PERIODICUM BIOLOGORUM
VOL. 115, No 4, 475–481, 2013

UDC 57:61
CODEN PDBIAD
ISSN 0031-5362

Science policy

Program of primary, secondary and tertiary prevention for the elderly

Aging should not be perceived as a disease!

SPOMENKA TOMEK-ROKSANDIĆ[1]
NADA TOMASOVIĆ MRČELA[1]
NINA SMOLEJ NARANČIĆ[2]
ZVONIMIR ŠOSTAR[1]
MARICA LUKIĆ[1]
ZIJAD DURAKOVIĆ[2]
MATE LJUBIČIĆ[3]
VLASTA VUČEVAC[1]

[1]Reference Center of the Ministry of Health of the Republic of Croatia for health care of the elderly, Dr Andrija Štampar Institute of Public Health, Mirogojska cesta 10, 10000 Zagreb

[2] Institute for Anthropological Research, Zagreb, Croatia

[3] Institute for Public Health of the Republic of Croatia, Rockefeller's Street 7, 10000 Zagreb, Croatia

Correspondence:
Spomenka Tomek-Roksandić
Reference Center of the Ministry of Health of the Republic of Croatia for health care of the elderly
Dr Andrija Štampar Institute of Public Health
Mirogojska cesta 10, 10000 Zagreb
E-mail:
spomenka.tomek-roksandic@stampar.hr

Received December 12, 2013.

Abstract

The aging process is normal physiological phenomenon.The elderly are a heterogeneous group that requires individual gerontological approach. The basis for the implementation of the program of healthy aging represent their own decisions about positive health behaviors,that are made at a younger age and interact with an effective health programs of preventive health measures. As part of evaluation of the implementation of the preventive program for is important to define negative health behaviour of the elderly and determine the risk factors of pathological ageing. Primary prevention ensures not only prevention of death in early old age but also preservation of functional ability through health promotion in old age. The implementation of secondary prevention in health care of the elderly people results in timely diagnosis of disease which can stop its further development and help in its treatment, nursing care and rehabilitation. Tertiary prevention includes different health procedures that prevent physical and mental decline in a diseased old individual and develops the remaining functional capacity. The Program of Health care Measures of Prevention for the Elderly is primarily carried out through active primary health care institutions within local, regional and national gerontological centres of the Institute of Public Health. Implementation of preventive programs for the elderly can avert the development of a number of preventable diseases as are diabetes mellitus, obesity, hypertension, cerebrovascular and cardiovascular diseases, cancer of the breast, ovaries, prostate, lungs, osteoporosis/fractures, incontinence, mental disorders, respiratory diseases. In Croatia, the program promotes a healthy active aging, consisting of the "Guide for active healthy aging".

DEMOGRAFIC TREND OF AGING IN CROATIA

The demographic fact is that the world, European, and thus the Croatian population is aging which reflects as the rise in life expectancy *(1)*. In 2011 this rate was 73.9 years for men and 80.0 years for women *(2)*. Looking at a comparison of elderly assessment in Croatia since 2001 to 2011, we can see an increase of elderly with a share of 15.62% to 17.09% *(1)*. Since there is a larger share of older woman, both now and in the future, therefore economic and social policy should be adjusted. It is evident that the rapidly growing aging of the Croatian population has crucial implications for the economic structure of the entire population *(3–9)*. Analysis of demographic indicators of gender structure of the census 2011th year indicates the growth of women older than 65

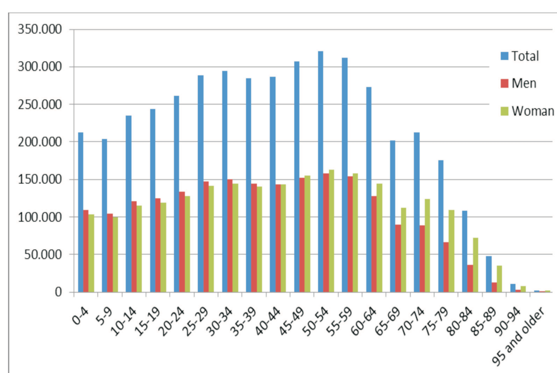

Figure 1. *Croatia's population by age groups and sex according to 2011 census.* Source: DZS, RCMZZZSO

years of the total female population in relation to the census in 2001. year. The proportion of women aged 65 g of the total female population in 2011 amounts to 20.84% (N = 462 425), while in 2001. was 18.61% (Figure 1, Figure 2). Although the proportion of men aged 65 years or more in the total male population in census 2011 was significantly lower than in women (14.33%, N = 296,208), compared to the total share of men in 2001 (12.41%) also increased.

