



Job satisfaction among nurses in Canton Sarajevo, Bosnia and Herzegovina

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ABSTRACT

Introduction: Job satisfaction of nurses is an important indicator of the safety and quality of healthcare and professional efficiency. Its level directly affects employee motivation and patient satisfaction. It is determined by financial and organizational factors, job content, and interpersonal relationships. The aim of this research is to assess the level of job satisfaction among nurses in public health institutions in Canton Sarajevo and to identify the factors that shape job satisfaction in this professional group to the greatest extent.

Methods: A cross-sectional study was conducted from May to June 2025 on a sample of 504 nurses. The job satisfaction survey questionnaire was used to collect data. The overall score was classified into dissatisfaction, ambivalence, and satisfaction, and the associations with sociodemographic and work characteristics were assessed with the Chi-square test ($p < 0.05$).

Results: Almost half of the respondents were dissatisfied with their job (47.6%), whereas 38.5% reported ambivalent attitudes and 13.9% were satisfied. Job satisfaction was significantly associated with length of service, compatibility of work with education, management function, working hours, type of institution, psychological job demands, and income level ($p < 0.05$). No statistically significant associations were found with gender, age, marital status, number of children, level of education, or job changes ($p > 0.05$).

Conclusion: Job satisfaction among nurses stems from job content and relationships, and dissatisfaction from financial and organizational factors. Priority measures include fair valuation of work, clear reward systems, and development support to improve healthcare outcomes.

Keywords: Job satisfaction; Nurses; Job satisfaction survey; Healthcare

INTRODUCTION

Work is one of the key elements of human life, and lifestyle and social relations largely depend on the nature of employment. That is why it is necessary for every organization to have satisfied and motivated employees (1).

The term job satisfaction is often used, but there is still no single, widely accepted definition. Paul E. Spector defines job satisfaction as the degree to which an individual likes or dislikes their job, and it represents the global emotional state that a person has toward their workplace. According to this model, job satisfaction consists of nine dimensions

(domains): Working conditions, nature of work, communication within the organization, relationships with colleagues, benefits, supervision, reward system, advancement opportunities, and salary (2).

Job satisfaction in the health sector has multiple importance, as it directly affects the quality of provided health care, efficiency, productivity, and total labor costs. It is considered an indicator of the well-being of employees and the quality of their professional life, and numerous studies indicate its connection with higher work performance, less absenteeism, and less staff turnover. A deeper understanding of the factors that shape the job satisfaction of healthcare workers can significantly contribute to the improvement of the quality of healthcare services and the more successful functioning of healthcare institutions (3).

On the other hand, job dissatisfaction leads to absenteeism, reduced efficiency, leaving the workplace, physical and mental difficulties, and professional burnout. Burnout

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Submitted: 26 November 2025/Accepted: 26 December 2025

DOI: <https://doi.org/10.17532/jhsci.2025.2967>



syndrome occurs particularly often in nurses and represents a professional risk that simultaneously affects the health of employees, the safety of patients, and the stability of healthcare institutions. Research shows that a lower level of job satisfaction, through reduced organizational engagement and exhaustion, can lead to a decline in the quality of healthcare and patient satisfaction (4).

On a global level, nurses form the largest segment of the health workforce, with the most pronounced representation in the direct provision of healthcare to patients (5).

Job satisfaction of nurses is of particular importance, because the work of nurses within the healthcare system is very complex and comprehensive, and is exposed to numerous risks and their possible negative consequences for health (6).

A positive correlation has been confirmed between job satisfaction and sociodemographic variables, such as age, years of work experience, marital status, and level of education. Furthermore, strong empirical evidence supports an association between job satisfaction, patient safety, and good quality health care (7).

The job satisfaction survey (JSS), developed by Spector, 1985 (8), is one of the most commonly used instruments for assessing job satisfaction, which enables a comprehensive assessment of various aspects of job satisfaction in nine domains, which are often grouped in literature into intrinsic (internal, related to the very nature of work, professional meaning and interpersonal relationships) and extrinsic (external, related to organizational and material working conditions) factors, which enables a more detailed understanding of sources of satisfaction and dissatisfaction in the nursing profession (9,10).

