# The Relationship Between Health Literacy and Quality of Life in Nurses Working in Kashmar Hospitals in 2018

## ABSTRACT

**Background and Objective:** It is important to identify people with inadequate health literacy, especially among health care providers. Also, their quality of work life is one of the important factors for ensuring the stability of the health system. It seems that the relationship between quality of life and nursing health literacy is an important factor in achieving a high level of care quality. The aim of this study was to determine the relationship between health literacy and quality of life in nurses working in Kashmar hospitals in 2018.

**Materials and Methods:** This descriptive cross-sectional study of correlation type was carried out on 230 nurses working in Shahid Modarres and Hazrat Abolfazl (AS) hospitals in 2018 who were selected through the census. The data were collected using the demographic questionnaire, HELIA questionnaire, and Quality of Life questionnaire by qualified nurses. Data were analyzed using the SPSS v.16 software.

**Results:** The mean age of nurses was 31.3±6.82 years which included 37.4% male and 62.6% female. According to the results, 8.3% had inadequate health literacy, 52.6% had adequate health literacy and 39.1% had high health literacy. The mean score of health literacy was 80.98±10.65 (adequate). The mean score of quality of life was 65.39±11.55 (Moderate). The highest quality of life score was related to physical, social, psychological and environmental dimensions, respectively. The correlation coefficient (Spearman) showed that there was a significant relationship between the level of health literacy and quadruple dimensions of quality of life ($P < 0.05$).

**Conclusion:** According to the findings, there is a direct relationship between health literacy and different dimensions of nurses' quality of life. Therefore, more emphasis on the importance of health literacy and the quality of life in health system policy-making and improving the quality of services is necessary. By planning and designing useful programs in the health literacy area appropriate to nurses, effective steps can be taken to develop health literacy skills in the community and improve Nurses' quality of life.

**Paper Type:** Research Article

**Keywords:** Health Literacy, Quality of Life, Nurses, Hospital

▶ **Citation:** Khoshnudi M, Safari A, Vahidian-Shahroodi M, Sadeghnejhad H, Nejati Parvaz N. The Relationship between Health Literacy and Quality of Life in Nurses working in Kashmar hospitals in 2018. *Journal of Health Literacy*. Spring 2019; 4(1):9-17.

**Masoud Khoshnudi**
BSc Student of Nursing, Student Research Committee, Kashmar Center of Higher Health Education, Mashhad University of Medical Sciences, Mashhad, Iran.

**Ali Safari**
* MSc of Nursing, Faculty member, Kashmar Center of Higher Health Education, Mashhad University of Medical Sciences, Mashhad, Iran. Corresponding author: safaria@mums.ac.ir

**Mohammad Vahidian-Shahroodi**
Associated professor of health education& health promotion, Social Determinants of Health research center, Mashhad University of Medical Sciences.

**Hossein Sadeghnejhad**
MSc of Nursing, Faculty member, Kashmar Center of Higher Health Education, Mashhad University of Medical Sciences, Mashhad, Iran.

**Nafise Nejati Parvaz**
BSc Student of Nursing, Student Research Committee, Kashmar Center of Higher Health Education, Mashhad University of Medical Sciences, Mashhad, Iran.

**Received: 2018/12/09**
**Accepted: 2019/02/02**
Doi: 10.22038/jhl.2019.39069.1042

## Introduction

The term health literacy has been used in health literature since the 1970s (1). According to the WHO, health literacy has been introduced as a cognitive skill that determines the motivation and ability of individuals in accessing, understanding and using the information to maintain and improve the people health (2). Based on this definition, adequate and applicable health literacy means being able to apply literacy skills in health-related issues, such as drug copies, visit cards, drug labels, and home care instructions (3). Today, health literacy is being addressed as a global issue and has been considered by policy makers as one of the essential tools for improving the community health and improving the quality of health care delivery due to its important role in decision-making in health-related issues (4).

