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Motivation and job satisfaction of health workers in a specialized health institution in Serbia

Motivacija i zadovoljstvo poslom zdravstvenih radnika u specijalizovanoj zdravstvenoj ustanovi u Srbiji

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Abstract

Background/Aim. Health care system is specific for each country, and therefore involves different motivation and job satisfaction factors. The aim of this study was to confirm the validity and applicability of the General Nordic Questionnaire translated into Serbian for analyzing motivation and job satisfaction, as well as to analyze the motivation factors and job satisfaction of health workers at the Institute for Treatment and Rehabilitation "Niška Banja". Methods. The General Nordic Questionnaire was translated into Serbian. It included 73 questions (5 answers by the Likert scale), which formed 24 scales. In May, 2012, 196 (82.3%) health workers filled in the questionnaire. Results. A correlation of Ceronbach's alpha values between the Scandinavian study results and the results of Serbian study was statistically significant (r = 0.424; p < 0.05). The lowest Cronbach' alfa coefficient was for the scale "learning demand in job demands" (alpha 0.28). The other scale with no satisfactory reliability was "control of work pacing" (alpha 0.46). Intrinsic motivation positively correlated with all the scales of organizational module, apart from inequality. Within this module, the degree of extrinsic motivation correlated with the support from the superior and coworkers, with fair leadership and human resources primacy. A negative correlation appeared with inequality. Conclusion. The general Nordic Questionnaire can be applied to a great extent to the conditions in our country. Our study shows a low consistency of the scales learning job demands, control of decision, control of work pacing, so the questions in them should be adjusted to the conditions in our country. Extrinsic motivation resulted in higher values than the values of intrinsic motivation in our workers, which is opposite to the results of the original questionnaire.

Key words:

job satisfaction; medical staff; questionnaires; serbia.

Apstrakt

Uvod/Cilj. Sistem zdravstvene zaštite ima svoje specifičnosti u različitim zemljama, a samim tim i različite motivacione faktore i faktore zadovoljstva poslom. Cilj ovog rada bio je da se ispita validnost i primenljivost upitnika za ispitivanje motivacije i zadovoljstvo poslom Genereal Nordic Questionnaire, prevedenog na srpski jezik, kao i da se ispitaju motivacioni faktori i zadovoljstvo poslom zdravstvenih radnika u Institutu za lečenje i rehabilitaciju "Niška Banja". Metode. General Nordic Questionnaire preveden je na srpski jezik. Izdvojena su 73 pitanja (5 odgovora po Likertovoj skali) sadržana u 24 skale. Upitnik je popunilo 196 (82,3%) zdravstvenih radnika tokom maja 2012. godine. Rezultati. Korelacija Cronbach-ove alfa vrednosti između rezultata istraživanja u skandinavskim zemljama i u Srbiji bila je statistični značajna (r = 0,424; p < 0,05). Najniži koeficijent alfa imala je skala "zahtev radnog zadatka za učenjem" (alfa 0,28). Druga skala koja nije imala zadovoljavajuću pouzdanost bila je skala "kontrola nad radnim vremenom" (alfa 0,46). Unutrašnja motivacija pozitivno je korelisala sa svim skalama koje se odnose na organizaciju radnog procesa, osim sa nejednakim odnosom prema zaposlenim. U okviru ovog modula, stepen spoljašnje motivacije korelisao je sa podrškom nadređenog i saradnika, sa fer liderstvom i primarnošću ljudskih resursa. Nađena je negativna korelacija sa nejednakim odnosom prema zaposlenim. Zaključak. Opšti nordijski upitnik u najvećoj meri primenljiv je na naše uslove. Testiranjem upitnika nađena je niska konzistentost za skale zahtev radnog zadatka za učenjem, kontrola nad radnim vremenom i kontrola odlučivanja, za koje bi trebalo prilagoditi pitanja u anketi prema našim uslovima. Spoljašnja motivacija za rad kod naših ispitanika bila je jače izražena od unutrašnje, što je u suprotnosti sa rezultatima originalnog upitnika.

Ključne reči:

posao, zadovoljstvo; kadar, medicinski; upitnici; srbija.

