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Relationship Between General Health and Health-Related Quality of Life in Educational Hospitals' Nurses in Ahvaz

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ABSTRACT

Background: Nurses face a lot of stress in their jobs, and the quality of life has a significant impact on the quality of their services. Therefore, the purpose of this study was to determine the relationship between general health and the quality of life conditions in nurses working in hospitals affiliated with Jundishapur University of Medical Sciences in Ahvaz.

Methods: This cross-sectional descriptive-analytic study was conducted in 2017 on nurses working in educational hospitals in Ahvaz. The sample size was 265. A categorized random sampling was used for the research The collected data were analyzed using mean, standard deviation, independent t-test, ANOVA, regresson and Pearson correlation tests. Data collection tools included the general health questionnaire (GHQ) and the questionnaire on health-related quality of life (HRQOL).

Results: Nurses had fairly good general health (23.9 ± 12.4) and their health-related quality of life was moderate (60.29 ± 16.07). Their physical health (63.4 ± 22.5) was found better than their mental health (61.7 ± 20.3) as a factor in the health-related quality of life states. General health had a strong and negative correlation with the quality of life associated with physical health (P-value < 0.001 and r = - 0.61) and the quality of life associated with mental health (P-value < 0.001 and r = - 0.68).

Conclusion: Many aspects of health-related quality of life are influenced by general health factors. Therefore, it is recommended that prevention, identification, and treatment of physical and psychological problems and factors affecting the quality of life be considered as a priority, leading to an improvement in nurses' quality of life.

Key words: General health, Health-related quality of life, Nurses, Educational hospitals

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Introduction

As a global system, each community has several organizations within itself. All organizations need to move in coordination with other systems to achieve larger goals in the system (1). One of the most important organizations in the development of sustainable health is the healthcare sector, which has a direct relationship with human health and is responsible for protecting the health of the community. Among today's competitive organizations, however, only those organizations which upgrade their performance can survive. Hospitals, as one of these types of organizations, need to consider the health status of their employees in order to improve their performance (2, 3).

From Kaplan's point of view, general health refers to the constant adaptation to changing conditions and the attempt to achieve equilibrium between internal demands and the requirements of the changing environment (4). In numerous studies, three areas of physical health, mental health (anxiety and depression), and social health are used to measure one's general health (5).

According to Campbell, Converse and Rodgers in 2002, general health and quality of life are closely linked (6); the quality of life can be defined as a measure of general health and well-being. General health can also be influenced by the scale of expectations and the quality of life indicators (6, 7). The World Health Organization defines the quality of life as a person's perception of his place in life, the cultural context, and the values system in which he lives, as is related to goals, aspirations, criteria, and priorities (2, 8). Quality of life has physical, social, psychological, environmental, and economic dimensions. While the physical dimension refers to the ability of the individual in doing daily activities, the social dimension of the quality of life is the individual's relationship with others. The psychological dimension includes psychological indices such as anxiety and stress. However, the environmental and economic dimensions assess the individual's environment of life and his or her income and type of occupation, respectively (9). Therefore, lack of attention to the quality of life can lead to frustration, loss of one's motivation, and a decrease in economic, social, and health activities. In a wider dimension, this can affect the socio-economic development of a country (10).

Nurses constitute one of the most principle pillars of treatment and are responsible for the physical and mental health of others as far their job is concerned (11). As one of the efficient parts of the health care system, nurses play an important role in the development and improvement of care, treatment, betterment, and promotion of health. Therefore, their physical and mental health is of vital importance (12). Hence, it is essential to evaluate the quality of life indicators in nurses due to the fact that lack of such indicators can cause fatigue in the employees, leading to an escape from responsibilities and a lack of progress in their jobs (13).

According to the World Health Organization (WHO), there are currently around 450 million people in the world who suffer from mental, neurotic, and behavioral problems which are causing more than 1 % of deaths. This rate was estimated to rise about 50 % by 2020. In Iran, the prevalence of mental disorders is reported to be 21 % (14). Lambert states that from 130 occupations in his study, nurses were ranked twenty seventh in referring to a doctor due to general health problems (15, 16).

