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Inequalities in health in a municipality of Serbia

Nejednakost u zdravlju na području jedne opštine u Srbiji

Tatjana Simović*, Jasmina Radojlović†, Mensur Memić‡

***College of Health Studies, Ćuprija, Serbia; †College for Health Studies "Milutin Milanković", Belgrade, Serbia; ‡State University of Novi Pazar, Serbia**

Abstract

Background/Aim. A consistent association between socioeconomic determinants and health related variables has been found in many European countries. The aims of this study were: to analyze the association of socioeconomic factors with self-perceived health and utilization of health services as well as to suggest some interventions to overcome the existing problems. **Methods.** Hybrid study was peformed. The two cross-sectional studies were conducted on quota samples (1999 and 2015) in Kruševac Municipality. The questionnaire was used as the investigation instrument for 196 interviewees in 1999 and 226 interviewees in 2015. **Results.** In the reporting period, there were the following results: a significant increase in people who did not have a steady income (χ^2 = 22.800; df = 4; p < 0.01), a decrease in the number of people who perceived their own health as "well" and "very well", a significant increase (6.1%) in people who did not visit anyone when disease occurred, a decrease of 13.2% in number of people who, at least once, visited the general practitioner and an increase in the number of people who visited private health care sector. The findings revealed inequalities in self-perceived health depending on socioeconomic position, in particular educational and employment status (χ^2 = 11.293; df = 4; p < 0.05). There are two major ways in which unemployment affects health: lack of income and ability to meet daily needs and emotional stress related to the meaning of the work, uncertain future, loss of self-esteem, and identity. **Conclusion.** Equality is a key value in the assessment of the effects on health. It is necessary to conduct effective interventions for overcoming the consequences in society that would be focused on a specific target group in one territory.

Key words:
health status; socioeconomic factors; health services; serbia.

Astrakt

Uvod/Cilj. U mnogim zemljama Evrope opisana je postojana povezanost između socijalno-ekonomskih faktora i zdravlja. Ciljevi ovog istraživanja bili su da se analizira povezanost između socijalno-ekonomskih faktora i samoprecene zdravstvenog stanja kao i korišćenja zdravstvenih usluga, i da se sagledaju intervencije za prevazilaženje uočenih problema. **Metode.** Sprovedena je hibridna studija. Dve uzasopne studije preseka (1999. i 2015. godine) su realizovane na uzorku stanovnika (196 ispitanika u 1999. i 226 ispitanika u 2015. godini) gradskog jezgra grada Kruševca. Instrument istraživanja je bio upitnik. **Rezultati.** U posmatranom periodu došlo je do: značajnog povećanja udela onih koji nemaju stalne izvore prihoda (χ^2 = 22.800; df = 4; p < 0.01), smanjenja udela onih koji svoje zdravlje percipiraju kao dobro i izuzetno dobro, značajnog povećanja (za 6,1%) onih koji se u slučaju bolesti ne javljaju nikome i smanjenja broja za 13,2% onih koji su potražili pomoć lekara barem jedanput, povećanja udela onih koji se obraćaju lekaru u privatnom sektoru zdravstva. Rezultati ukazuju na nejednakost u samoproceni zdravlja u odnosu na socijalno-ekonomski položaj, a posebno u odnosu na nivo obrazovanja i status zaposlenosti (χ^2 = 11.293; df = 4; p < 0.05). Nezaposlenost na dva načina utiče na zdravlje: preko nedostatka materijalnih sredstava i preko nedostatka sposobnosti da se zadovolje dnevne potrebe, kao i preko emocionalnog stresa povezanog sa gubitkom posla, neizvesnom budućnosti, gubitkom samopouzdanja i identiteta. **Zaključak.** Jednakost je ključna vrednost u proceni uticaja na zdravlje. Neophodne su efektivne intervencije za prevazilaženje posledica nejednakosti u društvu, koje bi se sprovele na određenoj ciljnoj grupi na jednom području.

