

# DIFFERENCES IN THE QUALITY OF WORKING LIFE BETWEEN MEDICAL AND NON-MEDICAL STAFF AT MEDICAL ESTABLISHMENTS IN BULGARIA

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**ABSTRACT** - *The aim of the study is to investigate differences in the perception of the quality of working life between the medical and non-medical staff in the medical institutions in Bulgaria. 510 employees participated in this study. Quality of working life is measured using 7 dimensions (subscales) that have been tested regarding to the variable staff type. The results showed that non-medical staff reported higher average scores in all seven subscales. Non-medical staff reported significantly different average scores as regards Workplace and Organization management. This ascertainment is in according with the results obtained from MANOVA, where the independent variable is a type of staff and the dependent - indicators of quality of working life. The MANCOVA analysis was conducted under control of the variables gender and education. After controlling these variables, there were differences between the medical and non-medical staff in terms of two more subscales.*

**Keywords:** quality of working life, MANCOVA, medical establishments, type of staff

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## 1. INTRODUCTION

The high quality of the provided health services requires involvement of a qualified human force. Healthcare managers are facing many challenges, but one of the largest is to provide a sufficient number of specialists in times of existing shortage of qualified human resources. The knowledge and the application of the Quality of Working Life (QWL) approach is essential for recruiting and retaining employees in healthcare organizations. For the successful development of each organization it is necessary to pay sufficient attention to this phenomenon. That is why the present study is focused on the differences in perceived QWL. Surprisingly, the literary review does not reveal any researches of such nature in Bulgaria. In addition, the survey results can provide useful information to organizations which are developing the questions related on the QWL.

According to data from the National Statistical Institute, valid on 31 December 2016, there are 345 hospitals in Bulgaria, which have 51 816 beds (<http://www.nsi.bg>). Economic activity data "Human health" for 2010 show that it represents 2.11% of the gross value added, it accepts 0.52% of the foreign direct investments and 0.93% of the costs for fixed assets. The enterprises in the sector are 3.32% of the enterprises in the whole country. The number of employees represents 3.52% of all employed in the country. It is important to note the high average age of the employed compared to this for the country, as it registers a very high female employment - over 77%. The educational status of the employees is very

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high and the unfavorable tendency of the age structure relative to the economy as a whole is taken into account (Association for Developing Profiles on Safety and Health at Work, profile for economic activity "Human Health", 2013).

## **2. LITERATURE REVIEW**

Quality of working life is concerned with the care to produce more humanized work places. This is a philosophy that sees people as the most important resources in the organization.

According to J.Lloyd Suttle, "Quality of Work Life is the degree to which members of a work organization are able to satisfy important personal needs through their experiences in the organization" (Murugan, 2012).

Efraty and Sirgy (1990) define QWL as the satisfaction of employees from different needs through resources, activities and outcomes arising from workplace participation.

Wilcock and Wright (1991) remarked that the use of job satisfaction as a measure of QWL has its limitations, because satisfaction is only one of the many aspects of QWL (White, 1981; Davis and Cherns, 1975; Kotzé, 2005; Sirgy, Efraty, Siegel, Lee, 2001).

In the 70s of the last century, was adopted the idea of QWL, which, according to Walton (1973) was wider than the previous one. He himself provided eight aspects in which employees' perceptions toward their work organizations could determine their QWL: adequate and fair compensation; safe and healthy environment; development of human capacities; growth and security; social integration; constitutionalism; the total life space; and social relevance.

Hackman and Oldham (1976) identify several factors that describe as satisfying the need of psychological growth: diversity of skills, identity of tasks, importance of tasks, autonomy and feedback. In their view, these factors bring people closer to work and are important in taking into account the QWL.

Taylor divides the main components of the QWL of external factors (salaries, hours and working conditions) and of inherent in the work factors (employee participation in management, social support, use of current skills, self-improvement, social importance of the work or the product, etc.) (Garg, Munjal, Bansal, Singhal, 2012).

Mirvis and Lawler (1984) describe the "core elements of good quality working life" as: safe work environment and fair pay.