Given the fact that research on job satisfaction among nurses in Bosnia and Herzegovina is rare, this paper has additional empirical value. The aim of this research was to examine job satisfaction among nurses in Canton Sarajevo and to determine the relationship between sociodemographic and work characteristics of the respondents and their assessment of job satisfaction. These findings may inform organizational and system-level measures to better address nurses' needs and improve the quality and safety of health care.

METHODS

The research was conducted as a descriptive-analytical cross-sectional study from May to June 2025 among the members of the Chamber of Nurses of Canton Sarajevo. The Chamber has a total of 8388 registered members, of whom 4833 are active.

Respondents in this research were nurses, active members of the Chamber, employed in public health institutions of Canton Sarajevo at the primary, secondary, and tertiary level of health care, of both sexes, of different ages and length of service, as well as different levels of professional education.

The sample consisted of a total of 504 respondents, who completely filled out the questionnaire, which represents 10.4% of the active members of the Chamber.

Based on the standard formula for calculating the sample size, the minimum number of respondents required for a 95% confidence level and a 5% margin of error is 356.

Given that the number of analyzed responses is greater than the minimum required, the sample size is considered numerically adequate for the study objectives.

A non-probability convenience sampling approach was used. The data were collected online through the Google Forms platform. An invitation email containing a brief description of the research and a link to the questionnaire was sent to members of the Chamber of Nurses of Canton Sarajevo using the official mailing list provided by the Chamber. Participation in the study was entirely voluntary. All respondents who agreed to participate during the implementation period were included in the research. Due to the use of a non-probability convenience sampling approach and online data collection, the findings may be subject to selection bias, and the generalizability of the findings beyond the study population may be limited.

An informed consent statement, including an explanation of the research, was presented at the beginning of the online questionnaire. Only respondents who provided electronic consent were able to proceed, in accordance with the ethical principles of voluntariness and informed consent.

The criteria for inclusion in this study were: Active membership in the Chamber of Nurses of Canton Sarajevo, employment in a public health institution, a completely filled-out questionnaire, and voluntary consent to participate in the study.

The exclusion criteria were: Inactive membership in the Chamber, employment in private health institutions, and an incompletely filled-out questionnaire.

Data were collected through a structured, self-administered questionnaire that included sociodemographic questions and the JSS developed by Paul E. Spector.

The JSS consists of 36 items that assess overall job satisfaction, grouped into nine domains (dimensions or subscales) that assess employees' attitudes about various aspects of job satisfaction: Salary, benefits, advancement opportunities, supervision, remuneration, working conditions, communication, relationships with colleagues, and nature of work.

The respondents expressed their degree of agreement with each statement on a six-point Likert scale from 1 = "completely disagree" to 6 = "completely agree".

The total job satisfaction score is obtained by summing responses to all 36 items, and ranges from 36 to 216, with score values of 36-108 indicating dissatisfaction, 109-143 indicating ambivalent attitudes, and 144-216 indicating job satisfaction.

Subscale scores (four items each) can range from 4 to 24, with values from 4 to 12 indicating dissatisfaction, 13 to 15 ambivalence, and 16 to 24 indicating satisfaction.

The linguistically validated free-to-use (11) version of the JSS questionnaire translated into Serbian was used in this research. The overall internal consistency of the questionnaire used in this research was Cronbach's $\alpha = 0.937$, which indicates a very high reliability of the instrument.

The research was conducted in accordance with the Declaration of Helsinki and the ethical principles of privacy protection and voluntary participation.

The study was approved by the Ethical Board of the Chamber of Nurses of Canton Sarajevo (Approval

No. 219/25), and all respondents were informed about the purpose of the research and gave their informed consent before participation.

Data analysis was performed using the IBM SPSS Statistics software package, version 29.0.

Descriptive statistics (frequencies, percentages, arithmetic means, standard deviations, medians, and interquartile ranges) were used to present sociodemographic characteristics and results of subscales and overall job satisfaction, depending on the data distribution.

Although normality tests indicated deviations from normal distribution ($p < 0.05$), these analyses were performed for descriptive purposes only. Inferential analyses were based on categorical variables and conducted using the Chi-square test of independence (χ^2 test), for which normality is not an assumption.

Job satisfaction and its subscales were categorized into three levels: dissatisfaction, ambivalence, and satisfaction, according to the recommended threshold values. Associations between sociodemographic and work-related characteristics (age, gender, length of service, level of education, and level of healthcare facility) and overall job satisfaction were examined using the Chi-square test. The threshold of statistical significance was set at $p < 0.05$. The results are presented in tables.