No study has so far been conducted on the relationship between general health and quality of life associated with health in nurses in Ahvaz. Low indicators of quality of life affect the performance, daily life, performance, and job satisfaction in this group. Given the high number of visitors, the diverse services offered, the high volume of work, and the high number of nurses, educational hospitals in Ahvaz were recognized as suitable places to study these two variables. A study that elucidates the relationship between general health and the quality of life in nurses helps managers to become aware of the health status of nurses, to improve their conditions, and to prevent events such as quitting their jobs, conflicts among

colleagues, health impairments, job dissatisfaction, reduced correct and timely decisions, depression, job fatigue, reduced energy, and reduced quality of health care. Therefore, the present study was conducted to determine the relationship between general health and the quality of life associated with health in working nurses.

Materials and Methods

Procedure and sampling

The present descriptive-analytic research was carried out on a cross-sectional basis in 2018. The statistical population included nurses from educational hospitals in Ahvaz. In this study, 265 nurses were selected using the Cochran formula, and the sample size was determined with 95% accuracy, p = 0.5 and d = 0.005. A categorized random sampling was used for the research. The sample size was divided between studied hospitals based on the number of nurses in each hospital. Then, stratified random sampling was used for gathering data from all wards in all three work shifts, i.e. morning, evening, and night.

Measurement tools

Data were collected using the "Health-related quality of life questionnaire (HRQOL)" and "General Health Questionnaire (GHQ)." Health-related quality of life questionnaire was composed of eight sub-scales in two parts of physical health (physical function, role limitation due to physical problems, physical pain, and general health) and mental health (Role limitation due to emotional health, emotional well- being, energy/ fatigue and social function). In the HRQOL questionnaire, 35 questions are related to eight dimensions of quality of life, and a question examined the general health status of an individual in one year. Additionally, scoring was different for each scale so that the scores for the six-alternative scales were (0, 20, 40, 60, 80, 100). The scores for the five-alternative scales were (0, 25, 50, 75, 100), for three-alternative scales the scores were (0, 50, 100), and for two-alternative scales they were (0, 100). The points gained for each scale were similar to the overall score of quality of life, in such a way that the minimum score was zero and the maximum score was 100. In this study, higher scores reflected a better health-related quality of life. Besides, all scales had a Cronbach's alpha coefficient of 0.7 and above, thus having the necessary reliability (17). To assess the general health, a GHQ questionnaire was utilized. This questionnaire contained 28 questions in four areas of physical symptoms, anxiety, social function, and depression, with 7 questions for each area. The scoring was based on a 4-degree Likert scale of 0, 1, 2, 3. General health was scored between 0 and 84 and the cut-off point was 23 so that the scores below the cut-off point reflected a favorable general health status. The reliability of this measure obtained by the researchers using Cronbach's alpha was 90 % (18, 1).

Statistical analysis

The collected data were analyzed using descriptive and inferential statistics including mean, standard deviation, independent t-test, ANOVA, regresson and Pearson correlation tests, using $SPSS_{22}$ software cconfidence Interval 0.95.

This study was approved by the research ethics committee in Ahvaz Jundishapur University of Medical Sciences under code no: IRAJUMS1396.831.

Results

Most of the respondents were married women and had work experience of 1-10 years. The mean age of the participants in the study was 33.1 ± 6.61, with a minimum of 22 and a maximum of 55. Table 1 shows the demographic characteristics of the respondents.

Based on the findings in Table 2, the mean scores in all dimensions of general health were estimated to be relatively good. The highest mean was related to the dimension of physical symptoms and the lowest mean was related to the dimension of depression. The average general health score (23.9) was estimated to be higher than the norm score.

The mean and standard deviation of health-related quality of life scores and their subscales are shown in Table 3. The highest mean belonged to physical function and the lowest mean belonged to

role limitations due to physical health. Physical health scored better than mental health. Generally, the quality of life-related health in nurses was estimated to be moderate.

