



ORIGINAL RESEARCH

Socio-demographic inequalities in satisfaction with primary health care and utilization of chosen doctors' services: a cross-sectional study

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Abstract

Aim: The aim of the study was to examine socio-demographic inequalities in user satisfaction with PHC and utilization of chosen doctors' services.

Methods: This cross-sectional study was conducted in 2016 among 232 respondents who participated in PHC user satisfaction survey in PHC center Valjevo, Serbia. Inclusion criteria were an age of at least 20 years, sufficient skills of Serbian language to fill in questionnaires and consent to participation. Two hundreds and six patients completed an anonymous questionnaire about the user satisfaction with PHC.

Results: The chosen doctor was seven times more often visited by the elderly (OR=7.03) and almost three times more often by the middle-aged (OR=2.66) compared to the youngest category of respondents. Those with low education and poor financial status of the household visited a doctor four (OR=4.14) and almost nine times (OR=8.66) more often, respectively, compared to those with high education and good socioeconomic status. A statistically significant higher level of PHC satisfaction was recorded in the rural population ($p<0.001$) and among respondents with poor socioeconomic status of the household ($p=0.014$).

Conclusion: The chosen doctor was more frequently visited by respondents with low education and those with poor socioeconomic status of the household, while a higher degree of satisfaction with PHC was recorded in the rural population as well as in those with poor socioeconomic status of the household.

Keywords: *cross-sectional study, inequalities, primary health care, Serbia, service utilization, user satisfaction.*

Conflicts of interest: None declared.

Introduction

Health inequalities are "systematic differences in health or distribution of health resources between different population groups" and mainly produced by different socio-demographic determinants such as education, material status, employment, gender, type of settlement, age and ethnicity (1). Socio-demographic inequalities in health pose a major challenge for health policy makers in a country because they are unfair, unjust and avoidable. They are also a persistent and widespread public health problem, both in the countries of the European region and worldwide (2,3). Serbia is no exception in this respect, as the presence of health inequalities between different population groups (4), as well as in the domicile population has been documented (5-7).

Primary health care (PHC) represents the first contact and entry into a country's health system and most health problems that occur in the population have been addressed at the PHC level (8). A good PHC system in a country ensures a more equitable distribution of health services and better health outcomes for the entire population (9) and this can be to some extent done by continuous testing and analysis of user satisfaction as a valid and comprehensive indicator of quality in health care (10,11).

Satisfaction with PHC is the users' response to provided primary care services and also implies users' attitude towards the doctor, other healthcare personnel, and health care system in general (12-14). It is natural for different persons to have different perceptions and experiences regarding provided health services, relationship with physicians and other healthcare personnel, availability of health care and other quality indicators (14). Data from 2013 Serbian health survey (15) showed that 53.8% of citizens were satisfied with public health services. The less educated, the poorest, as well as the residents of rural settlements were the most satisfied with the provided health care services.

Speaking about utilization of health care it refers to obtain the necessary services from the health service in the form of contact. More illustratively, it is the point where patients' needs meet the health care system and are satisfied (16). One measure of PHC use is the average number of visits to chosen physician per capita per year. According to the latest health survey of the Serbian population (15), approximately two thirds of the population aged 14 years and older (65.5%) visited the chosen doctor or pediatrician in 2013. Each adult visited its chosen physician 4.8 times in average (17). Despite the fact that Serbia has a comprehensive universal health care system with free

access to primary care services, inequalities in the utilization of health care services are present (6,15). Men and women belonging to the poor and men with lower education were less likely to visit general practitioners (GPs), regardless of their health status (6). The aim of the study is to examine the influence of demographic (gender, age, type of settlement) and socioeconomic determinants of health (education, socioeconomic status of the household) on the users' satisfaction with PHC and the utilization of chosen doctors' services.

