

# Determinants of job satisfaction of healthcare professionals in public hospitals in Belgrade, Serbia – Cross-sectional analysis

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## SUMMARY

**Introduction** The quality of health care significantly depends on the satisfaction of the employees.

**Objective** The objective of this study was to establish the level of professional satisfaction of healthcare professionals in state hospitals in Belgrade, Serbia, and to determine and to rank the factors which impact on their satisfaction or dissatisfaction.

**Method** Professional satisfaction survey was designed and conducted as a cross-sectional study in 2008. Completed questionnaires were returned by 6,595 healthcare professionals from Belgrade's hospitals. Statistical analysis was performed using the Student's t-test,  $\chi^2$  test and ANOVA. Factor analysis was applied in order to define determinants of professional satisfaction, i.e. dissatisfaction.

**Results** This study showed that the degree of professional satisfaction of Serbian healthcare professionals was low. The main causes of professionals' dissatisfaction were wages, equipment, the possibility of continuous medical education/training and the opportunities for professional development. Healthcare professionals with university education were more satisfied with all the individual aspects of job satisfaction than those with secondary school and college education.

**Conclusion** There were significantly more healthcare professionals satisfied with their job among males, older than 60 years, in the age group 50–59 years, with managerial function, and with 30 or more years of service. Development strategy of human resources in the Serbian health care system would significantly improve the professional satisfaction and quality of the provided health care.

**Keywords:** professional satisfaction; healthcare professionals; quality improvement; health care

## INTRODUCTION

It is known that increasing level of satisfaction related to increasing level of efficiency and productivity of employees, and to the higher quality of health care [1]. In recent years, numerous studies have been conducted to examine various factors that influence job satisfaction of physicians, nurses, as well as interpersonal relations, in order to identify the factors that prevent dissatisfaction of employees and provide the desired level of job satisfaction [2–4].

In the most developed countries of the European Union (EU), the problems include the aging healthcare workforce, high mobility, and attrition of healthcare professionals in occupations other than healthcare. However, in Serbia, we are facing a far greater production of newly educated healthcare professionals than the healthcare system can absorb. There is no consistent nationwide planning policy regarding school enrollment, employment and continuous medical education. The number of unemployed doctors in 2008 amounted to 1,750 [5]. On the other hand, there is a constant migration of healthcare professionals from Serbia into developed countries of Europe, Australia, the USA and Canada.

The secondary and tertiary level of health care in the Republic of Serbia consists of 140 state-owned medical institutions, out of which 26 are in Belgrade [5]. Health care is provided by general hospitals, special hospitals, clinics and institutes, clinical-hospital centers and clinical centers, with a total of 38,590 beds, out of which 10,725 were in Belgrade. In 2008, there were 5.3 beds per 1,000 inhabitants, which was slightly less than the EU average (5.7 per 1,000 inhabitants), and significantly less than the World Health Organization European Region average, which was 6.7 beds per 1,000 inhabitants [5, 6]. In the same period, there were 2.8 physicians per 1,000 inhabitants, which was close to the EU average of 3.2 physicians per 1,000 inhabitants. Number of nurses/medical technicians was 5.7 per 1,000 inhabitants, while that indicator was greater by one third (7.5 nurses/medical technicians per 1,000 inhabitants) in the EU [5, 6].

The concept of continuous improvement of health care quality in our country is a relatively new concept. Its legal structure was created for the first time in 2005 by adopting the systemic laws: Law on Health Care and Law on Health Care Insurance [7, 8]. Job satisfaction surveys have been conducted annually in all health care

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institutions in Serbia since 2007 [9–11]. For the first time Serbia was included in the Health Consumer Powerhouse list in 2011 (according to the European healthcare system ranking). The results of the Euro Health Consumer Index 2013 study show Serbia at the bottom of the list, as the country with the worst quality of healthcare [12]. In 2014, Serbia recorded an improvement of three places [13].

Job satisfaction surveys have been conducted annually in all health care institutions in Serbia since 2007 [14]. The results of the National survey, organized by the “Dr Milan Jovanović Batut” Institute of Public Health of Serbia, are available in electronic form on the web site of the Institute and refer to various aspects of professional satisfaction of all employees in health care facilities. On the other hand, there are a small number of published articles presenting the analysis of routine data, or original articles that deal with organizational and other aspects of professional satisfaction of physicians and nurses in Serbia [15, 16].

