

## The Relationship between Quality of Life and Health Literacy among Nurses of the Largest Heart Center in the North West of Iran

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### ABSTRACT

**Background and Objective:** Quality of life is a multidimensional concept which is influenced by several important factors, such as physical and mental status. Health literacy is also one of the factors with a significant impact on quality of life. The purpose of this study was to investigate the relationship between quality of life and health literacy of nurses in the largest heart center in northwest of Iran in 2018.

**Materials and Methods:** This was a descriptive cross-sectional study performed on 217 nurses working in the largest heart center of Tabriz. The study data were collected using the 36-item Quality of Life Questionnaire (SF-36) and the Health Literacy for Iranian Adults (HELIA) questionnaire. Data analysis was performed using ANOVA, Pearson correlation test, and SPSS 25 software.

**Results:** The overall mean and standard deviation of nurses' quality of life of ( $59.7 \pm 17.6$ ) were obtained and the majority of the subjects (84.7%) had a good quality of life. Also the overall mean and standard deviation of health literacy were estimated at ( $75.9 \pm 13.3$ ) which indicate adequate level of health literacy in nurses. There was a significant relationship between different dimensions of quality of life and total score of health literacy ( $P < 0.001$ ), but there was no significant relationship between understanding and perception of health literacy with most of the dimensions of quality of life.

**Conclusion:** Findings showed that increasing nurses' health literacy had a positive effect on some aspects of their quality of life. Therefore, nursing supervisors should pay attention to health and quality of life while communicating with nursing staff and, try to improve nurses' quality of life by developing educational programs and promoting their health literacy. **Paper Type:** Research Article

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## Introduction

Human resources is one of the most fundamental and most important strategic resources of any organization, especially health centers (1); therefore, the success of organizations depends on the optimal use of human resources (2). One of the concepts that managers consider for the optimal use and increased productivity is the quality of life (3). Fulfillment of the organization's goals depends on factors such as the quality of work life and human resources. Therefore, in order to achieve the goals of the organization and the satisfaction of its members, managers need to know the quality of work life of employees and to know its effect on the organization (4).

Quality of work life is an important part of the staff experience. Different work environments affect the quality of life and occupational stresses have a serious impact on the health and quality of life of individuals (5). Nurses are one of the most important pillars of the health care sector which, according to their job status, are responsible for important tasks such as mental and physical care of the patient that, the above activities play an important role in the development of physical and mental disorders in the case of not observing the principles of safety and comfort (6). It is important to consider the health and quality of life of nurses and to keep this group healthy as other members of the community (7). Quality of life is "the enjoyment a person has of the important opportunities of life, these are created by the opportunities and limitations of each person in life (8). The ultimate goal of quality of life of nurses and its application to life is that they enable them to experience a high quality, meaningful and enjoyable life (9).

According to the International Council of Nurses, job-related stress in the United States costs between \$ 200 and \$ 300 million annually and is the source of 60 to 90% of health problems

(10). Hospital departments create mental stress for patients, relatives and even nurses, as a result, nurses are at risk of job burnout due to the stress of their job and will consequently affect their quality of life (11). On the other hand, nurses, as a member of the health team dealing with human lives, must have high scientific and practical skills to be able to provide more effective services (9). The results obtained by Alaf Javadi et al. (2010) showed that 48.8% of nurses were dissatisfied with their economic status and the quality of life of nurses in special wards and normal wards have been different and then, mental health had the lowest score (11). According to Azizi et al.'s study, the dialysis nurses had obtained the lowest quality of life score (4).

Among the members of the medical staff, nurses are directly and indirectly responsible for the health of their patients due to their close relationship and numerous important roles such as clinical care, counseling and follow up of proper treatment, education of disease prevention methods (12, 13). The term "health literacy" has been defined since 1970 and its importance in public health and health care is increasing day by day (14). As such, health literacy is nowadays considered as an inclusive debate to improve community health and quality of health services (15). Health literacy is defined as "the satisfaction of a person to acquire, interpret, and understand the basic information and health services needed to make appropriate decisions" (15-17). According to the World Health Organization, health literacy has been identified as one of the biggest determinants of health (18) and, it is closely related to health status, chronic illness, and hospitalization times (19). Ghanbari et al. (2016) in their study showed that the level of health literacy of University of Medical Sciences staff was good and at moderate level (20). Javadzadeh et al. (2015) also showed that

the level of nurses' knowledge about health literacy was low and, does not have good performance in applying health literacy strategies to develop patient education effectiveness (21). Despite the important role of nurses as the largest stratum of health sector and their effect on promoting community health literacy and since few studies have been conducted to assess the status of nurses' awareness of the concept of health literacy and its relationship with quality of life of nurses, the purpose of this study was to investigate the relationship between quality of life and health literacy of nurses. The results of this study can help to increase the quality of life and health literacy of nurses as providers of health services.