Methods

Study population and setting

The cross-sectional study was conducted in the Primary Health Care Center Valjevo, Serbia. A total of 232 patients were enrolled during a 6-week period in June and July 2016. The sample size was calculated based on the number of total and first visits in the previous year. Assuming a standard error of 2%, the minimum sample size was 180 patients. To allow for no respondents at least 200 patients were enrolled. To diminish selection bias, patients were selected consecutively from the medical charts of patients waiting to be seen. Inclusion criteria were an age of at least 20 years, sufficient skills of Serbian language to fill in questionnaires and consent to participation. We excluded patients coming to the practice only for picking up a prescription, who did not aim to see the physician, or who needed immediate emergency care. All eligible consecutive patients visiting the Primary Health Care Center Valjevo and its branches in Brankovina and Gola Glava were informed about the purpose of the study and invited to participate. Written informed consent was obtained from all participants prior to beginning the testing. The study was approved by the Ethical Board of Primary Health Care Center Valjevo, Serbia (number of approval: DZ-01-1656/1, date of approval 8 June 2016).

Research instrument

The user satisfaction with the primary health care (PHC) was examined according to the professional-methodological manual from the Institute of Public Health of Serbia (IPHS) "Dr. Milan Jovanovic Batut" (18). A modified anonymous questionnaire about the user satisfaction of the work of the general medicine department was used. The validity and reliability of the questionnaire was tested during the prior study conducted in Valjevo (19). The original questionnaire was slightly shortened in order to achieve higher consistency, to avoid asking similar questions, and with the goal of an easier, faster and more effective

filling out of the questionnaire by the respondents. The original questionnaire about user satisfaction was constructed based on the questionnaire recommended by WHO for the evaluation of the use, availability, coordination and comprehensiveness of the health care. At the consensus workshop in 2009, the IPHS questionnaire was adapted for chosen doctors in Serbia (13). The users of Valjevo Primary Health Care Center services, as well as the ambulance services in Brankovina and Gola Glava, were given anonymous questionnaires upon completing their visit to the chosen doctor. The respondents were filling them out on their own, consulting with the interviewers only about the questions they were not sure about. Upon completion of the questionnaires, they were put in the sealed boxes, so the total anonymity was guaranteed.

Variables

The demographic determinants used in this study were: age, sex (male and female), and type of settlement (urban and rural). The age was categorized into three age groups: 20 to 39, 40 to 64, and 65+ years. The socio-economic characteristics were the level of education and self-assessed socioeconomic status of the household. Education was defined as low, middle and high, while self-assessed socioeconomic status as poor, average and good. The outcome variables selected in the present study were the number of visits to a chosen doctor per year and the customer satisfaction with the primary health care. The number of visits was dichotomized into two categories: up to 5 visits to the doctor per year and 5 or more visits in the same period. For items "Skipped check-ups due to financial constraints" and "Wait too long for check-up" two answers were offered: yes or no. To examine patient satisfaction with the nurses and doctors in PHC we were interested to know how they felt about the following statements: "Nurses at the counter are kind", "Nurses at the interventions are kind", "Nurses offer all information", "Doctor is familiar with the previous diseases", "Doctor takes enough time for conversation", and "Doctor gives clear explanations about the diseases and the medicines" (the offered answers were: yes, partly and no). The general assessment of customer satisfaction with the primary health care was grouped into three categories: satisfied, partly satisfied and unsatisfied.

Statistical analysis

The data was analyzed using the methods of descriptive statistics, as well as bivariate and multivariate linear and logistical regression analysis.

To find statistically significant differences between socio-demographic (sex, age, type of settlement, level of education and self-assessed socioeconomic status of the household) and outcome variables, the chi-squared test was used. Bivariate and multivariate logistic regression analyses were performed to estimate the association between the use of chosen doctors' services and socio-demographic variables. To assess the association between user satisfaction with the primary health care and socio-demographic variables, methods of bivariate and multivariate linear regression analyses were used. The results of logistic regression analyses were reported with odds ratios (ORs) and 95% CIs, and with unstandardized regression coefficients (B) and probability in linear models. Statistical significance was set at 2-sided $p < 0.05$. All statistical analyses were performed using the statistical IBM package SPSS V.20.0 (SPSS Inc., Chicago, Illinois, USA).

