may have influence on the provision of better care for the elderly and on the reduction of its cost.

On the other hand, wider public awareness of the importance of frailty and of the need for its prevention during the mentioned period is questionable. However, during the last few years things are changing. The number of evidences for such statement is increasing. In this work we will present some examples of good practice that are currently ongoing in the City of Rijeka and the Primorsko-Goranska County in Croatia.

Sočan Maja
Centre for Communicable Diseases
National Institute of Public Health

Low influenza vaccine acceptance in the elderly in Slovenia – need for improved promotion practices

Objective: Influenza is associated with substantial morbidity and mortality. Up to 90% of influenza-related deaths occur in persons aged ≥ 65 . Vaccination remains the most effective method of preventing influenza virus

infection and its sequellae. Effectiveness decreases with increasing immunosenescence. The aim of the study was to analyze influenza vaccination coverage in the elderly in Slovenia and detect possible disparity in vaccine acceptance among regions.

Summary of materials and methods: Vaccination coverage structured by age groups and geographical distribution was extracted from electronic data base and from yearly reports of Slovenian National Institute of Public Health in seasons 2002 to 2013. Regional differences in vaccination coverage were explored.

Results. In Slovenia, the highest percentage of the elderly was vaccinated in 2005 (34 % of all individuals ≥65). Thereafter, the trend was negative – in 2013 only 14 % got influenza vaccine. No differences were identified among Slovenian regions and no correlation found between wealth of the region and vaccination coverage. Slovenia has one of the lowest vaccination rates with flu vaccine in EU far from WHO target aiming to vaccinate at least 75 % of individuals aged ≥65.

Conclusions. Negative publicity and suboptimal vaccine effectiveness might be one of the drivers of low acceptance in the elderly. Newly developed influenza vaccines are promising but their effectiveness should be confirmed in field studies. Aside from improved immunogenicity, promotion and more active approach to the elderly is needed – more intensive vaccination campagne through media and invitation letters from the doctors to their elderly patients.

Stevanović Ranko

Stevanovi R¹, Samija M², Strnad M, Pesikan M²

¹Croatian Society for Pharmacoeconomics and Health Economics

²Oncology Foundation

How to improve the treatment of elderly oncological patients – project by Croatian Society for Pharmacoeconomics and Health Economics - CSPHE and Oncology Foundation

Considering the fact that life expectancy is constantly increasing and the share of elderly people continues to increase and in some areas it is higher than 25%, the number of oncological patients is also constantly increasing. As a rule, oncological patients are elderly people who often live alone. Because of their old age, but also because of their primary and other chronic

diseases, they have a decreased mental and physical condition for a normal life, and especially for the treatment of oncologic diseases.

Aim/Objective: In the aim to additionally improve the treatment of oncologic patients in the Republic of Croatia, Zaklada Onkologija (Oncology Foundation) and Croatian Society for Pharmacoeconomics and Health Economics – CSPHE) initiated the project Improve the treatment of oncological patients in Croatia – Together against cancer. Oncological patients themselves can do a lot for their treatment. Experience has shown that active participation in one's own treatment is equally important as the good prevention or state-of-the-art therapy. Therefore, the patient has to know, want, ask for, and actively participate in his treatment. The obligation of the medical profession and of patients' associations is to continuously warn about that.

Summary of materials/examinees and methods: Continuous education for the patients and for patients' associations is performed on the importance of proactive inclusion into the process of one's own treatment. Special care is provided, especially for elderly patients and their families. The cooperation between the medical profession, the Ministry and CHIF (Croatian Health Insurance Fund) is improved, in the aim of networking all oncological centers, of placing the organization of oncological activities to a higher level, and in the aim of having equal availability and quality of oncological care in the Republic of Croatia.

Summary of results: Multidisciplinary approaches to treatment of oncological patients have been promoted and improved because of the increased complexity of treatment and because of the impossibility for one specialty to comprise all the aspects and modalities of diagnostics and treatment of oncological patients. Activities are performed for the integral use of harmonized procedures, and for the introduction of new diagnostic-therapeutic procedures in the prevention, diagnostics, treatment and palliative care of oncological patients, especial elderly ones.

Conclusions: Patients do not know everything about their illness and treatment. Due to the complexity of treatment, it is necessary that all the participants in the treatment procedure participate in the process of informing the patient. The patient has to be motivated; he has to have enough courage and persistency to walk along the arduous path till his cure, till remission, till the improvement, till a longer survival, till the rational palliative care. The patient has to be informed about his right to ask for the best therapy, without hesitation, because in the relation with a doctor there is often a problem of "false consideration".

