



The correlation between health literacy and quality of life in pregnant women

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Introduction: Health literacy is an individual's capacity to obtain, interpret and understand basic health information necessary to make proper decisions in this area. This study investigated the correlation between health literacy and quality of life of pregnant women. **Material and Method:** This descriptive analytical study was conducted on 275 pregnant women admitted to the health centers in the city of Jahrom. Simple random sampling method was used. The World Health Organization Quality of Life - BREF (WHOQOL-BREF) instrument and Iranian Health Literacy Questionnaire (IHLQ) were used to collect data. Data were analyzed in SPSS using correlation coefficient and regression tests. **Results:** Findings showed that there was a significant relationship between health literacy and quality of life of pregnant women ($p=0.0000$). Health literacy level had a significant relationship with education ($p=0.02$). However, there was no significant relationship between health literacy level and the variables such as age, job, place of residence, income, number of pregnancies, number of children and intentionality of pregnancy. **Conclusion:** Planning and designing appropriate educational programs on health literacy for pregnant women can develop health literacy skills in the society and can improve the quality of life of pregnant women.

INTRODUCTION

Health literacy includes a set of reading, listening, analysis and decision-making skills and the ability to apply these skills in health issues (1). Health literacy is an important element affecting a woman's ability to engage in health promotion and prevention activities for herself and her children. Without sufficient understanding of healthcare information, it would be difficult or impossible for a woman to make informed and appropriate decisions for herself and her family's health (2). Maternal health literacy is a major concern due to two reasons: first, pregnancy may be the first exposure of a woman to the healthcare system; moving along this complicated system for the first time, even with sufficient literacy skills can be frightening; while less-educated women experience significantly more difficulties in learning new information and following guidance; the second reason is that a woman's health and her perception of health information, before pregnancy, during pregnancy and during child growth directly affect the child. Since women's education is crucial for improving the health of children and their families, women have been identified as the primary population for concentrating on increasing health literacy (3 and 4). New studies confirm the correlation between low health literacy and poor understanding of preventive care

information and less access to preventive service providers. Health literacy is essential for mothers to understand the pregnancy risks. Mothers' knowledge and perception about these dangers will influence their willingness to conduct health and therapeutic recommendations. Therefore, determining maternal health literacy level in the area of prenatal care can pave the way for improving the quality of health planning and policies.

Quality of life is another major factor affecting the health of pregnant women. Quality of life is measurable during different periods, including pregnancy (6). Due to the great importance of quality of life and health status, experts believe that the present century's healthcare system is focused on improvement of quality of life and health status (7 and 8). Quality of life involves an individual's physical, mental and social health and well-being. These dimensions are measurable during pregnancy and measuring the quality of life is essential for mother and neonatal care planning and understanding the necessity of such care is important for health care policymakers and associations (9). Quality of life plays a significant role in pregnant women's health; however, few studies have investigated this major issue. On the other hand, evaluation of quality of life of people and identification of factors which can reduce their quality of life and trying to resolve them can be considered effective measures to improve the quality of service delivery and to promote quality of life in a society. In addition, people's perceptions of quality of life are influenced by their beliefs and cultures and this further highlights the importance of this research.

Some studies in different countries have investigated the relationship between health literacy and other health outcomes,

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especially the quality of life of patients; however, there is no basic information on the relationship between health literacy and quality of life of pregnant women. Therefore, this study investigated the correlation between health literacy and quality of life and factors affecting health literacy of pregnant women.

MATERIAL AND METHODS

This descriptive analytical study was conducted on 275 pregnant women referred to the health centers in the city of Jahrom for prenatal care. Convenience and simple random sampling methods were used. The study was approved by the Ethics Committee of the Jahrom University of Medical Sciences (REC.1394.019.JUMS). Inclusion criteria included: literate pregnant women, Iranian nationality, no history of chronic underlying diseases (blood pressure, blood glucose, etc.), uncomplicated pregnancy with no special problem, no history of preterm delivery, abortion threat, gestational hypertension, no history of smoking and alcohol use and antidepressants and no history of stressful events (such as deaths of relatives and divorce) in the last six months. Incomplete questionnaires were omitted.