The aging process is a normal physiological phenomenon *(10–16)*. One of prejudice is that aging and age must necessarily be associated with disease and functional disability and dependence *(1, 3)*. The fact is that only one of five people, and most in the group of the very old age, i.e. those 85 years and above, is dependent on other people's help *(1, 5)*. The elderly people who need such help are geriatric patients suffering from long-term diseases *(16–18)*. This indicates that the elderly are a heterogeneous group that requires individual gerontological approach *(1, 3–5)*. Gerontological integral scope of health care of elderly with the necessary application program monitoring, research, and evaluation of the identified health needs and functional disability of elderly based on the Program of primary, secondary and tertiary prevention for elderly, promotes and supports the process of healthy active aging *(8–11)*. The basis for the implementation of the program of healthy aging represent their own decisions about positive health behaviors,that are made at a younger age and interact with an effective health programs of preventive health measures for the elderly *(1, 3–4)*.

IMPLEMENTATION OF PREVENTIVE PROGRAMS FOR THE ELDERLY

Gerontological and public health management provides implementation and evaluation of the program of primary, secondary and tertiary prevention for older people *(19–25)*. The purpose and primary objective is to contribute to the preservation and improvement of health and functional ability of rapidly growing elderly Croatian population, and thereby ensuring a productive aging (26–30). Health management for older people through the implementation of the regular four areas of gerontological activities of the Reference Center for Gerontology along with gerontological public health teams in the county public health institutes allows the production of gerontological standards and algorithms to establish the network of gerontological and geriatric health care in order to meet the health needs of older persons in its area of operation *(1, 3, 23)*.

Monitoring programs, research and evaluation of health needs and functional abilities of older people are conducted by an individual gerontological approach based on professional and methodological gerontological instruments *(1, 3)*. Basic health management for the elderly are gerontology centers, Centers for geriatric health

Figure 2. *The proportion of seniors aged 65 and older in relation to the total population at the age and sex in Croatia 2011th year.*

care, Old people's and nursing homes, geriatric hospitals, day care hospitals for geriatric patients, daycare centers for older people, rehabilitation centers for occupational therapy and support for older people, associations and clubs for the elderly, etc. *(6)*. They are responsible for the operational planning level or for specific procedures and processes in health care management for seniors. Disability and dependence in the old age mostly are result from disease but not from the determination, follow-up and evaluation of the Program of Obligatory Preventive Minimum implementation for the elderly people *(1, 3)*. The implementation of primary prevention contributes to preventing pathological aging in middle age by preserving functional capacity and by preventing the most frequent health disorder in the elderly, namely the atherosclerotic process *(1)*.

MEASURES OF PRIMARY PREVENTION FOR THE ELDERLY

Primary prevention for the elderly ensures not only prevention of death in early old age but also preservation of functional ability in deep old age through health promotion in old age. The role of family physician primarily implies health education and counseling, and to a lesser extent diagnostic and therapeutic service. Health education is crucial to preserve optimal health condition and functional abilities in advanced age and refers to all knowledge and skills of an individual, group or community where the individual is living and which influence his attitudes towards favorable health behaviors related to the promotion and preserving functional ability and good health in old age. The measures of primary prevention, which first of all include continuous physical and mental activity during the process of aging, should be initiated as early as possible, as defined by the Program of Healthcare Measures and Procedures for the Elderly *(14, 26)*. The measures of primary prevention include the following:

1. Health education of the elderly and their families on proper preparing for old age, life in advanced age and retirement;
2. Identification of risk factors for pathologic aging;
3. Identification of unfavorable health behaviors in the elderly (inappropriate personal hygiene and environmental hygiene, physical inactivity, mental inactivity, noncompliance with occupational therapy, obesity, alcoholism, cigarette smoking, noncompliance with physician's instructions, unreasonable medication, taking more than two cups of coffee daily, lack of moderate sun and cold exposure);
4. Encouraging self-responsibility for one's own health and functional ability (favorable health behavior) and providing advice on reasonable utilization of healthcare and health tourism for the elderly;
5. Education on the use of favorable Mediterranean diet for the elderly and on appropriate preparation of healthy food;
6. Discouraging smoking habits of both insured persons and various health professionals involved in healthcare of the elderly;
7. Measures of prevention of alcoholism and other addictions;
8. Measures of prevention of mental disorders (prevention of seclusion);
9. Continuous health education on the use of drugs, vitamins and minerals, and health-preventive counseling of the elderly;
10. Vaccination and revaccination of all individuals aged ≥65 (vaccination of all individuals aged ≥65 at the time of influenza epidemic, pneumococcal pneumonia vaccination of all persons in old people's and nursing homes, geriatric hospitals and chronic disease hospitals once in 5 years, and tetanus vaccination at age 60); and
11. Preparation of printed material intended for health education of the elderly (outlines, brochures, handbooks) and other professional material for computer and audio-visual presentation.

Monitoring, identification, exploration, evaluation and reporting of healthcare needs and functional ability of the elderly are crucial for proper implementation and evaluation of the Program of healthcare measures of primary prevention as the only objective way of planning the series of priority preventive healthcare measures and procedures with evaluation of the program implementation in order to ensure healthy and active aging and preserve functional ability of the markedly old population of Croatia.

MEASURES OF SECONDARY PREVENTION FOR THE ELDERLY

The goal and purpose of the implementation of **secondary preventive measures** in healthcare of the elderly are timely detection and management of a disease that has not yet fully manifested in the elderly person, thus to primarily prevent development of complications and progression of the disease *(1–3)*. Health care measures of secondary prevention are performed through targeted systematic check-ups and testing according to the preset Program of basic preventive health care measures for the elderly at the respective general practitioner/family physician's office and in institutions providing primary healthcare for the elderly, at age 45, 65, 75 and 85. The measures of secondary prevention include the following *(1, 14, 26):*

– early detection of visual impairments,

– early detection of hearing impairments,

– early detection of mental disorders (Alzheimer's disease, G30),

– early detection of neurologic disorders; of visual, hearing and olfactory disturbances with targeted preventive vision testing at age 65 and 75; and dental and denture treatment;

– early detection of diabetes mellitus;

– early detection of hypertensive heart disease;

– early detection of gastrointestinal pathology (digitorectal examination, occult blood test/Hemoccult);

– lipid profile determination, early detection of hyperlipidemia and anemia, and vitamin-mineral status assessment;

– early detection of the musculoskeletal system diseases (prevention of osteoporosis with records of M80 and M81);

– early detection of ovarian malignancy at age 65 (Doppler ultrasonography);

– early detection and records of health impairment due to menopause (N95) and other gynecologic diseases in elderly women, and of andropause in elderly men;

– early detection and records of pathologic changes of urinary system (e.g., benign and malignant prostate lesions, urinary incontinence (R52) and other urinary difficulties); and

– sputum bacteriology and lung X-ray as needed (once in 3 years in all persons older than 65).

MEASURES OF TERTIARY PREVENTION FOR THE ELDERLY

Tertiary prevention for geriatric patients is primarily directed towards disease complications and prevention of physical and mental decompensation of diseased elderly persons, while preserving and developing their residual functional ability *(14, 25)*. Tertiary preventive health care measures are focused upon geriatric patients that live alone, where an even minor health problem can cause serious health deterioration in the form of confusion, incontinence, dehydration and bed-ridden condition with complete functional disablement within a short period of time. Implementation of these preventive measures is of particular importance for timely prevention of complications associated with prolonged immobility (decubitus, hypostatic pneumonia, muscular atrophy, thrombophlebitis, edema, contractures, vertigo and anemia), along with continuous health care and rehabilitation of the elderly. In these activities, preventive measures of reactivation and reintegration of elderly individuals, as well as preventive pharmacotherapy are of paramount importance. The measures and procedures of tertiary prevention can also be carried out at self-care societies/clubs where patients with similar health difficulties regularly gather and meet medical professionals (e.g., clubs of patients with arterial hypertension, diabetes mellitus, carcinomas, stroke, osteoporosis, Alzheimer's disease, etc.).