It is well known that measuring job satisfaction of healthcare professionals is the unavoidable component of continuous health care quality improvement process. Over 50% of healthcare professionals in Serbia were satisfied and very satisfied with their job in 2007 and 2008 [17]. At the same time, least satisfied were healthcare professionals in Belgrade healthcare institutions.

## OBJECTIVE

The aim of our research was to assess the level of professional satisfaction of healthcare professionals and to analyze the differences in separate aspects of professional satisfaction in relation to educational level and occupational groups (physicians/nurses) in public hospitals in Belgrade, Serbia.

## METHODS

The job satisfaction survey encompassed employees in 25 public hospitals in Belgrade in 2008. The survey was organized as a cross-sectional study by the Commission for Hospital Care Quality Improvement within each hospital, according to the methodological guidelines provided by “Dr Milan Jovanović Batut” Institute for Public Health of Serbia. The survey was carried out within 24 hours, from 7 a.m. December 1, to 7 a.m. December 2, 2008. [11]. Evaluation of professional job satisfaction in healthcare institutions in Serbia was defined as the obligatory health care quality indicator by Serbia’s Commission for Healthcare Quality Improvement [10]. They were also necessary standards for health institution accreditation, as requested by the Agency for Accreditation of Healthcare Institutions in Serbia [18].

The president of the Commission and the head nurse of each hospital were in charge of the distribution of the questionnaires and collection of the responses. The job satisfaction survey encompassed all hospital employees, but only the data from the questionnaires completed by

the healthcare workers were analyzed. The study enrolled 9,697 employees. The completed questionnaire was returned by 6,595 healthcare professionals, or 68.01% of tested employees in Belgrade’s hospitals.

The survey instrument was developed by the Commission for Healthcare Quality Improvement of the Ministry of Health of the Republic of Serbia, originally based on the National Health Service (NHS) Staff Survey model [10]. The questionnaires were pilot tested in 2005 in five healthcare institutions of different types [19]. The questionnaire included 24 items, related to the following: general data about employees (age, gender, education, occupation, work experience, managerial functions); general job satisfaction, readiness to change the job and four groups of indicators of professional satisfactions. Sixteen items covered four main areas, namely: a) professional relationship and communication (interpersonal relations, cooperation with colleagues); b) professional autonomy and relationship with the management staff (the possibility to express the ideas to the management staff and to choose their own way of working, information on to whom they are accountable for their work, information flow and support from the management); c) professional development (continuous medical education, career advancement); d) work conditions (department space, equipment, number of healthcare professionals, available time for completing the job, work organization, wages, stress at work).

Responses to these questions were rated using five-point Likert scales, ranging from “very dissatisfied” to “very satisfied”: (1 = very dissatisfied, 2 = dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = satisfied, and 5 = very satisfied). Respondents’ answers to the questions estimated with grades 4 and 5 were considered to signify satisfied state, respondents’ answers “neither satisfied nor dissatisfied” (grade 3) were considered neutral responses, and respondents’ answers estimated with grades 1 and 2 clearly expressed dissatisfaction with the examined variables.

Statistical analysis was performed using the Student’s t-test,  $\chi^2$  test and ANOVA. We have applied factor analysis to determine the characteristics that explain relation of professional satisfaction of healthcare professionals to their educational level.

Separate procedures were applied for healthcare professionals with a university degree (HPUD) of physician or pharmacist, and for healthcare professionals with secondary education and college degrees (HPSEC) – nurses or medical technicians. Principal component method was used with varimax rotation of coefficients, using rule of eigenvalues greater than one for including a factor into solution.

Factor analysis was considered statistically relevant if the value of the correlation coefficient was greater than 0.6. Internal consistency of scales by indicators was measured by Cronbach alpha: professional relationship and communication (0.79 for HPUD, and 0.81 for HPSEC); professional autonomy and relationship with the management staff (0.80 for HPUD, and 0.76 for HPSEC); professional development (0.86 for HPUD, 0.84 for HPSEC); working conditions (0.79 for HPUD, and 0.80 for HPSEC).