In the last decade, attention to health literacy is one of the most important health issues for patients in clinical settings in the United States, Canada, Britain, France, the Netherlands, Japan, Brazil, and Italy. In Canada, only 45% of people had sufficient health literacy skills (5). Health literacy plays a vital role in making people's informed health decisions and as a means to improve the health outcomes of the community. Therefore, health literacy is a social component of health and several reasons indicate that many adverse health-related outcomes occur due to inadequate health literacy (6).

There are some evidence that low health is associated with adverse health outcomes, harmful health behaviors, less patient satisfaction and in some cases, mortality. In fact, many believe that low health literacy causes health inequalities (7). In a study conducted in Baluchistan, 68 percent of people aged 65-18 years had inadequate and borderline health literacy (8). In a study conducted in Bushehr, Mazandaran, Kermanshah, Qazvin, and Tehran in 2007 in the age range of 18-65 years old, 6.56% of individuals in the age range of 18-65 years had inadequate health literacy and only 28.1% of people had high levels of health literacy (9). Also, another study conducted on the elderly in Isfahan in 2013, showed that 79.7% of the participants had inadequate health literacy, 11.6% had borderline health literacy and only 8.8% of them had adequate health literacy. According to the results, nearly 80% of the individuals had low health literacy which, increase the hospitalization rate and the rate of doctor referral (10).

Also, in a study conducted in Khaf, the level of health literacy was measured in four communicative areas of spoken, written, empowerment and support. Results indicated low mean scores in all four areas (11). Identifying people with inadequate health literacy is important, especially among health care providers who are unlikely to be aware of the needed skills (12). Among health care providers, nurses have direct responsibility for protecting the health of people in the community. They have a close relationship with patients and have many important roles such as clinical care, counseling, follow-up proper treatment and training the prevention ways. They are also responsible for their health and patients' health in a direct and indirect manner (13, 14). Regarding the effect of nurse's health literacy on improving health literacy and promoting community health, addressing nurses' health literacy and effective factors is necessary (15). According to the results of various studies, health literacy affects the general health

status of individuals (16) and the quality of life associated with health (17). Applied quality of life in medical sciences is recognized as the quality of life associated with health. It defined as an individual's mental assessment of his current health status, health cares, and health promotion activities and allows the individual to pursue valuable goals (18, 19).

Considering the personal quality of work life in hospitals is the major concentrations in many organizations and is one of the important factors for ensuring the stability of the health system. The quality of life of these people is importance because of the occupation type and its sensitivity. It seems that the relationship between the quality of work life performance and the degree of nurses' participation is an important factor in achieving a high level of care quality (20). One study showed that the quality of work life has an important role in the behavioral and skillful reactions of employees such as right effort and job participation, type of performance, service delivery, desertion and changing job place (21). Nurses who based their skills on the basis of scientific evidence have been able to make better decisions, make better quality cares, reduce the hospitalization time and cost of patients (22).

In Iran, very few studies have been conducted on the health literacy of individuals, especially health care providers in the health system, which is considered as an important factor in decision making and improving job skills. Therefore, addressing this subject and the affecting factors can be helpful as an effective tool for health decision-makers (11). Since nurses must have the necessary skills to increase their productivity in order to reduce the patient's injuries and other health measures, it is necessary to investigate the nurse's health literacy level. Improving the nurses' quality of life is one of the important factors in the stability and effectiveness of the health system. The aim of this study was to determine the relationship between health literacy and quality of life in nurses working in Kashmar hospitals in 2018.

## Materials and Methods

This descriptive cross-sectional study of correlation type was carried out on 230 nurses working in Kashmar hospitals in 2018 who were selected through the census. Kashmar Hospitals (Shahid Modarres Hospital and Hazrat Abolfazl Hospital) include the following departments: emergency, intensive care units, internal, neurological, infection, cardiac care units, CCU, ICU, NICU, dialysis, obstetrics and gynecology, children, men›s and women surgery, headquarters and administrative department. First, a list of all nurses in different departments was prepared. Inclusion criteria included having at least a bachelor's degree in nursing, willingness and informed consent to participate in the research, having at least one year of work experience and having three working shifts. All the nurses with the mentioned criteria were included in the study. Exclusion criteria included a failure to complete more than 10% of the questionnaire.