The list of indicators for the QWL can be quite extensive.

The analysis of the literature and the practical experience of large foreign companies allows some authors to propose an initial structure of performance indicators for the quality of working life. According to them, the QWL influences such groups of indicators as: a workforce; fair remuneration for work; working conditions and workplace status; management and organization management; professional development and career; legal and social protection; social infrastructure of the organization (Andruhov, 2011).

The QWL should be seen as a system, i.e. as a whole set of elements, interconnected and interacting with each other and with the external environment (Skripnikova & Shirmanova, 2012).

The combination of elements that combine the QWL as a whole gives a reason to distinguish a characteristic property of the category - poly-efficacy. Undoubtedly, the quality of working life is a multidimensional concept, and it cannot be determined by any single, unifying indicator.

According to Levine, Taylor and Davies (1984), the QWL is determined by those aspects of work that the members of an organization see as desirable and as factors for improving the quality of life in the workplace. This means that for two different organizations

the definition of quality of working life may be different. There cannot be well-developed or well accepted definition of the QWL, because the concept acquires different meanings for different sectors of the working population. In other words, even in the same organization, the perception of what is the QWL may not be the same in the different groups.

Takezawa (1976) clearly explains that the QWL is ultimately determined by the worker himself.

The QWL is also considered: as a movement; as a set of organizational interventions; as a type of working life felt by employees (Carlson, 1980).

Wyatt and Wah (2001) identified two main factors: work/work environment and employee welfare and well-being. According to them, the first factor includes democracy, task content /physical features of the job, quantity, and the quality of leisure time created by the job, and promotion. The second factor for QWL mainly affects the welfare and well-being of employees. Welfare features of staff deemed to include QWL are the physical work environment, including safe and healthy working conditions, equity and individualization of the employee as characteristics of quality work experience, workplace security, good salary and benefits, health social relations and social integration.

Gogleva, Sorokin, and Efendiev (2017) reviewed various QWL studies and revealed - a lack of clear and specific understanding of QWL, different approaches to QWL content and its metrics. However, there is a lack of academic discussion on the multi-dimensionality of the "quality of working life" category and the need for a high level of quality of working life in an organization (Rethinam, & Ismail, 2008; Sandrick, 2003).

### **3. AIM**

The aim of the study is to examine differences in the perception of the QWL between medical and non-medical staff in medical institutions in Bulgaria.

### **4. METHODOLOGY**

#### *4.1. Data collection*

The study was conducted in eight medical institutions of the hospital care (hospital for active treatment (HAT), of the primary care medical centers (MC), diagnostic-consultative centers (DCC) and centers for emergency medical assistance (CEMA)) in Bulgaria during the months from July 2017 to September. A total of 950 employees working in hospitals from all departments were asked to participate in the survey. 543 questionnaires were returned. Of these, 510 cards are valid, resulting in a response level of 54%. This number exceeds the predetermined minimum sample size of 480 individuals.

#### *4.2. Questionnaire*

For the purposes of the study, the A.P. Egorshin "Quality of working life" (Egorshin, 2003) questionnaire was adapted. The questionnaire consists of three sections. The first attempts to give a socio-demographic characteristic of the surveyed group (age, gender, marital status, place of residence, education, length of service, and seven more) because the diversity of employees in an organization implies that demographic variables are also potential predictors. The questions in this section are both structured and unstructured. They are easy to answer. The second section is related to the characteristics of QWL. How members of the healthcare organization perceive their satisfaction with the quality of their working life will be measured by a scale. Questions are structured and include ordinate scales (to evaluate QWL criteria). To study the content and priorities of respondents' own basic

needs (what most people want and how they prefer their needs), is added the third section - to highlight those criteria from each group that are most important for respondents and for ranking their importance.

The rating scale is 5-degree. Each question has a rating of 1 to 5. Seven sets of indicators are used: *Workforce*, *Remuneration*, *Workplace*, *Organization management*, *Professional career*, *Social security* and *Social benefits*. In each of the 7 sets of indicators has 10 questions. The reliability of the 7 groups of indicators (subscales) was estimated by Cronbach's alpha: *Workforce* - 0.886; *Remuneration* - 0.918; *Workplace* - 0.918; *Organization management* - 0.941; *Professional career* - 0.946; *Social security* - 0.831; *Social benefits* - 0.884. These results show a good reliability of the questionnaire.