## RESULTS

### Demographic characteristics of the healthcare professionals

Out of all employees who returned the completed questionnaire, 77.8% were women (this question was not answered by 4.8% of the respondents). The mean age was 40.4 years (ranged 18–65; SD 10.1). Most employees were in the age group 40–49 years (29.3%), and in the age group 30–39 years (24.9%). This question was not answered by 10.1% of respondents.

Out of all respondents, 57.2% had completed secondary education, 16.8% had graduated from college, and 26.0% had a university degree. All the healthcare professionals answered this question.

Postgraduate clinical experience was between several months to 43 years (mean 17.8; SD 9.9). Most re-

spondents were in groups of 20–29 (30.20%) and 10–19 (28.62%) years of postgraduate clinical experience. This question was not answered by 4.9% of respondents. Managerial function was held by 17.6% of the respondents. This question was not answered by 1.6% of the respondents.

Distribution of the respondents by age, length of employment and managerial function for all and by gender, in relation to the level of education is presented in Table 1 and Table 2.

There were no statistically significant differences in mean values of age and length of employment, nor in frequency of having managerial functions, among healthcare professionals in relation to gender among the university-educated respondents (Table 1). Among the respondents with secondary school and college, women were older than men, had longer length of employment and held a managerial position more frequently (Table 2).

**Table 1.** Characteristics of healthcare professionals with a university degree (percentages)

Variable			Male	Female	Total	N	p
			40.6	59.4	100		
Age (years)	Mean		44.89 ± 9.34	44.54 ± 8.67	44.62 ± 8.96	1,541	p > 0.05
	Range	≤29	3.54	3.59	3.57		
		30-39	27.65	27.97	27.84		
		40-49	37.30	36.02	36.53		
		50-59	23.63	28.02	26.28		
		≥60	7.88	4.35	5.78		
Length of employment (years)	Mean		17.99 ± 9.52	18.01 ± 9.20	18.00 ± 9.33	1,604	p > 0.05
	Range	0-9	21.62	18.83	19.95		
		10-19	33.75	36.11	35.16		
		20-29	30.02	30.70	30.42		
		30-39	14.62	14.26	14.40		
		≥40	0.00	0.10	0.06		
Managerial functions		Yes	30.49	29.29	29.78	1,649	p > 0.05
		No	69.51	70.71	70.22		
Often exposed to great stress		Yes	71.50	70.90	70.90	1,717	p > 0.05
		No	28.50	29.10	29.19		

**Table 2.** Characteristics of healthcare professionals with secondary education and college degree (percentages)

Variable			Male	Female	Total	N	p
			10.1	89.9	100		
Age (years)	Mean		36.62 ± 10.19	38.95 ± 10.03	38.70 ± 10.05	4,227	p < 0.01
	Range	≤29	30.77	22.27	23.14		
		30–39	30.54	27.41	27.73		
		40–49	26.81	31.38	30.92		
		50–59	9.56	18.35	17.46		
		≥60	2.33	0.58	0.76		
Length of employment (years)	Mean		14.71 ± 10.01	17.82 ± 10.04	17.50 ± 10.03	4,402	p < 0.01
	Range	0–9	38.65	25.65	27.19		
		10–19	24.72	26.41	26.24		
		20–29	27.42	30.43	30.12		
		30–39	8.54	17.16	16.29		
		≥40	0.67	0.10	0.16		
Managerial functions		Yes	10.58	13.97	13.63	4,543	p = 0.05
		No	89.42	86.03	86.37		
Often exposed to a great stress		Yes	62.10	73.40	72.20	4,878	p > 0.05
		No	37.90	26.60	27.80		

## General job satisfaction and readiness to change jobs

Statistically significant difference, using the  $\chi^2$  test, was found in general job satisfaction related to gender ( $\chi^2 = 25.9$ , with four degrees of freedom,  $p < 0.001$ ), age ( $\chi^2 = 81.1$ , with 16 degrees of freedom,  $p < 0.001$ ), education ( $\chi^2 = 202.3$ , with eight degrees of freedom,  $p < 0.001$ ), and length of employment ( $\chi^2 = 66.8$ , with 12 degrees of freedom,  $p < 0.001$ ). There were significantly more healthcare professionals satisfied with their job among males ( $p < 0.01$ ), older than 60 years, in the age group 50–59 years ( $p < 0.01$ ), with managerial function ( $p = 0.05$ ), and with 30 or more years of service ( $p < 0.01$ ).

