GENDER DIFFERENCES IN HEALTH CARE UTILIZATION AMONG THE ELDERLY

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RODNE RAZLIKE U KORIŠĆENJU ZDRAVSTVENE ZAŠTITE MEĐU STARIJIM OSOBAMA

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ABSTRACT

The unstoppable process of demographic aging of population has profound consequences on the economic, health, social and political spheres of society, because of the specific and diverse needs of the older population. The aim of the study was to examine gender differences of health care utilization among elderly in Serbia. The survey was conducted as a part of the national study "Health Survey of the Serbian population" in 2013. In the past year, 87.4% of the older population visited their chosen doctor. Women were significantly more likely to use primary health care compared to men, while the frequency of hospitalization is significantly higher in men. When it comes to female population, age, region of residence and financial situation stood out as the most important predictors of primary care services usage. In men, the residence stood out as the most important predictor of primary health care services usage. Multivariate binary logistic regression distinguishes gender, education and region of residence as the most important factors associated with hospital treatment.

Keywords: elderly adults; gender; health care utilization; national health survey.

SAŽETAK

Nezaustavljiv proces demografskog starenja stanovništva ima duboke posledice na ekonomsku, zdravstvenu, socijalnu i političku sferu društva zbog specifičnih i raznovrsnih potreba starog stanovništva. Cilj studije je bio da se ispituju rodne razlike u korišćenju zdravstvene zaštite kod starijih osoba u Srbiji. Istraživanje je sprovedeno kao deo nacionalne studije „Istraživanje zdravlja stanovništva Srbije” 2013. godine. U poslednjih godinu dana 87,4% starog stanovništva je posetilo svog izabranog lekara. Žene značajno češće koriste usluge primarne zdravstvene zaštite u odnosu na muškarce, dok je učestalost hospitalizacija značajno veća kod muškaraca. Kada je u pitanju ženska populacija, kao najznačajniji prediktori korišćenja usluga primarne zdravstvene zaštite izdvajaju se godine starosti, regija stanovanja i materijalno stanje. Kod muškaraca se kao najvažniji prediktor korišćenja primarne zdravstvene zaštite izdvaja mesto stanovanja. Multivarijantna binarna logistička regresija kao najvažnije faktore koji su povezani sa bolničkim lečenjem izdvaja pol, stepen obrazovanja i regiju stanovanja.

Ključne reči: stare osobe; rod; korišćene zdravstvene zaštite; nacionalno istraživanje zdravlja.

INTRODUCTION

The aging population is one of the biggest challenges that the world faces in the XXI century. Persons older than 65 already make up to 15% of the population in the developed countries and, according to projections, by 2025 they will represent 19% to 26% of the total population (1). Serbia's population is getting older and, in particular, the increase of very old population (over 75) is very significant. With an average age of 42.2 years, an aging index of 1.22 and the share of aged 65 years and over of 17.4%, Serbia is among the demographically oldest countries in the world, according to the last census (2011). The process of demographic aging will intensify so that, according to demographic projections, the number of population older than 65 in Serbia until 2030 will amount to more than 21%, which represents every fifth resident (2).

The unstoppable process of demographic aging of population has profound consequences on the economic, health, social and political spheres of society, because of the specific and diverse needs of the older population (1). As a result of biological manifestations of the aging process, there is a gradual increase in the incidence of patients with a chronic diseases (cardiovascular diseases, diabetes, malignant diseases, etc.), wherein the elderly tend to have more joint diseases (multimorbidity) (3). Older age increases the number of functionally dependent and cognitively changed persons. Extensive health problems of old people lead to increasing pressure on the health service and increasing costs of their health care (4).

The usage of health services is primarily motivated by a disease of an individual, but the quality and quantity of health service usage vary significantly based on socio-economic factors such as income and health insurance status (5, 6). Elderly people in their consumption of health care services are not a homogeneous group, as they may be particularly exposed to many factors such as personal income and social inequalities (7).

Specifics of gender model of aging are primarily the result of the impact of a number of factors that act in certain social circumstances and in the specific social environment. Therefore, gender is considered an important determinant of health, which further shapes the patterns of exposure to health risk factors and morbidity, access to health care services and access to treatment (8).

The aim of the study was to examine gender differences of health care utilization among elderly in Serbia.