#### 4.3. Statistical methods

To present the data statistical characteristics for central tendency (mean) and dispersion (SD) were used. Frequency distributions were checked by the Kolmogorov-Smirnov test, in the comparisons of two independent groups t-test or Mann-Whitney test was applied. The relationship between two categorical variables was evaluated by chi-square ( $\chi^2$ ) test.

Multivariate analysis of variance (MANOVA) was performed to investigate the interconnection between individual QWL subscales and the type of staff. To control the influence of other factors, a multivariate analysis of covariance (MANCOVA) was applied to this relationship.

Results with a level of significance  $p < 0.05$  were considered statistically reliable. For statistical processing of the data SPSS version 16 was used.

## 5. HYPOTHESIS

The main hypothesis of this study is that there is a difference between medical and non-medical staff in healthcare establishments in terms of quality of life indicators (*Workforce*, *Remuneration*, *Workplace*, *Organization management*, *Professional careers*, *Social security* and *Social benefits*) and these hypothetical differences can be modeled by both demographic characteristics - age, marital status, education, and job-related variables - occupied position, continuous time of the organization and length of time in the sector.

H<sub>1</sub>(1): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of the workforce.

H<sub>1</sub>(2): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of remuneration.

H<sub>1</sub>(3): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of workplace.

H<sub>1</sub>(4): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of management of the organization.

H<sub>1</sub>(5): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of professional careers.

H<sub>1</sub>(6): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of social security.

H<sub>1</sub>(7): Non-medical staff has a higher level of perception of the quality of working life than medical staff in terms of social benefits.

## 6. RESULTS

The groups surveyed are designated as: Group 1 - medical staff; Group 2 - non-medical staff.

In both groups women prevail, and in the first group they have a significant prevalence. The observed differences are statistically significant ( $p=0.003$ ). This is due to those included in the composition health care professionals and the associated medical specialists. For the same reason, the breakdown by education in first group shows a significant prevalence of bachelors, and in the second group two-thirds are employees with secondary education ( $p<0.001$ ). By marital status, there are no differences between medical and non-medical staff ( $p=0.219$ ). In the two groups predominate respondents with marriage (married) (Table 1).

Table 1. Results of the comparative analysis between the two groups by sex, education and marital status

		Group 1 n (%)	Group 2 n (%)	$\chi^2$	df	p
Sex	Male	66 (18.4)	46 (30.3)	8.71	1	0.003
	Female	292 (81.6)	106 (69.7)			
Education	Secondary	20 (5.6)	100 (65.8)	216.90	2	<0.001
	Bachelor	203 (56.7)	24 (15.8)			
	Master	135 (37.7)	28 (18.4)			
Merrital status	Married	220 (61.5)	98 (64.5)	5.75	4	0.219
	Cohabitation without marriage	39 (10.9)	11 (7.2)			
	Unmarried	62 (17.3)	20 (13.2)			
	Divorced	25 (7.0)	18 (11.8)			
	Widow	12 (3.4)	5 (3.3)			

The average age in the two groups is respectively Group 1 - 45.46 years; Group 2 - 46.1 years and significant difference was not found ( $p=0.642$ ). Regarding general and special work experience, there were also no significant differences between the two groups (Table 2).

Table 2. Results of the comparative analysis between the two groups by age and work experience

	Group 1 Mean (SD)	Group 2 Mean (SD)	p
Age	45.46 (12.71)	46.1 (10.36)	0.642 <sup>†</sup>
Total work experience	21.80 (13.19)	22.57 (10.60)	0.564 <sup>U</sup>
Work experience of the current job	12.42 (12.29)	11.82 (11.65)	0.642 <sup>U</sup>

†-t-test; U-Mann-Whitney test

Through the t-test the differences in the perception of the quality of labor between the two groups of employees were examined (Table 3). According to these results, medical staff have significantly different mean scores at *Workplace* ( $\bar{X}_{\text{group1}}=3.66$ ,  $\bar{X}_{\text{group2}}=3.95$ ,  $p<0.001$ ) and *Organization management* ( $\bar{X}_{\text{group1}}=3.86$ ,  $\bar{X}_{\text{group2}}=4.05$ ,  $p=0.018$ ).