### Methods

This study is a descriptive cross-sectional study performed on nurses in the largest cardiovascular research and research center in northwest of Iran in Tabriz in 2018. From the statistical population of 500 nurses working in the center, 217 persons were selected through simple random sampling. Questionnaires were completed by the nurses without any questions being unanswered. Inclusion criteria were all nurses working in the center with more than 3 years of experience and exclusion criteria were non-cooperation and non-completion of the questionnaire. Questionnaires were completed after explaining the purpose of the research and ensuring the confidentiality of the information and informed consent of the participants.

Data were collected by a questionnaire consisting of three parts. The first part was associated with the demographic profile of the participants and included questions about age, gender and other demographic characteristics. The second part includes the standard questionnaire of quality of life (SF-36), used in different societies and its validity and reliability have been confirmed

in various studies (22). The third section included the Health Literacy Questionnaire, designed by Montazeri et al. (2014). The standard of quality of life questionnaire is a general and valid tool for measuring the quality of life which has 8 concepts in two components of physical health (physical performance, physical problems, physical pain and general health) and mental health (social performance, mental health, mental problems and stress). The scores of each area were calculated in the form of three-choice questions with scores of 100, 50, and zero, and five-choice questions with scores of 100, 75, 50, and 25, and six-choice questions with scores of 100, 80, 60, 40, 20 and zero, which were independently rated and calculated. In each question, the score of zero indicates the worst and 100 the best status. The reliability and validity of this questionnaire has been studied on 4800 subjects in Iran (23). The Health Literacy Questionnaire contains 33 items and 5 components. Components include accessibility including the items 1 to 6, reading skills including the items 7 to 10, understanding including the items 11 to 17, assessment including the items 18 to 21, and decision making and health information application including the items 22 to 33. This research is the result of a research work registered in the Student Research Committee of Tabriz University of Medical Sciences with the code of ethics IR.TBZMED.REC.1397786. Data were analyzed by SPSS software version 25 using descriptive statistics (mean, standard deviation, number and percentage) and analytical methods such as t-test, chi-square and Spearman correlation coefficient.

### Results

Among the 217 nurses participated in the study, 74.2% (161) were intensive-care nurses and 25.8% (56) were internal medicine and surgical nurses, 83.9% (183) were females, 75.6% (164) were

married, and mean age was  $37.41 \pm 7.6$ . The average service life of the research units was 12 years. Nurses, among the various sources of perception related to health and disease, presented the highest resource of "Asking for information from doctors and healthcare staff" at 54.8%" (Table 1).

**Table 1. Ways of Acquiring Information About Health and Disease in The Studied Nurses**

Ways of Acquiring Information	Number	Percentage
Asking your doctor and healthcare staff	119	54.8
Internet	64	29.5
Others (Newspapers, Magazines, Books, Radio & Television, Asking Friends & acquaintances etc.)	44	15.7

The rating of health literacy of ( $n = 60$ ) 27.6% of nurses was excellent and ( $n = 115$ ) 53% of nurses was adequate and ( $n = 9$ ) 4.1% of nurses was inadequate. Evaluation of health literacy dimensions showed that the level of health literacy of employees in all dimensions was in

the desired range and the frequency of desirable health literacy in terms of understanding and perception, decision-making, reading, accessibility and assessment was respectively  $83.3 \pm 14.9$ ,  $72.1 \pm 16.3$ ,  $73.8 \pm 16.6$ ,  $75.9 \pm 16.4$  and  $74.2 \pm 17.4$  (Table 2).