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Introduction

Motivation of workers is closely connected with the work process and represents a significant job satisfaction determinant. Motivation is multidimensional and the importance of certain motivation factors changes in accordance with the living conditions, market and personal characteristics of workers. Health care system is specific in different countries; therefore developing individual instruments for analysis of motivational factors are necessary, especially in developing countries¹. Furthermore, every health organization is specific and there is always the need for analysis of motivation factors and considering possibilities for improving motivation and job satisfaction². Low motivation of workers can greatly influence health outcomes and patient safety. Motivation system can increase work performance if properly implemented³. In developing countries with significantly limited financial possibilities, managers and health care policy creators must develop and apply other motivation factors from working environment in order to enable higher degree of job satisfaction of workers^{4, 5}.

Having in mind the effect of motivation and job satisfaction on quality and quantity of provided health care services, the aim of this study was to confirm the validity and applicability of the General Nordic Questionnaire for Psychological and Social Factors at Work [QPS (Nordic)] in Serbian for analyzing motivation and job satisfaction, to analyze motivation factors and job satisfaction of health workers at the Institute for Treatment and Rehabilitation "Niška Banja", and to suggest measures for improving management by increasing motivation and job satisfaction.

Methods

This study included health workers from the Institute for Treatment and Rehabilitation "Niška Banja", a health care institution with cardiology, rheumatology and orthopedic departments (40 beds for each department). Primary activity of this Institute is rehabilitation of cardiovascular patients (350 beds); therefore it is included in the network of health care institutions of the Republic of Serbia (with the total number of 470 beds), financed by the Republic Institute for Health Insurance⁶. The remaining 90 beds are used for recreation of pensioners, workers, and citizens. The Institute has national importance since it is the only institution which provides extended rehabilitation of cardiovascular patients in Serbia in its entire scope. The study participations were 60 doctors, 99 medical nurses, technicians and laboratory technicians, as well as 60 physiotherapists. They represented 92% of total 238 health workers empoloyed in the Institute. Only health workers who were not at the place of residence at that moment did not participate in this study. The participants voluntarily filled in the QPS (Nordic) questionnaire translated from English to Serbian, which they put in the box at work after having it filled in ⁷. Properly filled in questionnaires were handed in by 47 (78%) doctors, 92 (92.9%) medical nurses/ technicians and 57 (95.0%) physiotherapists. Survey was conducted during May, 2012, and it was approved by local Ethics Board of the Institute for Treatment and Rehabilitation "Niška Banja".

Out of a great number of questionnaires available in the literature, one adequate questionnaire was to be chosen⁸⁻¹⁰. Important condition for choosing the questionnaire was long tradition in testing and monitoring working environment and job satisfaction. Apart from having a good design, the questionnaire had to be noteworthy and applicable to different professions, to enable research as well as to have a well generated database for further studies and monitoring¹¹. QPS (Nordic) is one of such questionnaires ⁶. Main features of this questionnaire are applicability and importance for health and well-being. Furthermore, as a frequently used research instrument, it is based on theories and conceptual models of organizational working environment, motivation and satisfaction, on theories of work-related stress, well-being and health in general ¹². The questionnaire encompasses a number of dimensions regarding job demands, such as quantitative demands, decision demands, role clarity, and the existence of role conflict, positive challenge at work, control of decisions, control of work pace, and predictability during the following month. Organization is visible through support from superiors, coworkers, friends and relatives, analysis of leadership, social climate, innovative climate, inequality and human resource primacy. Individual worker characteristics are observable in predictability during the next two years, the individual's preference for challenges, mastery of work, commitment and motivation to work related to both intrinsic and extrinsic motives.

The original QPS (Nordic) consists of 118 questions ¹³. out of which individual and questions inapplicable in this study were excluded. Finally, 73 questions were selected and classified in 24 scales. Each scale contained 2-4 questions. All questions were of multiple choice questions with 5 offered answers by Likert scale. For the first group of questions, the offered answers were: e.g.: "Do you work overtime?", offered answers: "Very seldom or never", "Rather seldom", "Sometimes", "Rather often", "Very often or always". For the second group, for example: "Do you prefer the challenge presented by working in different places?" with the answers: "Very little or not at all", "Rather little", "Somewhat", "Rather much", and "Very much". The third group of questions referred to the degree of agreement with certain statement. For example, for the statement "To my friends I praise this organization a great place to work", given answers were: "Disagree totally", "Disagree to some extent", "Indifferent", "Agree to some extent", and "Agree totally". The fourth group referred to the level of importance, e.g. "How important are the following considerations in relation to your ideal job? To have a peaceful and orderly job?" Only one of the offered answers was to be chosen: "Unimportant", "Not so important", "Rather important", "Very important", and "Absolutely necessary".

