

## Investigating the Relationship between staff health literacy and quality of life in Famennian County: A Cross-Sectional Study

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Received: 25 August 2019

Accepted: 11 November 2019

Doi: 10.22038/jhl.2019.42769.1078

### ABSTRACT

**Background and Objective:** Given the importance of the role of health literacy in promoting quality of life, as well as the role that physicians and health professionals play in promoting health behaviors and public awareness in terms of people's acceptance of information and trust, the study needs special attention; The aim of this study was to determine the relationship between health literacy and quality of life in health care workers in Famenin County .

**Materials and Methods:** This descriptive-analytic study was conducted on 275 Health care workers in Famenin County in 2018 using census method. The adults' health literacy questionnaire (HELIA) and quality of life questionnaire (SF-36) were used to collect data. Data were analyzed using SPSS24 software.

**Results:** The results showed that 32.4 percent had not enough health literacy. Also, 64.1% of participants achieved the maximum quality-of-life score that indicated a relatively favorable situation. Quality of life was correlated with health literacy ( $r=0.252$ ,  $P<0.01$ ). By increasing the score of the assessment and application of health information, the average quality of life score increased by 0.82 and 1.10, respectively.

**Conclusion:** In general, the findings of this study showed a significant relationship between the level of health literacy and quality of life, which indicates the key role of health literacy in improving quality of life. Therefore, health literacy should be considered as a factor in promoting health behaviors and creating healthy lifestyles and ultimately improving the quality of life. **Paper Type:** Research Article

**Keywords:** Health Literacy, Quality of Life, Workers, Workplace.

► **Citation:** Barati M, Bijari S, Taherpour M, Afshari M. Investigating the Relationship between staff health literacy and quality of life in Famennian County: A Cross-Sectional Study. *Journal of Health Literacy*. Fall 2019; 4(3):46-55.

## Introduction

Generally health literacy means the individuals' ability to access and use health information in order to make appropriate decisions about maintaining and promoting health. In recent decades, health literacy has played a vital role in health education and health promotion and has been increasingly considered as a tool to improve health outcomes and reduce inequality in health. Health literacy is a health social component that is linked to the literacy level of the individuals and includes the knowledge, motivation and competence of the individual to access, understand, evaluate and use health information to make correct judgments and make daily decisions with regard to health, disease prevention and health promotion to maintain or improve the quality of life during life (1). Some evidence has shown that poor health literacy is associated with poor quality of life, which may be due to reduced accessibility and less use of medical cares, increased stress burden due to increased challenges of everyday life, poor self-management of the disease, and decreased self-efficacy means "the ability to exert control over life and the environment"(2).

Quality of life is a multidimensional concept defined by the World Health Organization as: "An individual's understanding of his or her life situation with respect to the culture and value systems and its relationship to the goals, expectations, interests, standards and experiences of life". This concept has different dimensions which affects the physical health status, mental status, independence, social relationships and personal beliefs (2). The main challenge of health in the twentieth century was survival and the challenge of the present century is to live with high quality. Therefore, it is important not only to prolong life time, but also to ensure that human life is ultimately spent in peace, physical

and mental health, and if such conditions are not met, scientific advances to provide a longer life will be fruitless and risky. It will be fun. Therefore, many of the psychological and social problems and costs that cause many diseases in individuals can be removed by providing health literacy training(3).

There is a growing interest in using this concept among health professionals as a strategy to improve and promote the individuals health in the community. And its effect on improving health care delivery has been recognized (4). Health professionals are those who work exclusively in the community as a service connector between service consumers and the health system to promote health among groups that lack enough access to health cares. In fact, education and skills among all groups of health service providers have increased dramatically in recent years in terms of preventive measures and health promotion strategies(5).

The health care system needs to have adequate health literacy. Health literacy among health workers can be considered as an important factor in decision-making and how they work in the health system to promote community health (6). Over the past decade, special attention has been paid to the importance and effects of health literacy on people's health condition, and health literacy being considered an important component of universal health and referred to the capacity of the individuals to acquire, process and understand the information and health services needed to make decisions about health-related areas, which include a set of reading, listening, analyzing, decision-making skills, and the ability to apply these skills in health situations that do not necessarily relate to years of education or ability to read (7).