The World Health Organization Quality of Life - BREF (WHOQOL-BREF) instrument was used to measure quality of life. It contains 26 questions. The questions measure the quality of life and its variables, including four domains of quality of life and there are two general questions measuring the quality of life and health. Four domains of this questionnaire include: 1. physical health (questions 3, 4, 10, 15, 16, 17 and 18), 2. Psychological health (questions 5, 6, 7, 11, 19 and 26), 3. environmental health (questions 8, 9, 12, 13, 14, 24 and 25) and 4. social relationships (questions 20, 21 and 22). Based on the scoring information provided in the questionnaire's guide, each domain is given a score between 0-100. Higher scores indicate better status and lower scores indicate more problems in that domain. The reliability of this questionnaire has been measured in Iran by Negate et al. and Cronbach's alpha correlation coefficients in all domains exceeded 70% which indicates its desirable reliability (10).

Iranian Health Literacy Questionnaire (IHLQ) of Montazerie was used to measure the health literacy levels. This questionnaire was developed by Montazerie et al. in 2014. It consists of 33 items and 5 components. The components include: access (items 1 to 6), reading skill (items 7 to 10), understanding (items 11 to 17), evaluation (items 18 to 21) and decision-making and applying health information (items 22 to 33). All the items are scored directly, as follows: always (score 1), most times (score 2), sometimes (score 3), rarely (score 4) and never (score 5) and it finally gives an overall score. This is one of the most important health literacy tests in Iran. Cronbach's alpha correlation coefficients in all domains exceeded 70% which indicates its desirable reliability (11).

RESULTS

The participants aged between 16 to 45 years (mean: 28.17 and SD: 5.31). 38.9% were experiencing their first pregnancy and 37.5% had one child. 66% lived in the city and less than 33% lived in rural areas. 53.5% obtained their health information by asking physicians and healthcare providers and 24.4% searched the Internet for health information.

The results of Table 1 showed that the mean score of quality of life of pregnant women was 81.77. Among the four domains, environmental health (4.97 ± 21.95) and social health (2.37 ± 10.08) had the highest and the lowest scores, respectively. The quality of life of 52% of the pregnant women was high; while, 47.63% of them had lower levels of quality of life.

Table 2 shows the relationship between health literacy and quality of life domains, according to which there were statistically significant relationships between all areas of health literacy and quality of life.

Based on the Table 3, $R = 0.30$ and $R^2 = 0.09$ and since the significance level of obtained F was 1.60, it can be said (with 95% confidence) that about 0.02% of the variables of educational qualifications were correlated with health literacy; meaning that, there was a significant relationship between health literacy and participants' educational qualifications. However, there was no relationship between media literacy and variables of husband's education, job, husband's job, husband's age, place of residence, income, number of pregnancies and number of children.

DISCUSSION

Health literacy is an individual's capacity to obtain, interpret and understand basic health information and health services necessary to make proper decisions which includes a set of understandings, reading, listening, analysis and decision-making skills and the ability to apply these skills in health issues which does not necessarily depend on education or general reading skills. Considering the importance of health literacy in the healthcare system, it is necessary to determine health literacy levels in the community to prevent the prevalence of chronic diseases, to reduce treatment costs, to conduct preventive measures by individuals to avoid chronic diseases and to promote public health in the community. This study was conducted to determine the relationship between quality of life and health literacy of pregnant women admitted to the health centers in the city of Jahrom. The results showed that 47.63% of pregnant women had high levels of quality of life. Environmental health (4.97 ± 21.95) - especially in the sub-component of financial issues - and social health (2.37 ± 10.08) had the highest and the lowest scores, respectively. The study of Aghanoori et al. (2012) also showed a higher score in the environmental health compared to the social health dimension (12).

In addition, in the study of Makvandi and Etemadi Kermani (2012) the mean score of quality of life of pregnant women was 62.9 ± 17.3 . Social health (82.2 ± 21.8) had the highest score of quality of life and vitality (social health) (50.6 ± 18.7) and physical health problems (51.4 ± 42.7) had the lowest scores, respectively (13). The results of the study of Rose et al. (2003) on students showed that people who feel safe, have higher incomes and higher levels of health services, enjoy higher levels of quality of life and this confirms the findings of the present study (14). The results indicate that the mean score of social health dimension obtained by women is relatively low and the mean score of other three dimensions (mental health, physical health and environmental health) are at a relatively mediocre level. In general, their quality of life was at a relatively mediocre level. In addition, in the present study, the relationship between health literacy and demographic variables such as age, education, job, place of residence, income, number of pregnancies, number of children and intentionality of pregnancy were studied. This is consistent with the results of study of Rakhshani et al. (2015). They concluded that there was a significant statistical relationship between health literacy level and education. However, there was no statistically significant relationship between health literacy and other demographic variables (15).