The internal consistency is analyzed by Cronbach's alpha coefficient. Its values below 0.60 are defined as unacceptable for further analysis. Coefficient measured ≥ 0.70 was considered valid. Correlation between scales measuring more than 0.40 was acceptable for this research. Scales

which did not meet the given criterion were excluded from further analysis and final conclusion. Survey results were presented as distribution of frequencies or as a mean total value of scales with standard deviation. Difference testing was performed using Student's *t*-test (ANOVA test) and χ^2 test. Bivariate correlation between scales and related to demographic parameters was presented by Pearson's coefficient with statistical significance. Statistical processing was done in statistical software SPSS version 14.0.

Results

Distribution of questionnaires which have to be filled according to type of health workers is shown in Table 1. The number of employees at the Institute for Treatment and Rehabilitation "Niška Banja" has significantly changed throughout the years, depending on the workload. On the average, 340 people are employed full-time, and in summer months, the number of workers increases up to 420 on account of part-time employed workers. The total average number of patients treated during a year amounts to 14,000 people. Approximately 4,000 patients are treated in the hospitals. Around 6,000 patients from the entire Serbia come to rehabilitation to Niška Banja. Out of the total number of treated people, around 4,000 are pensioners and employed people, and significantly less number of people come to treatment at their own expense. During the year, over 40,000 of specialistic consultative services are provided and the same number of various diagnostic procedures for stationary patients and outpatients. However, the capacity of the Institute is not fully used. Workload, as well as the quality of services can be increased by improving worker motivation in all the areas of service, especially in the area of commercial services.

The average number of patients (or procedures) *per* doctor, nurse/technician or physiotherapist during the year is shown in Table 2.

In terms of gender distribution, the majority of participants were women (75%), regarding age predominant were participants younger than 50 (77%) (Table 1). The average age of the participants was 40.1 ± 11.4 years. The average age of doctors was 45.7 ± 10.2 , which was statistically higher value than the age of medical nurses/technicians $(37.5 \pm 11.7 \text{ years of age; } p < 0.0001)$ and physiotherapists $(39.4 \pm 10.2 \text{ years old; } p < 0.01)$. There were no statistically significant differences regarding the age of medical nurses/technicians and physiotherapists. Distribution of participants according to gender, age and profession is shown in Table 3.

Out of the total number of participants, 25 (12.8%) were at managing positions. The majority of participants work in the morning shift, 123 (62.8%) of them, 48 (24.5%) participants work in two shifts and 25 (12.8%) of them work in 12-hour shifts.

The modified QPS (Nordic) questionnaire which was created in Scandinavian countries (Sweden, Norway,

Table 1

Distribution of properly filled in questionnaires				
Profession	Handed out questionnaires (n)	Filled out questionnaires (n)	Valid questionnaires (%)	
Doctor	60	47	78	
Nurse/laboratory technician	99	92	92	
Physiotherapist	60	57	95	
Total	219	196	89.5	

Table 2

Average number of patients (procedures) *per* doctor, nurse/technician or physiotherapist during the year

	Average number		
Type of service	per doctor	<i>per</i> nurse/technician or physiotherapist	
Rehabilitation (patients)	9,896	329.7	
Hospital (patients)	5,643	235.1	
Outpatients department (patients)	37,659	4,707.4	
Diagnostics (patients)	430.5	/	
Physical therapy (procedure)	332,944	5,549.1	

Т	Distribution of participants accor	ding to gender, age a	nd profession	Table
Variables	Nurses/technicians	Physiotherapists	Doctors	Total
	n (%)	n (%)	n (%)	n (%)
Gender				
male	9 (9.8)	19 (33.3)	21 (44.7)	49 (25)
female	83 (90.2)	38 (66.7)	26 (55.3)	147 (75)
Age, (years)				
≤ 35	43 (46.7)	26 (45.6)	9 (19.1)	78 (39.8)
36-49	31 (33.7)	20 (35.1)	22 (46.8)	73 (37.2)
\geq 50	18 (19.6)	11 (19.3)	16 (34.1)	45 (23)