Questionnaires were completed by nurses in hospitals through the self-reported method. All nurses were asked to answer the questionnaire with complete honesty and they were assured that all information requested in the questionnaire would be used confidentially. It is worth noting that the present study was approved by the Research Committee (code number: 970334) and the Ethics Committee at Mashhad University of Medical Sciences. The data collection tools

consisted of 3 parts:

A) Demographic questionnaire: including age, sex (gender), marital status and education degree, interest in the nursing profession, type of employment, average daily working hours, scientific study hours and most types of shift work.

B) Health literacy for Iranian adults (HELIA) questionnaire: the questionnaire has 33 items and measures Iran's urban health literacy (18 to 65 years) in five dimensions of reading (4 items), analyzing (4 items), access (6 items), understanding (7 items), and decision-making skills (12 items). A likert five-point scale was used for scoring in this questionnaire. In reading skills, 5 was given to totally easy, 4 was given to Easy, 3 was given to Not Easy Not Hard, 2 was given to hard and 1 was given to totally hard. In the other 4 dimensions of health literacy, 5 was given to always, 4 was given to most of the time, 3 was given to sometimes, 2 was given to rarely and 1 was given to never. The raw score of each person in each of the fields is obtained from the sum of scores. This tool was used to measure the level of health literacy in the study, which was designed in 2014 by Montazeri et al. the validity of the questionnaire has been confirmed by exploratory factor analysis. Cronbach's alpha coefficients in the related structures were also acceptable (0.72 to 0.89) and the reliability of the questionnaire was also confirmed. The ranking of health literacy levels based on the HELIA questionnaire is 0 to 50 as low, 50-66 as inadequate, 66 to 84 as adequate and 84 to 100 as high. This questionnaire has the following benefits: covering various aspects of health literacy, using simple language terms and generalities (23).

C) The World Health Organization Quality Of Life questionnaire (WHOQOL-BREF): The questionnaire assesses individuals' perceptions of value and cultural systems as well as their personal goals, standards, and concerns. The WHOQOL-BREF instrument comprises 26 items and is a shorter version of the original instrument (100 items) which measure the following 4 broad domains: physical health (7 items), psychological health (6 items), social relationships (3 items) and environment (8 items). The items of the questionnaire are also evaluated on Likert five-point scale and the answers are scored as follows: 5 = 5, 4 = 4, 3 = 3, 2 = 2 and 1 = 1. In items 3, 4 and 26, the scoring is calculated as inverse: 1 = 5, 2 = 4, 3 = 3, 4 = 2, and 5 = 1. A higher score indicates a better quality of life. In addition, this questionnaire can also assess general health. However, items 1 and 2 are solely designed to assess the percived level of quality of life and therefore are not included in the scoring. The quality of life in each domain was determined from 0 to 100.

Nejat et al. (2006) in a study titled "Standardization of the World Health Organization's Quality of Life Questionnaire" concluded that this questionnaire is valid and has acceptable structural factors in healthy and patient groups of Iran. Also, intracluster correlation and Cronbach alpha in all domains were higher than 0.7 and in the social relation, Cronbach's alpha was 0.55. On the other hand, in 83% of cases, the correlation of each item with its main domain was higher than other domains (24). Data analysis was performed using SPSS software version 16. Initially, demographic characteristics were analyzed by descriptive statistics (Frequencies and Descriptive). Regarding the normal or abnormal quantitative variables, the T-test, and its nonparametric equivalents, the Mann-Whitney test was used. In order to examine

the qualitative variables, the Chi-square test was used and the Spearman correlation coefficient was used to examine the correlation between quantitative variables.