Implementation of the program of primary, secondary and tertiary prevention for the elderly at the level of general/family medicine has the key role in preserving functional ability and health promotion in the elderly, through prevention of pathologic aging and thus of their dependence on institutional geriatric healthcare. The goal is specifically to prevent disease in younger age, thus rationalizing the growing geriatric healthcare utilization. For this reason, it is necessary to monitor, explore and evaluate the effects of risk factors for the development of pathologic aging in target population groups, and identify unfavorable health behaviors while promoting healthy lifestyle, all these by use of the gerontology-public health approach within the frame of the overall prevention programs for the Elderly, with family physician taking an active and coordinating role.

A substantial precondition for proper implementation of the program of disease prevention and of preservation and promotion of functional ability in the elderly is a well organized and coordinated communication and collaboration between general practitioners as care providers for geriatric patients and specialist consultants providing inpatient geriatric treatment.

GUIDE FOR ACTIVE HEALTHY AGING

The education in gerontological and geriatric topics, particularly in terms of spreading knowledge about ageing as a normal physiological process that occurs gradually and with different pattern of progression in each individual is the focus in methodological task about the promotion of active and healthy ageing *(23)*. Gerontology- Reference Center of the Ministry of Health suggests changes of the existing rigid administrative limit of 65 years of retirement to a gradual retirement conditional upon the functional ability of the individual. This considers professions and vocations in which the transfer of skills, experience, knowledge and skills to younger workers is necessary to avoid the mistakes of the past work process. This will not only strengthen and develop the economy but will also greatly affect the employment of younger generation of employees.

Ministerial Conference on Ageing, held in September 2012. in Vienna, accepted the Declaration: Ensuring a society for all ages: promoting quality of life and active ageing, which encourages the extension of working life as well as maintaining working capacity. In the present conditions of life for the elderly, 65 and over is time to adapt to new activities after termination of employment *(27–37)*. However, such a departure is more prolonged, so that in some European countries, retirement shifted to 68 years.

European and Croatian gerontological findings highlight the interdependence of the elderly and their preservation of health in relation to the community in which he lives and works. Active healthy aging encourages new development opportunities to achieve other orientation of work activities which involves adapting to new circumstances, knowledge, and constantly learning and discovering the benefits of aging and old age. It is known that the activity of healthy older people never stops, it just changes its form.Consequently, the UN General Assembly on 14 December 1990, resolution 45/106 declared – 1st October International Day of Older Persons, stressing the importance of a rapidly growing, aging population in

GUIDE FOR ACTIVE HEALTHY AGING

1. CONSTANT PHYSICAL ACTIVITY

To be started in youth and pursued until the very old age.

It includes breathing exercises and pelvic floor muscle exercises, the latter being carried out to the effect of involuntary urination prevention.

2. CONSTANT MENTAL AND OCUPATIONAL ACTIVITY

Lifelong learning and acquisition of novel skills and competencies.

3. PROPER MEDITERRANEAN DIET

When it comes to the elderly over 65, this diet should be restrictive in its nature, in terms of a limited caloric intake (which should not surpass 1,500 cal a day due to the diminished basal metabolism typical of the elderly).

The diet includes regular vegetable & fruit intake and regular consumption of fish and crust-free white meat; the intake of "5 Ws" – white flour, white sugar, white rice, salt, fat – should be diminished as well. Consumption of up to 2 litres of unsweetened liquid a day (plain potable water would be the best).

The food should generally be cooked and free of browned flour. Fried and roasted food should be avoided.

4. THE OLD AGE CALL FOR THE PREVENTION OF NOT ONLY OBESITY, BUT UNDERNOURISHMENT AS WELL

5. NON-SMOKING AND NON-ADDICTIVENESS TO DRUGS, ALCOHOL, OPIATES, BLACK COFFEE AND OTHER ADDICTIVE SUBSTANCES

6. CONSTANT WORK, EVEN AFTER RETIREMENT

7. POSITIVE ATTITUDE

One should strive to laugh as often as possible and to keep up the good spirit; the blame for own failures should not be shifted to others.

8. KINDNESS AND LOVE SHOULD BE SPREAD AROUND

They should be targeted towards family, juniors and seniors around one, and towards one's work; sex life as an integral component of love that cuts across the age boundaries, should not be neglected as well.

9. LONELINESS AND DEPRESSION SHOULD BE AVOIDED BY ALL MEANS

One should strive to develop communication skills and prepare oneself to adapt to stressful events.