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Finland, and Denmark) was used in this analysis. The correlation of alpha value between our questionnaire and the modified QPS (Nordic) questionnaire was statistically significant (r = 0.424; p < 0.05). The reliability of job demands analysis, that is, consistency of the answers between the scales is presented by alpha coefficient. The lowest coefficient was for the scale "learning demand in job demands" (alpha 0.28); therefore, this scale was not considered further. The second scale which did not have satisfactory reliability was "control of work pacing" (alpha 0.46), which was also excluded from further analysis. Differences in middle offered answers between scales in the job demand module are presented in Table 4.

sented in Table 4. c In the organizational module, the scale with the lowest value was "support from friends and relatives" (alpha 0.65), and

approximately the same value had the scale for "inequality" (Table 4). The scales testing "support from coworkers" and "fair leadership" had the highest mean value, 4.2. The differences in middle answers between scales in the area of organizational module are given in Table 4.

Regarding individual module, the highest mean value was of the scale which tested "extrinsic motivation" (mean value 4.34), but reliability of this scale was the lowest in this module (Table 4). Differences in middle answers are presented in Table 4.

Table 5 shows coefficients of correlation between motivation aspects (intrinsic and extrinsic) and other scales. Only statistically significant correlations are shown.

Two scales in job demands module correlated positively with motivation: role clarity and preference for challenges (Table 5).

Table 4

wheat values, standard deviations and consistency for specific scales				
Saalas	Average of answers	Alpha		
Scales	$(\bar{x} \pm SD)$	(Cronbach's)		
Job demands module				
Quantitative demands	2.67 ± 0.71	0.68		
Decision demands	3.67 ± 0.81	0.66		
Learning demands	2.74 ± 0.77	0.28		
Role clarity	4.50 ± 0.66	0.74		
Role conflict	2.21 ± 0.83	0.67		
Positive challenge at work	4.28 ± 0.76	0.72		
Control of decision	2.27 ± 0.74	0.62		
Control of work pacing	2.30 ± 0.72	0.46		
Predictability of the next month	3.09 ± 1.2	0.72		
Organizational module				
Support from superior	4.03 ± 0.82	0.76		
Support from coworkers	4.19 ± 0.85	0.77		
Support from friends and relatives	3.75 ± 0.94	0.65		
Empowering leadership	3.06 ± 0.97	0.78		
Fair leadership	4.16 ± 0.9	0.83		
Social climate	3.37 ± 0.84	0.73		
Innovative climate	3.39 ± 0.97	0.80		
Inequality	2.13 ± 0.88	0.66		
Human resource primacy	2.99 ± 0.91	0.72		
Individual level module				
Predictability of next two years	2.56 ± 1.12	0.67		
Preference for challenge	2.59 ± 0.96	0.70		
Perception of mastery	4.10 ± 0.60	0.70		
Commitment to organization	4.05 ± 0.78	0.74		
Intrinsic motivation to work	3.78 ± 0.75	0.70		
Extrinsic motivation to work	4.34 ± 0.57	0.65		

Mean values, standard deviations and consistency for specific scales

 $\bar{\mathbf{x}}$ – mean value; SD – standard deviation.

Table 5

Correlation between motivation to work and other examined scales				
	Intrinsic motivation	Extrinsic motivation		
Scales	to work	to work		
	<i>(r)</i>	<i>(r)</i>		
Role clarity	0.184**	0.241**		
Positive challenge at work	0.293**	0.271**		
Support from superior	0.302**	0.257**		
Support from coworkers	0.252**	0.203**		
Support from friends and relatives	0.239**	0.095		
Empowering leadership	0.277**	0.073		
Fair leadership	0.243**	0.241**		
Social climate	0.234**	0.149*		
Innovative climate	0.321**	0.124		
Inequality	-0.110	-0.241**		
Human resource primacy	0.301**	0.169*		
Predictability of next two years	0.216**	0.176^{*}		
Preference for challenge	0.232***	0.135		
Perception of mastery	0.357**	0.321**		
Commitment to organization	0.397**	0.313**		
r = coeficient of correlation in $c = 0.05$, in $c = 0.01$				

r – coeficient of correlation; p < 0.05; p < 0.01.