RESULTS

In this research, the job satisfaction of 504 nurses was analyzed, of which 421 (83.5%) were female, and 83 (16.5%) were male. Most respondents stated that they are married (75.4%) and have two children (44.4%). Slightly more than half of the respondents (53.4%) have a secondary school education, and almost half (49.8%) of them work in the Clinical Center, mainly in general care departments (34.1%) and in the outpatient services (33.1%). The largest number of respondents (32.5%) have 21-30 years of experience in health care. More than a third (38.3%) of respondents work only in the morning shift, whereas the rest of the respondents work in a shift rotation system. The largest number of respondents (34.1%) did not change their workplace even once, whereas 32.7% of respondents changed their workplace three or more times. 49.8% of them reported that they perform a mentally very demanding job. Almost half of the respondents (49.2%) reported a monthly income of up to 2,000.00 KM. The majority of respondents (74.4%) stated that they perform tasks that are

in line with their level of education, whereas 25.6% stated that this is not the case. Only 15.5% of respondents perform a managerial function.

The highest mean scores were observed for the subscales "Nature of work" and "Co-workers." These domains were characterized by relatively narrow interquartile ranges (IQRs). On the other hand, the lowest mean values were recorded for the subscales "Conditional rewards" (9.54 ± 3.96), "Salary" (10.34 ± 4.46), "Advancement" (10.38 ± 4.36), and "Additional benefits" (10.36 ± 3.84). The subscales' scores "Supervision" (14.51 ± 5.33) and "Communication at work" (13.39 ± 4.61) showed moderately high, but with greater variability. The "Working procedures" subscale had a mean value of 11.1 ± 3.13 .

The overall job satisfaction score of the respondents was 112.96 ± 27.46 , with a median of 110 and an interquartile range of 94-130 (Table 1).

The classification of respondents into the categories of job dissatisfaction, ambivalent attitude, and satisfaction was performed based on the threshold values defined for each subscale of the JSS questionnaire.

Although the overall average job satisfaction score was 112.96 ($SD = 27.46$), which according to the classification of the JSS questionnaire is in the range of ambivalent job satisfaction, nevertheless, according to the distribution of respondents by category, the largest share of nurses (47.6%) was dissatisfied with their work, whereas 38.5% of them had an ambivalent and 13.9% were satisfied (Table 2).

The majority of participants were classified as dissatisfied in the subscales related to salary (72.4%), additional benefits (72.8%), conditional rewards (80.2%), and work procedures (71.8%). Only a small number of respondents expressed satisfaction in these subscales. On the other hand, the highest level of satisfaction was recorded in the "Nature of work" subscale, where 82.3% of respondents were classified as satisfied, followed by relationships with colleagues (47.6%) and supervision (46.4%). Attitudes toward communication in the workplace were divided – 43.7% of respondents were dissatisfied, 34.5% were satisfied, whereas 21.8% had an ambivalent attitude. Overall, only 13.9% of respondents met the criteria for complete job satisfaction, whereas 47.6% were classified as dissatisfied, and 38.5% showed ambivalent attitudes (Table 2).

The relationship between the respondents' sociodemographic characteristics and job-related characteristics in relation to job satisfaction is shown in Table 3.

TABLE 1. Descriptive statistics for job satisfaction subscales and total score

Subscales	N questions	Range	Mean \pm SD	Median	IQR
Salary	4	4-24	10.34 ± 4.46	10	7-13
Advancement	4	4-24	10.38 ± 4.36	10	7-14
Supervision	4	4-24	14.51 ± 5.33	15	10-19
Additional benefits	4	4-24	10.36 ± 3.84	10	7-13
Conditional rewards	4	4-24	9.54 ± 3.96	9	7-11
Working conditions	4	4-24	11.1 ± 3.13	11	9-13
Co-workers	4	4-24	15 ± 3.92	15	12-18
Nature of work	4	4-24	18.33 ± 3.25	19	17-21
Communication in the workplace	4	4-24	13.39 ± 4.61	13.5	10-17
Overall satisfaction	36	36-216	112.96 ± 27.46	110	94-130

n: number, SD: standard deviation; IQR: interquartile range

TABLE 2. Representation of the level of job satisfaction according to JSS subscales and overall satisfaction