## Results

This study was performed on 230 nurses working in Kashmar hospitals in which 86 (37.4%) were males and 144 (62.6%) were females, 52 (22.6%) were single and 178 (77.4%) were married. The mean age of these nurses was 31.3 ± 6.82 years in the age range of 22 to 55 years which is presented in Table 1 by demographic characteristics of nurses. 218 (94.8%) had a bachelor's degree and 12 (5.2%) had a master's degree. 123 (53.5%) were very interested and 101 (43.9%) had a moderate

**Table 1: Frequency distribution of the nurses by gender**

| Variable | | | Male | Female | Test result |
|---|---|---|---|---|---|
| Age (year) | Least | 23 | 22 | 6.82 ± 31.3 | Mann-Whitney: Z= -0.918 P=0.359 |
| | Most | 55 | 44 | | |
| | Standard deviation ± Mean | 8.21 ± 32.38 | 5.76 ± 30.66 | | |
| | Total (total number of any gender) | 86 | 144 | | |
| Marital Status | Single | 19 (22.1%) | 33 (22.9%) | 52 (22.6%) | Chi-Square: X2=0.021 P=0.51 df: 1 |
| | Married | 67 (77.9%) | 111 (77.1%) | 178 (77.4%) | |
| Education Level | Bachelor | 79 (91.9%) | 139 (96.5%) | 218 (94.8%) | Chi-Square: X2=2.372 P=0.110 df: 1 |
| | Masters | 7 (8.1%) | 5 (3.5%) | 12 (5.2%) | |
| Interest in nursing | No interest | 4 (4.7%) | 2 (1.4%) | 6 (2.6%) | Chi-Square: X2=2.337 P=0.311 df: 2 |
| | medium | 38 (44.2%) | 63 (43.8%) | 101 (43.9%) | |
| | High interest | 44 (51.2%) | 79 (54.9%) | 123 (53.5%) | |
| Employment type | Contract | 22 (25.5%) | 39 (27.1%) | 61 (26.5%) | Chi-Square: X2=0.062 P=0.464 df: 1 |
| | Employed | 64 (74.4%) | 105 (72.9%) | 169 (73.5%) | |
| the most Shift type | Morning | 32 (37.2%) | 53 (36.8%) | 85 (37%) | Chi-Square: X2=0.131 P=0.937 df: 2 |
| | Evening | 36 (41.9%) | 58 (40.3%) | 94 (40.9%) | |
| | Night | 18 (20.9%) | 33 (22.9%) | 51 (22.2%) | |
| Scientific Study Hours | Least | 0 | 0 | 18.77 ± 10.68 | Mann-Whitney: Z= -1.346 P=0.178 |
| | Most | 90 | 90 | | |
| | Standard deviation ± Mean | 20.53 ± 12.52 | 17.61 ± 9.5 | | |
| Daily working hours | Least | 7 | 7 | 1.04 ± 7.92 | Mann-Whitney: Z= -1.944 P=0.052 |
| | Most | 12 | 12 | | |
| | Standard deviation ± Mean | 1.26 ± 8.11 | 0.88 ± 7.81 | | |
| Quality of Life | Standard deviation ± Mean | 0.88 ± 7.81 | 11.48 ± 64.38 | 11.55 ± 65.39 | T-Test: T= 1.724 P= 0.086 df: 228 |
| Health literacy | Standard deviation ± Mean | 10.53 ± 80.88 | 10.75 ± 81.05 | 10.65 ± 80.98 | T-Test: T= -0.117 P= 0.907 df: 228 |

nursing interest, and only 6 (2.6%) were not interested in nursing. 61 individuals (26.5%) had contradict and 169 (73.5%) were employed. The mean amount of nurses' scientific study was 11.5 hours monthly and it is worth noting that more than 50% of nurses (127) did not have any scientific studies per month.