In the rest subscales there aren't statistically significant differences. In both groups the highest average values are observed in *Organization management*, and lowest in *Social benefits*.

Table 3. Summary statistical characteristics by subscale and results of t-test.

Subscale	Group 1 Mean (SD)	Group 2 Mean (SD)	t	df	p
Workforce	3.77 (0.73)	3.84 (0.72)	1.04	508	0.299
Remuneration	3.10 (1.00)	3.23 (0.97)	1.33	508	0.183
Workplace	3.66 (0.84)	3.95 (0.76)	3.59	508	<0.001
Organization management	3.86 (0.82)	4.05 (0.78)	2.38	508	0.018
Professional careers	3.27 (1.00)	3.45 (0.92)	1.90	508	0.058
Social guarantees	3.27 (0.72)	3.39 (0.64)	1.88	508	0.061
Social benefits	2.23 (1.23)	2.36 (1.25)	1.10	508	0.271

MANOVA was also conducted to investigate the differences between medical and non-medical staff in perceptions about the quality of working life. Seven major factors have been used: *Workforce*, *Remuneration*, *Workplace*, *Organizational Management*, *Professional Careers*, *Social Security* and *Social Benefits*. The independent variable is a type of staff (medical and non-medical). Preliminary tests to check for normality, linearity, extreme values, data homogeneity and multicollinearity were performed. Serious breaches of these conditions were not found. There is a statistically significant difference between the medical

and non-medical staff of the combined effects of the seven indicators of QWL as dependent variables ( $p=0.011$ , Wilk's Lambda = 0.964; partial eta squared = 0.036).

The analysis showed significant relationships with the following variables: *Workplace* ( $F=12.86$ ,  $p<0.001$ , partial eta squared=0.025) and *Organization management* ( $F=5.66$ ,  $p=0.018$ , partial eta squared = 0.011).

Due to established differences in sex and education, MANCOVA was made. The results show that, after controlling these covariates, there are differences between the two types of staff in perceiving the QWL (Table 4). These findings mean that after the elimination of the influence of gender and education are increase of different satisfaction from the work between medical and non-medical staff.

The differences between the two groups remain with the control of the covariates. After controlling the variable "sex", the significant difference in *Workplace* ( $\bar{X}_{group1}=3.63$ ,  $\bar{X}_{group2}=3.86$ ,  $p=0.011$ ) is preserving, indicating that non-medical staff is more satisfied. Under the *Organization Management* variable ( $\bar{X}_{group1}=3.84$ ,  $\bar{X}_{group2}=3.97$ ,  $p=0.157$ ), the differences are not saved. There is a difference in *Social guarantees* ( $\bar{X}_{group1}=3.25$ ,  $\bar{X}_{group2}=3.51$ ,  $p=0.039$ ), which shows again, that the non-medical staff is more satisfied with this factor.

After controlling the variable "education", significant differences in *Workplace* ( $\bar{X}_{group1}=3.62$ ,  $\bar{X}_{group2}=4.00$ ,  $p <0.001$ ) and *Organization management* ( $\bar{X}_{group1}=3.85$ ,  $\bar{X}_{group2}=4.11$ ,  $p=0.015$ ) were maintained, indicating that non-medical staff considered *Workplace* and *Organization Management* for more satisfying. There is a difference between the two groups in *Professional careers* ( $\bar{X}_{group1}=3.25$ ,  $\bar{X}_{group2}=3.51$ ,  $p=0.039$ ), which again shows that non-medical staff are more satisfied by this factor.