Subscales	Job dissatisfaction		Ambivalent attitude about satisfaction		Job satisfaction	
	n	%	n	%	n	%
Salary	365	72.4	64	12.7	75	14.9
Advancement	346	68.7	79	15.7	79	15.7
Supervision	186	36.9	84	16.7	234	46.4
Additional benefits	367	72.8	82	16.3	55	10.9
Conditional rewards	404	80.2	48	9.5	52	10.3
Working conditions	362	71.8	93	18.5	49	9.7
Co-workers	135	26.8	129	25.6	240	47.6
Nature of work	22	4.4	67	13.3	415	82.3
Communication in the workplace	220	43.7	110	21.8	174	34.5
Overall satisfaction	240	47.6	194	38.5	70	13.9

JSS: Job Satisfaction Survey, n: Number, %: Percentage

Statistically significant differences in satisfaction were observed among employees with different lengths of service ($\chi^2 = 25.26$; $p = 0.001$), whereby those with < 5 years of service reported higher satisfaction.

Respondents whose jobs were not aligned with their level of education were more often dissatisfied ($\chi^2 = 25.26$; $p < 0.001$), as well as those who are not in managerial positions ($\chi^2 = 14.14$; $p < 0.001$), including those who work in three shifts ($\chi^2 = 18.53$; $p = 0.005$).

Job satisfaction also differed according to the type of healthcare institution where the respondents work and the department of work, with the most satisfied being those who work in hospitals ($\chi^2 = 21.76$; $p < 0.001$) and in administration ($\chi^2 = 18.35$; $p = 0.049$).

Jobs with high psychological demands were associated with a higher degree of dissatisfaction ($\chi^2 = 20.57$; $p < 0.001$), whereas higher levels of monthly income were associated with greater satisfaction ($\chi^2 = 14.75$; $p = 0.022$).

Other variables, such as gender, age, marital status, number of children, level of education, and number of job changes, were not statistically significantly related to job satisfaction ($p > 0.05$) (Table 3).

DISCUSSION

In the last few years, there has been an increase in the number of studies dealing with the psychosocial aspects of the working environment of healthcare workers. The increased interest in this field is most often explained by the complex working conditions in the health sector, which include unfavorable material status, insufficient physical security, night shift work, and high physical and mental workload. The components of positive and negative emotions, combined with life satisfaction, form integral elements of the complex construct of emotional well-being. This field represents a relatively new direction in the research of human nature and mental health, where special attention is paid to the subjective experience of the individual, that is, their personal view of the quality of life and professional experience (12,13).

Although the average score of job satisfaction among nurses in this research indicates an ambivalent level, the distribution analysis shows that almost half of the respondents are dissatisfied (47.6%), whereas only 13.9% of them were satisfied with their work, and 38.5% were ambivalent about

their work. This discrepancy between the mean value and the frequency distribution suggests that there is a pronounced polarization of attitudes among the respondents, indicating substantial heterogeneity in their experiences of the working environment.

Descriptive trends suggested higher proportions of dissatisfaction among women, older respondents, and those with a larger number of children; however, these differences were not statistically significant.

These results indicate that interpersonal relationships and the nature of work represent the main sources of satisfaction, whereas financial and organizational factors represent the key causes of dissatisfaction.

Similar results were recorded by research from Croatia, where 33% of respondents were dissatisfied, 62% had a neutral attitude, and 5% were satisfied (14). Galanis et al. state that 61.0% of nurses were dissatisfied (15), whereas O'Callaghan et al. point out that the work schedule is the lowest rated aspect, and responsibility and independence contribute the most to satisfaction (16). In a study from India, the most important motivational factors were classified into three domains: Control, interpersonal relations, and reward (17). Research from Bosnia and Herzegovina showed satisfaction only in the domains of relationships with superiors, colleagues, and the nature of work, whereas the greatest dissatisfaction was in working conditions, rewards, and salary (18).

These findings are consistent with previously reported dissatisfaction at the level of individual job satisfaction items related to financial and organizational aspects.

Job satisfaction varied significantly in relation to length of service, compatibility of work with education, management function, type of institution, working hours, psychological demands, and level of income. Respondents with shorter experience, those whose work is compatible with education, and those employed in management positions expressed greater satisfaction. Satisfaction was also higher among employees in hospitals and administration, in less psychologically demanding jobs, and among those with a salary of 2,501.00–3,000.00 KM.