Ključne reči:
zdravstveno stanje; socijalno-ekonomski faktori; zdravstvene službe; srbija.

Introduction

Inequalities in health of both an individual and population are inevitable. They come as consequences of a difference in genes, social and economic living conditions or they are a result of an individual's choices and actions. Also, the inequalities in health come as a consequence of a difference in possibilities of individuals (inequality in healthcare acces-

Correspondence to: Jasmina Radojlović, College for Health Studies "Milutin Milanković", 11 000 Belgrade, Serbia.
E-mail: pedja2003@gmail.com

sibility, housing differences, healthy eating or physical activity). Poverty is one of the main causes of health degradation.

In the year 1820, the ratio between the rich and the poor were 3 : 1 and in 1992, it was 72 : 1 [1]. The countries with developed democracies have 86% of gross domestic product [1].

Equity in health issues involves trying to understand and give people what they need to enjoy full and healthy lives. Equality, in contrast, aims to ensure that everyone gets the same things in order to enjoy full and healthy lives. Like equity, equality aims to promote fairness and justice, but it can only work if everyone starts from the same place and needs the same things [2]. As the Pan-American Health Organization puts it, equity is the means; equality is the outcome [2]. Equity means social justice or fairness. It is an ethical concept, grounded in principles of distributive justice [3]. Equity in health care is defined as the absence of systemic disparities in health (or in the major social determinants of health) between social groups who have different levels of underlying social advantages/disadvantages, that is, different positions in a social hierarchy [3]. Inequities in health systematically put groups of people who are already socially disadvantaged (for example, by being poor, female, and/or belonging to some disenfranchised racial, ethnic or religious group) even in a worse position with respect to their health [3]. Equity in health care is defined as: equal access to available care for equal need, equal utilization for equal need and equal quality of care for all [4]. Financial, organizational and cultural barriers confront people wanting to use services, so, although they may have right to health care in theory, their access may be restricted in practice. Inequities in access also arise when resources and facilities are unevenly distributed around the country, clustered in urban and more prosperous areas and scarce in deprived and rural neighborhoods [4].

Equality and equity mean that the full attention must be diverted to those who need it most, to those who are carrying the greatest burden of illness and to those who are receiving inadequate medical attention or are endangered by poverty. Moreover, one of the principles of the healthcare policies is reduction of inequalities in health.

Today, image of Serbia is characterized by a socially stratified society, with an ever more drastic inequality between social layers. Social differences are more and more pronounced in Serbia, which have been verified by experts. The last research of this phenomenon in Serbia showed that the inequality coefficient in the year 2013 was 38, which means that the country is slipping towards the zone of a pronounced inequality [5] (until 2009 researches with the Gini coefficient for measuring the economic inequality was 28 which showed that Serbia was not in this zone). Serbia, along with Macedonia is the country with the highest level of economic inequality in Europe [5].

Although there is available data that the number of poor people in Serbia decreased, a part of them, who were in a multiply unfavorable position when it comes to education, healthcare and living standards, represented 3.1% of the population become poorer [6]. The intensity of their poverty worsen from 38.3% in 2005 to about 40% in 2010 [6]. The average growth of social development in Serbia (0.34%) between 2000 and 2013, was the lowest in the region [6], and a drop was predicted in the upcoming period due to the combination of a drop in income and difficulties in accessing education and healthcare [6].

The great inequalities contribute, on one side, to socially disintegrative processes and, on the other one, they make a county's exit out of poverty more difficult. Demographic changes are closely related to the issues of inequality and poverty, aging of the population, decrease in the cultural influence on the development of a country as well as the increase in pathological disorders in the society.

Many researches have shown a mutual directly proportional relationship between health and income [7–9]. Furthermore, it was concluded that life expectancy and education had a direct and indirect (over income) impact on health[7]. Thus, socioeconomic variables (such as income, education, profession, employment) have the same, or just a little less, effect on the health as well as lifestyle [10, 11].