Approximately 37% of nurses had the highest work shift in the morning, 40.9% in the evening and 22.2% at night. Nurses worked 7.92 hours a day. The survey found that men were working 0.3 times more than women on a daily basis. Table 2 shows the quality of life values in the four domains. Based on the results, the highest score of quality of life was related to the physical health, social, psychological and environmental domains, respectively. The mean total score of nurses' quality of life was 65.59 ± 11.55 (moderate). Based on the results in Table 3 on the five dimensions of health literacy, the highest scores related to the understanding, reading, access, assessment, and decision-making-behavior dimensions, respectively. The mean nurses' health literacy score is 80.98 which is adequate. 19 individuals (8.3%) had inadequate health literacy, 121 (52.6%) had adequate health literacy and 90 (39.1%) had high health literacy. Table 4 shows that based on the Spearman correlation coefficient test, there is a significant statistical relationship between the different quality of life domains and health literacy of nurses working in Kashmar hospitals. As the level of literacy increases, the level of nurses' quality of life also improves. According to Table 1, there was no significant difference between the quality of life and the health literacy scores based on the gender of the nurses.

**Table 2: Quantity of four domains and total quality of Life**

| Domains | Least | Most | Standard deviation ± Mean |
|---|---|---|---|
| Physical score | 32.14 | 100 | 12.55 ± 69.47 |
| Social score | 16.67 | 100 | 16.14 ± 66.59 |
| Psychological score | 16.67 | 100 | 14.98 ± 64.52 |
| Environmental score | 9.38 | 96.88 | 14.62 ± 60.99 |
| Overall Quality of Life Score | 35.90 | 96.54 | 11.55 ± 65.39 |

**Table 3: Quantity of five domains and total health literacy**

| Variable | Minimum | maximum | Standard deviation ± Mean |
|---|---|---|---|
| Reading Score | 37.5 | 100 | 14.91 ± 81.65 |
| Access Score | 37.5 | 100 | 13.73 ± 81.05 |
| Understanding Score | 50 | 100 | 11.69 ± 86.36 |
| Assessment Score | 37.5 | 100 | 14.86 ± 80.05 |
| Decision making and Behavior Score | 33.33 | 100 | 13.36 ± 75.80 |
| Total Health Literacy Score | 46.61 | 100 | 10.65 ± 80.98 |
| **Overall health literacy level** | | | |
| Inadequate health literacy | Adequate health literacy | High health literacy | |
| 19 Individuals (8.3%) | 121 individuals (52.6%) | 90 Individuals (39.1%) | |

**Table 4: Relationship between health literacy and quality of life domains by correlation Test**

| Health Literacy | | Main variables | |
|---|---|---|---|
| Correlation coefficient | Sig | | |
| 0.255 | P<0.001 | Physical | Quality of Life Domains |
| 0.237 | P<0.001 | Psychological | |
| 0.216 | P<0.01 | Social | |
| 0.322 | P<0.001 | Environmental | |

## Discussion

According to the WHO, health literacy is a global issue and plays a pivotal role in identifying health inequalities, both in rich

and poor countries, (25). The results of this study showed that with increasing level of health literacy, the level of nurse's quality of life also improved (P <0.05). Based on the results, only 10% of the nurses had inadequate health literacy level and 80.2% of the nurses had a high level of health literacy (80.98%) which are not consistent with the findings of the Peyman (11), Izadirad and Zareban (8), Hoseini (26) and Tavousi (27).

The reasons for this contradiction may be the difference between the mentioned studies and present study in the statistical population; because nurses have a good understanding of health and health literacy due to their medical careers. But in the mentioned studies, the statistical population consisted of health workers, the general public and pensioners.