Šuša Milorad
Laborarztpraxis Dr. med. Milorad Susa, Germany

Distortion of perception and stress: An alternative view of diagnostic and therapeutical approach

Trobonjača Zlatko
Department of Physiology and Immunology
Medical Faculty, University of Rijeka

Theories of aging

Why do we age? Can we stop aging? These are the questions with which almost every person faces throughout life. Throughout human history longevity has been subject of many scientific investigations and non-scientific searches for the „fountain of youth“. Aging can be defined as a progressive loss of functional capacity of the organism which leads to the death. The predominance of catabolic processes damages the body's systems and facilitates the action of harmful external factors. The simple postulate that genetic instability is the precipitating factor of aging cannot explain all of the age-related features. Although today more than 300 theories of aging have been proposed, it seems that neither of them is fully satisfactory and correct. Biological approach mostly highlight programmed theories that describe aging as a result of internal biological clock or error theories that present aging as a result of cell damage induced by internal or external factors. Evolutionary theories describe aging as a process in which somatic cells are kept only to maintain reproductive potential and after reproductive age, they are discarded. Molecular theories emphasize disorders of gene expression, translation errors and consequent accumulation of erroneous proteins and accumulation of somatic mutations throughout life. Cellular theories presents aging as a result of accumulation of non-functional cells, that age because of telomere shortening or as a result of cellular damage by oxygen free radicals. Finally, systematic theories present aging as the consequence of disorders of body homeostasis, mainly due to dysfunction of neuroendocrine and immune system.

Kristijan Zulle
Zulle Spa Solutions

"Competencies of Croatian bachelors of physiotherapy in wellness industry"

Wellness or sometimes referred as Spa is not modern achievement. Its roots lie in far ancient civilizations in Mediterranean and far East areas. Wellness or Spa centers are places of body and soul relax giving us a chance to care for ourselves preventively on a natural, pleasant and practical manner. Nowadays, in Croatia wellness industry is in growing tendency due to high rate development of tourism capacity. Wellness staff is mainly recruited from pool of physiotherapist and beauty therapist, including personnel that finished informal education through courses for massages or specific treatments in wellness. There are two main type of working places in wellness: therapist and manager. Bachelors of physiotherapy should be able to do both, but their competencies acquired from the study in Croatia are insufficient for each. Management skills are not included in formal education on satisfactory level. Despite the fact that it is expected that physiotherapist should be able to organize and manage work flow in organization, knowledge and skills on management are not included in formal curricula. Competences in body and face treatments are given a good base, but still not enough to be ready for autonomous work with clients in wellness. Besides the well-developed base for body treatments, good point is high level in medical knowledge acquired by study. With additional training and lifelong active learning approach to competencies, skills and knowledge bachelors in physiotherapy become the most attractive personnel in wellness industry.

Kristijan Zulle
Zulle Spa Solutions

Seniors in wellness

In wellness everybody can improve their health and positive state of mind using natural resources. Part of population that can gain great benefit is probably elderly people. Seniors are often users of medical spas in mean of rehabilitation and treatment of specific problems so the concept of wellness is not new for them. Preventive benefit of wellness motivates elderly people

to use treatments that will relieve symptoms and conditions connected to ageing. Seniors are target group of high interest of wellness industry because they have enough free time for using wellness services and they can use such services in low season periods. It is important to be aware that seniors are very rarely become new customers in wellness. They will use wellness services only if they use to use them before. The main reason for using wellness is wish to maintain good body form and condition. The anti-ageing is not the main goal, it is rather happy aging. Wellness centers that targeting senior population should have in mind that modern and attractive designer's architectonic solutions can be of great obstacles for elderly people and dim lighting can significantly reduce visibility, thus disabling safe moving through space. Elderly people often have chronic health problems that can be contra-indications for some treatments. That is challenging for staff that have to be well educated in treatments, their indications and especially contra-indications. It is mandatory to communicate well with clients. It is on wellness personnel's responsibility to help senior clients to choose proper treatments for their benefit.

Student section „Healthy ageing
across ages“

Babić Matea, Maria-Helena Ružić

University of Rijeka, Faculty of Health Studies, Rijeka, Croatia

Healthy ageing/prevention of the first signs - the skin

About the condition and appearance of the skin depends on how we feel, how people perceive us, and it has a huge impact on our mood and on our psyche. The appearance of the skin, color, its temperature and the scent are changing under the influence of many factors. These skin changes reveals our thoughts and feelings, and also have greatly affects at our relationships with other people.