The main reason for inequality in the city of Kuševac in Serbia is a high unemployment rate, since the data acquired by the National Employment Agency show that the rate is higher than in the country (around 36% in 2013, as opposed to 25% in Serbia) [12].

In the previously described conditions, it is important for public health professionals to perceive the size of the challenges as consequences of inequality and to discover ways to reduce the impacts of this inequality on the health of the inhabitants in a certain region in a sustainable and adequate manner.

Methods

The method used in this research belongs to the group of analytical epidemiological methods called hybrid studies, in one of their subgroups, that is, repeated measures designed study. Two consecutive cross-sectional studies were undertaken, in September and October of 1999 and in September of 2015. The research was conducted on a 5‰ quota sample of the population of the city of Kuševac (inhabitants older than 18). In this way, 196 participants were surveyed in the year 1999 and 226 participants in 2015. The analysis of sociodemographic characteristics of the participants showed that a somewhat larger amount of women than men was surveyed (53.1%), the largest number of participants had only high school education (55.3%), while 20.4% of the participants had some form of higher education and 28.2% of the participants only graduated from elementary school or completed apprenticeship in some craft. As there were no statistically significant differences in the distribution by gender ($\chi^2 = 0.00454$, $df = 1$, $r > 0.05$), age ($\chi^2 = 0.043$, $df = 2$, $r > 0.05$) and educational attainment ($\chi^2 = 0.019$, $df = 2$, $r > 0.05$) between the population who filled out the questionnaire and those in census, a sample of the population of Kruševac can be considered representative, so, the results of the research can be generalized to the entire population of Kruševac.

The instrument was a questionnaire with 20 questions divided into four sections: demographic and socioeconomic

variables (8 questions), self-assessed health (5 questions), the use of healthcare (5 questions) and out-of-pocket paying for health services (2 questions). Information was gathered through "face to face" interviews. The participants with previously determined characteristics were surveyed in their houses and workplaces.

The data were processed using the methods of descriptive statistics and their relevance was tested with χ^2-test.

Results

As far as the percentage of participants who had a stable income (full time employment of pension) in 1999 (83.2%) and 2015 (63.7%) was considered, there were significant changes as well as in the pool of the participants with part- time employment or unemployed or "housewives" (10.2%, and 23.6%, respectively) (Table 1). This difference was highly statistically significant ($\chi^2 = 22.800$; df = 4; $p < 0.01$).

Table 1

The distribution of respodents employment status in two observed periods (1999 and 2015)

Employment	1999	2015	Total
	n (%)	n (%)	n (%)
A steady job and a pensioner	163 (83.2)	144 (63.7)	307 (72.7)
Occasional	9 (4.6)	38 (16.8)	47 (11.2)
Unemployed and housewives	20 (10.2)	37 (16.4)	57 (13.5)
On education, etc.	4 (2.0)	7 (3.1)	11 (2.6)
Total	196 (100)	226 (100)	422 (100)

$\chi^2 = 22.8$; df = 3; $p < 0.01$.

The average income per capita in surveyed households in 2015 was 9,055.96 dinars (€75), with mod as typical value as 10.000 dinars (€83) and in those who were surveyed in 1999 it was 1.078,00 dinars (€45), with mode of 1,000 dinars (€42). Although respondents in 2015 their material status generally described as better than in 1999, the differences in frequency were not statistically significant ($\chi^2 = 4.601$; df = 2; $p > 0.05$).

In 1999, 53.1% of the surveyed participants assessed their health as good or very good, while in 2015 this percentage was smaller – 45.1%, but the differences in frequency were not statistically significant ($\chi^2 = 3.503$, df = 2, $p > 0.05$) (Table 2).

Table 2

Distribution of answers on the self-assessment of health status of respondents in in two observed period (1999 and 2015)

Self-assessment of health status	1999	2015	Total
	n (%)	n (%)	n (%)
Extremely well and good	104 (53.1)	102 (45.1)	206 (48.8)
Moderately	76 (38.8)	96 (42.5)	172 (40.8)
Bad and pretty bad	16 (8.1)	28 (12.4)	44 (10.4)
Total	196 (100)	226 (100)	422 (100)

$\chi^2 = 3.503$; df = 2; $p > 0.05$.