Regarding the quality of life, the results also showed that nurses' quality of life is not high and desirable which is consistent with the results of the Ansari (28), Nasiry (29), Fallahee Khoshknab (30) and Khaghanizadeh (31). Possible reasons for this consistency include high workload, multiple shifts and sleeping problems which reduces the quality of life. The results of this study indicate that there is a direct relationship between the level of health literacy and quality of life domains (physical, psychological, social and environmental); so that people with a higher level of health literacy had a better quality of life. These results were consistent with the studies conducted by Kooshyar (32), Macabasco-O'Connell (33), Song (34), Wallace (35), Howard (36), and Panahi (37).

Yusefi et al. (2017) in a study entitled "health literacy status and its relationship with nurses' quality of life working in educational hospitals of Shiraz University of Medical Sciences", which was performed on 185 nurses, found that the health literacy score was 12.98 ± 70.06 and the quality of life score was 17.26 ± 60.86. It was also found that there is a significant relationship between health literacy and quality of life in nurses and with increasing health literacy, the level of quality of life improves which is consistent with the results of the present study. Also, the level of health literacy was evaluated as adequate in and quality of life was evaluated as a medium in Yusefi study. The reasons for this consistency are the similarity of the nursing population and the same year of research in this study and mentioned study. In Yusefi et al. study, among the health literacy dimensions, the highest score was related to the understanding which is the same as the present study (38). As nurses are one of the health care groups, they need to have a desirable level of health literacy. Therefore, considering this variable along with the quality of life and trying to promote it can play an important role in the health status of patients as well as in the personal and social life of nurses (39, 40). According to research team experiences, factors such as religious beliefs, healthy nutrition, non-use of drugs and interpersonal and organizational relationships can affect the direct relationship between health literacy and quality of life.

## Conclusion

According to the findings of this study, nurse's quality of life score was moderate and nurse's health literacy score was adequate. Also, there was a direct relationship between health literacy and different domains of nurse's quality of life. Therefore, more emphasis on the importance of health literacy

and the quality of life in health system policy-making and improving the quality of services is necessary. It is expected that hospital managers will take a major step toward improving health care and ultimately solve patient problems, increase the satisfaction of nurses and reduce the cost of treatment. By planning and designing useful programs in the health literacy area appropriate to nurses, effective steps can be taken to develop health literacy skills in the community and improve nurse's quality of life.

**Competing interests:** The authors declare that they have no competing interests.

**Funding:** No financial support was received for this study.

**Acknowledgement**

This study is a nursing student undergraduate project in Kashmar Nursing Faculty and Mashhad University of Medical Sciences with the code No. 970334 as well as the Ethics Identity NO. IR .MUMS.REC.1397.243. We hereby appreciate all the nurses working in Kashmar hospitals, the responsible authorities of the hospitals and the Kashmar Nursing Faculty who helped the research team in this study.