The results of the present study were inconsistent with the study of Ziaiepour and Kianipour (2016). T-test and one-way analysis of variance (ANOVA) revealed a significant relationship between health literacy level with gender, age, field of study, educational level and residence place (16).

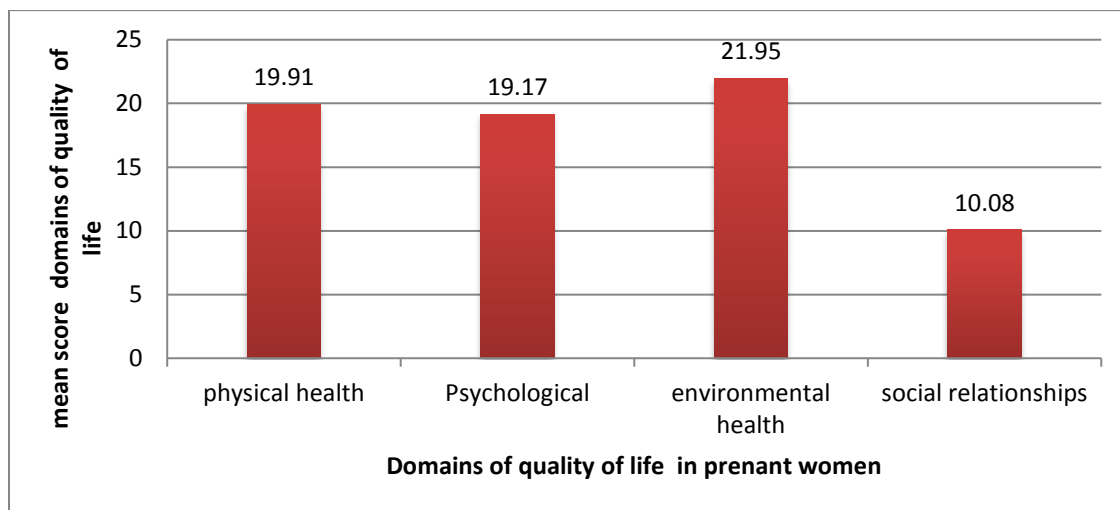


Chart 1 Mean score of quality of life in pregnant women

Table 1 Mean score of quality of life and its dimensions in pregnant women

Domains of quality of life	Mean	SD±	Poor quality of life		Good quality of life	
			N	%	N	%
physical health	19.91	4.18	120	43.63	154	56.34
Psychological	19.17	3.69	147	53.45	126	45.81
environmental health	21.95	4.97	136	49.45	137	49.81
social relationships	10.08	2.37	152	52.27	120	43.
Total quality of life	81.37	14.05	143	52.37	131	47.63

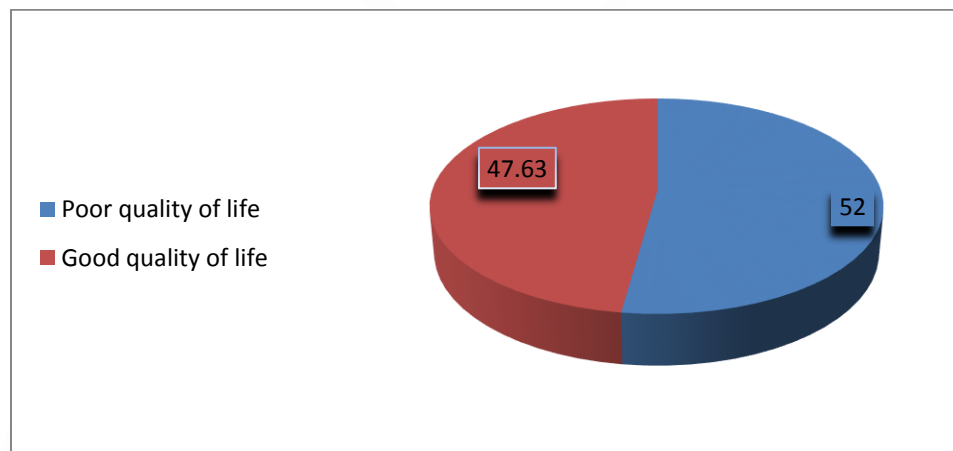


Chart 2 percent of types of quality of life in pregnant women

Table 2 Correlation of health literacy with domains of quality of life in pregnant women