METHODS

Study population and sample

As the basis for the analysis of the characteristics of the Serbian population older than 65, we used data from the

Third national population health survey conducted by interviewing a random, representative sample of the population of our country. The testing was performed as the cross-sectional study on the territory of the Republic of Serbia and it did not include the population living in the AP Kosovo and Metohija. The target population did not include persons living in collective households and in institutions. The survey was conducted in accordance with the methodology and instruments of the European Health Survey - Second Wave (EHIS-wave 2) (9). The study was implemented by the Ministry of Health of the Republic of Serbia.

The sample included all households listed in all enumeration areas in the census conducted in 2011. The mechanism used to obtain the random sampling of the respondents and households was a combination of two sampling techniques: stratification and a multi-stage sampling. A stratified two-stage sample of the population of the Republic of Serbia has been chosen in such a way to provide a statistically reliable assessment of the indicators that indicate the health status of the population at the national level, as well as at the level of 4 geographic areas (Vojvodina, Belgrade, Šumadija and Western Serbia, Southern and Eastern Serbia) identified as the main strata in the sample. Their further division into urban and rural areas resulted in a total of 8 strata. In the first stage, a total of 670 enumeration areas were selected. The households were the units of the second stage. Within each enumeration area, 10 addresses were selected (+3 spare addresses) inhabited by households to be interviewed. Out of the total of 10089 households contacted, 6500 of them agreed to participate in the survey, so that the response rate of households was 64.4%. Out of the total of 16474 registered household members aged over 15, 14623 of them agreed to be interviewed, giving a response rate of 88.9%. Out of the number of people who agreed to be interviewed, 13756 of them accepted to fill in the questionnaire (response rate 94.1%). Data on the population aged over 65 were used for the purposes of this study (3540 respondents).

Instruments

The survey instrument used in this survey was standardized questionnaire prepared in accordance with the questionnaire of the European health research - the second wave (European Health Interview Survey - EHIS wave 2), according to internationally accepted defined indicators. Information on demographic, socio-economic characteristics, self-reported health and utilization of health services of respondents was obtained through three types of questionnaires: household questionnaire, face-to-face questionnaire and self-completion questionnaire (self-administered questionnaire). Data collection was conducted by specially trained teams of interviewers. The data collection process was standardized to ensure data quality. Participation in the survey was voluntary, and respondents, along with a questionnaire, signed informed consent with the previously received information about the study.

The dependent variable in this study was health services utilization. Predisposing factors related to the basic

characteristics of the population included gender, age, education, marital status type of settlement, financial status and region.

Statistical analysis

All the data of interest were presented and analyzed by adequate statistical methods appropriate for the data type. The Chi-square test was used to compare proportions between groups. The relations between the health services utilization, as a dependent variable, and a set of independent variables was examined by univariate and multivariate logistic regressions. All results with the probability that is equal to, or less than 5% ($p \leq 0.05$) were considered statistically significant. Statistical analysis was performed using a commercial, standard software package SPSS, version 19.0. (The Statistical Package for Social Sciences software (SPSS Inc., version 19.0, Chicago, IL).

RESULTS

The study included 3540 respondents aged over 65. 94.7% of the population had a chosen general practitioner in public health institutions and 2.7% of respondents had a doctor in private health institutions. According to gender, women significantly more likely had a chosen doctor (95.6%), as compared to men (93.6%) ($\chi^2=6.861$, $df=1$, $p=0.009$). When it comes to private health care sector, a slightly higher number of men had their general practitioners compared to women (3.1% vs. 2.3%). This difference is not statistically significant ($\chi^2=1.846$, $df=1$, $p=0.174$).

In the past year, 87.4% of the older population visited their chosen doctor. Women were significantly more likely to use primary health care compared to men (88.9% vs. 85.5%). The number of services was greater in the urban population compared to the rural environment (88.7% versus 85.8%), as well as in the richer population compared to the poor social class (89.6% vs. 85.4%). In the last year, 57% of the elderly visited a specialist, out of which proportion of women was slightly higher (58.4%) than of men (55.2%) (Table 1).