Around three quarters (72%) of healthcare professionals, both women (66.7%) and men (67.1%) ( $p > 0.05$ ), stated that they were often exposed to great stress.

A total of 36.4% of respondents would not change their job, while 35.5% would remain in the public health sector. Only 5.5% of respondents would go to the private sector, while 22.5% would like to continue their careers outside health care altogether.

## Professional communication and opportunities for professional promotion

HPUD were more satisfied with all the individual aspects of professional relationships and opportunities for professional promotion than HPSEC ( $p < 0.001$ ). Table 3 shows job satisfaction of healthcare professionals regarding professional communication and opportunities for professional promotion in relation to education.

Having in mind that standard deviation was high, we could conclude that frequencies' distribution was asymmetric, i.e. our data collection was very heterogenous. Due

to that fact, the average value for the observed characteristics expressed by arithmetic mean was not representative, hence it was more suitable to use the median or mod.

Only 38.1% of healthcare professionals in Belgrade's public hospitals were satisfied with their job (grades 4 and 5), 50.4% among HPUD and 34.0% among HPSEC.

Among all respondents, 61.9% were satisfied with the cooperation with their colleagues. That percentage amounted to 70.1% among HPUD, and to 58.8% among HPSEC healthcare professionals. A total of 44% of healthcare professionals were satisfied with the interpersonal relations, while that was the case in 53% of healthcare professionals with a university degree and in 40.6% of those with secondary education and college.

About half of the respondents (48.4%) were satisfied with the support from the management staff, 58.1% among HPUD and 45% among HPSEC.

Only 37.3% of healthcare professionals, 40.9% among HPUD and 36.1% among HPSEC, were satisfied with obtaining information from the management staff about the most important changes related to their department. Although mean score was statistically significantly different between HPUD ( $p < 0.001$ ), and HPSEC ( $p < 0.001$ ), the most common answers in both categories of education were "neither satisfied nor dissatisfied" (grade 3).

Slightly less than half of the respondents (47.2%) believed that they may express their ideas to the management staff, with slightly higher percentage among HPUD (58.5%) than among HPSEC (43.1%) group. Satisfaction with opportunities to choose their own way of working was expressed by 41.7% of healthcare professionals, 54.1% among those with a university degree and 37.1% among those with secondary education and college degree. Members of HPSEC group usually answered as "neither satisfied nor dissatisfied."

Healthcare professionals were dissatisfied with the opportunities for career advancement (only 27.8% were satisfied), or opportunities for education and training (30.6% were satisfied). HPUD group members were satisfied with the opportunities for career advancement in slightly higher percentage (37.1%) than HPSEC (24.5%) group members. Only 38.1% of HPUD and 27.8% of HPSEC group members were satisfied with the professional development (continuous medical education and training).

Graph 1 shows the percentage of satisfied healthcare professionals regarding professional communication and opportunities for professional promotion in relation to education.

## Organization and work conditions

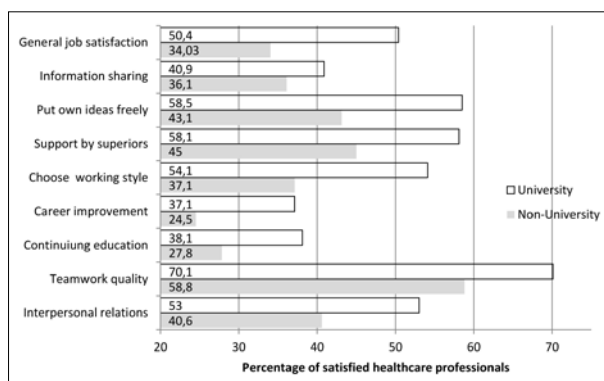
Several questions were related to work conditions, and the responses indicated dissatisfaction of healthcare professionals with the equipment (only 29.4% satisfied), department space (34.1% satisfied), and organization of work (39.6% satisfied).