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Intrinsic motivation positively correlated with all scales of organizational module, apart from inequality. Within this module, the degree of extrinsic motivation correlated with the support from superior and coworkers, with fair leadership and human resources primacy. Negative correlation appeared with inequality. Scales: control of individual work pacing, commitment to organization, and predictability of the following two years correlated well with both intrinsic and extrinsic motivation, while preference for challenges correlated only with intrinsic motivation.

The module of age positively correlated with decision demands (r = 0.191; p < 0.05), and negatively with preference for challenges (r = -0.245; p < 0.01) and with the support from coworkers (r = -0.158; p < 0.05) as well as with human resources primacy (r = 0.169; p < 0.05).

Discussion

Internal consistency

In our questionnaire, the scale "learning demands" had a very low consistency (alpha 0.28), as well as "control of work pacing" (alpha 0.46), and "decision control" (alpha 0.62). The question "Are your work tasks too difficult for you?" had the lowest correlation with other questions from the scale and different formulation of this question, that is, "Are your work tasks too complex for you?" should be tested in future analyses. This points out that every country, according to its own specific circumstances, should develop individual questionnaire. However, this comparison is limited, since this research was performed on small sample (196 participants) in one organization, compared to the Wännström et al.⁷ study which included 3,976 participants.

Demographic structure of the participants

Studies show that there is no difference in the degree of job satisfaction between genders, which was also confirmed in our study ¹⁴. It is widely accepted that the nature of job is a factor which determines the degree of job satisfaction, and not gender. Contrary to this statement, Guppy and Rick ¹⁵, point out numerous differences between genders. Higher satisfaction with job in men was expressed in promotional aspects, while good relations with coworkers and patients were more important for women. Considering gender distribution and professional structure of our participants, there were no differences in job satisfaction between genders, since the majority of medical staff were women (stress was in relation with coworkers and patients) and men were predominant in the group of doctors and with a higher level of intrinsic motivation.

The majority of data in the literature point out to interdependency between personal characteristics, motivation and job satisfaction of workers¹⁶. People of older age are not motivated by the need to prove themselves through their achievements; therefore, they prefer to perform more sensible work¹⁷. Apart from this, the desire for learning and acquiring new skills decreases over time. Thus, they are less motivated by salary, and more by praises¹⁴. This study also shows that the preference for challenges decreases over time. Managers are satisfied with their job to a higher degree than other participants. Lipińska-Grobelny and Wasiak¹⁸ point out in their study that female managers of androgenic type are most satisfied with job, while women of feminine type without managing position are most dissatisfied with their job. In this study, managing position positively correlates with job challenges, expectations, excessive workload, decision control and extrinsic motivation.

Job demands module

Organizations based on quality, certainty for workers, and culture of innovation and creativity, have higher degree of workers' job satisfaction¹⁹. This study shows that job demands for learning, cannot be estimated globally due to low consistency of the result. Job demands influence not only motivation and job satisfaction, but also mental health of health care workers²⁰. In their two-factor model Demerouti et al.²¹ argue that excessive workload and lack of resources lead to burnout. Bennett et al.²² discovered high occurrence of burnout and high level of stress in Canadian nurturing children and youth professionals, contrary to the high degree of their job satisfaction.

Compared to the original Nordic questionnaire, our participants consider that workload is not excessive, but that it is more demanding in the aspect of deciding. Organizations which emphasize performance usually have low degree of job satisfaction. This was confirmed by Agho et al.²³, who pointed out the negative correlation between high performance and job satisfaction.

The greater role clarity, the less conflict demands, that is, the person knows what is expected at work. Compared to the original questionnaire, this study resulted in fewer occurrences of conflicts and higher degree of role clarity. This indicates good leadership and support from superiors in the Institute "Niška Banja".

In organizational cultures where decisions are made and put into practice without considering opinion of subordinates, job satisfaction is at lower degree, as well as commitment to the organization²⁴. Participating style of making decisions results in higher degree of job satisfaction provided that management includes workers in decision-making and problem-solving process and enables certain degree of control of their work²⁵. In the original QPS (Nordic) questionnaire, control of work pace correlates with decision control, control of working hours, and positive work challenge. Studies show that motivation increases with challenging work tasks²⁶. Such motivation is intrinsic, that is, it refers to satisfying internal needs for achieving challenging goals. A greater number of challenging tasks, flexible working hours, and participating style of making decisions (control of work pacing) significantly improve job satisfaction.