A statistically significant relationship between self-assessed health and material status of the participant was established ($\chi^2 = 11.293$; df = 4; $p < 0.05$) in a sense that the participants who assessed their material status as very good or good were more prone to assess their health as good or very good, and the ones who assessed their material status as bad and very bad, assessed their health in the same manner, too. The situation remained unchanged when the participants with higher education perceived their health as good as compared to the ones who have only graduated from elementary school, or not even that, who often perceive their health as poor.

In 1999 about 33% of the surveyed participants who are suffering from a chronic disease named the lack of funds as the reason for the lack of abidance to the suggested regime of lifestyle, while in 2015 this percentage was 74%.

When we took into consideration to who the participants go when they were ill, we saw the difference between the two years the study was conducted : in 1999, 68.4% and in 2015 74.3% of them asked help from a doctor in a community health center, a private doctor (4.1% and 11.1%, respectively), while 22.4% and 8.0%, respectively went to the doctor in a specialized consultative service in the public sector of healthcare, and 5.1% and 6.6% respectively, did not ask for medical help (Table 3). This difference was highly statistically significant ($\chi^2 = 22.469$; df = 3; $p < 0.01$).

Table 3

Distribution of answers in in two observed period (1999 and 2015) considering whom do the participants go to when they are ill

Addressing in the case of illness	1999	2015	Total
	n (%)	n (%)	n (%)
A doctor in a community health Center	134 (68.4)	168 (74.3)	302 (71.6)
A doctor specialist in public health care sector	44 (22.4)	18 (8.0)	62 (14.7)
A doctor in private health care sector	8 (4.1)	25 (11.1)	33 (7.8)
No one	10 (5.1)	15 (6.6)	25 (5.9)
Total	196 (100)	226 (100)	422 (100)

$\chi^2 = 22.469$; df = 3; $p < 0.01$.

The distribution of the number of visits to the general practitioner in the public sector of healthcare in the two observed years pinpoints the significant changes in the use of services provided: the number of those who, in the previous 6 months did not visit the general practitioner in the government sector of healthcare increased by 6.1%, and the number of those who visited the general practitioner at least once decreased by 13.2%. Thus, the increase in the average number of visits to the general practitioner, from 2.1 per year in 1999 to 3.7 in 2105 was actually a consequence of more frequent visits by the people who had already used to using the services of general practitioner in the government sector of healthcare. Namely, the number of those who used these services 10 or more times a year increased from 4.6% in 1999 to 13.7% in 2015.

As the main cause of dissatisfaction with health care services provided in the public health sector in 2015, respondents identified lack of money, and after that, health professionals and poor work organization. Compared to 1999, this difference was statistically highly significant ($\chi^2 = 29.572$, df = 3, $p < 0.01$) (Table 4).

Table 4

Distribution of answers in 1999 and in 2015 about the main causes of dissatisfaction with health services in the public health care sector

The main causes of dissatisfaction with health services in the public health care sector	1999 n (%)	2015 n (%)	Total n (%)
Health professionals	23 (25.8)	13 (16.2)	36 (21.3)
Lack of money	37 (44.3)	49 (58.6)	86 (50.9)
Poor organization of work	25 (29.9)	7 (8.1)	32 (18.9)
Other	0 (0)	15 (17.1)	15 (8.9)
Total	85 (100)	84 (100)	169 (100)

$\chi^2 = 29.572$; df = 3; $p < 0.01$.

The average amount of money spent per participant in both public and private health sector in 1999 was 694.8 dinars (€29) and in 2015, it was six times more – 14,448.00 dinars (€180.6). The amount for the public health sector in 1999 was 138.9 dinars (€5,8) and in 2015 it was 2,784.00 dinars (€34.8). In 1999 for the private health sector it was 555.9 dinars (€23.2), and in 2015, it was 11,256.00 dinars (€140.7).