HPUD group members were more satisfied with all the individual aspects of organization and work conditions

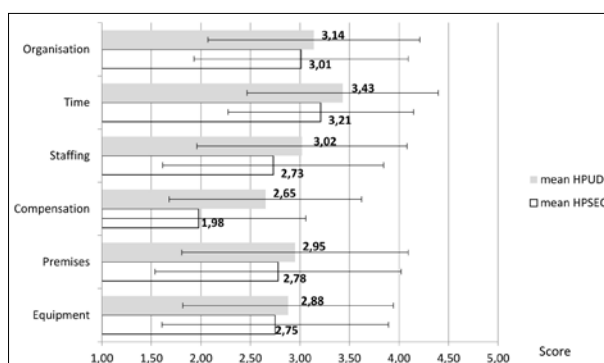
**Table 3.** Professional relationships and opportunities for professional promotion of healthcare professionals in relation to education

	Education	N	Mean	SD	Median	Mod	t (p-value)
q4	HPUD	1,703	3.36	1.08	4.00	4	9.23 ( $<0.001$ )
	HPSEC	4,819	3.07	1.10	3.00	4	
q5	HPUD	1,696	3.76	0.88	4.00	4	9.34 ( $<0.001$ )
	HPSEC	4,792	3.52	0.90	4.00	4	
q9	HPUD	1,704	2.95	1.16	3.00	4	4.70 ( $<0.001$ )
	HPSEC	4,811	2.81	1.01	3.00	3	
q10	HPUD	1,704	3.00	1.10	3.00	4	8.24 ( $<0.001$ )
	HPSEC	4,798	2.76	1.00	3.00	3	
q11	HPUD	1,704	3.37	1.03	4.00	4	11.79 ( $<0.001$ )
	HPSEC	4,801	3.04	1.00	3.00	4	
q12	HPUD	1,699	3.44	1.16	4.00	4	8.83 ( $<0.001$ )
	HPSEC	4,830	3.16	1.13	3.00	4	
q13	HPUD	1,704	3.48	1.12	4.00	4	11.19 ( $<0.001$ )
	HPSEC	4,851	3.14	1.07	3.00	4	
q14	HPUD	1,712	3.08	1.16	3.00	4	4.15 ( $<0.001$ )
	HPSEC	4,865	2.95	1.08	3.00	4	

q4 – interpersonal relations; q5 – team work quality; q9 – continuous medical education, CME; q10 – career improvement; q11 – choose working style; q12 – Support by superiors; q13 – put own ideas freely; q14 – information sharing; HPUD – university degree; HPSEC – secondary education and college degree



**Graph 1.** Percentage of healthcare professionals satisfied with different aspects of job in relation to education



**Graph 2.** Mean score of healthcare professionals' satisfaction with organization and work conditions in relation to education

then HPSEC group members in Belgrade's public hospitals ( $p < 0.001$ ).

Graph 2 shows mean score of healthcare professionals' satisfactions with organization and work conditions in relation to education.

### Factor analysis results

The factorial analysis included 14 questions from the questionnaire. We have applied factor analysis to check for loading of items back to indicators after the questionnaire was distributed and applied. Separate procedures were applied for HPUD (Table 5), and HPSEC (Table 6).

We see that for HPUD only two factors were extracted (Table 5). Internal consistency analysis for factors yielded Cronbach alpha of 0.92 for Factor 1, and 0.75 for Factor 2.

Interpretation can be done by identifying firstly the second factor, which loads well to initially postulated "work conditions" indicator. The first factor, however, combines features of organizational culture (supportive management, idea-sharing environment, fostering interpersonal relations, collaborative working, general well-functioning organization), with personal development (career advancement prospects and education possibilities). Therefore, this factor can be attributed as "organizational culture and personal development."

For HPSEC (Table 6), three factors were extracted. Internal consistency analysis for factors yielded Cronbach