Table 1. Distribution of respondents who visited their general practitioner in relation to demographic and socio-economic characteristics

chosen doctor visit	men (%)	women (%)	total (%)	p*
Gender	85.5	88.9	87.4	0.009
Age (years)				
65-74	84.8	91.0	88.3	
75-84	87.6	87.6	87.6	< 0.001
85+	70.4	78.7	76.1	
Education				
No schooling	89.9	88.7	89.3	
incomplete primary education	82.9	87.4	86.0	
elementary school	84.7	91.3	89.0	0.323
middle school	85.4	88.1	86.6	
high school or higher	87.4	88.8	87.4	
Marital status				
single	91.7	77.3	82.4	
married	85.5	90.4	87.6	0.319
widowed	84.1	87.7	86.8	
separated/divorced	91.2	93.3	92.6	
Place of residence				
Urban	87.2	89.8	88.7	0.013
Rural	83.2	87.8	85.8	
Well-being index

chosen doctor visit	men (%)	women (%)	total (%)	p*
I (the poorest)	84.6	85.5	85.4	0.014
II	86.5	85.1	87.9	
III	87.6	86.1	88.8	
IV	89.0	87.2	90.6	
V (the richest)	88.5	87.1	89.6	
Region				0.001
Vojvodina	86.6	88.4	87.6	
Belgrade	85.3	82.4	83.6	
Šumadija and W. Serbia	83.8	91.7	88.2	
Southern and Eastern Serbia	86.2	92.8	89.9	

* Chi-square test

Results of univariate binary logistic regression showed that the usage of primary care services is under the influence of gender, age, financial status and place of residence. Multivariate logistic regression signifies gender, age and place of residence as the most important predictors of usage of primary health care services. Women more frequently use the services of the selected physician for 28.7% as compared to

men (OR=0.713). The process of aging decreases the usage of primary health care services; every year of age reduces the usage of these services by 2.2% respectively (OR=0.978). Elderly people who live outside the city visited their chosen doctor by 29.4% less (OR=0.706), while those in the South area visited their chosen doctor 1.5 times more compared to those living in the North (OR=1.508) (Table 2).

Table 2. Cross Odds Ratio (OR) and 95% confidence intervals (CI) for usage of PHC services related to demographic and socio-economic characteristics

Variable	Univariate model		Multivariate model	
	OR	p	OR	p
age	0.981 (0.965 – 0.997)	0.018	0.978 (0.962 – 0.995)	0.009
male	0.729 (0.594 – 0.894)	0.002	0.713 (0.580 – 0.875)	0.001
material state	1.096 (1.015 – 1.184)	0.019		
southern region	1.382 (1.126 – 1.695)	0.002	1.508 (1.221 – 1.861)	< 0.001
rural settlements	0.768 (0.626 – 0.942)	0.011	0.706 (0.571 – 0.875)	0.001

When it comes to the female population, age, region of residence and financial situation stood out as the most important predictors of primary care services usage. The reduced usage of primary care services comes with the older age (OR=0.953). Women who lived in the Southern parts of Serbia, 1.9 times more frequently visited their doctors, compared to those living in the North (OR=1.938), and women who, according to the index of well-being, belong to the rich

class of the population, 1.2 times more frequently visited a chosen doctor (OR=1.238).

In men, the residence stood out as the most important predictor of primary health care services usage, so those who lived in rural villages rarely visited their chosen doctors (OR=0.717) compared to those who lived in the city (Table 3).

Table 3. The cross ratios (OR) and 95% confidence intervals (CI) for primary health care services usage related to gender and socio-economic characteristics

Variable	Gender	Univariate model		Multivariate model	
		OR	p	OR	p
rural settlements	men	0.727 (0.542 – 0.975)	0.033	0.717 (0.522 – 0.984)	0.033
age	women	0.958 (0.937 – 0.979)	< 0.001	0.953 (0.930 – 0.975)	< 0.001
southern region	women	2.070 (1.544 – 2.775)	< 0.001	1.938 (1.398 -2.688)	< 0.001
material status	women	1.117 (1.001 – 1.245)	0.048	1.238 (1.085 – 1.413)	0.002

516 persons (14.6%) aged over 65 were hospitalized in the last 12 months. There is a statistically significant correlation between gender and hospitalization, but it is noted that the frequency of hospitalization is significantly higher in men (16.1%) than in women (13.4%) ($\chi^2=4.797$ df=1 p=0.026).

The incidence of hospitalization was significantly higher in people with no schooling (19.1%) and with incomplete primary education (17.8%), especially in people with the lowest incomes (18.3%), who lived in Šumadija and Western Serbia (18.1%), as well as in population in the age group 75-84 (16.3%) (Table 4).