10. PERSONAL AND ENVIRONMENTAL HYGIENE

Oral (teeth & dental prosthesis) hygiene, regular finger and toe nail cutting; removal of any barriers and slippery & wet surfaces at one's home and surroundings, so as to prevent falls and injuries.

11. REFUSAL TO ACCEPT PREJUDICES AND IGNORANCE ON AGING, LEADING TO THE PERCEPTION OF OLD AGE AS A SYNONYM FOR THE DISEASE, DISABILITY AND DEPENDENCE ON OTHERS (of note, only every fifth older person depends on care of the others due to functional incapacity).

12. FULL COMPLIANCE WITH THE PRESCRIBED THERAPY AND REGULAR MONITORING BY THE ATTENDING PHYSICIAN

13. TRANSFER OF SKILLS, KNOWLEDGE AND PROFESSIONAL & LIFE EXPERIENCE TO YOUNGER GENERATIONS AND PEERS (1–2).

the world. Marking the International Day of Older Persons emphasizes the necessity of ensuring environmental adaptation abilities and needs of elderly residents.

Assessment and monitoring of functional disability, negative health behavior in the elderly and risk factors for the development of debilitating aging include the necessary health measures and procedures to be applied in order to prevent diseases and old-age dependency on others for care and assistance. Identify the different factors debilitating aging such as physical and mental inactivity, smoking, alcohol abuse, improper medication, obesity, malnutrition, poor personal hygiene and poor hygiene of the environment, and other factors.

There is an obvious connection between the negative health behavior of older people with debilitating aging factors. To prevent the negative health behavior joint responsibility shared Gerontological multidisciplinary team, herself an older person and her family. Negative health behavior by PZP-in (The health measures and procedures for the elderly) includes: physical inactivity, physical inactivity, accepting occupational therapy, failure to maintain personal and environmental hygiene, obesity, alcoholism, smoking, failure to follow directions doctor, drinking black coffee over two cups a day, exposing moderate sunlight, uncontrolled medication *(1, 14)*.

Prevention of disease and lack of independence in the elderly has been the focus of the concept of a healthy, active aging, which is based on the correlation of health activities and the elderly. Intergenerational solidarity and effective health care with special emphasis on prog rams of primary, secondary and tertiary prevention for seniors is required, in order to achieve a healthy, independent and productive lives of the elderly. Healthy active aging while maintaining functional ability in very old age prior to decisions being made in childhood and involves the implementation of positive health behavior. Proper, balanced nutrition to maintain normal body weight, not smoking, and daily, moderate and appropriate physical activity are to identify factors that contribute significantly to the maintenance of health and vitality in old age. Functionally capable elderly are significant potential for the transfer of knowledge and skills and work experience to the younger and the other older generation

CONCLUSION

A number of diseases occurring in the old age can be prevented through programmed and properly planned health care activities for the elderly, not only within health care system, but also on a wider scale, i.e. as part of the activities of social welfare, education, retirement and pension system, economic and other systems, particularly in terms of including the elderly population into the design and carrying out of all kinds of actions. The implementation of primary, secondary and tertiary health care preventive measures for the elderly as part of obligatory Program of Fundamental Preventive Health Care Measures for the Elderly in general/family medicine makes it possible to avert the majority of multimorbidity issues and functional disability in individuals of early, middle and late old age. Reference Center of the Ministry of Health of the Republic of Croatia for health care of the elderly published guidelines for active healthy aging which promote proper health –related behaviour that aids in prevention of risk factors responsible for unhealthy aging. In Croatia, the program promotes a healthy active aging, consisting of the "Guide for active healthy aging" *(30, 31)*: Aging is a normal physiological occurrence and an inevitable future prospect of each and every person. It depends on the aging genome and proper health-related behaviour that aids in prevention of risk factors responsible for unhealthy aging.