**Table 4.** Healthcare professionals' satisfaction with organization and work conditions in relation to education

	Education	N	Mean	SD	Median	Mod	t (p-value)
q1	HPUD	1,709	3.02	1.12	3.00	4	9.66 ( $<0.001$ )
	HPSEC	4,839	2.73	1.05	3.00	3	
q2	HPUD	1,702	2.88	1.14	3.00	2	4.25 ( $<0.001$ )
	HPSEC	4,798	2.75	1.05	3.00	2	
q3	HPUD	1,694	2.95	1.23	3.00	4	5.08 ( $<0.001$ )
	HPSEC	4,817	2.78	1.13	3.00	4	
q6	HPUD	1,700	3.43	0.94	4.00	4	7.97 ( $<0.001$ )
	HPSEC	4,812	3.21	0.97	3.00	4	
q7	HPUD	1,703	3.14	1.09	3.00	4	4.14 ( $<0.001$ )
	HPSEC	4,822	3.01	1.06	3.00	4	
q8	HPUD	1,702	2.65	1.09	3.00	2	23.86 ( $<0.001$ )
	HPSEC	4,832	1.98	0.95	2.00	1	

q1 – staffing; q2 – equipment; q3 – premises; q6 – time; q7 – organization; q8 – compensation

**Table 5.** Factor analysis of answers of healthcare professionals with a university degree (principal component analysis, varimax rotation rotated component with Kaiser normalization)

Parameter	Factor Loading	
	Work conditions	Organizational culture and personal development
Support from the management	0.848	0.233
The possibility to express the ideas to the management staff	0.837	0.210
Interpersonal relations	0.746	0.160
Cooperation with colleagues	0.721	0.124
Information flow	0.693	0.394
Choose own way of working	0.686	0.367
Career advancement	0.649	0.470
Work organization	0.612	0.498
Continuous medical education	0.549	0.517
Equipment	0.229	0.735
Number of healthcare professionals	0.073	0.712
Department space	0.217	0.685
Available time for completing the job	0.264	0.607
Wages	0.303	0.587
Extraction method: principal component analysis Rotation method: varimax with Kaiser normalization		

alpha of 0.85 for Factor 1, 0.81 for Factor 2, and 0.77 for Factor 3.

First factor can be described as "Personal development prospects and quality of interpersonal communication." Second factor can be described as "organizational culture fostering good interpersonal relations." Third factor is related to "work conditions."

### DISCUSSION

In our study we have analyzed the results of job satisfaction of healthcare professionals in Belgrade's public hospitals.

Healthcare professionals who were satisfied the most with their job in both categories of education were males, older than 60 years and in the age group between 50 and 59 years, on managerial function, and with 30 or more



**Table 6.** Factor analysis of answers of healthcare professionals with secondary education and college degree (principal component analysis, varimax rotation rotated component with Kaiser normalization)

Parameter	Factor Loading		
	Personal development and interpersonal communication	Organizational culture	Work conditions
Career advancement	0.803	0.112	0.298
Continuous medical education	0.795	0.010	0.270
Information flow	0.640	0.378	0.180
Possibility to express ideas to the managerial staff	0.617	0.575	0.124
Choose own way of working	0.597	0.410	0.273
Interpersonal relations	0.131	0.811	0.182
Cooperation with colleagues	0.078	0.808	0.192
Support from the management	0.578	0.615	0.150
Work organization	0.407	0.545	0.380
Equipment	0.229	0.080	0.743
Number of healthcare professionals	0.103	0.207	0.739
Department space	0.203	0.170	0.684
Available time for completing the job	0.183	0.361	0.573
Wages	0.387	0.076	0.532
Extraction method: principal component analysis Rotation method: varimax with Kaiser normalization			

years of service. It is known that there is a strict hierarchy within the health professions, so it could be concluded that the longer period one spends in the occupation, the better professional position one obtains, which leads to a higher level of satisfaction. This is particularly evident in the HPSEC group, with statistically significant share of women in management positions, comparing to men. It is largely a consequence of their significantly longer duration of employment, compared to men.

Our research showed that 77.8% of all respondents were women. Among the respondents with university degree, women were represented with 54.9%. Among the respondents with secondary education or college, women were represented with 89.9%. These data clearly indicate the dominance of women in health professions. During the 1970s, the number of women with degrees obtained at schools of medicine increased, and a similar increase of active female physicians was noticed in European countries [20]. Predominance of women in the medical profession is presently obvious in the majority of European countries, but there is still uneven ratio in particular specialties, as well as in the health care level. There is a high proportion of female physicians in the primary public health sector, and among general physicians. In the survey on job satisfaction of physicians in Russia, there were 87.2% of female respondents in polyclinics and 67.3% of female respondents in hospitals [21]. On the other hand, in the survey of job satisfaction of physicians at a university center in Germany, male respondents consisted 65.5% [22]. Present study has shown that 50.8% of physicians were rather satisfied and 15.6% were very satisfied. There was a slight difference with respect to satisfaction scores between women (13.5% were very satisfied) and men (16.6% were very satisfied).