Results

Of the 232 enrolled primary care patients, 206 completed the questionnaire, yielding a response rate of 88.8%. Out of 206 patients, 135 (65.5%) patients were from the urban area and 71 (34.5%) from the rural area. Most of the patients were woman (54.9%). The mean age of the patients was 54.5 years (SD = 17.0; age range 20 to 86 years). 26 patients (most of them from the youngest age group and from the urban area) refused to participate, typically because of lack of time or unwillingness to fill in the questionnaire. Distribution of socio-demographic characteristics and user satisfaction indicators with the primary health care by type of settlement is shown in Table 1. The largest percentage of respondents belonged to the middle age group (45.8%), finished middle education (51.0%) and rated their socioeconomic status as average (52.9%). Slightly over a half of patients (54.7%) visited their chosen doctor five and more times per year, and most of them did not skip their check-ups due to financial constraints (80.1%). More than one-third of patients (37.4%) were not satisfied with the kindness of the nurses at the counter, 14.1% considered that the doctor was not familiar with their previous diseases, and 17.0% stated that the doctor did not take enough time for conversation with the patient. More than half of the respondents (55.1%) were satisfied with the primary health care, while approximately every eighth respondent was unsatisfied (12.7%). Concerning type of settlement, people residing in rural area were older (45%), with low education (52.2%), and with an average socioeconomic status (53.5%), whilst urban

respondents were mainly with middle educational attainment (56.3%). Around two-thirds (66.2%) of the respondents from the rural area visited their chosen doctor five or more times per year, compared to 48.5% of those in the urban area. Rural patients compared with their urban counterparts had lower level of “waiting too long for check-up”, and higher levels of “nurses at the counter and at the interventions are

kind”, “information provided by nurses”, “doctors being familiar with the previous diseases”, “doctor taking enough time for conversation” and “doctor providing clear explanations about the diseases and the medicines”. A general satisfaction with the primary health care was expressed by 78.8% patients from the rural area, and 42.2% from the urban area.

Table 1. Distribution of socio-demographic characteristics and user satisfaction indicators with primary health care by type of settlement

Variables	Total (206)		Urban (135)		Rural (71)		P*
	N	%	N	%	N	%	
Age categories							0.005
20 – 39	46	22.0	37	27.4	9	12.7	
40 – 64	94	45.8	64	47.4	30	42.3	
65+	66	32.2	34	25.2	32	45.0	
Sex							0.756
Male	93	45.1	62	45.9	31	43.7	
Female	113	54.9	73	54.1	40	56.3	
Education							<0.001
High	33	16.0	28	20.7	5	7.0	
Middle	105	51.0	76	56.3	29	40.8	
Low	68	33.0	31	23.0	37	52.2	
Socioeconomic status of the household							0.988
Good	70	34.0	46	34.1	24	33.8	
Average	109	52.9	71	52.6	38	53.5	
Poor	27	13.1	18	13.3	9	12.7	
Number of visits to a chosen doctor per year							0.016
< 5	92	45.3	68	51.5	24	33.8	
≥ 5	111	54.7	64	48.5	47	66.2	
Skipped check-ups due to financial constraints							0.313
Yes	41	19.9	31	23.0	10	14.1	
No	165	80.1	104	77.0	61	85.9	
Wait too long for check-up							<0.001
Yes	110	53.4	85	63.0	25	35.2	
No	96	46.6	50	37.0	46	64.8	
Nurses at the counter are kind							<0.001
Yes	83	40.3	50	37.0	51	71.9	
Partly	46	22.3	30	22.2	16	22.5	
No	77	37.4	55	40.8	4	5.6	
Nurses at the interventions are kind							<0.001
Yes	92	44.9	55	41.0	54	76.1	
Partly	58	28.3	44	32.9	14	19.7	

No	55	26.8	35	26.1	3	4.2	
Nurses offer all information							<0.001
Yes	84	41.0	49	36.6	49	69.0	
Partly	55	26.8	40	29.9	15	21.1	
No	66	32.2	45	33.6	7	9.9	
Doctor is familiar with the previous diseases							0.028
Yes	125	60.7	73	54.1	52	73.2	
Partly	52	25.2	40	29.6	12	16.9	
No	29	14.1	22	16.3	7	9.9	
Doctor takes enough time for conversation							<0.001
Yes	102	49.5	52	38.5	50	70.4	
Partly	69	33.5	53	39.3	16	22.6	
No	35	17.0	30	22.2	5	7.0	
Doctor gives clear explanations about the diseases and the medicines							<0.001
Yes	109	52.9	58	43.0	51	71.8	
Partly	60	29.1	47	34.8	13	18.3	
No	37	18.0	30	22.2	7	9.9	
Customer satisfaction with the primary health care							<0.001
Satisfied	113	55.1	57	42.2	56	78.8	
Partly satisfied	66	32.2	55	40.8	12	16.9	
Unsatisfied	26	12.7	23	17.0	3	4.2	

* χ^2 test.