Table 4. Distribution of respondents who use hospital care related to demographic and socio-economic characteristics

hospital care	men (%)	women (%)	total (%)	p*
Age (years)				
65-74	15.9	11.7	13.6	
75-84	16.6	16.1	16.3	0.058
85+	14.1	11.8	12.5	
Education				
No schooling	23.5	18.8	19.1	
incomplete primary education	23.8	15.0	17.8	
elementary school	18.1	11.6	13.9	< 0.0005
middle school	13.6	12.1	13.0	
high school	12.0	9.9	11.3	
Marital status				
single	14.3	3.4	7.0	
married	15.7	12.9	14.5	0.071
widowed	16.9	14.0	14.7	
separated/divorced	21.1	15.9	17.8	
Place of residence				
Urban	14.0	13.3	13.6	0.410
Rural	18.5	13.6	15.8	
Well-being index

hospital care	men (%)	women (%)	total (%)	p*
I (the poorest)	17.3	14.1	15.4	0.097
II	15.7	14.0	14.7	
III	21.3	13.2	16.6	
IV	12.7	11.3	11.9	
V (the richest)	10.1	13.8	12.1	
Region				< 0.0005
Vojvodina	10.6	13.3	12.2	
Belgrade	14.6	8.7	11.2	
Šumadija and W. Serbia	21.9	15.0	18.1	
Southern and Eastern Serbia	15.2	16.5	15.9	

Multivariate binary logistic regression distinguishes gender, education and region of residence as the most important factors associated with hospital treatment. Quotient of chance for males was 1.319, and men are 1.319 times more likely to be hospitalized than women, respectively. Quotient of chance for education level was 0.759. The table shows that with an

increase of education by one level, the chance of hospitalization decreases by 24.1%. Participants living in the southern parts of Serbia were 1.4 times more likely to be clinically treated than those who lived in the North (OR=1.481) (Table 5).

Table 5. The cross ratios (OR) and 95% confidence intervals (CI) for primary health care services usage related to gender and socio-economic characteristics

Variable	Univariate model		Multivariate model	
	OR	p	OR	p
male	1.238 (1.027 – 1.493)	0.025	1.319 (1.071 – 1.624)	0.009
education	0.793 (0.691 – 0.910)	0.001	0.759 (0.648 -0.887)	0.001
southern region	1.562 (1.287 – 1.894)	< 0.001	1.481 (1.204 – 1.822)	< 0.001

In the male population, multivariate logistic regression distinguishes the level of education and region of residence as the most significant factors associated with hospitalization. Men with the highest level of education are 29.6% less likely to be clinically treated in comparison to their peers with the lowest level of education (OR=0.704), while those in the South were 1.48 times more likely to be hospitalized

compared to those who lived in the North (OR=1.483). Multivariate logistic regression distinguishes the region of residence as the most important predictor of hospitalization in women, and women living in the South had a 1.54 times higher risk (OR=1.544) to be hospitalized compared to women from the North (Table 6).

Table 6. Cross Odds Ratio (OR) and 95% confidence intervals (CI) for the use of hospital care by gender

Variable	Gender	Univariate model		Multivariate model	
		OR	p	OR	p
age	women	1.017 (0.997 – 1.037)	0.093		
material status	men	0.902 (0.814 – 0.999)	0.048		
type of settle- ment	men	1.394 (1.060 – 1.834)	0.017		
education	men	0.687 (0.567 – 0.833)	< 0.001	0.704 (0.571 -0.867)	0.001
education	women	0.815 (0.658 – 1.010)	0.062		
southern region	men	1.566 (1.179 – 2.081)	< 0.001	1.483 (1.092 – 2.013)	0.012
southern region	women	1.544 (1.186 – 2.010)	0.001	1.544 (1.186 – 2.010)	0.001

DISCUSSION

The results of this study indicate that women, in general, are more likely to use health services than men. A number of studies conducted all around the world support these results, but also offer different explanations for the higher rates of use of health services by women (10), such as differences in social roles, health status, susceptibility to symptoms, willingness to report health problems, willingness to seek for help, agreement with the choice of treatment (11).

Women have a greater need for a health care services because of their poorer health (higher rates of morbidity, worse perception of health, poorer quality of life and a greater degree of disability than men) and different social constructor of diseases (roles, attitudes, beliefs and behaviors of men and women when they are sick or concerned about health), which leads to different processes of seeking for health care and to differences between women and men in the provision of these services (12, 13).

Gender differences in attitudes towards health and in reporting of symptoms and diseases can also cause differences between men and women regarding the use of health care. It is believed that women are easier to adapt to the role of the patient; they recognize and experience more health problems than men because it is socially and culturally acceptable for a woman to be sick and to seek professional help (14). Higher consultation rates among women reflect greater awareness and concern about issues related to health (15), which is basically related to gender psychosocial and behavioral influences (16), or to the perception of symptoms (17-21). According to cultural characteristics, females are more likely to address health professionals for help. They are more open and willing to show the symptoms they feel, verbally as well as behaviorally. They more often complain on psychosomatic ailments and emotional instability, which is why they more

frequently use health care services. Health disorders are less stigmatizing for females, because lower standards of health are accepted for them, while the strength and health are traditional male values (2).