REFERENCES

1. TOMEK-ROKSANDIĆ S, RADAŠEVIĆ H, MIHOK D *i sur.* 2007/2008 Gerontološki javnozdravstveno-statistički pokazatelji za Hrvatsku 2004.–2006. godina. Zavod za javno zdravstvo Grada Zagreba, Centar za gerontologiju, Zagreb.
2. RODIN U Izvješće za 2011. Prirodno kretanje u Hrvatskoj Hrvatskoj u 2011. godini. Hrvatski zavod za javno zdravstvo; 2011. (pristupljeno 11.11. 2013.), Zagreb. Dostupno na: http//www.hzjz.hr/publikacije/ stanovništvo_2011.pdf
3. TOMEK-ROKSANDIĆ S, ČULIG J *ur.* 2004 Gerontološko zdravstveno-statistički pokazatelji za Hrvatsku 2002–2003. Zavod za javno zdravstvo Grada Zagreba, Centar za gerontologiju, Zagreb.
4. DURAKOVIĆ Z *i sur.* 2007 Gerijatrija medicina starije dobi. C.T. – Poslovne informacije, d.o.o., Zagreb.
5. TOMEK-ROKSANDIĆ S, PERKO G, LAMER V, RADAŠEVIĆ H, ČULIG J 2003 Značenje utvrđivanja stupnja pokretljivosti starijih ljudi u promociji aktivnog starenja pučanstva Hrvatske. *Glasnik Hrvatskog saveza sportske rekreacije (siječanj–lipanj)33–34:* 77–80
6. TOMEK-ROKSANDIĆ S, PERKO G, PULJAK A, MIHOK D, RADAŠEVIĆ H, ČULIG J, ŠOSTAR Z, TUREK S 2006 Zdravstveni management za starije osobe. *Liječ Vjesn 128 (Supll 1):* 27–29
7. TOMEK-ROKSANDIĆ S, PERKO G, MIHOK D *i sur.* 2003 Uloga primarne zdravstvene zaštite u prevenciji čimbenika bolesnog starenja. *U:* Materljan E *ur.* Hrvatski dani primarne zdravstvene zaštite. Dom zdravlja „Dr. Lino Peršić"; Labin, str. 108–119
8. TOMEK-ROKSANDIĆ S, PERKO G, MIHOK D, RADAŠEVIĆ H, LJUBIČIĆ M *i sur.* 2005 Živjeti zdravo aktivno produktivno starenje – 4. knjižica uputa za očuvanje funkcionalne sposobnosti u dubokoj starosti. CZG ZJZGZ, Zagreb.
9. DURAKOVIĆ Z, MIŠIGOJ-DURAKOVIĆ M 2007 Arterijska hipertenzija kao čimbenik opasnosti ateroskleroze u tzv.starijoj životnoj dobi. *U:* Reinar Ž *ur.* Prevencija ateroskleroze – starija životna dob: Zbornik radova sa Znanstvenog skupa; svibanj 23; Zagreb, Hrvatska. Hrvatska akademija znanosti i umjetnosti, Razred za medicinske znanosti, Odbor za aterosklerozu i Hrvatsko društvo za aterosklerozu, Zagreb, str. 25–36
10. TOMEK-ROKSANDIĆ S, PERKO G, RADAŠEVIĆ H, MIHOK D, ČULIG J 2004 The Program of preventive health measures for the elderly in Primary, secondary and tertiary health care. 44. Osterreichischer Geriatriekongres mit internationaler Beteiligung. BadHofgastein, 20–24.Marz, Wien. *Wiener Medizinische Wochenschrift 154:* 54
11. TOMEK-ROKSANDIĆ S 2007 Učestalost i prevencija kroničnih bolesti u starijih osoba. *U:* Vorko-Jović A *i sur.* Epidemiologija kroničnih nezaraznih bolesti. Laser Plus, Zagreb, str. 39–48
12. TOMEK-ROKSANDIĆ S, TOMASOVIĆ MRČELA N, SMOLEJ NARANČIĆ N, SIGL G 2010 Functional ability of the elderly in the institutional and non-institutional care in Croatia. *Coll Antropol 34(3):* 841–6
13. TOMEK-ROKSANDIĆ S, BUDAK A 1998 *ur.* Smjernice za zaštitu zdravlja starijih ljudi 1999: Knjiga izlaganja s druge međunarodne konferencije „Zaštita zdravlja starijih ljudi 1998"; ožujak 26–27.; Lovran, Hrvatska. Akademija medicinskih znanosti Hrvatske, Zagreb.
14. TOMEK-ROKSANDIĆ S, PERKO G, MIHOK D, PULJAK A, RADAŠEVIĆ H, ŠKES M, VRAČAN S, KURTOVIĆ LJ, FOR-