## References

1. Goodwin BC, March S, Zajdlewicz L, Osborne RH, Dunn J, Chambers SK. Health literacy and the health status of men with prostate cancer. Psycho-Oncology. 2018;27(10):2374-2381.
2. Goodwin BC, March S, Zajdlewicz L, Osborne RH, Dunn J, Chambers SK. Health literacy and the health status of men with prostate cancer. Psycho-Oncology. 2018;27(10):2374-2381.
3. Lael-Monfared E, Tehrani H, Moghaddam ZE, Ferns GA, Tatari M, Jafari A. Health literacy, knowledge and self-care behaviors to take care of diabetic foot in low-income individuals: Application of extended parallel process model. Diabetes & Metabolic Syndrome: Clinical Research & Reviews. 2019;13(2):1535-41.
4. Tehrani H. Media Health Literacy. Journal of Health Literacy. 2016;1(3):141-6.
5. Mansfield ED, Wahba R, Gillis DE, Weiss BD, L'Abbé M. Canadian adaptation of the Newest Vital Sign©, a health literacy assessment tool. Public health nutrition. 2018:1-8.
6. Panahi R, Ramezankhani A, Tavousi M, Osmani F, Ghazanfari E, Niknami S. Evaluation of Health Literacy and its influencing factors on dormitory students of Shahid Beheshti University of Medical Sciences in Tehran. J Educ Community Health. 2016;3(3):30-6.
7. Jafari Y, Vahedian-Shahroodi M, Tehrani H, Haresabadi M, Shariati M. The relationship between caregivers' health literacy and the behavior of women with multiple sclerosis. Iranian Journal of Obstetrics, Gynecology and Infertility. 2018;21(7):71-64.
8. Izadirad H, Zareban I. The relationship of health literacy with health status, preventive behaviors and health services utilization in Baluchistan, Iran. Journal of Education and Community Health. 2015;2(3):43-50.
9. Tehrani Banihashemi S, Amir Khani A, Haghdoust A, Alavian M, Asghari Fard H, Baradaran H. Health literacy in five province and relative effective factors. Strides in Development of Medical Education. 2007;4(1):1-9.
10. Reisi M, Javadzade SH, Heydarabadi AB, Mostafavi F, Tavassoli E, Sharifirad G. The relationship between functional health literacy and health promoting behaviors among older adults. Journal of education and health promotion. 2014;3.
11. Peyman N, SamieeRoudi K. Investigating the status of health literacy among health providers of rural area. Journal of Health literacy. 2016;1(1):46-52.
12. Chew LD, Bradley KA, Boyko EJ. Brief questions to identify patients with inadequate health literacy. health. 2004;11:12.
13. Kemppainen V, Tossavainen K, Turunen H. Nurses' roles in health promotion practice: an integrative review. Health Promotion International. 2013;28(4):490-501.
14. Hojjati H, Sharifniyai S, Tahery N. Review of mental health and physical health in night working nurses in Golestan University of medical sciences in 2008-2009. The Journal of Urmia Nursing and Midwifery Faculty. 2010;8(3):144-9.
15. Rahimi A, AhmadianMajin N. Investigating health literacy level and relation to demographic factors of nurses in teaching hospitals of at west cities of Iran: 2016. Journal of Health literacy. 2017;2(1):54-61.
16. Javadzade H, Sharifirad G, Reisi M, Tavassoli E, Rajati F. Health literacy among adults in Isfahan. J Health Serv Res. 2013;9(5):540-9.
17. Wang C, Kane RL, Xu D, Meng Q. Health literacy as a moderator of health-related quality of life responses to chronic disease among Chinese rural women. BMC women's health. 2015;15(1):34.
18. Leininger M. Theoretical questions and concerns: Response from the theory of culture care diversity and universality perspective. Nursing Science Quarterly. 2007;20(1):9-13.