The distribution of user satisfaction with the primary health care and visits to the chosen doctor per year by socio-demographic variables is shown in Table 2. The oldest users were the most satisfied ones (65.2%), compared to the middle-aged (57.5%) and the youngest (34.1%). In the rural type of settlement, patients were more satisfied (78.8%) compared to those from the urban area (42.2%). There were no

statistically significant differences in user satisfaction according to education and socioeconomic status of respondents. Regarding visits to the chosen doctor, respondents with low education (83.2%), the poorest (88.5%), the elderly (78.5%) and those from the rural area (66.2%) visited their doctor more frequently, that is five and more times in the year preceding the survey.

Table 2. Distribution of user satisfaction with primary health care and visits to the chosen doctor per year by socio-demographic variables

Variables	Level of satisfaction			p*	Number of visits to the chosen doctor (per year)		p*
	Unsatisfied	Partly satisfied	Satisfied		< 5	≥ 5	
	N (%)	N (%)	N (%)		N (%)	N (%)	
Age categories							
20 – 39	7 (14.9)	24 (51.1)	16 (34.1)	0.015	36 (78.3)	10 (21.7)	<0.001
40 – 64	10 (10.7)	30 (31.9)	54 (57.5)		43 (46.2)	50 (53.8)	
65+	9 (13.6)	14 (21.2)	43 (65.2)		14 (21.5)	51 (78.5)	
Sex							
Male	15 (16.2)	31 (33.3)	47 (50.6)	0.323	45 (48.9)	47 (51.1)	0.349
Female	11 (9.6)	36 (32.5)	66 (57.9)		48 (42.9)	64 (57.1)	
Type of settlement							
Urban	23 (17.0)	55 (40.8)	57 (42.2)	<0.001	69 (51.9)	64 (48.1)	0.016
Rural	3 (4.2)	12 (16.9)	56 (78.8)		24 (33.8)	47 (66.2)	
Education							
High	5 (15.2)	11 (33.3)	17 (51.6)	0.218	22 (66.7)	11 (33.3)	<0.001
Middle	11 (10.4)	42 (39.6)	53 (50.0)		60 (58.3)	43 (41.7)	
Low	10 (14.7)	15 (22.1)	43 (63.3)		11 (16.2)	57 (83.2)	
Socioeconomic status of the household							
Good	6 (8.4)	19 (26.8)	46 (64.8)	0.175	46 (64.8)	25 (35.2)	<0.001
Average	16 (14.7)	37 (33.9)	56 (51.4)		44 (41.1)	63 (58.9)	
Poor	4 (14.80)	12 (44.4)	11 (40.70)		3 (11.5)	23 (88.5)	

* χ^2 test.

The results of the bivariate and multivariate logistical regression analyses related to the correlation between socio-demographic variables and visits to the chosen doctor per year are shown in Table 3. The oldest respondents visited their doctor seven times more (OR = 7.03), while those in the age group between 40 and 64 years did it about three times more (OR = 2.66) than the youngest ones. The respondents with a low education had four times more visits to the doctor per year (OR = 4.14) compared to those with high education, while patients with poor self-assessed socioeconomic status of the household used their doctors' services almost nine times more (OR = 8.66) than those with a good socioeconomic status. The respondents from the rural area were more satisfied with primary health care (p<0.001), as well as those with the poor socioeconomic status of the household (p=0.014).

The respondents with a low education had four times more visits to the doctor per year (OR = 4.14) compared to those with high education, while patients with poor self-assessed socioeconomic status of the household used their doctors' services almost nine times more (OR = 8.66) than those with a good socioeconomic status. The respondents from the rural area were more satisfied with primary health care (p<0.001), as well as those with the poor socioeconomic status of the household (p=0.014).