Table 4. Results from MANCOVA (controlled variables sex and education) by two groups (medical staff and non-medical staff)

Subscale	Staff		Sex		Education	
	F	p	F	p	F	p
Workforce	1.171	0.280	4.637	0.032	0.406	0.667
Remuneration	0.023	0.880	4.176	0.042	0.832	0.436
Workplace	16.136	<0.001	13.253	<0.001	2.234	0.108
Organization management	7.597	0.006	7.176	0.008	1.078	0.341
Professional careers	5.024	0.025	2.374	0.124	1.029	0.358
Social guarantees	4.289	0.040	16.855	<0.001	0.466	0.628
Social benefits	0.066	0.797	0.018	0.894	0.460	0.632

In order to determine which of the subgroups of medical staff the reason for different work satisfaction is, the MANCOVA analysis is re-applied. The factor contains three groups (non-medical staff, doctors and other medical staff).

The results show that, after controlling sex and education, significant differences have been observed in the subscales: *Workplaces*, *Organization management*, *Professional careers* and *Social guarantees* (Table 5).

Table 5. Results from MANCOVA (controlled variables sex and education) by three groups (non-medical staff, doctors and other medical staff)

Subscale	Staff		Sex		Education	
	F	p	F	p	F	p
Workforce	2.426	0.089	4.124	0.043	1.193	0.304
Remuneration	0.404	0.668	3.707	0.055	0.613	0.542
Workplace	7.092	0.001	13.271	<0.001	3.098	0.046
Organization management	4.769	0.009	6.900	0.009	1.323	0.267
Professional careers	3.126	0.045	2.625	0.106	1.978	0.139
Social guarantees	3.027	0.049	15.711	<0.001	1.613	0.200
Social benefits	0.070	0.932	0.029	0.865	0.261	0.770

In sex control, significant differences in the subscale *Workplace* are also found between the three groups of staff, and in three of them - *Organizational management*, *Professional careers* and *Social guarantees* significant differences are established only between doctors and non-medical staff.

In control of education, *Workplace* subscale significant differences were observed between doctors and non-medical staff, and between other medical staff and non-medical staff. In the other three of the subscales - *Organizational management*, *Professional careers* and *Social guarantees*, there are significant differences only between doctors and non-medical staff.

## 7. DISCUSSION

In the subscales with the lowest average QWL (*Remuneration* and *Social benefits*), there are no significant differences between medical and non-medical staff. Both groups are equally dissatisfied with the *Remuneration* and *Social benefits*.

In the MANOVA analysis, meaningful relationships with the type of staff are established in two of the subscales (*Workplace* and *Organization management*). After controlling the variables sex and education, significant relationships also appear in career and social guarantees subscales. This shows that sex and education variables are a "blurring" factor in examining the linkage between the type of staff and some of the components of QWL.

Apparently, wages are not high enough and additional sources of income need to be sought. In the "Human Health" economic activity, almost 1/5 of the employees declare that they are working continuously extra work, 8.2% are employed for temporary additional work, and 3.3% are seasonal workers.

For medical professions, it is believed that much of the behavior of the staff in the health care facility is precisely internally motivated (a drive to "behave for itself", without any visible external prizes or incentives). There, besides the interest in the profession, altruism is also considered to be the main internal motive in choosing and practicing, a motivation, initiating behavior that benefits someone else, not the contractor for whom the direct benefit is small or not. It is believed that altruism is controlled by internalized self-reliance systems and by morality, and that for these professions, the system of internal motives is often stronger than that of external ones (Surcheva, 2003; Surcheva, 2004).

Independently these findings, studies have shown that remuneration is an important motivating factor for medical staff and the results obtained are not surprising. The report on the National Survey of Working Conditions in Bulgaria for 2010-2011 states: "Human health and social work" - the sector is the only one for which risk indices are formed on all nine elements. Highest are the values of "pay for labor" and "discrimination and violence" (<http://projects.gli.government.bg>).

In another European Commission report, published in November 2017 (OECD/ European Ombudsman on Health Systems and Policies, 2017), dedicated to the state of health in the European Union, for the health profile of Bulgaria states that: "Specialists in healthcare, migrate to other countries in search of better prospects for career development and better pay".