These findings coincide with a study by Baljoon et al. (19), a Chinese study on the importance of matching work and education (20), and Canadian data showing that younger respondents with shorter tenure are generally more satisfied (21).

TABLE 3. Analysis of the influence of sociodemographic characteristics on job satisfaction

Characteristics	Job dissatisfaction		Ambivalent attitude about satisfaction		Job satisfaction		χ^2	<i>p</i>
	n	%	n	%	n	%		
Gender								
Female	204	48.5	165	39.2	52	12.4	5.052	0.08
Male	36	43.4	29	34.9	18	21.7		
Age (years)								
<25	6	31.6	8	42.1	5	26.3	11.78	0.161
26-35	48	46.2	35	33.7	21	20.2		
36-45	93	48.9	79	41.6	18	9.5		
46-55	64	46.0	56	40.3	19	13.7		
56+	29	55.8	16	30.8	7	13.5		
Marital status								
Married	183	48.2	144	37.9	53	13.9	5.47	0.706
Unmarried	28	45.9	23	37.7	10	16.4		
Divorced	19	54.3	12	34.3	4	11.4		
Widow/Widower	6	50.0	5	41.7	1	8.3		
Single	4	25.0	10	62.5	2	12.5		
Number of children								
No children	52	43.7	47	39.5	20	16.8	6.2	0.401
1 child	45	42.5	42	39.6	19	17.9		
2 children	112	50.0	87	38.8	25	11.2		
3 and more children	31	56.4	18	32.7	6	10.9		
Years of service								
<5 years	19	27.9	28	41.2	21	30.9	25.26	0.001
6-10 years	40	52.6	27	35.5	9	11.8		
11-20 years	68	50.4	54	40.0	13	9.6		
21-30 years	80	48.8	66	40.2	18	11.0		
31 and more years	33	54.1	19	31.1	9	14.8		
Level of education								
Secondary Vocational Education	122	45.4	104	38.7	43	16.0	6.276	0.401
Higher School Education	9	56.3	5	31.3	2	12.5		
University Degree	78	49.7	65	41.4	14	8.9		
MA/PhD	31	50.0	20	32.3	11	17.7		
Performing tasks in accordance with the degree of completed education								
No	91	70.5	34	26.4	4	3.1	25.26	<0.001
Yes	149	39.7	160	42.7	66	17.6		
Work in a managerial position								
No	218	51.2	154	36.2	54	12.7	14.14	<0.001
Yes	22	28.2	40	51.3	16	20.5		
Working hours								
Only morning shift	78	40.4	77	39.9	38	19.7	18.53	0.005
Working in two shifts	63	48.1	59	45.0	9	6.9		
Work in rotation	91	53.8	56	33.1	22	13.0		
In three shifts	8	72.7	2	18.2	1	9.1		
Changing workplace in a career								
Not once	76	44.2	75	43.6	21	12.2	4.12	0.66
Once	31	44.9	26	37.7	12	17.4		
Twice	50	51.0	33	33.7	15	15.3		
3 or more times	83	50.3	60	36.4	22	13.3		
The institution where you work								
Healthcare Center	60	51.3	50	42.7	7	6.0	21.76	<0.001
Institute	25	38.5	28	43.1	12	18.5		
Hospital	28	39.4	23	32.4	20	28.2		
Clinical Center	127	50.6	93	37.1	31	12.4		

(Contd..)

TABLE 3. (Continued)

Characteristics	Job dissatisfaction		Ambivalent attitude about satisfaction		Job satisfaction		χ^2	<i>p</i>
	n	%	n	%	n	%		
The department you work at								
Administrative department	12	42.9	8	28.6	8	28.6	18.35	0.049
Department of Standard Health Care	75	43.6	67	39.0	30	17.4		
Department of Intensive Care	31	47.7	26	40.0	8	12.3		
Outpatient service	92	55.1	64	38.3	11	6.6		
Field service	14	36.8	16	42.1	8	21.1		
Operating block	16	47.1	13	38.2	5	14.7		
Nature of work								
A job of high psychological demands	139	55.4	90	35.9	22	8.8	20.57	<0.001
A job of average psychological demands	96	41.9	91	39.7	42	18.3		
A job of minimal psychological demands	5	20.8	13	54.2	6	25.0		
Average monthly income								
Up to 2000 KM	129	52.0	93	37.5	26	10.5	14.75	0.022
From 2001 to 2500 KM	90	47.1	74	38.7	27	14.1		
From 2501 to 3000 KM	14	28.6	22	44.9	13	26.5		
3001 and more KM	7	43.8	5	31.3	4	25.0		

