

Original Paper

Relationship Between the Dimensions of Quality of Work Life and General Health in Iranian Nurses



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ABSTRACT

Introduction: Job and career is one of the social aspects that affects the health of individuals. Nurses spend much of their time at work in close contact with patients, so the quality of their working life can have a significant impact on their health.

Objective: This study aimed to investigate the relationship of Quality of Work Life (QWL) dimensions and general health dimensions in Iranian nurses working in treatment and educational centers of Rasht City, Iran.

Materials and Methods: This is an analytical cross-sectional study conducted on 404 nurses working in eight treatment and educational centers in Rasht, Iran. The samples were selected by stratified random sampling method. For collecting data, a demographic form, Brooks' Quality of Nursing Work Life (QNWL) questionnaire, and Goldberg and Hillier's General Health Questionnaire (GHQ) were used. The obtained data were analyzed using descriptive statistics and inferential statistics of Spearman correlation, Chi-Squared tests, and multiple logistic regression analysis.

Results: The majority of the studied nurses (55.4%) had desirable QWL and most of them (61.1%) were suspected of having health disorder. There was a significant and negative relationship between total nurses' QWL scores and its dimensions with total nurses' general health and its dimensions ($P < 0.001$). Regression analysis results indicate that the first dimension (work life/home life, $OR = 3.581$, $P < 0.001$), second dimension (work schedule, $OR = 1.932$, $P = 0.038$), and the third dimension (work conditions, $OR = 1.879$, $P = 0.05$) were the predictors of the nurses' general health.

Conclusion: Since the highest relationship was between work life/home life and general health, hospital managers are recommended pay more attention to this dimension of QWL, and use appropriate strategies such as providing child care services (like kindergarten services) and reducing nurses' working hours to improve nurses' general health.

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Introduction

Health is everyone's right, a social goal, and a necessary condition for doing individual and social roles [1]. As defined by the World Health Organization (WHO), health is a "State of complete physical, mental, and social well-being, and not merely infirmity or the absence of disease". In recent years, the ability to have a productive life, both economically and socially, has been added to this definition [2-4]. According to WHO definition, health is a multi-dimensional concept and its dimensions affect each other [5, 6].

One of the social aspects affecting the people's health is occupation [7]. Occupation is an important part of every person's life, because at least one third of everyone's life is spent at work [8]. Health and treatment sector is one of the most important areas for sustainable health development that shoulder the critical responsibility of maintaining and restoring the health of the human community [9]. Nurses are the largest group in this sector, and providing effective health services is highly dependent on their health [10]. In Iran, 80% of health care workers are nurses [11].

Some jobs compared to others more threaten the employees' health by exposing them to multiple and different physical, bodily, mental, and social stressors. Nursing is one of the most stressful jobs [12]. A national report in Canada revealed that nurses are the sickest workers in Canada [13]. The results of a study in Tehran, Iran showed that 7.4% of nurses take leave of absence each week due to burnout or disability, which is 80% more than other jobs [14]. Also, based on a study in Rasht City, 70.3% of nurses complained of some health problems [15]. Therefore, in order to respect the body, spirit and dignity of the workers, especially nurses in the workplace, some measures such as providing welfare facilities, medical care, job security, career development, education, improvements, etc. are required; all of which are considered as the Quality of Work Life (QWL) [16]. The QWL is the ability of employees to meet their personal needs by using the experiences gained in the organization [17]. Based on the perspectives of employees, QWL is the desirability or undesirability of the work environment [18].

QWL of nurses has four dimensions: 1. Work life/home life dimension which is the interface between nurse's work and home life and as most nurses are women, this dimension reflects the conflict between nurse's roles as mother, daughter, and wife with their work environ-

ment; 2. Work schedule that describes nurses specific tasks and duties; 3. Work condition refers to the effect of workplace on nurses and patients; and 4. Work environment denotes the social work backgrounds based on social attitudes toward occupational status, and social feedback of job position in the form of job satisfaction [19]. Problems in each area can lead to job dissatisfaction and, consequently, physical and mental burnout and inclination to leave the job [20].

The health of nurses as care providers influences the quality of the services provided to their patients. Therefore, in order to provide proper care by nurses, they should be healthy people [21, 22]. Nurses, on the other hand, spend most of their time at work and in close contact with patients. Therefore, attention to the QWL and its dimensions as an important cause of health disorders can affect family and professional tasks and the quality of the function and care of patients, which reveals the need for this research.