The relationship between health-related quality of life and the dimensions of general health is presented in Table 4. Pearson correlation test showed that general health had a significant, strong, and negative correlation with the quality of life associated with physical health (P-value < 0.001) and mental health (P-value < 0.001).

The results of multivariate regression (Table 5) show that the coefficient of determination was 0.476 and from all the components of general health, physical symptoms and anxiety had the highest impact on health-related quality of life and were eligible for prediction.

Concerning predetermined predictive factors, the health-related quality of life was calculated as follows: health-related quality of life = (- 0.2) anxiety + (- 51.0) physical symptoms + (80.624).

Among the demographic characteristics, only age (P-value < 0.012) and work experience (P-value < 0.004) had a negative and significant relationship with the area of impairment in social functioning. This means that the score for impairment in social functioning was decreased by age and work experience. On the other hand, the statistical test showed that marital status, job position, and gender had no relationship with any of the dimensions of general health (P-value < 0.05).

The correlations between "quality of life associated with physical health" and age (P-value < 0.001) and work experience (P-value < 0.01) were negatively significant. "Quality of life associated with mental health" also showed a significant correlation with work experience (P-value < 0.04). "Quality of life associated with physical health" was better in married participants than single ones (P-value < 0.04).

Table 1. Respondents' demographic characteristics

Demographic Characteristics	Category	N	Relative abundance	Cumulative percentage
Age	22-30	110	41.5	41.5
	31-40	114	43.0	84.5
	41-50	34	14.0	98.5
	More than 50	7	1.5	100.0
Gender	Male	31	11.7	11.7
	Female	234	88.3	100.0
Marital Status	Never married	91	34.3	34.3
	Married	174	65.7	100.0
Job	Nurse	249	94.0	94.0
	Head Nurse	13	4.9	98.9
	Supervisor	3	1.1	100.0
Work Experience	1-10	173	65.3	65.3
	11-20	80	30.2	95.5
	More than 20	12	4.5	100.0

Table 2. Scores for general health and its subscales

General health	Mean ± SD
Physical (somatic symptoms)	7.54 ± 4.32
Anxiety	4.01 ± 4.61
Social Dysfunction	6.73 ± 2.82
Severe Depression	2.63 ± 3.44
Total	23.93 ± 12.43

Table 3. Scores for health-related quality of life and its subscales

Health- related quality of life	Mean ± SD
Physical function	68.16 ± 24.77
Role limitation due to physical health	53.20 ± 37.42
Pain	64.41 ± 21.40
General health	67.89 ± 16.50
Role limitation due to emotional health	57.35 ± 42.60
Energy/ fatigue	63.70 ± 19.23
Social function	65.24 ± 19.16
Emotional well- being	60.70 ± 19.57
Physical Health- related quality of life	63.42 ± 22.56
Mental Health- related quality of life	61.75 ± 20.30
Total	60.29 ± 16.70

Table 4. Pearson correlation between health-related quality of life and general health and its dimensions

Health-related quality of life	Statistical indicator	Physical (somatic symptoms)	Anxiety	Social dysfunction	Severe dispersion	General health
Quality of life associated with physical health	Pearson coefficient	- 0.620	- 0.560	- 0.170	- 0.370	- 0.610
	P	0.001*	0.001*	0.001*	0.001*	0.001*
Quality of life associated with mental health	Pearson coefficient	- 0.640	- 0.650	- 0.280	- 0.440	- 0.680
	P	0.001*	0.001*	0.001*	0.001*	0.001*
Total	Pearson coefficient	- 0.680	- 0.680	- 0.250	- 0.390	- 0.660
	P	0.001*	0.001*	0.001*	0.001*	0.001*

*P-value < 0.01

Table 5. Regression model of general health dimensions predicting health-related quality of life

Model	Unstandardized Coefficients		Standardized Coefficients	T	P
	B	Std. error	Beta		
Constant	80.624	1.517	-	53.151	0.001*
Physical (Somatic symptoms)	- 2.001	0.289	- 0.517	- 6.917	0.001*
Anxiety	- 0.735	0.271	- 0.203	- 2.717	0.007*

*P-value < 0.01

Discussion

General health

The overall health score of nurses in the present study was rather favorable, which was consistent with two studies by Khaghanizadeh and Perry but contrasted with the study of Yang (19-21). Perhaps the reason for this difference is that Yang's study examined the difference between the quality of life of nurses and the general population.