Many studies have been done about the topic of how to prevent aging and is there a remedy that will prevent the aging of the skin! Since ancient times people are searching the elixir of life, the concept of beauty and beautiful skin is presented since Cleopatra's era. Today, the situation is not different. , Wellness centers and plastic surgeons are increasingly dealing about keeping the human body and the skin in more beautiful, younger shape.

The desire for longer, more active and more quality life is natural and exists in every human being. To achieve these goals only the desire is not enough, but that does not mean that they are unattainable. This does not apply to surgery and Botox treatments, but in a natural way to slow down aging and improve processes in the skin that leading to accelerated aging. In this work we will speak about that natural ways: gymnastics, stretching exercises and changes in everyday life that will greatly slow down skin aging and help you feel much better.

Science itself confirms that is possible to slow down our biological clock.

There are several ways how we can effect on the aging of our body, and three important factors that has effect on it are available to all of us! Quality of sleep, healthy food and physical activity. These three factors are crucial for the way we age and the quality of our lives.

The factors of aging are divided into internal and external. Inner factors are hereditary traits and hormones. The aging of the skin, as well as the aging of the whole organism is the result of primarily inherited genetic trait. About external ones the are most pronounced is the effect of stress, smoking, sunlight and free radicals. Factors that slow the process of aging are: quality sleep, avoiding stressful situations, laughing and smiling, positive thinking, breathing and exercises for the body. These are some of the factors that will be breaking down the work, which will slow down the aging of skin with it, you will feel much better and better in your body.

In conclusion we can say that aging is a natural process by which our body changes. Aging is inevitable, unstoppable and cannot be avoided, but it can slow down with exercises and change of harmful habits that accompany us through life.

Keywords: exercises, good habits, healthy aging, skin

Ćaćan R., Miljak S.

Department of Physiotherapy, Faculty of health studies, University of Rijeka

Biomechanical alterations in elderly walking and running gait

Introduction: Biomechanical analysis of gait as the most important way of locomotion, finds its place in many fields and therefore in geriatrics as well. Accuracy and objectivity of its measures through kinematics, kinetics and electromyography is what makes biomechanical analysis unique and irreplaceable as opposed to other methods of observation such as qualitative ones. It is widely accepted that older people walk slower and with great cautiousness due to both cognitive and physical aging. Further on, when engaging a physical activity such as running, visible changes are also expected and with the help of quantitative analysis such as biomechanical one, they can also be denoted.

Methods: After reviewing the available literature, interpretation of differences was done between general population and the elderly in a sense of both walking and running patterns of gait.

Results: While walking, older people tend to make a shorter stride length with faster cadence as well as a wider base of support, probably due to fear of falling. Moreover, slower gait allows them to create a softer pattern of locomotion in a sense of reducing vertical ground reaction forces (GRF) at both initial impact and toe off phase. Further on, decreased hip, knee and ankle/foot joint range of motion (ROM) is also denoted as opposed to pelvic mobility which is increased, possibly due to decrease in lumbopelvic muscle strength. While running, older people tend to have a slower self-selected speed probably to reduce the vertical GRF again with the shorter stride length and higher cadence. Moreover, they exhibit smaller knee ROM but a higher flexion angle at the initial impact. At controlled speed (3.3 m/s), higher impact peak force and initial loading rate are observed as opposed to younger runners which confirms the hypothesis that older runners assume a slower pace to reduce external forces.

Conclusion: To adjust to cognitive and physical aging, both often associated with fear of falling, older people generally exert alterations in walking and running patterns which is clearly observed through temporospatial and kinematic/kinetic parameters of gait analysis.

Key words: elderly, gait analysis, biomechanics

Senković Paula

student of Faculty of Health Studies, University of Rijeka, Croatia

The role of physiotherapist in healthy and active aging

Physiotherapists are health professionals who are experts in maintaining and improving physical health. Physiotherapy is a healthcare profession which maximizes patients ability to move and function throughout their lives. Therefore, health promotion is an integral part of physiotherapists work. Physical activity can be measured by muscle strength, aerobic capacity, agility etc. General recommendation for physical activity is 30 minutes. Researches have shown that loss of function and impairments due to a sedentary lifestyle and pain are most common reasons why people seek help from physiotherapist. To stimulate physical well-being it is important that environments where people live encourages and stimulates healthy lifestyle. On the other hand, physical inactivity is the fourth leading risk factor for global mortality. It is estimated that physical inactivity has bad influence on treatment of heart diseases, bone malformations, type 2 diabetes, and breast and colon cancer. Moreover, the number of obesity in Western countries and Europe has risen significantly. Prevention thus, is improving bone, joint and muscle health. As movement experts, physiotherapists have relevant skills and knowledge to prevent specific diseases and promote physical activity. Finally, they have an ideal position to influence a healthy and active living for individuals.