Non-medical staff is significantly more satisfied with the QWL in terms of *Workplace* compared to both subgroups of medical staff.

Eurobarometer survey (<http://europa.eu/>), conducted in 28 member states of the European Union in 2014, shows that while slightly more than half of European workers believe that working conditions in their country are good (53%), the majority (57%) still think that their working conditions have deteriorated over the past 5 years. For Bulgaria, the national level of satisfaction with working conditions is 31%. In the field of health and safety at work, less than one in three workers said that measures against new risks (such as those induced by nanotechnology or biotechnology) or measures aimed at older workers and those with chronic illnesses were introduced at the workplace.

Relatively high is the sense of risk for the employees in economic activity "Human health". This increased sense of risk is most likely to be due to the high awareness and competence of workers in the sector about health risks from worsened working conditions. About 40% of healthcare organizations have problems with working conditions. The main reason for this is the lack of sufficient funds for renovation and modernization of the facilities. About 30% of organizations will not be able to resolve work-related problems in the next two years (Association for Developing Profiles on Safety and Health at Work, profile for economic activity "Human Health", 2013).

Almost half of the people surveyed in the economic activity "Human health" say that it is important for them to take part in decision-making. More than half of those employed in healthcare work in a team (66.7%) and the team leader is relatively rarely determined by its members (21.7%).

Despite the relatively high qualification of the employed in the economic activity "Human health" compared to the rest of the workforce, the professional need for continuous training is also manifested there because of the developing technologies and the rapid change in the requirements towards the qualifications of the workers.

Work experience data for managers in a particular organization shows that only about 1/5 of them grow on the spot, within the organization in which they have accumulated more than 20 years of work experience. It can be concluded that the acquisition of experience and qualifications of a health care manager has its specificity determined by the nature of the

work. This implies that if management focuses on this particular category, mainly on career, employees can be motivated and more helpful to the organization.

The dissatisfaction with social guarantees is likely to be explained by the fact that doctors, as being responsible for the life of their patients, expect from society adequate guarantees for their work.

## 8. CONCLUSION

This study attempts to identify the differences between the type of personnel (medical and non-medical) in health care establishments in Bulgaria in perceiving the quality of working life. The main contribution of this study is to highlight the issue of perceiving the quality of working life between the different groups of staff in the healthcare establishments. It will also have global and regional implications for healthcare workers.

Using an independent t-test, significant differences were seen between medical and non-medical staff in relation to perceptions about the QWL.

The results of the survey showed that non-medical staff reported higher average scores in all seven subscales and reported significantly varying average results in terms of *Workplace*, *Organizational management*, *Professional careers* and *Social guarantees*.

Hypotheses H<sub>1</sub>(3), H<sub>1</sub>(4), H<sub>1</sub>(5), and H<sub>1</sub>(6) are confirmed.

These findings are in line with the results obtained from MANOVA in which the independent variable are staff and indicators of QWL are dependent variables. The MANCOVA analysis was conducted by controlling such variables as sex and education. Medical and non-medical staff showed differences after controlling these variables in more subscales.

The non-medical staff is significantly more satisfied with the QWL in terms of *Workplace* compared to both subgroups of medical staff.

The lower level of dissatisfaction with QWL in terms of *Organization management*, *Professional careers* and *Social guarantees* in the medical staff group compared to non-medical staff is due to the subgroup of doctors.

This study complements the literature examining the perceptions of the quality of working life of those working in the healthcare system of Bulgaria. Findings should be used by health care managers to improve the quality of employees' working lives. Future studies can focus on a wider sample and a wider range of factors affecting QWL.

## 9. COLLABORATION

*Acknowledgment:* The authors express their gratitude to the workers in the investigated healthcare organizations as well as to their managers for their support and participation in the study.

*Conflicts of Interest:* The authors declared no conflict of interest.

*Funding/Support:* The research is on a project "Study of subjective perception of the quality of working life of health workers" financed by the Council of Medical Sciences of the Medical University of Sofia, GRANT 2017, Contract №D-104/02.05.2017 and Project №8366/07.12.2016.

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