		physical health	Psychological	environmental health	social relationships	Total quality of life
Access	Pearson Correlation	-0.189	-0.245	-0.36	-.029	-0.35
	Sig	0.002	0.000	0.000	0.000	0.000
Reading skill	Pearson Correlation	-0.057	-0.34	-.037	0.31-	-0.35
	Sig	0.000	0.000	0.000	0.000	0.000
Understanding	Pearson Correlation	-0.14	-0.33	-0.28	-.020	0.32-
	Sig	0.02	0.000	0.000	0.001	0.000
Evaluation	Pearson Correlation	-0.21	-0.34	0.32-	-0.30	0.36-
	Sig	0.000	0.000	0.000	0.000	0.000
Decision-making	Pearson	-0.064	-0.14	-.014	-0.16	-0.18

	Correlation					
	Sig	0.02	0.01	0.01	0.006	0.002
Health Literacy	Pearson					
	Correlation	-.017	-0.37	-0.38	-0.33	0.41-
	Sig	0.003	0.000	0.000	0.000	0.000

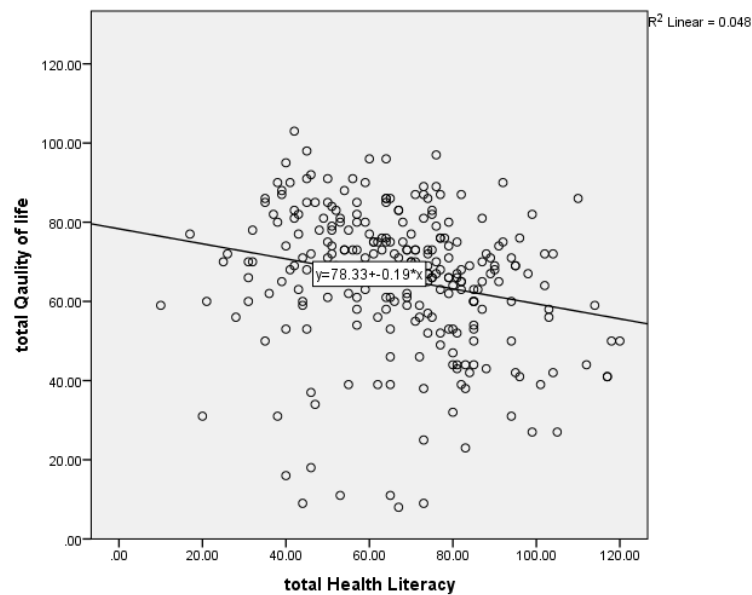


Chart 3 Correlation of Health Literacy with quality of life in pregnant women

Table 3 Correlation between Demographic characters with Health Literacy in pregnant women

	B	Std. Error	Beta	T	Sig.
Age	0.27	0.41	0.08	0.65	0.51
Education level	-3.81	1.73	-0.22	-2.20	0.02
Husband education level	0.26	2.04	0.013	0.13	0.89
Job	0.19	3.29	0.005	0.05	0.95
Husband job	6.64	3.66	0.15	1.81	0.07
Age husband	0.025	0.39	0.008	0.06	0.95
Residence	2.06	3.32	0.05	0.61	0.53
Income	1.61	0.000	0.014	0.17	0.86
Wanted pregnancy	4.87	3.68	0.10	1.32	0.18
Number of pregnancy	-0.019	1.84	-0.001	-0.01	0.99
Number of child	-2.26	2.46	-0.10	-0.91	0.39