Keywords: physiotherapist, health, prevention, promotion

Topolski Kruno

Topolski K, Sućec M.

student of Faculty of Health Studies, University of Rijeka

Let's move together

"Let's move together" is a project that promotes the value of proper and regular exercise among students of the University of Rijeka and the citizens of Rijeka. The project is designed for students of the University of Rijeka and the citizens of Rijeka with the aim to encourage them, to educate and to motivate for the proper exercise and movement. The project runs from March 2015 until June 2015, and consists of three parts. In the first cycle professional students of Physiotherapy have completed training courses and short education named "How to organize and run quality training" under the expert guidance of Jasna Lulić Drenjak, professor of kinesiology at the Department of Physiotherapy. In the second part of the project students volunteers lead free recreational trainings for all students of the University of Rijeka and the citizens of the city of Rijeka. The classification is ten participants in one group, and at the moment we have sixty participants all together. In the third part of the project on the occasion of World Health Day, a lecture was held and intended for citizens and students of the city of Rijeka and the students of the University of Rijeka. The topic was the importance of exercise and movement in the 21st century entitled "Get fit and stay healthy." The realization of this project is co-funded by the University Foundation in the context of the competition for energy development: Support student ideas and projects for community development, 2014th to 2015th, and the program is supported by the Student Union of the University of Rijeka.

Keywords: exercise, recreation, students

Poster section

Arbanas Dahna¹, Jonjić Danijela²

¹Pharmacy Karlovac, Karlovac, Croatia,

²Croatian Chamber of Pharmacists

Consumption of drugs by nursing homes residents in the city of Karlovac, Croatia

Aim. One of the most important processes affecting the world population, especially the population of developed countries, is the process of demographic aging. Ratio of people older than 65 in Croatia is 17.7% which classifies Croatia, in terms of demographic aging, as developed country. Certain percentage of that group of people above age 65, are nursing home residents.

The aim of this study was to determine the number and type of drugs most often used by nursing home residents in the city of Karlovac, Croatia.

Summary of materials: Data were collected from 1 September 2014, until 31 October 2014, in the Pharmacy Karlovac, directly from nursing home residents, their guardians, and nursing home staff. Data were collected by clinical pharmacist, and included gender of participants and drugs they use.

Results: Statistical analysis of the collected data from 214 residents showed that residents use six prescription drugs on average. Residents use the most often psychiatric drugs and drugs with the effects on the cardiovascular system.

Conclusions: Nursing home residents use many different drugs in the same time and sometimes it is the consequence of the prescribing cascade. Clinical pharmacist should be a member of the team that takes care of patient's therapy outcomes by reviewing prescribed and over-the-counter medications patients are taking and by managing pharmaceutical problems that appear.

Balorda Lj, Škrgatić Z.
Social medicine and public health
Public health institute Zadar County

Subjective quality of life and psychological stress in elderly – Zadar County - CAHS 2008/2009

Objective/Aim: Psychological stress has been found to contribute to poorer health, increased disease risk, accelerated disease progression, greater symptom reporting, more frequent health service utilization, and increased mortality.(1) Quality of life is defined as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.(2) The aim of this paper was to examine psychological stress and subjective quality of life (SQoL) in elderly in Zadar County. We expected different results according to age groups.

Materials and methods: Croatian Adult Health Cohort Study covered a wide range of health-related variables. The first cycle of the project took place in 2003 and second one in 2008. Survey targeted persons aged 18 years or older. The survey was carried out face to face to respondents by public health nurses who visited 556 participants in Zadar County at their homes in 2008/2009. Relatively large number of respondents was successfully contacted, but refused to participate in the survey. 76% (404) of them accepted to participate in the survey. In this paper we analyzed two modules. The Stress module - 10 questions from Perceived Stress Scale – standardized and validated instrument for measuring stress. Participants responded on a 5-point scale ranging from 0 (never) to 4 (very often). Of the 10 items, 4 items were worded in a positive direction, so they were reverse-scored. The responses to the 10 items were then summed to create a psychological stress score, with higher scores indicating greater psychological stress.(1) In this paper we also analyzed Subjective quality of life module. It was measured by single item question »How satisfied are you with your life as a whole« and answer was rated on 11 points (0-10) and defined response scale where 0 indicated complete dissatisfaction and 10 indicated complete satisfaction. Results from SQoL scale were transformed and presented in a standard form »percentage of scale maximum« (%SM) where original results were transformed to a 0-100 point scale.(2,3)