Although it is not yet clear to what extent

health literacy is affected health outcomes, but many reasons suggest that many of the unpleasant health outcomes are due to inadequate health literacy (9, 8). Accordingly, the World Health Organization (WHO) has introduced health literacy as one of the largest health criteria and has recommended countries around the world to create a community including all affected individuals to monitor and coordinate strategic activities to promote health literacy in different communities. (9). Today, low health literacy is recognized as a global problem in the 21st century. According to a World Health Organization report (2004), the consequences of poor health literacy in health field include: less use of prevention services, more delayed diagnosis, less adherence to the physician's instructions, increase the risk of death, increase health care costs, etc.(7.10).

Other consequences of low health literacy are economic and social loss; the economic consequences of low health literacy (besides affecting the individual) are also seen in the society, and may completely prevent people from engaging with society and achieving their life goals. (11).The number of studies on health literacy measurement in Iran is very low and most of the studies have not been sufficiently expanded, In addition, it has become very difficult to compare and analyze subjects with respect to Assessment Tool Development Approach in some studies. (12). According to a national study conducted in Iran, 44% of people had limited health literacy. According to this study, almost one in two Iranians had limited health literacy (9). Also, according to a survey conducted in 1396, the majority of people in the studied areas had insufficient health literacy (13). The results of another study conducted on women aged 18-65 in Baluchistan state showed that 33.2% of women had inadequate health

literacy and 32.4% of women had adequate health literacy. Accordingly, health literacy in Iran is low (10).

Promoting health and providing community health is an important pillar of community development. Modern health care has gradually shifted its focus from examining mortality as a health consequence to broader areas such as improving the quality of life (14). Quality of life in a person is an important indicator in examining health care status. The quality of life concept is considered the sense of goodness, satisfaction and welfare of a person from his or her point of view, because quality of life is a subjective concept and unique to each individual and refers importance that one has been conceived for that particular dimension of the quality of life and gives it more importance (15). Quality of life interacts with physical and mental health dimensions and is influenced by some factors such as economic, psychological and social factors. The quality of life's physical dimension depends on one's understanding about ability to perform daily activities and one's energy; the social dimension depends on isolation, dependency, and family relationships and etc. and also the psychological dimension considered some issues such as depression, anger, happiness, hope, and anxiety (16).

Doing study in this area needs special attention with respect to the importance of health literacy role in promoting community health, as well as the role that physicians and health professionals play in promoting health behaviors and promoting public awareness in terms of accepting information and being trusted by people. Therefore, the present study aimed to determine the relationship between health literacy and quality of life among health organization staff in in Famenin state.

## Methods

The present study was a descriptive-analytical of cross-sectional-kind study that was done on 275 health professionals of Famenin state during a period of two months from Bahman to mid-Isfand in 1397. Inclusion criteria to study were: working in the health organization of Famenin state.

Individuals who did not consent to participate in the study were excluded. In order to observe the research ethics, the objectives of the study were described at the beginning of the study, and after obtaining informed consent, the questionnaire was completed. It should be noted that the present study was approved by the Ethics Committee of Medical Sciences University in Hamadan and was registered under the Code of Ethics IR.UMSHA.REC.1397.707.

Participants were selected by census method from all sections of the health organization in Famenin state including health workers (18.5%), environmental and staff experts (24%), physicians (5.5%), hospital staff (30%) and other personnel (21%). It is necessary to explain that the percentage of each occupational group is calculated from the total number of employees working in the health organization of Famenin state. In the present study, all the staff who completed the questionnaire through self-report were 257 (99% responded in this study), 1% were excluded due to dissatisfaction.