Table 3. Odds-Ratios (ORs) and 95% Confidence Intervals (CIs) for the number of visits to the chosen doctor per year by socio-demographic characteristics

Variables	N	%	OR (95% CI)	
			BLR	MLR
Age categories				
20 – 39	45	22.2	1.00	1.00
40 – 64	93	45.8	4.07 (1.81-9.17)	2.66 (1.11-6.36)
65+	65	32.0	12.75 (5.09-31.95)	7.03 (2.56-19.34)
Sex				
Male	92	45.3	1.00	1.00
Female	111	54.7	1.30 (0.75-2.27)	1.33 (0.68-2.59)
Type of settlement				
Urban	132	65.0	1.00	1.00
Rural	71	35.0	2.08 (1.14-3.79)	1.27 (0.61-2.66)
Education				
High	33	16.3	1.00	1.00
Middle	102	50.2	1.46 (0.64-3.32)	1.22 (0.48-3.07)
Low	68	33.5	10.36 (3.93-27.33)	4.14 (1.36-12.61)
Socioeconomic status of the household				
Good	70	34.5	1.00	1.00
Average	107	52.7	2.58 (1.38-4.80)	2.27 (1.10-4.67)
Poor	26	12.8	13.80 (3.77-50.57)	8.66 (2.06-36.37)

BLR – bivariate logistic regression; MLR – multivariate logistic regression; Referent category – number of visits to the chosen doctor (up to 5 per year).

Table 4. The relationship between the level of user satisfaction with primary health care and socio-demographic characteristics – results of linear regression analyses

Variables	Bivariate	Multivariate
	B*(P)	B*(P)
Age	0.150 (0.025)	0.107 (0.111)
Sex	0.143 (0.150)	0.146 (0.114)
Type of settlement	0.495 (<0.001)	0.458 (<0.001)
Education	0.065 (0.368)	-0.011 (0.889)
Socioeconomic status of the household	-0.169 (0.025)	-0.185 (0.014)

*Unstandardized regression coefficient

Referent category – unsatisfied with primary health care.

Discussion

Socio-demographic inequalities in the utilization of chosen doctors' services

Our results showed significant inequalities in the utilization of chosen doctors' services. Respondents aged 65 and over visited their doctor seven times, while middle-aged patients (40-64 years) did it three times more frequently than the youngest (20-39 years), which may be explained by the increased needs of the elderly for health services within the natural process of aging and its biological manifestations. More frequent visits to GPs by older patients have been linked to their rather poor health, as shown by a systematic review of European studies from UK, Sweden, Germany, Denmark, Italy, and Slovenia (20). The authors concluded that the main reason that older people are more likely to use PHC services is their real need for medical treatment.

Respondents with a low level of education in this study were four times more likely to visit their physician than those with university degree, which is in line with the results of the 2013 Serbian Health Survey (15) showing that 71.9% people (aged 14 years and more) with the lowest educational attainment visited a GP general practitioner or pediatrician in the year preceding the survey. Our finding is also in accordance with the studies conducted in Sweden (21) and Denmark (22) which showed a significant negative correlation between the level of education and the number of visits to the GP, indicating that a higher level of education was associated with fewer visits to PHC. Research by Chinese authors (23) showed that lower level of education as well as poorer socioeconomic status also implied lower health literacy rate, which might explain the more frequent visits of this population to the chosen doctor. Namely, due to low health literacy, the population does not distinguish serious from ordinary health problems, and minor health problems are often the reason why they go to the doctor. Conversely, more educated respondents have more capacity (cognitive, communicative), they are better informed and make more effective decisions for their health, reflecting their high health literacy rate (24). Accordingly, they visit a doctor less frequently. The poor, and thus the low-educated, in Serbia had a significantly higher prevalence of chronic diseases than the rich (7). This implies their greater health care needs, and might explain the more frequent utilization of the chosen doctors' services in our study.