**Table 2. Mean and standard deviation of health literacy and its dimensions in nurses studied**

Dimensions	Mean $\pm$ Standard deviation	Highest - Lowest
Reading	$16.6 \pm 73.8$	25-100
Accessing	$16.4 \pm 75.9$	29.2-100
Understanding	$14.9 \pm 83.3$	35.7-100
Assessing	$17.4 \pm 74.2$	0-100
Decision making	$16.3 \pm 72.1$	0-100
Health literacy	$13.3 \pm 75.9$	27.0-100

Comparison of mean score of health literacy according to demographic and organizational characteristics showed that mean score of health literacy in nursing assistant was significant only in variable of job type ( $P = 0.03$ ) (Table 3).

**Table 3. The Relationship Between Health Literacy and Demographic and Organizational Characteristics of Nurses**

Demographic and Organizational Variables	Mean $\pm$ Standard deviation	statistical test	T or F-value	P.Value
Nurse	$76.4 \pm 12.8$	independent t-test	T=2.22	P=0.03
Nursing assistant	$68.3 \pm 17.9$			

In this study, the mean score of nurses' quality of life of ( $59.7 \pm 17.6$ ) was obtained and the highest and lowest scores of the quality of life dimensions for physical functioning of ( $61.9 \pm 19.1$ ) and general health ( $47.4 \pm 18.7$ ) were obtained. The results showed that most of the dimensions of quality of life had a direct and significant relationship with the level of health literacy in the studied nurses ( $P < 0.05$ ) (Table 4).

## Discussion

The purpose of this study was to investigate the

relationship between quality of life and health literacy of nurses in the largest heart center in northwest of Iran. The results of this study showed that the level of health literacy in most nurses was at the desirable level and they have acquired health-related information mostly by asking their doctors and health care staff, and later through radio and television. This finding is in agreement with the results obtained by Ghanbari et al. (1396), Karimi et al. (2014), Damon et al. (2014), Owens et al. (2015) (20, 24-26). In the study conducted by Fooladi et al. that examined

**Table 4. Correlation Coefficient Between Different Dimensions of Health-Related Quality of Life with Different Dimensions of Health Literacy in The Studied Nurses**

	Quality of life	PF	RP	RE	EF	EW	SF	BP	GH	Physical Health	Mental Health
Health literacy	0.31 P<0.001	0.16 P=0.02	0.21 P=0.001	0.16 P=0.02	0.34 P<0.001	0.32 P<0.001	0.12 P=0.07	0.22 P=0.001	0.03 P<0.001	0.29 0.001> P	0.28 0.001> P
Reading	0.30 P<0.001	0.16 P<0.02	0.20 0.003=P	0.17 0.02=P	0.33 P<0.001	0.32 P<0.001	0.03 P=0.62	0.32 P<0.001	0.35 P<0.001	0.29 P<0.001	0.27 P<0.001
Accessing	0.24 0.001> P	0.13 0.06= P	0.16 0.02= P	0.10 0.14= P	0.29 0.001> P	0.27 0.001> P	0.09 0.21= P	0.16 0.02= P	0.28 P<0.001	0.23 P=0.001	0.22 0.001= P
Understanding	0.14 P=0.04	0.06 P=0.38	0.17 0.01=P	0.02 P=0.78	0.16 0.02=P	0.16 0.02=P	0.08 0.23=P	0.09 0.17=P	0.14 0.03=P	0.16 0.02=P	0.11 P=0.12
Assessing	0.22 0.01= P	0.13 0.05= P	0.10 0.16= P	0.13 0.05= P	0.24 0.001> P	0.25 0.001> P	0.11 0.09= P	0.18 0.009= P	0.24 0.001> P	0.20 P=0.001	0.22 0.001= P
Decision making	0.34 0.001>P	0.14 0.003=	0.26 0.001>P	0.23 0.001=P	0.37 0.001>P	0.27 0.001>P	0.18 0.009=P	0.23 0.001=P	0.31 0.001>P	0.31 0.001>P	0.33 0.001>P

adult literacy levels in Ardabil city, the health literacy was at moderate level, but the source of the information, as in the present study, was mostly through the questioning of doctors and health staff and radio and television, that this issue is important for designing accurate health information for a wide range of audiences (27). In the study conducted by Hosseini et al., the health literacy among retirees of Rafsanjan University of Medical Sciences was reported at moderate level (28). While the study conducted by Afra et al. (1998), which examined literacy levels in Abadan nursing students, reported poor literacy levels of students, the results of these studies are inconsistent with the present findings (29). Also, Peiman et al. reported health literacy status of health workers covered by health literacy in health centers at low level, which was inconsistent with the findings of the current study [30]. Probably the reason for these differences is the type of statistical population and the occupation of the study population and the type of tool used.