Results: The study comprised 404 participants from Zadar County. The median of age was 62 years ranging from 18 to 93 years old. Respondents were classified by age into three groups, 18-34; 35-64 and 65 and more. The

390 respondents met the criteria for inclusion in the analyses for module Subjective quality of life. The average satisfaction with life as a whole was 51,01%SM (SD=22.25 %SM); with the median score 50%SM. Participants were grouped according to SQoL level in the two groups. SQoL level equal or below 50%SM was considered as a »low SQoL«. SQoL level 60 %SM and above was considered as normal SQoL. Proportion of people with low SQoL increase with the age. From 23.3% in youngest, 18 -34 age, to 52,7% in 35- 64, and 63,78% in 65 and old. The 397 respondents met the criteria for inclusion in the analyses for module Stress. The average stress score for youngest age group was $X=14,14$ (SD=4,87); for age group 35-64 was $X=17,07$ (SD=5,76); and for age group 65 and more was $X=18,46$ (SD=5,39). Anova: Single Factor analyses: $F=8,643129$; $p=0,00213$; $DF=2$.

Conclusion: Third group 65 and old responders showed higher stress score and have had poorer subjective quality of life in 2008/2009. Researches in USA showed that 65 and more years old and retirees reported less stress than did individuals in any other employment category. Our research conducted before the economic crisis in Croatia and now the situation is probably worse. Therefore it is necessary to repeat the research, expand the sample and explore the reasons for such situation in elderly.

References

1. Cohen, S., Janicki-Deverts, D. (2012). Who's stressed? Distributions of psychological stress in the United States in probability samples from 1983, 2006 and 2009. *Journal of Applied Social Psychology*. 42, 1320-1334.
2. Cummins, R. A. (1997). *The comprehensive quality of life scale – Adult (ComQoL-A5)* (5th Ed.). Melbourne: School of Psychology, Deakin University.
3. Benjak T., Vuletic Mavrinac G. Subjective Quality of Life and Cardiovascular Risk Factors in a Croatian Adult Population *Coll. Antropol.* 33 (2009) Suppl. 1: 159–163.

Brkić D. Jovana¹, Tasić M. Ljiljana¹, Marinković Valentina¹, Geiger Zeman Marija², Zeman Zdenko²

¹Faculty of Pharmacy University of Belgrade

²Institute of Social Sciences Ivo Pilar

The possibility in regional cooperation of health and social care for older population

Aim/Objective: Analysis of socio-demographic similarities of older population in West Balkan's region as a framework for cooperation in health and social care for this population.

Summary of materials/examinees: Comparative thematic analysis of older population in Croatia and Serbia was used.

Results: Position of older persons in society and quality of their life challenge not only health but also social care system to ensure adequate care and provide societal framework which can enable dignified and health (physical, mental and social) life. According to the Census 2011, 17.7% of the total population in Croatia is over 65 and demographic analysis reveal a further increase of older population. Similar situation is in Serbia - in 2009 it was estimated that 17.0% of the total population was older than 65 years, and that this number will continue to grow in the future (Matkovi , 2011). Older population in Croatia is "highly vulnerable" (Žganec, Rusac, Laklija, 2007) – risk-of-poverty rate is highest among persons aged 65 years and over, and the same situation is in Serbia (Rasevic, Nikitovic, 2012). In both countries, care for older persons is traditionally perceived as responsibility of the family. In the Croatian social welfare system, older people have access to several types of social services, but despite reforms towards de-institutionalization there are many challenges for social institutions and older persons themselves. In Serbia institutional and instrumental support does not meet needs of this population (Rasevic, Nikitovic, 2012). In Serbia, only a few health institutions are specialized for the treatment of elderly, and most of them are in Belgrade (Ševo, Despotovi , Erceg et al, 2009). Economic crisis and problems within social care and health system generate many forms of ageism which obstruct creating of suitable care system for older population and make almost impossible their satisfied, meaningful life.

Conclusions: The presentation emphasizes the importance of regional and European cooperation in health and social care of older population, and COST Action ISI402 has a great potential to improve collaboration between European countries and exchange of relevant information and experiences, thereby providing solid foundation for creating appropriate age-friendly care.