There are limited studies on the relationship between the QWL of nurses and their general health. In the studies the relationship between these two variables were assessed in various occupational groups (sports referees, employees, faculty members and school principals), and their results showed a relationship between QWL and the health of workers [8, 23, 24]. However, there is much controversy over which QWL dimension is more effective on the health of individuals; a topic which calls for further research. In this regard, this study aimed to examine the relationship of QWL dimensions with general health of nurses working in Rasht educational and treatment centers.

Materials and Methods

This is an analytical cross-sectional study. The study population consisted of all nurses working in Rasht educational and treatment centers with at least an associate degree and six months of clinical work experience [12, 25]. Those who were in long-term sick or paid leave (more than one week), and technical nursing managers (supervisors and metrons) as well as those who were unwilling to participate in the study, were excluded from the research.

The required sample size based on the reported correlation coefficient between two variables of QWL and general health ($r=0.263$) in a similar study [26], 95% confidence level, and 90% test power, was estimated as 418. Stratified random sampling technique was used for recruiting samples. To do so, each of the 8 Rasht educa-

tional and treatment centers was considered as a class. The researcher took the number of all working nurses (n=1460) from the Province Nurse Head Office. Then, it was determined the number of nurses in each center by visiting that center. Next, by dividing the total number of nurses in each educational center by the total study population, multiplied by the total number of samples, the number of samples needed from each educational center was determined.

Afterwards, by using the community proportion and dividing the number of nurses in each department by the whole nurses of that center multiplied by the number of samples needed from each center, the number of samples required from each department was determined. Next, in each department, by dividing the number of nurses in that department by the number of samples needed from that department, the sampling interval was obtained. Finally, in each department, using random number table, a number was selected; and according to the sampling interval, the selected samples of each department was determined.

For collecting data, a demographic-occupational form, Brooks' Quality of Nursing Work Life (QNWL) questionnaire, and Goldberg and Hillier's General Health Questionnaire (GHQ) were used. The demographic-occupational form had 27 items. QNWL had 42 items which assessed four dimensions of QWL (work Life/home life, work design, work context, work environment) and is based on 6-Point Likert-Type Scale. Items 4, 10, 12, 13, and 40 have reversed scoring. Score 42 refers to the lowest quality of work life from the participant's perspective and score 252 is the highest score. Finally, the QWL of a person is reported by combining the mean scores of three options of "completely disagree" to "disagree" as undesirable and combining three options of "agree" to "completely agree" as desirable. A mean value of less than 147 indicates undesirable QWL and the value more than 147 indicates desirable QWL [27, 28].

GHQ is a standard tool for screening individuals' health state and signs such as abnormal thoughts, feelings, and aspects of the person's behavior in the last month. Its reliability and validity have been examined by Nazifi et al. and they reported its reliability coefficient as 92% [29]. It has 28 four-choice questions with four subscales: somatic symptoms, anxiety/insomnia, social dysfunction, and severe depression. Its scoring is based on 4-point Likert scale (0= not at all, 1= no more than usual, 2= rather more than usual, 3= much more than usual). Items 15, and 17-20 have reversed scoring. The total score ranges between 0 and 84. The score 23 or less in-

dicates good general health and scores higher than 23 shows poor general health.

To determine the validity of Brooks' QNWL, its translated version with the original English questionnaire was sent to 10 faculty members of Nursing and Midwifery School. They were retranslated and revised the questionnaire. Then, the Content Validity Index (CVI) and Content Validity Ratio (CVR) of each question was measured in three areas of clarity, relevance and simplicity and scored from 0.8 to 1, indicating the high validity of questionnaire. To determine its reliability, the questionnaire was answered by 20 nurses working in educational and treatment centers of Rasht in two-week interval. The Cronbach alpha coefficient was used to determine the internal consistency of items, which was obtained as 85%. Test-retest execution also confirmed the reliability of the answers in more than 98% of items.

The nurses with at least associate degree and 6 months clinical experience were enrolled in the study. Data were collected gradually by referring to the educational centers in different working shifts (morning, evening and night) during the three months of April, May, and June of 2015. Finally, of 418 distributed questionnaires, 404 were returned from study centers. After collecting data, they were presented using descriptive statistics (mean, standard deviation, percentage). Non-parametric test of Spearman correlation coefficient as well as Chi-Squared Test and multiple logistic regression analysis were used to analyze the obtained data. The significant level was set at 0.05 ($P < 0.05$).