Aside from providing health care, the greatest number of the Belgrade's public hospitals included in this study are

also medical academic institutions, where future physicians are "socialized" and where they set up a system of physician values and attitudes. These institutions play an important role in continuing medical education, so low level of job satisfaction could influence such activities.

Healthcare professionals in Belgrade's public hospitals were satisfied with the cooperation with the colleagues (61.7%). HPUD group members were satisfied with interpersonal relations with managerial staff, with opportunities to express their ideas, to choose their own method of work, and with the support from the managerial staff. Estonian and Finish studies have also confirmed the importance of collegiality and supportive supervisory relationships [23, 24]. HPSEC group healthcare professionals in our study usually answered neutrally (grade 3) to these questions.

From the psychological point of view, "neutral" response (grade 3) may be considered negative rather than positive response, and conditionally can be explained by distrust of the respondents in the survey anonymity and fear of possible consequences if the respondent's handwriting would be recognized.

We cannot explain with certainty the domination of neutral answers. A relatively high percentage of neutral responses in all aspects of job satisfaction in our research is probably a reflection of the objective attitude that the assessed characteristic may be better or worse, but may also be the result of insufficient grasp of the survey subject, or of general lack of interest for this type of survey. It is also the confirmation that evaluation of job satisfaction requires planning and measures for improving the level of satisfaction of employees in healthcare institutions by the management.

Healthcare professionals have expressed various degrees of satisfaction, depending on the level of education. HPUD group members were more satisfied with all the individual

aspects of professional relationships and opportunities for professional promotion then HPSEC healthcare professionals. Furthermore, organizational culture is clearly a separate indicator for HPSEC, while the organizational culture is just a part of an indicator measuring personal development for HPUD. This may lead to a conclusion that HPUD match more closely organizational traits with their personal development prospects, partly for having more power to change organizational culture than HPSEC. We see HPUD interpersonal communication as a part of well-functioning organization, and a manifestation of a certain organizational culture, and not as a specific, self-containing feature.

Our findings on the importance of non-financial job characteristics such as skill development opportunities, professional autonomy, collegiality and supportive supervisory relationships are largely consistent with findings from other studies [25–27]. Janus et al. [22] also found that although monetary factors were important determinants of physician job satisfaction, non-monetary factors, such as participation in medical and organizational decision-making, improving career opportunities and professional cooperation, were more important.

Cashman presented in his study that physicians validate autonomy and job status high above the income, while Gray concluded that nurses appreciate financial compensation more [27, 28]. Rantz et al. [29] found that the major job satisfaction and motivating factors for nurses were acknowledgement, the work itself and responsibility. In our study, both physicians and nurses highly value non-financial aspects of job satisfaction, while their wage is among other variables of work conditions.

Although 72% of respondents reported that they work under stress, almost a half believe that they have enough time to complete the job. Therefore, the time available for performing tasks can only partially explain the stress of employees at work. Healthcare professionals are exposed to a great number of stressors in their job. The main psychological stressors at work, beyond the physical ones, can be linked to the following: type of tasks undertaken; degree of responsibility; presence of possible role conflict; interpersonal relationships with peers, supervisors, and patients; organizational climate; irregular work schedule, and maintenance of professional training, which was recorded in a study by Leppanen and Olkinoura [30]. Moreover, insufficient time for patient care, poor work environment, and difficult patients are also frequently mentioned as main sources of occupational stress.

What are the limitations of this study? This study was designed as an exploratory examination of healthcare professionals regarding professional relationships, autonomy, development, and work conditions in relation to education and occupational groups (physicians/nurses) in Belgrade's public hospitals. Our research on job satisfaction was limited by the availability of data on the occupation and professional status. Moreover, study design was cross-sectional. It generally cannot provide predictive explanations [31]. As such, it provides a snapshot of healthcare professionals' perspectives at one point in time, and causal

relationships between organizational work conditions and satisfaction cannot be further delineated in this study.