Dombi M¹, Perasz A K¹, Lekić A²

¹University of Rijeka, Faculty of Health Studies, Student

²University of Rijeka, Faculty of Health Studies, Department of Basic Medical Sciences

The correlation between the years of physical activity performed during lifetime and the outcomes of Barthel Index examined in old age in people at the Home for the elderly persons 'Kantrida'

Aim: The aim of this study was to examine the correlation between the years of lifetime physical activity (YLPA) and Barthel Index (BI) examined in old age.

Examinees and methods: Examinees were enrolled in a cross-sectional study at the Home for the elderly persons 'Kantrida'. There was a total of 48 subjects (44 female; 4 male). The mean age was 85,5 years (SD=6,61). Information about the YLPA and the presence of diagnosis was collected using a constructed questionnaire. BI (Mean=87,96) was also recorded. Correlation was measured between the YLPA and BI. Mann-Witney U test was performed in order to determine the difference between BI in the ones with (90%) and without (10%) diagnosis and between the ones that were physically active (37%) with the ones that were not (63%).

Results: The correlation between the BI and YLPA in the ones that were physically active was negative ($r=-0,0793$), in the ones that were not was positive ($r=0,07857$). Overall correlation was 0.07 indicating that there is no correlation between YLPA and BI. The Mann-Whitney U test showed no significant difference in BI between the ones with disease and the ones without it ($P=0,6$) neither between the ones that were and the ones that were not physically active ($P=0,839$).

Conclusion: Results indicate that some interdependent factors may correlate more to BI in old age than the physical activity performed during lifetime. One of these could be the level, type and the intensity of current physical activity and severity of the disease.

Grbović Ena
Center for health promotion
Institute of public health of Montenegro

Challenges and difficulties in work of social workers in homes for elderly

Montenegro becomes a country with an aging population and is one of the European countries with a high index of aging. According to the results of census from 2011 year, Montenegro has 620,029 inhabitants, of which 18.3 % of population is older than 65 years.

An aging population brings many new challenges in providing support and protection for the elderly in field of social protection. Social worker in home is person who provides information to family members about conditions and possibilities of accommodation, services cost, room layout and necessary documentation for accommodation. Social worker monitors client from his arrival in home through behavior, help adjusting to life in a new environment, overcome their difficulties by leaving your home, getting to know other users and to develop good relations with other users, regulation of rights, etc. Role of social workers in homes for the elderly and disabled is focused on providing support for users of social services, which is why this profession has become a great human and professional challenges for those who execute it.

In Montenegro there are three residential institutions for elderly "Grabovac" in Risan, "Bijelo Polje" in Bijelo Polje and Public institution-Institute "Komanski Most" in Podgorica. In order to find out what are the difficulties and challenges faced by social workers in homes, we conducted qualitative research in three homes for the elderly in Montenegro.

Keywords: social work, challenges, difficulties, homes for the elderly

Jerliu N, Krasniqi P, Ramadani N

Center on Ageing, National Institute of Public Health of Kosovo, Prishtina, Kosovo

Regular physical activity of older people in Kosovo

Aim/Objective: Physical activity in older people is critically important in the prevention of disease, maintenance of independence and improvement of quality of life. Our aim was to assess the regular physical activities of older people aged 65 years or older in Kosovo.

Methods: A nationwide population-based survey using a questionnaire focused on the specific aspects dealing with the lifestyle, socio-demographic and socioeconomic aspects of older people was conducted in Kosovo in January-March 2011. This included an age-sex and-residence stratified random sample of 1,890 individuals (83.5% response) aged 65 years and over.

Results: Around 14.3% of the elderly reported to practice regular physical activities, with more males than females engaging in such activities (20.2% vs. 9.2%, respectively). The difference was significant ($P<0.001$). The proportions of those taking regular exercise declined with age: 18.0% of those aged 65-74 years were taking regular exercise, against only 5.6% of those aged 85 years or older, and the difference was significant ($P<0.001$). More respondents from urban areas reported to engage in regular exercises compared to their rural counterparts, with the difference being significant ($P<0.001$). Significantly ($P<0.001$) more married individuals were engaging in regular exercises compared to unmarried persons with the respective prevalence of regularly exercising being 18.1% and 9.8%.

Conclusions: Results from the survey with older people in Kosovo indicate a very low level of regular physical activities, especially among older women. Development of specific public health strategies and programs on promoting regular physical activities which could extend the health and quality of life of people into old age is needed.

Puljak Livia
Cochrane Croatia
University of Split School of Medicine

Cochrane Croatia: promoting evidence-based medicine since 2008

Aim: To present activities of the Cochrane Croatia, a branch of The Cochrane Collaboration.