In the present study, the highest score among the dimensions of general health was that of physical symptoms, but in the studies by Khaghanizadeh, Maghsudi, and Asadi Zandi, impairments in social functioning had the highest influence on general health (2, 19, 22). Perhaps the main reason for this difference is that the job category and the age of the nurses in the study are different from the mentioned studies. Nurses whose jobs are at the lowest level of the organizational hierarchy are more susceptible to stress due to their less involvement in decision-making.

Research has shown that more experienced nurses are better prepared to face stressful conditions due to their prior involvments and their better ability to perform informally (19).

In many studies, nurses have reported several reasons, such as factors affecting their general health, which indicates that nurses' problems can have a significant impact on general health and, therefore, on their quality of life (11). Hence, it seems necessary that a consultant address the nurses' problems in hospitals. This responsibility can be given to the nursing director of the hospital to attempt to eliminate or reduce working, marital, and livelihood problems leading to stress among nurses as much as possible by organizing recreational camps, considering job rotations, providing reward systems, and considering amenities such as kindergarten for their children or sports or art clubs for the employees (22).

Health-related quality of life

Based on the results of the present study, the highest score was related to the physical function while the lowest score belonged to the role limitation due to physical health, which was consistent with the results of Azizi's study (23). In Silvai's study, the dimension of joy and happiness was the lowest (24). In examining the results of various studies, it was found that each study had a different higher or lower score. Therefore, it is suggested that research be conducted on personal factors like financial problems of nurses, marital status, job dissatisfaction, illness, etc., or the environmental ones such as the shortage of personnel, lack of incentives for more active personnel, inappropriate management, etc. This can help determine the dimensions which have the highest effect on the quality of life and seek solutions to lessen the problems and their effects.

Quality of life associated with physical health had a higher score than the quality of life associated with mental health. However, this difference was not significant, similar to the studies by Allaf Javadi (25) and Yazdi Moghaddam (13). The results of the study of Allaf Javadi showed that the mean score of the quality of life in nurses working in the internal-surgical section was lower in physical, mental, and general health dimensions than in nurses who worked in intensive care units (25). This is probably due to the more workload in the internal-surgical department, the high attendance of companions, and patients who need more treatment and relief due to pain, injuries, and feelings of fear. Under such conditions, the nurses are required to face up to these incidents and provide appropriate services and consequently, are more affected by psychological conditions. In the intensive care unit, however, the patients are not often in a state of consciousness and depend on respiratory systems. Also, the intensive care unit is quiet and noiseless, there is less attendance in the unit and less tension between the patients and the nurses.

In a similar study, to assess the quality of life status in nurses working in Sabzevar hospitals, Yazdi Moghaddam et al. (26) showed that while the score for the psychological dimension of the quality of life in nurses was lower than that of their physical dimension, the quality of life in those nurses was moderate. Similarly, Abdi Masuleh's study showed that the score of nurses concerning physical health was better than that of their mental health. Additionally, the study of Chang and colleagues revealed that while the mean score of nurses' physical health was normal, their mental health was lower than Australia's normal level (27).

Nurses seem to be experiencing a lot of stress due to the challenges they face such as being in a busy hospital environment, communicating with patients' companions, inappropriate connections between colleagues and doctors due to high workload, and unavailability during the need of a physician. As a result, their quality of life associated with their mental health may easily be affected. High pressure on their body can affect the quality of life associated with their physical health. Because both mental health and physical health are interconnected, stress which affects the quality of life associated with mental health can also reduce the quality of life associated with physical health.