Comparison of scales with the mean values from the original questionnaire and scales with our results points out that the mean values of decision control and control of work pace were lower in the original questionnaire than in our. However, our health care workers experienced their work statistically more challenging than workers in Scandinavian countries. This indicates that higher level of autonomy in work should be introduced in the organization at the Institute "Niška Banja".

Organization module

Support from superiors and coworkers are significant components of job satisfaction. A number of authors argue that job satisfaction is higher if there are positive horizontal and vertical connections among workers, as well as effective and efficient cooperation ^{19, 25, 27}. This aspect of organizational culture module is greatly beyond management control. Sterud et al. ²⁸, point out that the absence of support from coworkers was one of the strongest and most common stressors in survey which included dispensary medical staff in Norway.

Encouraging, empowering and safe environment increase the degree of job satisfaction²⁹. In our organization, empowering and fair leadership was predominant, with values above the average mean values of scales compared to Scandinavian organizations.

Equality, which is expressed in fair relations and equal chances for every worker, contributes to improvement of job satisfaction ³⁰. Studies show that organizations which encourage and support their employees to suggest and develop new ideas have more satisfied workers. Additionally, workers are more committed to the organization ³¹. Comparing results of the two questionnaires shows unequal treatment of workers in our organization. Social climate was more favorable in Scandinavian countries, while the scale of human resources primacy had higher value in our survey. In the case of the scale of innovation climate there was no difference in mean values in both questionnaires.

Individual model and work motives

Positive correlation between job satisfaction and preference for challenges, which included variability, was presented in literature^{32, 33}. Jobs which include repetition of activities have influence on the decrease in job satisfaction³⁴. Autonomy, control of work pace, flexible procedures and structures result in higher degree of satisfaction and intrinsic motivation. A connection between motivation and satisfaction greatly depends on subjective perception of control of individual work pacing. In this study, health care workers experienced a high level of control of work pace than Scandinavian workers. These differences are the result of different payment systems and organization of health care system. For example, changes in health market in California significantly influenced job satisfaction of doctors. Burdi and Baker³⁵ presented that lower autonomy of doctors regarding work performance significantly decreased the degree job satisfaction of doctors in the period from 1991 to 1996.

Extrinsic motivation is expressed in the need for financial rewards, promotion, and higher status. Intrinsic motivation was "rather important" of "very important" to participants, while extrinsic motivation was "very important" to "absolutely necessary". This is contrary to the results of Kontodimopoulos et al. ³⁶ study which is perhaps the consequence of unfavorable financial situation of health care workers in Serbia.

Comparison of mean values of scales in the two questionnaires presented higher extrinsic motivation in Serbian participants, while their intrinsic motivation was lower than in Scandinavian participants. In the study conducted in Pakistan, main motivation factors for doctors were intrinsic and sociocultural factors (serving people, career advancement, gaining respect), and demotivators were organizational problems in current work such as: low salaries, insecurity for women and the absence of possibility of acquiring higher qualifications ³⁷. Study in Mali, West Africa, with salary of 240 \$ *per* citizen, main motivators for health workers were related to responsibility, training and rewards. Salary was also a significant motivator ³⁸.

Conclusion

The General Nordic Questionnaire can be applied to a great extent to conditions in our country. The questionnaire resulted in low consistency of scales: learning job demands, control of decision, control of work pacing, in which the questions should be adjusted in accordance with our conditions. Extrinsic motivation resulted in higher values than the values of intrinsic motivation in our workers, which is opposite to the results of the original questionnaire. According to the low average sum of the scales, specific measures were suggested, and expected results consequently included decrease of morbidity and mortality of patients with the increase in their satisfaction and quality of life.