Summary: Cochrane Croatia was established in 2008 as an organizational unit of the University of Split School of Medicine in Split, Croatia. The aim of the Cochrane Croatia is promotion of evidence-based medicine (EBM) and information from systematic reviews among healthcare personnel and lay audience. Cochrane Croatia provides education about using and conducting systematic reviews and finding relevant evidence.

Results: A study conducted by Cochrane Croatia and published in 2010 indicated low awareness about EBM and usage of The Cochrane Collaboration among physicians employed in university hospitals and family medicine. Similar study is underway among patients in ten practices of family medicine in Croatia. Consequently, a number of initiatives were launched by the Cochrane Croatia, including translation of plain language summaries of Cochrane reviews, promotion of EBM on social media, translation of a book “Testing treatments”.

Generous support of the Symposium “Health for all?!”:

Regular donors of the Symposium Health for all?!

City of Rijeka



Primorsko- Goranska County



City of Kraljevica



City of Kastav



This year donors:

Croatian Academy for Sciences and Arts



University of Rijeka Foundation

City of Bakar



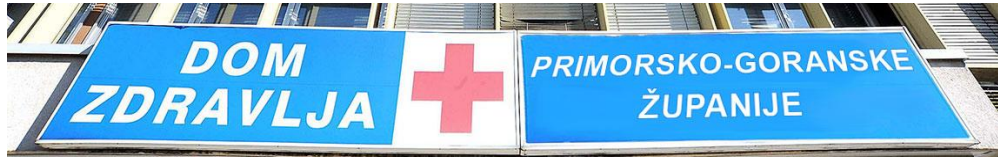
Teaching Institut of Public Health of Primorsko-goranska County



Thalassotherapia Opatija



Primary Health Centre Primorsko- goranska County



Studentski centar Rijeka



Lječilište Veli Lošinj



Additional acknowledgment for the support of the Symposium “Health for all?!”

City of Delnice
Institute of Emergency Medicine of Primorsko-goranska County
Tonka PIK
City of Zagreb

Contact address of participants/presenters

<p>Arbanas Dahna Karlova ka ljekarna darbanas2611@gmail.com</p>	<p>Didović Ivan Physical therapy Health Centre Krk ididovi598@gmail.com</p>	<p>Krpan Dalibor Osteology Polyclinic K-center dkrpan38@gmail.com</p>
<p>Babić Matea University of Rijeka, Faculty of Health Studies, Rijeka, Croatia matea.babic4@hotmail.com</p>	<p>Džakula Aleksandar Andrija Štampar School of Public Health, Medical School, University of Zagreb adzakula.snz@gmail.com</p>	<p>Margan Koletić Željana Croatian Agency for Medicinal Products and Medical Devices zeljana.margan@halmed.hr</p>
<p>Balorda Ljilja Social medicine and public health, Public health institute Zadar County ljilja.balorda@zjz.t-com.hr</p>	<p>Fehir Šola Katarina, Health Institution Pharmacy Bjelovar, Croatia</p>	<p>Mastilica Miroslav Dept. of medical Sociology and health Economics, Andrija Štampar School of Public Health, University of Zagreb mmastil@snz.hr</p>
<p>Bilajac Lovorka Department of Social Medicine and Epidemiology Faculty of Medicine, University of Rijeka lovorka.bilajac@medri.uniri.hr</p>	<p>Grbović Ena Center for health promotion Institute of public health of Montenegro ena.grbovic@ijzcg.me</p>	<p>Meštrović Špoljar Josipa Department for Health Care Contracting Croatian Health Insurance Fund Josipa.mestrovicspoljar@hzzo.hr</p>
<p>Brkić D. Jovana Faculty of Pharmacy University of Belgrade jbrkic@pharmacy.bg.ac.rs</p>	<p>Kabalin Milena Department of Social Medicine and Epidemiology, Faculty of Medicine, University of Rijeka, Croatia milena.kabalin@medri.uniri.hr</p>	<p>Mršić-Pelčić Jasenka Pharmacology Faculty of Medicine, University of Rijeka jasenka.mrsic.pelcic@medri.uniri.hr</p>
<p>Ćaćan Roberto student of the Faculty of health studies, University of Rijeka roberto.cacan@yahoo.com</p>	<p>Koppelaar Elin Research Centre Innovations in Care University of Applied Sciences e.koppelaar@hr.nl</p>	<p>Nap Henk Herman Innovation & Research – eHealth Vilans H.Nap@vilans.nl</p>
<p>Dajak Lidija Andrija Štampar” School of Public Health, University of Zagreb, School of Medicine</p>	<p>Krasniqi Pranvera Center on Ageing National Institute of Public Health of Kosovo, Prishtina, Kosovo krasnqi_pranvera@yahoo.com</p>	<p>Orešković Stjepan Dept. of medical Sociology and health Economics Andrija Štampar School of Public Health, Medical School, University of Zagreb soreskov@snz.hr</p>