The results of this study also showed that people with poor financial status of the household visited their doctor almost nine times more per year (OR = 8.66)

compared to better-off. This result is in contrast to the 2006 Serbian health survey and study by Janković et al. (7), according to which GPs were less frequently visited by poor people and those with lower educational attainment (7,25), but in agreement with the last national health survey conducted in 2013, in which the least educated and the poorest population had the highest percentage of visits to the GP (15). The use of GPs services in Bosnia and Herzegovina was much lower for the uninsured, who are most often unemployed and most likely to be poorer, than for the insured (26). Also, in Montenegro, access to PHC health services is lower for people with lower household incomes and mainly for Roma population (27). The prevalence of chronic diseases is higher among the poor population in Serbia and they also have a high risk of infectious diseases, lower life expectancy at birth, high prevalence of smoking, alcohol and drugs, as well as a higher incidence of mental health problems (5,28). More health problems imply greater need for health care, which is the reason why the poor in our study used more frequently the services of their chosen doctor. This practice is in line with the Health Insurance Law that made PHC more accessible to certain groups in the Republic of Serbia (29), that is, socially disadvantaged groups are exempted from paying official out-of-pocket payments (30). In this way, PHC has become more economically accessible to them, which is confirmed by the greater number of their visits to the chosen physician.

Socio-demographic inequalities in user satisfaction with PHC

The results of our study regarding the association of socio-demographic variables with user satisfaction showed a significantly higher degree of satisfaction with PHC in rural areas ($p < 0.001$) and among respondents who self-assessed their socioeconomic status as poor ($p = 0.014$).

Regarding type of settlement our findings are in accordance with 2013 Serbian Health Survey (15) where the most satisfied people with state health services were those from rural areas.

Higher satisfaction with the PHC as a whole among respondents who live in rural area could be explained by their better scoring in the items (indicators) of partial satisfaction (such as waiting time and doctor-patient interaction), but also by their lower health expectations related to the fact that the population with a low level of education and, consequently, poorer health literacy lives in the rural area. Often, these individuals do not recognize or minimize their health

problems because they are not sufficiently aware of their own health needs. Also, there is a lack of knowledge about patients' rights, as well as obligations in the health care system (31). For this reason, they are satisfied with basic health services such as medical check-up and/or prescribing medicines while preventive services such as influenza vaccination or screening for early detection of colon cancer made them more than satisfied. If we take into account that there are exempt from official payments on the basis of legal regulations (29), their satisfaction becomes easy to explain, even rational. A study of user satisfaction conducted in Croatia (10) showed results opposite to ours, that is, respondents in rural settlements were less satisfied with PHC compared to those in urban and suburban settlements. The reasons for this were non-respect of working hours by healthcare professionals and dissatisfaction with the manner in which patients' confidential information was stored. A cross-sectional study from Germany (32) also showed that respondents from rural areas were less satisfied with PHC and the reason was lower accessibility of PHC to them.

The higher level of satisfaction with the PHC among people with poor socioeconomic status of the household, recorded in our paper, was also found in a study conducted in Spain (33). A possible explanation might be high expectations of wealthier users, whose unmet health needs lead to dissatisfaction. On contrary, the results of the study by Vojvodić et al. (34) showed that people with estimated good socioeconomic status were significantly more satisfied with PHC (84.9%), and this is probably due to their

general satisfaction with socio-economic status and life.

Study limitations

This research has some limitations. A methodological weakness of this study is a relatively small sample size which made the study results difficult to generalize for all outpatient service consumers. Also, some study participants were not willing to respond. Age, gender and socioeconomic differences of eligible patients refusing participation were not documented consistently and we have not all data for few nonrespondents. Yet, given the low non-response-rate of about 11%, it is very unlikely that study participants are a strongly biased sample. Also, the cross-sectional study design does not allow us to establish causal relationships among variables. We measured users' utilization of chosen doctors' services and satisfaction with PHC during a single visit, and so were unable to examine outcomes longitudinally. One of the limitations is patient subjectivity in response, which is not avoidable and is present in all similar studies.

Conclusion

Taking into consideration all limitations, this study showed the presence of inequalities in the utilization of chosen doctors' services as well as in the satisfaction with PHC. The chosen doctor was more frequently visited by respondents with low education and those with poor socioeconomic status of the household, while a higher degree of satisfaction with PHC was recorded in the rural population as well as in those with poor socioeconomic status of the household. More research on larger samples is needed.

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