Based on presented problems, measures for improvement of management by increasing the degree of motivation and job satisfaction are suggested. Implementation of measures and activities, as well as more effective utilization of working hours and resources, is expected to result in improvement of quality and quantity of service, and consequently decrease morbidity and mortality of patients with the increase in their satisfaction and quality of life. The suggested measures and activities include: reorganization of human resources, which will enable employees with less years of service to perform challenging tasks (new tasks, coworkers, and new work positions), and simultaneously increase quantity of workload to moderate level; proposing incentives, adjusted to specific features of the institution and organizational units; to draw greater attention to financial stimuli in a subgroup of medical nurses/technicians and physiotherapists, and to nonfinancial stimuli (connected to stronger intrinsic motivation) in the group of doctors and management; improving work organization in its units by increasing the degree of autonomy, general planning for few months in advance, introducing tasks to workers and including their suggestions for plan realization; analyzing job positions regarding workload and demands for additional qualifications. Defining the necessary skills for performing certain tasks and thus to transparently securing the need for additional education. Enabling both internal and external education of the staff; empowering social interactions through stimulation of forming associations, organizing sports activities, celebration of important dates, etc; reducing inequality to the lowest level possible, and define criteria for equal treatment of workers in all work situations; increasing care for human resources, especially for people with longer time of service, enabling additional health and

personal security through various conveniences, improving social interactions and reducing negative aspect of support from coworkers by introducing programs of education and transfer of knowledge and experience; motivating health

workers to nurture humanity and to aspire to higher quality of health services, introducing periodical promotion of best worker in the field of humanity and quality at work with patients.

REFERENCES

- 1. *Mbindyo MP, Blaauw D, Gilson L. English M.* Developing a tool to measure health worker motivation in district hospital in Kenya. Hum Resour Health 2009; 7: 40.
- Ojokuku RM, Salami AO. Contextual influence of health workers motivations on performance in University of Ilorin Teaching Hospital. Am J Sci Ind Res 2011; 2(2): 216–23.
- Lambrou P, Kontodimopoulos N, Niakas D. Motivation and job satisfaction among medical and nursing staff in a Cyprus public general hospital. Hum Resour Health 2010; 8(1): 26–34.
- Peters DH, Chakraborty S, Mahapatra P, Steinhardt L, Job satisfaction and motivation of health workers in public and private sectors: cross-sectional analysis from two Indian states. Hum Resour Health 2010; 8: 27.
- Bennett S, Franco ML, Kanfer R, Stubblebine P. The Development of Tools to Measure the Determinants and Consequences of Health Worker Motivation in Developing Countries [Internet]. Parnerships for health reform 2000. [cited 2012 Jun 5]. Available from: http://www.hrhresourcecenter.org/node/1096
- Decree on Health Institution Network Plan. Official Gazette of RS No 42/2006, 119/2007, 84/2008, 71/2009 and 85/2009. (Serbian)
- Wännström I, Peterson U, Åsberg M, Nigren Å, Gustavsson P. Psychometric properties of the General Nordic Questionnaire for Psychological and Social Factors at work (QPSNordic): Confirmatory factors analysis and prediction of certified long-term sickness abscence. Scand J Psychol 2009; 50(3): 231–44.
- Review of the most significant results of the research on job satisfaction for employees in public health care institutions of the Republic of Serbia in 2010. Belgrade: Institute for Public Health "Dr Milan Jovanović Batut"; 2011. [Internet]. [cited 2012 Jun 5]. Available from:

http://www.batut.org.rs/index.php?category_id=66_(Serbian)

- Bjorner BJ, Pejtersen HJ. Evaluating construct validity of the second version of the Copenhagen Psychosocial Questionnaire through analysis of differential item functioning and differential item effect. Scand J Public Health 2010; 38(Suppl 3): 90–105.
- McMurray EJ, Williams E, Schwartz DM, Douglas J, Kirk VJ, Konrad RT, et al. Physician Job Satisfaction Developing a Model Using Qualitative Data. J Gen Intern Med 1997; 12(11): 711–4.
- Wännström I, Petersona U, Asbergh M, Nygrenh A, Gustavssonc P. Can scales assessing psychological and social factors at work be used across different occupations. Work 2009; 34(1): 3–11.
- Dallner M, Elo AL, Gamberale F, Hottinen V, Knardahl S, Lindström K, et al. Validation of the general Nordic guestionnaire (QPSNordic) for psychological and social factors at work (No. Nord, 12). Copenhagen: Nordic Council of Ministers; 2000.
- Lindström K, Elo LA, Skogstad A, Dallner M, Gamberale F, Hottinen V, et al. Users guide for QPSNordic. General Nordic questionnaire for psychological and social factors at work. TemaNord, 603. Copenhagen: Nordic Council of Ministers; 2000.
- Huddleston P, Good L, Frazier B. The influence of firm characteristics and demographic variables on Russian workers' work motivation and job attitudes. Int Rev Retail Distrib Consum Res 2002; 12(4): 395–21.
- Guppy A, Rick J. The influences of gender and grade on perceived work stress and job satisfaction in white-collar employees. Work Stress 1996; 10(2): 154–64.