<p>Polychronakis Antonios Department of Maatschappelijke Ontwikkeling (Social Development) City of Rotterdam a.polychronakis@rotterdam.nl</p>	<p>Rukavina Tomislav Department of Social Medicine and Epidemiology Faculty of Medicine, University of Rijeka tomislav.rukavina@medri.uniri.hr</p>	<p>Trobonjača Zlatko Department of Physiology and Immunology Medical Faculty, University of Rijeka zlatko.trobonjaca@uniri.hr</p>
<p>Puljak Livia Cochrane Croatia University of Split School of Medicine livia.puljak@mefst.hr</p>	<p>Senković Paula student of Faculty of Health Studies, University of Rijeka, Croatia Paula.senkovic@gmail.com</p>	<p>Stevanović Ranko Croatian Society for Pharmacoeconomics and Health Economics rankostev@hotmail.com</p>
<p>Rakočević Teo Jadran Informatika d.o.o. teo.rakocevic@hotmail.com</p>	<p>Sočan Maja Centre for Communicable Diseases National Institute of Public Health maja.socan@nijz.si</p>	<p>Šuša Milorad Laborarztpraxis Dr. med. Milorad Susa, Germany</p>
<p>Romero Montse Mas, Faculty of Health Sciences and Welfare, University of Vic-Central University of Catalonia montse.romero@uvic.cat</p>	<p>Tomljenović Morana Department of Social Medicine and Epidemiology Faculty of Medicine, University of Rijeka morana.tomljenovic@medri.uniri.hr</p>	<p>Vasiljev Marchesi Vanja Department of Social Medicine and Epidemiology Faculty of Medicine, University of Rijeka vanjav@uniri.hr</p>
<p>Rovis Darko Department of epidemiology and social medicine, Faculty of Medicine, University of Rijeka darko.rovis@zzjzpgz.hr</p>	<p>Topolski Kruno student of Faculty of Health Studies University of Rijeka kruno.topolski@gmail.com</p>	<p>Zulle Kristijan Zulle Spa Solutions kristijan.zulle@gmail.com</p>



Faculty of Medicine, University of Rijeka

Brace Branchetta St. No. 20



The Faculty of Medicine in Rijeka was Founded 50 years ago on the 21st of November 1955, the first such faculty established in Croatia outside Zagreb. Since 1957/58 the Faculty of Medicine Council has worked independently as the Faculty of Medicine's professional council. The Faculty of Medicine is a public higher education institution that as part of Rijeka University organises university and professional courses, and develops educational and scientific activities in the biomedical and healthcare areas. Moreover, the school prepares students for their future profession on the basis of the latest scientific insights and methods. The Faculty of Medicine is also engaged in fulfilling the social interests of its students and promotes international, especially European, cooperation in higher education and scientific activities.



Faculty of Health Studies, University of Rijeka

Viktora C. Emina St. No. 5



Faculty of Health Studies, University of Rijeka is the youngest member of our University founded in October 2014. This is the first Faculty on the University level in Croatia that educate health care professionals (nursing, midwifery, medical laboratory engineers, radiology engineers and physiotherapists) through bachelor and master's degree (masters nursing education is available in three different courses – management in nursing, mental health and clinical nutrition, medical laboratory engineers, and physiotherapy). The main goal of the Faculty is medical education and to provide firm and long-term connection among basic research, clinical practice, and public health, as well as to meet increasing demands for applied research, combined with a responsible and ethical scientific conduct.

Publisher:

Department of Social Medicine and Epidemiology
Department of Social Sciences and Medical Humanities
Faculty of Medicine, University of Rijeka, Croatia
Department of Public Health
Faculty of Health Studies, University of Rijeka, Croatia

Editors:

Vanja Vasiljev Marchesi
Lovorka Bilajac

Layout and print:

Grafo Žagar Rijeka, Croatia

CIP number is available at catalogue of University library Rijeka Under the number
130702076

ISBN 978-953-7957-32-2

Publisher and editors are not responsible for any errors in the content or linguistic
expression in the abstracts published in this handbook.