This study did not measure performance of healthcare professionals, so it is unclear how the reported factors relate to their actual performance on the job. Such analyses will be important to managers and policy-makers, who may see job performance as the most important outcome.

## CONCLUSION

There was statistically significant difference in general job satisfaction related to gender, age, education, and length of employment. There were significantly more healthcare professionals satisfied with their job among males, older than 60 years and in the age group 50–59 years, with managerial function, and with 30 or more years of service.

The degree of the professional satisfaction is low, as evident in the percentage of satisfied responders (who responded to the question with grades 4 and 5), and in the mean score for the individual aspects of the healthcare professionals' job satisfactions.

Healthcare professionals in Belgrade's public hospitals were most satisfied with the cooperation with the colleagues, interpersonal relations, and with support from managerial staff.

Healthcare professionals with university education were more satisfied with all the individual aspects of job satisfaction than the ones with secondary school and college education. Since teamwork is essential for the successful treatment of patients, healthcare managers must be more engaged in improving satisfaction of healthcare professionals with secondary school and college education.

Personal development plans and ability to share ideas, to be informed and be able to choose one's own way of executing daily work were found to be key issues for personal satisfaction in this study.

Organizational culture is clearly a separate indicator for HPSEC group of respondents, while the organizational culture is just a part of an indicator measuring personal development for HPUD group of respondents. This may lead to a conclusion that HPUD healthcare professionals match more closely organizational traits with their personal development prospects, partly for having more power to change organizational culture than HPSEC. We see HPUD healthcare professionals' interpersonal communication as a part of a well-functioning organization and a manifestation of a certain organizational culture, and not as a specific, self-containing feature. Working conditions were equally assessed by both groups.

Therefore, we can propose the following indicators measuring professional satisfaction for healthcare professionals: Indicator 1: "Personal development and interpersonal communication"; Indicator 2: "Organizational culture"; Indicator 3: "Work conditions."

This study showed that the main causes of Serbian healthcare professionals' dissatisfaction were wages, equipment, lack of possibility of continuous medical education/training and the opportunities for professional develop-

ment. Improvement of these aspects requires greater financial investment. Managers in healthcare institutions have the opportunity to improve satisfaction of the employees in the area of information flow and sharing, development of teamwork, improvement of work organization, and adequate distribution of assignments.

The results of such researches should be used by the management for setting priorities and planning of measures aimed to improve job satisfaction.

The quality of health care significantly depends on the satisfaction of employees.

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## Детерминанте професионалне сатисфакције здравствених радника у државним болницама у Београду, Србија – студија пресека

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### КРАТАК САДРЖАЈ

**Увод** Квалитет здравствене заштите у значајној мери зависи од задовољства запослених.

**Циљ рада** Циљ нашег истраживања је био да се изврши процена степена професионалног задовољства запослених у државним болницама у Београду у Србији, као и да се одреде детерминанте професионалног задовољства односно незадовољства здравствених радника.

**Методе рада** Истраживање професионалног задовољства је спроведено 2008. године по типу студије пресека. Истраживањем су обухваћени подаци из 6595 упитника које су попунили здравствени радници. Подаци су обрађени коришћењем следећих статистичких метода: за тестирање значајности разлика коришћени су Студентов т-тест, Пирсонов  $\chi^2$ -тест и анализа варијансе (АНОВА). Факторска анализа је примењена како би се одредиле детерминанте професионалног задовољства односно незадовољства.

**Резултати** У нашем истраживању смо утврдили да је степен професионалног задовољства међу здравственим радницима у београдским државним болницама низак. Факторском анализом је утврђено да су главне детерминанте професионалног незадовољства плата, опрема, као и могућности едукације и напредовања. Здравствени радници са високом стручном спремом су били задовољнији свим појединачним аспектима професионалног задовољства у односу на здравствене раднике са средњом или вишом стручном спремом.

**Закључак** Најзадовољнији су били здравствени радници на руководећем месту, мушког пола, старији од 60 година, као и у узрасној групи од 50 до 59 година, и запослени са 30 и више година радног стажа. Стратегија развоја људских ресурса у систему здравствене заштите Србије значајно би унапредила професионално задовољство запослених и квалитет пружене заштите.

**Кључне речи:** професионална сатисфакција; здравствени радници; унапређење квалитета; здравствена заштита

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