The mean scores of health literacy dimensions in the present study showed that the level of health literacy in all dimensions (understanding and perception, decision making, reading, accessibility

and assessment) was in the desirable range and the highest and lowest mean of desirable health literacy were respectively associated with the dimensions of the understanding and perception of the staff and the assessment. This finding is consistent with the study of Ghanbari et al. (1986) who used the same tool (20). However, according to the study conducted by Fooladi et al., the level of health literacy were reported at moderate level in three areas of information perception, analysis and assessment, and the use of information, and at low level in the information accessibility dimension, which is inconsistent with the findings of the present study (27).

There was no significant relationship between individual variables and level of health literacy. Only between job / job variables, there was a significant relationship between nursing assistant and level of health literacy. The reason for this may be the motivation of nurses to retain the assigned responsibility and position, which has not been mentioned in previous studies.

In this study, the quality of life of nurses was at moderate level and the highest and the lowest quality of life scores were respectively related to physical functioning and general health. In

the Hosseini's study that examined the quality of life of retired elderly, the quality of life of the subjects was at moderate level (28) which was consistent with the findings of the present study, but in the study conducted by Afra et al., which measured the relationship between students' health literacy and quality of life, it was found that students' quality of life was poor (29), which is inconsistent with the findings of the present study, this may be due to the dormitory life and the stresses of student life, which can diminish their quality of life. Also in the Afra's study, quality of life score in physical health dimension was higher than mental health (29), which was consistent with the findings of the present study. But in the study of Hosseini and other studies, the quality of life score in the mental dimension was higher than in the physical dimension, which is inconsistent with the findings of the present study (28, 31-33). Probably the reason for this difference has been in the type of statistical population in a way that in this study nurses with better health literacy have better physical condition but instead, due to the problems and pressure of job problems in mental dimension of quality of life is lower than that in other subjects.

The results also showed that most dimensions of quality of life (except physical functioning, role disorder due to emotional health, social function and physical pain) have a direct and significant relationship with the level of health literacy of the nurses (28, 29, 34). Therefore, it can be concluded that higher literacy level is directly related to people's quality of life, so that the higher literacy level leads to better quality of life.

Health literacy is a global issue and, according to the World Health Organization, has a central role in reducing health costs and health inequalities in rich and poor countries. Today,

with increasing health literacy in society, being healthy and living a healthy life will lead to a new lifestyle. Policies and social-applied projects are needed to increase health literacy. Given the increasing importance of health literacy and the key role it plays in improving the quality of life and health of the community, limited studies has been so far conducted in this field. Limitations of this study include being single-organization as well as using quality of life and health literacy questionnaires without regard to other dimensions of nurses' health such as burnout and satisfaction. Quantitative studies were also sufficient in this study and qualitative study is needed.

### Conclusion

In this study, health literacy in most nurses was at a desirable level, and the quality of life of nurses was at moderate level. It was found that there was a direct and significant relationship between most of the dimensions of quality of life (except for physical functioning, role disorder due to emotional health, social function and physical pain) in the studied nurses. One of the most important challenges for nursing management to improve the quality of nursing services is to maintain and improve the quality of life of nurses. Because any disparity in the quality of life of nurses can lead to a decrease in the quality of services and care. On the other hand, health literacy and knowledge of nurses are not ineffective in maintaining and enhancing their quality of life and these two factors have interactional relationship. Measuring health literacy is also essential to improve the health of individuals in the community, although the work environment affects the quality of life of nurses and on the other hand, this huge cohort of the health group has a direct and indirect effect on the health of people in society, and

if they have a higher level of health knowledge and better quality of life, that impact will be double, this group is only trained to take care of patients beyond this stressful and burdensome job, without stressing or paying attention to their own health. Given this, managers and policy makers of the large cohort of nurses should take effective steps to develop health and education programs and to prevent chronic diseases.

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