The trend of more frequent use of health care among women is not constant data and depends on the level of health care and the types of health services. The results of this research that suggest that women more often use the services of primary health care services and that men more often use services of hospital treatment, are in accordance with the results of other studies based on national probability samples. Women more likely use outpatient, preventive and diagnostic services, while men more often visit specialists, have a higher rate of hospitalization compared with women (22) and stay longer in the hospital (23-25).

Mutran and Ferraro (14) suggested that the reasons for this lie in the nature of the diseases affecting aging men (e.g., cardiovascular and respiratory diseases) in comparison to those that women often experience (musculoskeletal and mental diseases), i.e. men suffer from more serious and complicated health problems. The fact that women report poorer health, more frequent use of primary health care services and less specialist' services, supports the argument that women are healthier, but have a poorer perception of their health.

Globally, there are good evidences that older women disproportionately suffer from chronic diseases that incapacitate, but are not life-threatening and do increase the need for health care (16). However, as gender differences remain after controlling for self-assessment of health or of chronic conditions, the explanation could not be so simple (15).

The results that indicate a high rate of female morbidity and its links to the increased use of health services, vary in

different studies. Portraïd and colleagues argued that the age and chronic morbidity were the most important factors that have determined the need for long-term care. Furthermore, after eliminating the age and number of chronic diseases as factors, the women were institutionalized less frequently than men (19).

Ladvig and colleagues also described the positive relationship between the frequency of the chronic diseases and the overall utilization of the health services, including the frequency of visits to physician, hospitalization during the previous 12 months, as well as the number and frequency of drugs taken (20). In contrast to this, in the study that was conducted by Dunlop and colleagues, which examined gender differences in health care use in patients aged over 70, gender differences in the number of medical contacts in the last 2 years were not observed, although women required more frequent medical care at home than men. However, men were more frequently admitted to the hospital and more often used the services of ambulatory surgery than women (21).

Older people, both men and women, with lower income, reported worse indicators of the health status and of the physical functioning, and they used medical services less than those with better economic situations, regardless of age (16). Poorer and less educated people, despite higher morbidity and mortality, often have difficulties getting to the appropriate specialists and preventive services, they are less likely to use health services, and some of them must pay proportionately more in relation to their income than richer people. As people live longer in stressful economic and social conditions, it is less likely to enjoy good health during the old age. Therefore, the socio-economic position of people is the main determinant of health in adulthood and this effect also persists later in life (18).

The research conducted in China indicates that socio-economic status plays an important role in the use of outpatient services, but does not play a significant role in the use of hospital services (23). The research conducted in Finland and Norway showed that the usage of health services among older individuals varied with health status, socio-economic factors and gender, and that these three factors were independently connected with the use of health care in later life (15).

A study conducted in China as a part of a larger study of global aging and adult health (Study on global AGEing and adult health – SAGE), which included 4185 people aged over 50 with a diagnosis of cardiovascular disease, showed that older women more often used outpatient primary health care services than older men, and that the use of these services depended on the age, gender and financial situation of users household. Compared to persons aged 50-59, age group 70-79 (OR=1.26), and group aged over 80 (OR=1.38), significantly more frequently used ambulatory services. Female patients used more outpatient services than male patients (OR=1.30). Wealthy patients were more likely to use outpatient services than poorer. The average number of visits to the

doctor of the general practice among wealthy patients was 7.3, while the average number of visits in the poorest population group was 2.4. Patients who had health insurance were more likely to use outpatient services than those who did not have health insurance (57.0% vs. 41.4%). The study did not find significant disparities in the provision of hospital services among men and women (25).

It is obvious that we can talk about gender differentiated quality of age, and more of such evidences could help informing of policies and programs aimed to reduce gender differences in the quantity and quality of years to live, providing equal opportunities for both men and women.

CONCLUSION

Women are significantly more likely to use primary health care compared to men, while the frequency of hospitalization is significantly higher in men. Integrating a gender perspective in public health refers to the recognition of these differences and inequalities, taking them into consideration during the process of designing various policies and in developing programs of health promotion and prevention strategies, taking into account the specific needs of women and men of this age.

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