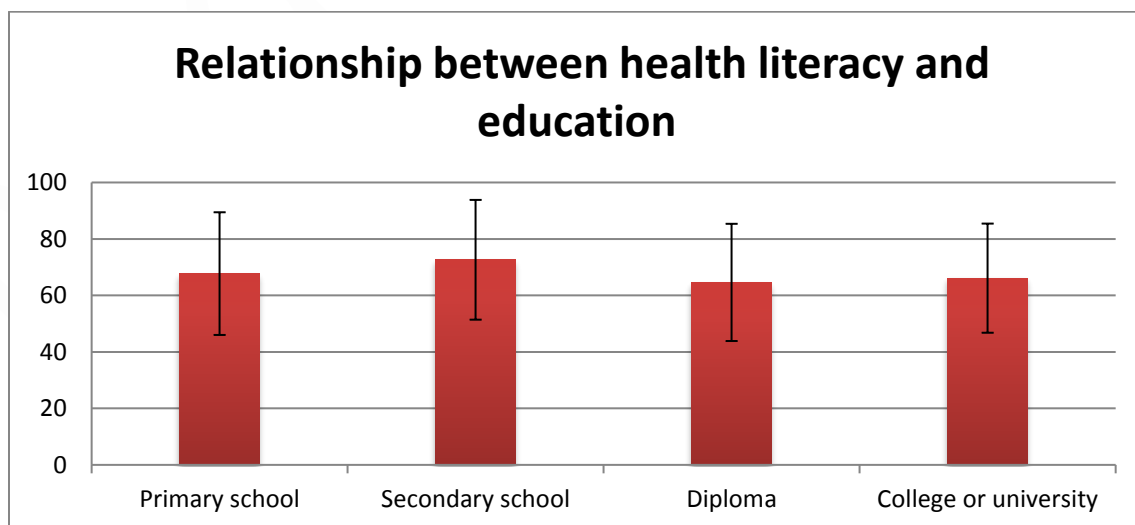


Chart 4 Correlation of education level and Health literacy in pregnant women

In addition, the results of this study showed that there was a significant positive relationship between quality of life and health literacy in pregnant women; meaning that with an increase in the quality of life scores, health literacy scores will increase, too. This finding is consistent with the results of previous studies (15 and 16). Khosravi et al. (2015) in their study investigated the health literacy level among diabetic patients admitted to health centers in the city of Shiraz. The results showed that these patients had an inadequate level of knowledge about their disease and researchers recommended providing simple and understandable educational sources for the community and in particular for diabetic population to increase their health (17). Findings of another study showed that there were significant relationships between communicative and critical health literacy levels and features of self-care behaviors with the quality of life and health literacy is a preventative factor for diabetes (18).

Findings of a study by McCleary-Jones (2011) showed significant relationships between quality of life and its subscales (physical, mental, environmental and social health) in pregnant women admitted to health centers. Therefore, health literacy is a good predictor of self-care behaviors in pregnant women (19). Huss et al. (2015) also showed that health literacy had significant positive relationships with mental health and life satisfaction. With an increase in the health literacy, mental health and life satisfaction will increase, too (20). Van der Heide (2014) found that health literacy, diabetes knowledge and self-management had significant relationships with general health in Dutch adults with type 2 diabetes. They insisted that self-management behaviors are key elements in diabetic patients care and this is achieved when patients acquire the necessary information and knowledge about the disease (21).

CONCLUSION

Findings of this study showed that there was a significant positive relationship between quality of life and health literacy of pregnant women. Promotion of quality of life and health literacy training will reduce social, mental and financial costs for pregnant women and increasing the health literacy levels among public - through media, educational classes or films - can play a key role in improving the status of pregnant women in the community. In addition, quality of life is a multidimensional complex phenomenon which is affected by many mental, social and economic factors and it was not possible for the researcher to analyze and control all of the factors in this study. Therefore, the results should be generalized to other cases carefully.

Limitations and suggestions

According to the findings, health literacy explains 45.5% of quality of life in pregnant women; therefore, it is suggested to investigate the effect of other factors on quality of life of pregnant women in future studies.

- The results also revealed the significant impact of health literacy and its promotion on quality. Hence; it is suggested to mental and physical health specialists to utilize leaflets and booklets, to hold workshops and to produce educational films in order to increase women's health literacy levels.
- During their prenatal care, special attention should be paid to their quality of life, especially in lower-score dimensions to realize the health of mothers who ensure the health of the community.
- Most of the quality of life measurement tools have been designed and validated in western countries; thus, it is suggested to develop an Iranian tool, in accordance with organizational culture and the structure of health and social services to evaluate the quality of life.

- Due to the nature of health literacy measurement tool used in this study, only reading skills, understanding skills, etc. were studied. It is essential to measure these skills as the first step in evaluating health literacy; however, in order to succeed in the health system, other skills, such as listening and speaking skills and underlying and cultural factors should also be considered.

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Conflict of Interest

The authors declare that there is no conflict of interests regarding the publication of this paper

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