TUNA V,TOMIĆ B, DESPOT LUČANIN J, ŠIMUNOVIĆ D, ŠOSTAR Z, ŠIRANOVIĆ V 2005 Gerontološki centri 2004. Zagrebački model uspješne prakse za starije ljude (II. dopunjeno izdanje), Zagreb, str. 1–204

15. MIŠIGOJ-DURAKOVIĆ M 1999 Tjelesno vježbanje u posebno osjetljivim razdobljima života – starija životna dob. *U:* Mišigoj-Duraković *i sur.* Tjelesno vježbanje i zdravlje, Grafos, Zagreb, str. 75–96
16. WHO 2002 Active Ageing. A Policy Framework, Spain, p 1–56
17. STRNAD M 2005 Starija životna dob i rak. *Medicus 14 (2):* 251–256
18. TOMEK-ROKSANDIĆ S, ŠOSTAR Z, FORTUNA V *ur.* 2012 Četiri stupnja gerijatrijske zdravstvene njege sa sestrinskom dokumentacijom i postupnikom opće /obiteljske medicine u domu za starije osobe, II dopunjeno izdanje.: Referentni centar MZRH za zaštitu zdravlja starijih osoba – Centar za gerontologiju Zavoda za javno zdravstvo „Dr.A.Štampar"; Zagreb, str. 3–431
19. PULJAK A, PERKO G, MIHOK D, RADAŠEVIĆ H, TOMEK--ROKSANDIĆ S 2005 Alzheimerova bolest. *Medicus 14 (2):* 229–236
20. TOMEK-ROKSANDIĆ S, LJUBIČIĆ M, SMOLEJ-NARANČIĆ N, FORTUNA V, VULETIĆ S, ŠKARIĆ-JURIĆ T, LUKIĆ M, VRAČAN S, ŽUPANIĆ M, ŠIMUNEC D, DURAKOVIĆ Z, ŠTIMAC D, MAJIĆ T, ŠOSTAR Z 2010 Produljenje radnog vijeka, geroprofilaksa i gospodarski razvoj Hrvatske. *U:* Ekonomska politika Hrvatske u 2011. – Zbornik radova XVIII. tradicionalnog savjetovanja Hrvatskog društva ekonomista. Inženjerski biro, Opatija, str. 481–504
21. TOMEK-ROKSANDIĆ S, TOMASOVIĆ MRČELA N, RADAŠEVIĆ H, MAJIĆ T 2008 Gerontološki javnozdravstveni pokazatelji debljine u Hrvatskoj. Organizatori: HLZ- Društvo za debljinu. Programska knjižica 3. hrvatskog kongresa o debljini s međunarodnim sudjelovanjem; travanj 4–6. Opatija, Hrvatska.
22. SORIANO RAINER P *ed.* 2003 Fundamentals of Geriatric Medicine, A Case-Based Approach. Springer, NY.
23. WALKER A 2002 A strategy for active ageing. *International Social Security Rewiew 55 (1):* 121–139
24. TOMEK-ROKSANDIĆ S, BUDAK A 1997 Health status and use of health services by the elderly in Zagreb, Croatia. *Croat Med J 38:* 183–9
25. LANG E 1994 Altern – Alterskrankheiten – Geroprophylaxe. In: Das Alter Einführung in die Gerontologie. Stuttgart. *Ferdinad Enke Verlag:* 282–317
26. ŠOSTAR Z, FORTUNA V, TOMEK-ROKSANDIĆ S 2006 Zagrebački model uspješne prakse izvaninstitucijske skrbi za starije osobe – Gerontološki centri. *U:* Knjiga sažetaka 2. Hrvatski gerontološki kongres s međunarodnim sudjelovanjem. *Liječ Vjesn (Zagreb) 128 (Suppl 1):* 30
27. PERKO G, PULJAK A, MIHOK D, RADAŠEVIĆ H, TOMEK-ROKSANDIĆ S, ČULIG J 2004 Mediterranean diet as a model of preventive diet for older people. Acta Medica Austriaca. Springer, Wien, New York, Vol. 31, p 1