Two Iranian Adult Health Literacy HELIA Questionnaires (18-65 years old) and quality of life questionnaire (SF-36) were used for data collection. The Iranian Adult Health Literacy Questionnaire was developed by Montazeri et al (17). This questionnaire consists of two parts: the specifications of the respondents and the main items. Respondent's specifications section included 5 questions on age, gender, education, occupation, and how to obtain health

and illness-related issues, which consist of 8 options. The main items section contains 33 questions, which has items including accessibility with 6 questions, and involves a 5-point Likert spectrum from always (score 5), most of time (score 4), sometimes (score 3), rarely (score 2) and never (score 1), the score ranges from 6 to 30 points, reading skill item consists 4-question, which has a 5-point Likert spectrum from quite easy (score 5), easy (score 4), hard (score 3), quite hard (score 2) and not easy - not hard (score 1), the score ranges from 4 to 20 points. Perception item consists 7 questions with a 5-point Likert spectrum from always (score 5), most of time (score 4), sometimes (score 3), rarely (score 2) and never (score 1), the score range of this item is between 7 and 35 points. Assessment item consists 4 questions, with a 5-point Likert spectrum from always (score 5), most of time (score 4), sometimes (score 3), rarely (score 2), never (score 1), the score ranges from 4 to 20 points. Health information use and decision-making items consists 12 questions, with a 5-point Likert spectrum from always (5 points), most of time (4 points), sometimes (3 points), rarely (2 points), never (1 point).), the score range for this item is 12 to 60 points. Finally, a score of 33 to 165 will be obtained for each person, which higher scores indicate desirable health literacy and lower scores indicate poor health literacy.

For this purpose, the raw score of each individual in the sub-metrics is obtained from the algebraic sum of the scores, then a specific formula is used to convert this score from zero-to -100 spectrum, and this formula included the difference of the raw score obtained from the minimum possible raw score divided by the maximum score difference from the minimum possible score. To calculate the total score, the sub-metrics scores are summarized based on

0- to- 100 spectrum and divided by the number of sub-metrics (5 dimensions). Audience health literacy level rating were then ranked as 0 to 50 inadequate health literacy, 50/1 to 66 not-enough health literacy, 66/1 to 84 adequate health literacy and 84/1 to 100 excellent health literacy (17). The validity and reliability of this questionnaire has been confirmed in the Iranian population (17). The Quality of Life Questionnaire to assess quality of life and health was developed by Sherbourne and Ware (18) and consists of 36 terms, which evaluates 8 domains of physical function, social function, playing physical role, playing emotional role, mental health, vitality, physical pain and public health. The SF-36 also provides two general metrics of this function, the total score of the physical component assess the physical dimension and the overall score of the mental component assess the social-mental dimension. Each subject in each of these domains ranges from 0 to 100 and the higher score means better quality of life.

Finally, using descriptive statistics as well as analytical statistics including one-way ANOVA test, independent t-test, Pearson correlation coefficient and multiple regression between the variables were studied. In all phases, significant level was considered less than 0.05 for all statistical tests. Data were analyzed using SPSS24 software.

## Results

Of the 275 studied persons, 158 were male (57.5%). The mean age of the subjects was 32.41 years with a standard deviation of 5.98. The majority of participants (61.1%) had a bachelor's degree and 10.5% had primary education. Most of the employees were married (70.2%) and their economic status were poor (73.8%). Most participants obtained health and disease-related materials by Internet (41.5%) and physicians (39.3%).

The results showed that 35.5% and 18.5% of the participants in the study had adequate and excellent health literacy, respectively. Also, 13.8% of the participants had insufficient health literacy and 32.4% had not-enough health literacy

Table 1 shows the literacy status of the studied subjects in terms of five- dimension health literacy. As it is clear, in terms of access to health information, 70.1% of people had access to information. About 68.1% of people had reading skills. Most of them were good at understanding level (70.1%). Also, in terms of assessment, most of the people had a desirable level of health literacy (64.2%). Finally, on health information usage, 67% had appropriate literacy level. Overall, the status of all aspects of health literacy was relatively favorable.