19. Abdolahpoor E, Salimi Y, Nejat S, Shoshtari J. ZLife quality and its influecing factors in Bokan government agency employments. Journal of Urmia University of Medical Sciences. 2010;22(1):40-7.
20. Jafari E, Khaleghkhah A, Gharibzadeh R. The mediating role of professional ethics and career anchors on the causal relationship between psychological well-being and quality of work life for nurses. Journal of Clinical Nursing and Midwifery. 2018;4(3).
21. Sirgy MJ, Efraty D, Siegel P, Lee D-J. A new measure of quality of work life (QWL) based on need satisfaction and spillover theories. Social indicators research. 2001;55(3):241-302.
22. Habibi S, Rezaei Hachesoo P, Tabaghi R. Enhancing information literacy as a base of developing evidence-based nursing. Health Information Management. 2010;7(3):371-8.
23. Montazeri A, Tavousi M, Rakhshani F, Azin SA, Jahangiri K, Ebadi M, et al. Health Literacy for Iranian Adults (HELIA): development and psychometric properties. 2014;13(1):589-99.
24. Nejat S, Montazeri A, Holakouie Naieni K, Mohammad K, Majdzadeh S. The World Health Organization quality of Life (WHOQOL-BREF) questionnaire: Translation and validation study of the Iranian version. Journal of School of Public Health and Institute of Public Health Research. 2006;4(4):1-12.
25. McLaghlin R. Association among health literacy levels and health outcomes in pregnant women with pregestational and gestational diabetes in an urban setting. USA: University of Tennessee. 2009.
26. Hosieni F, Mirzaei T, Ravari A, Akbary A. The relationship between health literacy and quality of life in retirement of Rafsanjan University of Medical Sciences. Journal of Health literacy. 2016;1(2):92-9.
27. Mahmoud Tavousi, AliasgharHaeri Mehrizi, shahram Rafiefar, Atoosa Solimanian, Fateme Sarbandi, Mona Ardestani, et al. Health literacy in Iran: findings from a national study. Health Monitor Journal of the Iranian Institute for Health Sciences Research. 2016;15(1):95-102.
28. Ansari H, Abbasi M. Health-related Quality of Life among Nurses in Zahedan University of Medical Sciences Hospitals. Journal of Hospital. 2015;14(3):47-55.
29. Nasiry Zarrin Ghabaee N, Talebpour Amir F, Hosseini Velshkolaei M, Rajabzadeh R. Quality of life and its relationship to the Job stress in among nursing staff in Hospitals of Sari, in 2015. 2 Journal of Nursing Education. 2016;5(2):40-8.
30. Fallahee Khoshknab M, Karimloo M, Rahgoy A, Fattah Moghaddam L. Quality of life and factors related to it among psychiatric nurses in the university teaching hospitals in Tehran. Hakim Research Journal. 2007;9(4):24-30.
31. Khaghanizadeh M, Ebadi A, Rahmani M. The study of relationship between job stress and quality of work life of nurses in military hospitals. Journal Mil Med. 2008;10(3):175-84.
32. Kooshyar H, Shoorvazi M, Dalir Z, Hosseini M. Health literacy and its relationship with medical adherence and health-related quality of life in diabetic community-residing elderly. Journal of Mazandaran University of Medical Sciences. 2014;23(1):134-43.
33. Macabasco-O'Connell A, DeWalt DA, Broucksou KA, Hawk V, Baker DW, Schillinger D, et al. Relationship between literacy, knowledge, self-care behaviors, and heart failure-related quality of life among patients with heart failure. Journal of general internal medicine. 2011;26(9):979-86.
34. Song L, Mishel M, Bensen JT, Chen RC, Knafl GJ, Blackard B, et al. How does health literacy affect quality of life among men with newly diagnosed clinically localized prostate cancer? Findings from the North Carolina-Louisiana Prostate Cancer Project (PCaP). Cancer. 2012;118(15):3842-51.
35. Wallace LS, Rogers ES, Weiss BD. Relationship between health literacy and health-related quality of life among Tennesseans. Tennessee medicine: journal of the Tennessee Medical Association. 2008;101(5):35-9.
36. Howard DH, Sentell T, Gazmararian JA. Impact of health literacy on socioeconomic and racial differences in health in an elderly population. Journal of general internal medicine. 2006;21(8):857-61.
37. Panahi R, Osmani F, Sahraei M, Ebrahimi S, Shamsizadeh Nehadghashti M, Javanmardi E. Relationship of Health Literacy and Quality of Life in Adults Residing in Karaj, Iran. J Educ Community Health. 2018;4(4):13-9.
38. Yusefi A, Ebrahim Z, Bastani P, Najibi M, Radinmanesh M, Mehrtak M. Health literacy status and its relationship with quality of life among nurses in teaching hospitals of Shiraz University Of Medical Sciences. Iranian journal of nursing and midwifery research. 2019;24(1):73.
39. Oujian P, Alhani F, Tol A. Reviewing the work and family conflict and its association with quality of life among clinical nurses. J Health Syst Res. 2013;9:345-53.
40. Wu S, HY HL, Tian J, Zhu W, Li J, Wang X, et al. Health-related quality of life and its main related factors among nurses in China. Ind Health. 2011;49:158-65.