In general, the health-related quality of life was estimated to be at a moderate level in this study. While the findings of the present study were consistent with those of the studies by Saber,

Bahrami, Yazdi Moghadam, and Loannou, it contradicted the results of Ansari (13, 28-31). Quality is often seen as a clear understanding of life satisfaction, physical well-being, social and family health, hope, etiquette, and mental health (32). This indicates that quality of life is affected by the individual's satisfaction from his or her life and work, and therefore, the hard work required from nurses can reflect an undesirable quality of life.

The relationship between general health and quality of life associated with health

The lower GHQ score implies better health based on this questionnaire, but the higher HRQOL questionnaire score implies a better quality of life. Thus, a negative association seems logical. In this study, there was a negatively significant relationship between general health and health-related quality of life, which was in agreement with the findings of the studies by Yekta Talab and Si-Ying Wu (33, 34). Although the participants in the research by Yekta Talab were different from those of the present study, the patients experience many stresses in their illness, resulting in similar conditions to nurses' occupational stress. The quality of life in nurses plays an important role in their quality of care, recruitment, and retention. Nurses, as the largest professional group in the health care system, face several stressors in the workplace that can endanger the quality of their working lives and their general health. Having good health conditions and high quality of working life in a hospital can lead to better planning and creativity in the provision of services by nurses. Therefore, it is imperative that health managers and policymakers not only design a curriculum for continuous monitoring of the nurses' general health and their quality of work-life but also adopt appropriate strategies for their promotion.

Pre-determinants of health-related quality of life

Based on the findings of this study, the reduction of anxiety in nurses leads to an increase in the health-related quality of life and vice versa. This finding was consistent with the results of Beard's study, and the review studies of Olatunji, Brenes, and Sarma (35-38). These studies have been conducted on a population (patients) that was different from the population in the present study. However, as is clear, patients similar to nurses, also experience a lot of stress which negatively affects their quality of life.

Anxiety can be a normal reaction to stress or a threat, and can also help a person to cope with stressful or threatening conditions. When it is over-repeated, however, it will be a disabling condition called anxiety disorder (39). Therefore, an individual exposed to anxiety loses confidence and this affects the cycle of defective job stress and efficiency. The continuation of this cycle leads to the erosion of physical and mental abilities in people and after a while, it results in unsustainable neuropsychiatric disorders (40).

In this study, there was a significant, strong, and negative correlation between the physical symptoms of general health and the quality of life associated with physical and mental health, coherent with Wells (41) and Jonsdottir's (42) studies on the general population. This means that by decreasing the score for physical symptoms, the quality of life increases. It seems that general health directly influences the individual's body. Indeed, feelings of healthiness and wellness, the need for additional medication, feeling weak, feeling sick, headache, and feeling of pressure on the head are all physical symptoms of general health. If a person is affected by these symptoms, it can affect the quality of life, making it difficult for the individual to communicate better with others, feel happy, or do their daily activities.

The limitations of this study included the lack of similar research which examines the relationship between quality of life and general health in nurses, the problems related to the coordination of hospital officials, and the lack of cooperation of a part of the hospital.

Conclusion

General health had a strong and significant relationship with the health-related quality of life. Therefore, it is suggested that the prevention, identification, and treatment of physical and psychological problems of nurses, in addition to the related influential factors be considered as a priority. It seems that more attention should be paid to the dimensions of anxiety and physical symptoms. It is possible to design and implement programs such as holding group recreational camps for nurses, having a psychologist provide counseling to nurses in different parts of the hospital, training the nurses with life skills, analyzing the nurses' family problems by the manager, intervening to solve them, and holding group prayers.

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Conflict of interests

Authors declared no conflict of interests.

Authors' contributions

Faraji Khiavi F and Rezaei Far M designed research; Rezaei Far M collected data; Faraji Khiavi F analyzed data; and Faraji Khiavi F and Rezaei Far M wrote manuscript. All authors read and approved the final manuscript.

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