**Table 1. Health literacy status of the subjects in terms of five dimensions of health literacy**

Five Dimensions of Health Literacy	Mean	SD	Range of obtainable score	percentage
Access to Information	15.21	3.14	4-20	70.1
Reading skills	22.36	4.94	6-60	68.1
Understanding	26.61	6.16	7-35	70.1
Assessment	14.28	3.31	4-20	64.2
health information usage	44.16	8.55	12-60	67

Table 2 shows the employees ' quality of life. According to the findings, subjects (64.1% ) received the maximum achievable score of the

total quality of life score, which was relatively desirable. Also, a sense of pain or discomfort, and physical function were reported as maximum



achievable score of the highest score with 72.1% and 70.7%, respectively. Also, mental functioning and powerful sense and quality of life energy had the lowest rate with 58.3% and

58.7%, respectively, and had an average level. The results showed that there is a direct and significant relationship between quality of life and health literacy ( $r = 0.225$ ,  $P < 0.01$ )

**Table 2. Quality of life of the study subjects in terms of their dimensions**

Dimensions of quality of life	Mean	SD	Range of obtainable score	percentage
physical health				
Feel the general health	63.2	0-100	21.41	63.20
Physical function	70.7	0-100	24.01	70.77
Limitations in physical function	63.1	0-100	34.19	63.10
Feeling pain and discomfort	72.1	0-100	19.33	72.10
Mental Health				
Social Performance	69.8	0-100	19.32	69.82
Limitations in Psychological Function	59.6	0-100	44.01	59.64
Feel the power and energy	58.7	0-100	16.22	58.73
Mental performance	58.3	0-100	15.41	58.31
Total Quality of Life	64.1	0-100	12.73	64.16

The results of table 3 show that there was a statistically significant difference between age groups regarding access to health information ( $P < 0.028$ ) and understanding ( $P < 0.047$ ). Also there was a statistically significant difference between men and women in terms of access to health information ( $P < 0.001$ ), reading skills ( $P < 0.001$ ), understanding ( $P < 0.001$ ), assessment ( $P < 0.001$ ), and health information usage ( $P < 0.001$ ). There was a statistically significant difference between married and single in reading skills ( $P < 0.014$ ). In addition, there was statistically significant difference between

educational groups regarding access to health information ( $P < 0.001$ ), reading skills ( $P < 0.001$ ), understanding ( $P < 0.001$ ), evaluation ( $P < 0.001$ ) and quality of life ( $P < 0.001$ ). Also statistically significant differences were observed between organizational positions regarding access to health information ( $P < 0.001$ ), reading skills ( $P < 0.001$ ), understanding ( $P < 0.001$ ), evaluation ( $P < 0.001$ ), ( $P < 0.001$ ), health information usage ( $P < 0.001$ ) and quality of life ( $P < 0.001$ ). Finally, there was no statistically significant difference between economic status regarding health literacy and quality of life ( $P > 0.05$ ).

**Table 3. Relationship between the five dimensions of health literacy, quality of life, and demographic variables**

Variables	Access to Information	Reading skills	Understanding	Assessment	health information usage	Quality of Life
Age	0.028	0.084	0.047	0.659	0.099	0.078
Gender	0.001	0.001	0.001	0.001	0.001	0.499
Marital Status	0.197	0.014	0.360	0.759	0.371	0.307
Education	0.001	0.001	0.001	0.001	0.734	0.001
Organizational position	0.001	0.001	0.001	0.001	0.001	0.001
Economic status	0.272	0.284	0.205	0.806	0.063	0.098

Table 4 shows the standard and raw coefficients of regression equations in order to predict the quality of life of the subjects, so that by increasing one of the subjects' evaluation score (while the effect of other variables being constant), the mean quality of life score increases to 0/ 82 and the evaluation score has a direct effect on the

mean quality of life score. Also, by increasing the score of health information usage between subjects in the study (while the effect of other variables being constant), the mean score of quality of life increases by 1.10 and the score of health information usage has a direct effect on mean quality of life score.

**Table 4. Crude and standard coefficients of regression equation to predict quality of life in the subjects**

Variables	$\beta$	standard error	Beta	T	P
Access to Information	0.53	0.120	0.132	1.662	0.263
Reading skills	0.36	0.153	0.192	0.766	0.123
Understanding	0.63	0.256	0.324	1.315	0.070
Assessment	0.82	0.163	0.482	2.714	0.001
health information usage	1.10	0.174	0.384	1.614	0.005
Constant	17.63	3.266	--	3.725	0.001

\* $p < 0.05$

## Discussion

This study was aimed to determine the relationship between health literacy and quality of life among health professionals in Famenin state in 1997. According to the findings, reading and understanding dimension of the participants had the maximum achievable score of the best situation among the other dimensions. Also, evaluation dimension has the worst situation among other dimensions. Overall, the results of this study showed a statistically significant relationship between the health literacy level and quality of life for participants, which consistent with the results of the study by Koolai Khodabakhshi .et al (2016) who examined the relationship between quality of life and health literacy level of diabetic patients, so that the results showed that the higher the health literacy of patients, the higher their quality of life in physical, psychological, and social dimensions (19) , which is inconsistent with the results of Song .et al(2012).