Discussion

The results of this study correlate to results of various different studies which point to the fact that the level of education is in a proportional relationship with the self-assessment of health [13, 14] and that it is possible that the inequality in healthcare is a consequence of the perceived fact that the people with higher education have more skills for solving everyday challenges which could have a negative influence on the health of an individual [15].

Unemployment influences the health in two main ways: by a lack of material funds and ability to meet everyday needs as well as the emotional stress related to a lack of job, uncertain future, loss of self-esteem or identity [16].

Furthermore, the studies point to a direct proportional relation between a provided healthcare and individual demands for healthcare [7] as well as between the use of healthcare services and socioeconomic determinants of health [11].

Other studies show that the ever present decrease in the number of the healthcare users has its origin in: the growing skepticism of the public towards new medication and therapeutic treatments, the increase in the user autonomy and readiness of the public to accept upon itself more responsibility for its own health, the change of relationships between income, education and use of public healthcare, the aging of the population with the accompanying increase in the number of chronic diseases and in the decrease in the sizes of families [11].

It is important to highlight some issues concerning inequalities. This is the idea that one should think of health inequalities as deriving from material conditions of life, not psychological factors [17]. But, there are two significant notes about that: first, health inequalities are not limited to those living in absolute deprivation, and, second, material conditions and psychosocial factors are intimately related [18]. Part of the problem of inequalities in health has to do with education, with conditions at work, with job insecurity and unemployment and the nature of neighborhoods [18].

Good health involves reducing levels of educational failure, reducing insecurity and unemployment and improving housing standards. Societies that enable all citizens to play a full and useful role in the social, economic and cultural life of their society will be healthier than those where people face insecurity, exclusion and deprivation [19]. Stressful circumstances making people feel worried, anxious and unable to cope, are damaging to health and may lead to premature death as well as lack of control over work and home [19]. A shortage of food, excess intake and lack of variety cause malnutrition and deficiency diseases [19]. The other main social determinants of health in our society today are: early life, social exclusion, working condition, unemployment, social support, addiction and transport policy [19].

Nowadays, there are eight topic groups that are recognized for actions in key areas relating to health in Europe [20]: young age, education and the family; employment and working conditions, including occupation, unemployment and migrant workers; disadvantage, social exclusion and vulnerability; gross domestic product (GDP), taxes, income and welfare; sustainability and community; preventing and treating ill health; gender and older people.

This is why effective interventions for overcoming the consequences of inequality in the society are necessary. Policy and actions have to attack the causes of ill-health before they can lead to problems on the following levels: wider society, systems, and life course stages (prenatal, early years, working age and older ages). This is challenging task for both decision-makers and public health actors. The healthcare institutions have a role as partners only in one part of activities. Nowadays, there are very important discussions on how social determinants such as birthplace and income can have a greater effect on our lives than access to health care. These would be conducted on a specific target group on a single area following the next steps: superficial interventions (directed on the "symptoms", neglecting the causes of a certain phenomenon), operative interventions (directed on specific activities), preventive interventions (directed on causes of a certain phenomenon) and basic interventions (no direct effects, but they secure the prerequisites and the framework of all the previous interventions).

Conclusion

Health inequalities arise from the conditions in which people are born, grow, live, work and age, and the social determinants of health –inequities in power, money and resources. This survey showed a direct connection between

self-assessment of one's healthcare and their socioeconomic status (employment, education, income). Particularly worrying are two facts: increasing number of participants who do not turn to any health professionals when feeling ill and the fact that the largest number of public healthcare services used belongs to those participants who use those services often, the ones that "circle" in this system.

Health is essential to well-being and to overcoming other effects of social disadvantage. Equality is a key value in assessment of the impact on health. Including end-users as an active members in the healthcare system is one of the ways to improve the quality of health care services, but only if it is conducted on sustainable and culturally accepted manner.

Concflict of interest

The study was not funded by any organization. The authors declare that there is no conflict of interests.

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