Results

Based on the results, most nurses were female (96.3%) and married (74.3%). About 58.2% of them were under 35 years old with a Mean \pm SD age of 34.72 \pm 8 years. Monthly salary of the most nurses (61.6%) was less than \$500, and majority of them (51.2%) had overtime work less than 50 hours per month. Most of them (72.8%) had rotational shift and a working background of less than 10 years (54.5%).

Their Mean \pm SD total score of QNWL was 149.21 \pm 23.92. The highest Mean score belonged to the dimension of work condition (77.50 \pm 14.53) and the lowest Mean was related to work environment (16.03 \pm 3.50). The general QWL for the majority of nurses (55.4%) was desirable, but undesirable for the remaining (44.4%). Among these, the most favorable state was related to the dimension of work condition

(72.5%) and the lowest favorable was related to the work schedule (69.8%) (Table 1).

Their Mean±SD total score of GHQ was 28.03±11.53. Regarding the general health status, 157 (38.9%) nurses were healthy and 247 (61.1%) were suspected of having health disorders. The Spearman test results indicated a significant and negative relationship between QWL dimensions and the total score of QWL with each dimension of general health as well as total score of general health (P<0.001). Accordingly, the highest correlation was found between the dimensions of “work life/home life” (P=0.0001, r=-0.490) and then “work schedule” (P=0.0001, r=-0.408) with general health total score (Table 2).

Multiple logistic regression analysis results showed that, after controlling the effects of seismographic variables and underlying diseases, dimensions of work life/home life (OR=3.581, P<001), work schedule (OR=1.932, P=0.038), and work conditions (OR=1.879, P=0.05) were, in the descending order, the predictors of general health in nurses. Nurses who have a desirable QWL based on these three dimensions are more likely to have general good health. Results also indicated that gender (OR=4.274, P=0.05), underlying diseases (OR=1.882, P=0.038), history of sick leave (OR=1.875, P=0.028), and overtime work hours (OR=0.991, P=0.042) were other predictors of nurses’ general health (Table 3).

Discussion

Based on the study results, the mean total score of QWL of nurses is higher than that what were reported in similar studies [28, 30, 31]. Differences in the results can be due to differences in by individuals’ expectations

and perceptions of QWL, because the QWL is related to the individual’s mental and emotional perceptions of workplace [23]. In this study, the highest mean score of QWL dimensions was related to the work conditions and the lowest mean score related to the work environment that is in agreement with some studies [28, 30].

Overall QWL in the majority of nurses was reported as desirable, while in the study of Navidian [31], half of the nurses had moderate QWL, and in Opollo [32] study, the majority of them reported poor QWL. In the study of Khani [33], the most undesirable situation was related to the work conditions, while in Almalki study [28], the most undesirable state was work life/home life. These differences in the findings may be due to the differences in the time and settings of the studies as well as cultural, economic and social differences of the respondents; because studies have shown that temporal, social and cultural conditions affect the motivation, performance and satisfaction of employees, and cultural preferences in a particular culture have a major impact on the attitude of organization members towards the QWL.

The study results indicated that the mean general health of nurses was lower than that reported in Maghsoudi study [15], and higher than what reported in Hojjati study [11]. The majority of nurses in our study were suspected of having a health disorder whose rate was greater than that of reported by Noorian et al. [34]. It seems that differences in the time and place of study, lifestyle, and economic, social and cultural status of the study samples can be reasons of this inconsistency in results. The nurses’ health, for many reasons, is at a higher risk than other people in the community.

Table 1. The Mean±SD score of quality of work life of nurses in different dimensions (n=404)

QWL Dimensions		N. (%)	Mean±SD
Work life/home life	Desirable	197(48.8)	24.01±5.59
	Undesirable	207(51.2)	
Work schedule	Desirable	122(30.2)	31.67±6.76
	Undesirable	282(69.8)	
Work condition	Desirable	293(72.5)	77.50±14.53
	Undesirable	111(27.5)	
Work environment	Desirable	147(36.4)	16.03±3.50
	Undesirable	257(63.6)	

Table 2. The correlation test results of QWL and general health presented with respect to their dimensions