n: Number, %: Percentage; *p*<0.05

On the other hand, Polish research indicates greater satisfaction among those with longer work experience and a more stable family life (22). Kim et al. emphasize the importance of organizational culture, teamwork, and employee involvement in decision-making (23).

The analysis of the relationship showed that length of service, management position, compatibility of work with education, working hours, psychological demands, and level of income are significantly related to the degree of job satisfaction. Greater satisfaction is recorded among employees with shorter working experience, among those who perform tasks in accordance with their qualifications, and among managerial and administrative workers.

These findings are consistent with research by Baljoon et al. (19), as well as Chinese and Canadian studies (20,21), which indicate that professional alignment and a lower level of psychological burden contribute to higher job satisfaction.

On the other hand, research from Poland (22) showed that longer work experience and a stable family life can increase job satisfaction, which suggests that the organizational and cultural context can change the nature of this relationship. Similarly, Kim et al. (23) emphasize the importance of organizational culture, teamwork, and involvement of employees in decision-making as key factors that increase satisfaction.

Adlešić states that the absence of support from superiors negatively affects motivation and communication (24), while Kim et al. emphasize the importance of organizational support, especially in the segments of communication and nature of work (23). Research from Hong Kong showed that older nurses with more work experience are more satisfied with salary and autonomy (25). According to research by Croatian authors, age and length of service are partially related to the perception of superiors, while length of service is positively related to overall satisfaction, with no established connection to the level of education (26). In research from Cyprus, it was determined that single nurses

are more satisfied with the nature of their work than married ones, that the type of education affects satisfaction with general benefits, co-workers, and the nature of the work, and that satisfaction with operative procedures decreases with years of work in the same department. Women had a slightly higher average overall satisfaction level than men, whereas income was not related to any subscale (27).

The results of this research indicate that the job satisfaction of nurses depends on a combination of internal (intrinsic) and external (extrinsic) factors. Intrinsic factors, such as the nature of work, relationships, and a sense of purpose, contribute the most to positive emotions and professional identity, whereas extrinsic factors – salary, benefits, and promotion – shape the perception of fairness and organizational support.

This structure of findings underlines the need for a holistic approach to human resource management in health care. Investing in the development of professional competencies, strengthening management support, and improving communication between teams can significantly improve overall satisfaction and reduce staff turnover. At the same time, it is necessary to recognize the psychological burden of healthcare workers and introduce burnout prevention programs, especially among employees who work in shifts and in highly demanding departments.

Limitations of this research refer to the cross-sectional design of the study, which cannot establish cause-and-effect relationships, and to the method of completing the questionnaire through self-assessment, which may indicate subjectivity in the interpretation of the results. Furthermore, the use of a non-probability convenience sampling approach and online data collection may limit the generalizability of the findings beyond the study population. Future research could include longitudinal and qualitative approaches, which would clarify in more detail the dynamics of job satisfaction of nurses and their determinants in the context of healthcare institutions.

CONCLUSION

Although the average value of the overall job satisfaction of nurses in Canton Sarajevo suggests an ambivalent level, almost half of the respondents expressed dissatisfaction with their work, which indicates a predominantly negative perception of the work environment and working conditions. Overall, the results suggest the need to strengthen organizational support, fair valorization of work, and professional development to improve job satisfaction among nurses.

Progress and constant changes in the healthcare system, together with the current unfavorable economic situation in the country, require careful management of human resources. Improving the satisfaction of healthcare employees should be a priority, not only for healthcare institutions but also for decision makers, in order to ensure the sustainability of the entire healthcare system through joint efforts. Any employee turnover from this sector due to job dissatisfaction also means a loss of knowledge, experience, and skills, which affects the safety, quality, and efficiency of healthcare, including patient satisfaction.

DECLARATION OF INTERESTS

Authors declare no conflict of interest.

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