In this study, the results showed that the adequate health literacy level was significantly

associated with increasing physical and psychological dimensions scores of quality of life in the studied units (20). This difference was probably due to the target groups studied in these research. In addition, the researches of Mirzaei .et al (2016) study also showed a statistically significant relationship between the level of health literacy and quality of life in the elderly (14). Koshyar .et al (2014) showed that there was a direct and significant relationship between health literacy and quality of life, and people with adequate health literacy had a higher quality of life (15).

In present study showed that 46% of the subjects were inadequate and not-sufficient level in all aspects of health literacy and 35.5% had sufficient health literacy level and only 18.5% had excellent health literacy. These results were consisted with the findings of studies in Iran that assessed health literacy as inadequate; so that in a study by Ansari .et al (2016), 38.8% of people in the west part of Iran had inadequate health literacy; and in the study of Tawassi et al.

(2016) found 46% of those studied subjects had limited health literacy (21,22). Also, there was a statistically significant relationship between gender and all aspects of health literacy in the present study, which was inconsistent with the studies by Malkhali et al. (2014), Tawassi et al. (2016) and Afshari et al. (2014) (22-24). Possible reasons for higher health literacy among female staff may include greater adherence to health principles, more to follow medical advice such as periodic examinations, and greater interest of women in learning and acquiring health information. Other research findings showed that people over 40 years of age, men and workers with less education needed more to get training and health information than younger people with higher education, which was consistent with the study by Tawassi .et al (2016).

According to the results of this study, most of the public health information sources were physicians and health professionals and then the Internet. In a study conducted by Bigdley .et al (2016) among young people in Shiraz, physician and Internet access were the most important sources of information for youth (25). Also in the study by Tawusi .et al (2016), the largest individual's information sources were radio and television and physicians (22). But it is inconsistent with a study by Zare et al (2014) which showed that the most common source of health information is watching television and then asking friends and acquaintances (26). The possible reasons for this inconsistency in the results of Zare et al (2014) with the present study are the differences between the study population (health personnel) with the population referred to public libraries and the relatively higher literacy level of health personnel than them. Since the mean score of health literacy in more than 46.3% of the current study population was in inadequate and not-sufficient level,

therefore, it is recommended to empower community members and design diverse programs tailored to demographic variables with the aim of attracting participation to raise awareness related to healthy.

Also, based on the important role that physicians and health professionals play in promoting health behaviors and promoting public awareness in terms of information acceptance and to be trusted by the public; therefore, training communication skills and continuing education to the physicians community and health professionals has a significant effect on health promotion in the society. Given that the Internet and cyberspace are important sources of information, it is necessary that organizations responsible for health pay special attention to provide health information for health professionals in all fields.

One of the limitations of this study is its self-reporting, so that employees may be affected by the accuracy of the available information due to social desirability they wish to present. The high participation level of the staff regarding to being their busy is among the benefits of this study.

### Conclusion

Overall, the findings of this study show a significant statistical relationship between the level of health literacy and quality of life among employees, which indicating a key and important role of health literacy in promoting their quality of life. Considering that health promoting behaviors have the potential impact to improve the health and quality of life of employees and reduce health care costs as well, so health literacy should be considered as a factor that promotes health behaviors and provides healthier lifestyle, ultimately leads to promote staff quality of life

**Competing interests:** The authors declare that



they have no competing interests.

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

**Acknowledgements:** The authors of this article consider it necessary to thank Medical Sciences University in Hamadan for this study (in the form of a faculty research project number 9710045895) as well as appreciate all the staff of health organization in Famenin state who assisted the researchers in all stages of research. The authors' personal interests were not correlated with the results of this study.

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