28. TOMEK-ROKSANDIĆ S, PERKO G, MIHOK D, PULJAK A, RADAŠEVIĆ H, ČULIG J 2004 Izazovi i šanse razvoja hrvatskog gospodarstva u zaštiti zdravlja europskog starijeg pučanstva. *U:* Ekonomska politika Hrvatske u 2004. Opatija, 2003, str. 306–331
29. TOMEK-ROKSANDIĆ S, LJUBIČIĆ M, BAKLAIĆ Ž, ŠOSTAR Z, TOMASOVIĆ MRČELA N, RADAŠEVIĆ H 2008 Uloga vrhovnog zdravstvenog menadžmenta za starije osobe u Hrvatskoj. *U:* Ekonomska politika Hrvatske u 2009. – Zbornik radova XVI. tradicionalnog savjetovanja Hrvatskog društva ekonomista. Inženjerski biro; Opatija, str. 395–422
30. TOMEK-ROKSANDIĆ S, PERKO G, MIHOK D, PULJAK A, RADAŠEVIĆ H, ČULIG J, LJUBIČIĆ M 2005 Značenje Centara za gerontologiju županijskih zavoda za javno zdravstvo i Gerontološki centara u Hrvatskoj. *U:* Medicus 2, Vol 14; Zagreb, str. 177–193
31. TOMEK-ROKSANDIĆ S, ŠOSTAR Z, FORTUNA V *ur.* 2012 Četiri stupnja gerijatrijske zdravstvene njege sa sestrinskom dokumentacijom i postupnikom opće /obiteljske medicine u domu za starije osobe, II dopunjeno izdanje: Referentni centar MZRH za zaštitu zdravlja starijih osoba – Centar za gerontologiju Zavoda za javno zdravstvo „Dr.A.Štampar"; Zagreb, str. 3–431
32. TOMEK-ROKSANDIĆ S 2009 Antropometrijske osobine stogodišnjaka, PMF Sveučilište u Zagrebu.
33. TOMEK-ROKSANDIĆ S, SKUPNJAK B, LJUBIČIĆ M, IVANDA T, ČULIG J, BAKLAIĆ Ž, BABIĆ V 2007 Produljenje radnog vijeka po tržišnim načelima – izazov razvoja hrvatskog gospodarstva u 2007. godini. *U:* Ekonomska politika Hrvatske u 2007. – Zbornik radova XIV. tradicionalnog savjetovanja Hrvatskog društva ekonomista, Inženjerski biro, Opatija, str. 397–413
34. TOMEK-ROKSANDIĆ S, ŽUŠKIN E, DURAKOVIĆ Z, SMOLEJ NARANČIĆ N, MUSTAJBEGOVIĆ J, PUCARIN-CVETKOVIĆ J, MIŠIGOJ DURAKOVIĆ M, DOKO JELINIĆ J, TURČIĆ N, MILOŠEVIĆ M 2008 Ljudski vijek: doživjeti i nadživjeti 100 godina? *Arhiv za higijenu rada i toksikologiju 60:* 375–3.
35. TOMEK-ROKSANDIĆ S, LJUBIČIĆ M, SMOLEJ NARANČIĆ N, KRZNARIĆ Ž, VRANEŠIĆ BENDER D, REINER Ž, FORTUNA V, TOMASOVIĆ MRČELA N, PERKO G, MRAVAK S, LUKIĆ M, DEUTCH A, ŽUPANIĆ M, ŠIMUNEC D Produženje radnog vijeka i veća zaposlenost mladih u korelaciji s aktivnim zdravim starenjem 2011 *U:* Ekonomska politika Hrvatske u 2012. godini. Inženjerski biro, Opatija, str. 375–410
36. STAVLJENIĆ-RUKAVINA A, MITTERMAYER R, TOMEK-ROKSANDIĆ S, MUSTAJBEGOVIĆ J 2012 Kvaliteta dugotrajne skrbi za starije osobe. Agencija za kvalitetu i akreditaciju u zdravstvu i socijalnoj skrbi, Zagreb.
37. TOMEK-ROKSANDIĆ S, TOMASOVIĆ MRČELA N, SMOLEJ NARANČIĆ N, DURAKOVIĆ Z, LJUBIČIĆ M, ŠOSTAR Z, FORTUNA V, LUKIĆ M, PERKO G, ŠIMUNEC D, HLATKI MATIJEVIĆ S, JURIŠIĆ S 2013 Značenje stalne edukacije o osnovama iz gerontologije i gerijatrije za razvoj hrvatskog gospodarstva. *U:* Ekonomska politika Hrvatske u 2014. – Zbornik radova 21. tradicionalnog savjetovanja Hrvatskog društva ekonomista. Inženjerski biro, Opatija, str. 343–386