- Jemigan IE, Beggs JM, Kohut GF. Dimensions of work satisfaction as predictors of commitment type. J Manag Psychol 2002; 17(7): 564–79.
- Tolbert PS, Moen P. Men's and women's definitions of 'good' jobs: Similarities and differences by age and across time. Work Occup 1998; 25(2): 169–94.
- Lipińska-Grobelny A, Wasiak K. Job satisfaction and gender identity of women managers and non-managers. Int J Occup Med Environ Health 2010; 23(2): 161–6.
- Cohen-Rosenthal E, Cairnes L. Doing the best job. J Quality Particip 1991; 14(3): 48–53.
- Demirci S, Yildirim YK, Ozsaran Z, Uslu R, Yalman D, Aras AB. Evaluation of burnout syndrome in oncology employees. Med Oncol 2010; 27(3): 968–74.
- Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. The job demands-resources model of burnout. J Appl Psychol 2001; 86(3): 499–512.
- Bennett S, Plint A, Clifford TJ. Burnout, psychological morbidity, job satisfaction, and stress: a survey of Canadian hospital based child protection professionals. Arch Dis Child 2005; 90(11): 1112-6.
- Agho AO, Mueller CW, Price JL. Determinants of Employee Job Satisfaction: An Empirical Test of a Causal Model. Hum Relat 1993; 46(8): 1007–27.
- Goodman EA, Zammuto RF, Gifford BD. Understanding the impact of organizational culture on the quality of work life. Organiz Develop J 2001; 19(3): 58–68.
- Gunter B, Furnham A. Biographical and climate predictors of job satisfaction and pride in organizations. J Psychol 1996; 130(2): 193-208.
- 26. Rothmann S, Coetzer EP. The relationship between personality dimensions and job satisfaction. Bestuursdinamika 2002; 11(1): 29-42.
- 27. Visser PJ, Breed M, van Breda R. Employee satisfaction: a triangular approach. J Indust Psychol 1997; 23(2): 19–24.
- Sterud T, Hem E, Ekeberg O, Lau B. Occupational stressors and its organizational and individual correlates: a nationwide study of Norwegian ambulance personnel. BMC Emerg Med 2008; 8: 16–27.
- 29. Ritter JA, Anker R. Good jobs, bad jobs: Workers' evaluations in five countries. International Labour Rev 2002; 141(4): 331–58.
- 30. Coetzee M, Vermeulen L. How should organisations handle employee injustices. Manag Today 2003; 19(8): 28-32.
- Odom RY, Boxx RW, Dunn MG. Organizational Cultures, Commitment, Satisfaction, and Cohesion. Public Product Manag Rev 1990; 14(2): 157–69.
- 32. Moyniban DP, Pandey SK. Finding workablelevers over work motivation: Comparing job satisfaction, job involvement, and organizational commitment. Administrat Soc 2007; 39(7): 803-32.
- Hoole C, Vermeulen LP. Job satisfaction among South African pilots. SA J Ind Psychol 2003; 29(1): 52–7.
- 34. *Stinson JE, Johnson TW*. Tasks, individual differences, and job satisfaction. Indust Relat 1997; 16(3): 315-25.
- Burdi MD, Baker LC. Physicians' perceptions of autonomy and satisfaction in California. Health Aff (Millwood) 1999; 18(4): 134–45.

- Kontodimopoulos N, Paleologou V, Niakas D. Identifying important motivational factors for professionals in Greek hospitals. BMC Health Serv Res 2009; 9(1): 164.
- Malik AA, Yamamoto SS, Souares A, Malik Z, Sauerborn R. Motivational determinants among physicians in Lahore, Pakistan. BMC Health Serv Res 2010; 10: 201–22.
- Dieleman M, Toonen J, Touré H, Martineau T. The match between motivation and performance management of health sector workers in Mali. Human Res Health 2006; 4: 2.

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