Dimention		Work Life/Home Life	Work Schedule	Work Conditions	Work Environment	QWL
Somatic symptoms	r	-0.472	-0.377	-0.280	-0.288	-0.436
	Sig.*	0.0001	0.0001	0.0001	0.0001	0.0001
Anxiety/Insomnia	r	-0.459	-0.368	-0.271	-0.241	-0.417
	Sig.*	0.0001	0.0001	0.0001	0.0001	0.0001
Social dysfunction	r	-0.224	-0.234	-0.203	-0.075	-0.237
	Sig.*	0.0001	0.0001	0.0001	0.131	0.0001
Severe depression	r	-0.287	-0.223	-0.235	-0.204	-0.307
	Sig.*	0.0001	0.0001	0.0001	0.0001	0.0001
General health	r	-0.490	-0.408	-0.333	-0.271	-0.476
	Sig.*	0.0001	0.0001	0.0001	0.0001	0.0001

*Spearman rho

The most important reasons for this condition may be the stressful nature of this profession, variable work shifts, poor flexibility in the work schedule, long working hours and the impossibility of changing the work time. On the other hand, the majority of staff in this profession are women who, besides their working duties, are responsible for parenting and household tasks. This can increase the level of anxiety and stress in this group and put their health at risk [12, 15, 35, 36].

The results of our study also indicate a significant and negative relationship between QWL dimensions and to-

tal score of QWL with each subscales of general health as well as total score of general health. This results are consistent with the findings of some studies [24, 25, 37], while disagree with some others [14, 23]. Based on the researcher’ opinion, whole is something more than its parts and parts are not always suggestive of the whole. The difference in the findings can be due to this reason.

In this study, dimensions of work life/home life, work schedule, and work conditions were found to be the predictors of general health in nurses. This finding reflects the fact that work and family can interact with

Table 3. Regression coefficients and odds ratios of QWL and general health dimensions

Variables	Regression Coefficient	Standard Error	Sig.*	Odds Ratio (OR)	95% CI	
					Lower	Upper
Work life/home life	1.276	0.288	0.0001	3.581	2.035	6.299
Work design	0.659	0.317	0.038	1.932	1.037	3.600
Work conditions	0.631	0.331	0.056	1.879	0.983	3.592
Gender	1.453	0.747	0.052	4.274	0.988	18.483
Underlying diseases	0.632	0.304	0.038	1.882	1.036	3.417
History of sick leave	0.628	0.286	0.028	1.875	1.071	3.282
Overtime work	-0.009	0.004	0.042	0.991	0.982	1.000

* Logistic regression (Conditional)

each other, and strengthen the physical and emotional health of employees. The results of Mostafavi Rad indicate that balance between work life and home life, work commitment, job security, human relationships in the workplace, and financial and welfare issues are among the predictors of mental health [38]. The researcher believes that in different times and places, the impact of some factors on health may be more and act as predictors. Therefore, health predictors are not constant and may vary depending on the time and place and in different individuals.

Considering the vital role of nurses as the main member of the healthcare team responsible for maintaining health in the family and society, attention to the problems of this group and helping them to overcome their problems seems to be necessary. Therefore, according to the research results, it is recommended that hospital managers pay more attention to the different dimensions of nurses' QWL, especially the dimension of work life/home life, and use appropriate strategies such as providing child care services (like kindergarten in or near the hospital), transportation service, reducing working hours, avoiding compulsory overtime, hiring new forces, and increasing salaries and benefits to improve their general health. In this way, the quality of nursing care will indirectly improve and ultimately result in the satisfaction of the patients, their families, and the community.

Psychological states of nurses while completing the questionnaires and their accuracy and honesty in their responses were some limitations of this study which can affect the study results. In this regard, the researcher, as far as possible, attempted to overcome these limitations by the presence in the service area of the nurses and giving sufficient explanations about the research objectives.

Ethical Considerations

Compliance with ethical guidelines

This paper was approved by the Ethics Committee of Guilan University of Medical Sciences (code: 93121912).

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Authors contributions

The authors contributions is as follows: Design, definition of intellectual context, Literature search, clinical studies, and Manuscript review: Khadijeh Asadi, Maryam Niknami and Masoumeh Jafari Asl; Experimental studies: Khadijeh Asadi and Maryam Niknami; Data acquisition: Khadijeh Asadi and Ehsan Kazemnezhad Leyli; Data analysis and Statistical analysis: Khadijeh Asadi, Maryam Niknami and Ehsan Kazemnezhad Leyli; Manuscript preparation and Manuscript editing: Khadijeh Asadi and Maryam Niknami; and Guarantor: All Authors.

Conflict of interest

The authors declare no conflict of interest.

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