

Investigation of the Health Literacy Level of Women in Reproductive Age as a Public Health Problem in Zahedan

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Abstract

Introduction: The aim of this study was to evaluate health literacy (HL) status among women of reproductive age who referred to urban health centers in Zahedan.

Methods: In this cross-sectional descriptive study, 250 women of reproductive age (15-49 years old) who referred to urban health centers in Zahedan, Iran were assessed using the Iranian Health Literacy Questionnaire. To analyze the data, SPSS 15 software and statistical tests including independent sample t test and chi-square test were used.

Results: The mean \pm standard deviation (SD) age of participants in this study was 26.32 ± 5.83 with a minimum of 15 and maximum of 45 years. The majority of the participants (32.4%) held a high school diploma and 88.8% of them were housewives. The mean HL score was computed 7.15 out of 20 indicating that 100% of the participants had inadequate HL. There were significant relationships between HL score and age, occupation, educational degree, language and living location ($P < 0.05$).

Conclusion: Considering high levels of inadequate HL among women of reproductive age in Zahedan, it is recommended to use HL measures to screen people with inadequate HL, to provide each individual with information and services which are appropriate to their HL skills and to be able to reduce the consequences of inadequate HL.

Keywords: Health literacy, Iran, Women, Iranian Health Literacy Questionnaire

Introduction

Every day millions of people have to make decisions about the health issues surrounding themselves, their family and their community.¹ The ability of individuals to seek, understand and use health information are called health literacy (HL).² The World Health Organization (WHO) has introduced HL as one of the most important determinants to promote various aspects of public health.³ It is defined as cognitive and social skills which determine the motivation and ability of individuals to access, understand and use information in a way that is conducive to maintaining and improving their health.⁴ Low health literacy has been introduced by many researchers as a global problem and a challenge in the 21st century.^{5,6} People with strong HL skills enjoy better health and well-being, while

those with weaker HL skills tend to engage in riskier behavior and have poor health.⁷ Inadequate HL can increase the burden of disease on society.⁸

Since women play an important role in training, maintaining and improving their own and their family members' health and subsequently can influence society's health,⁹ more attention should be paid to increase their HL.¹⁰ Without an adequate understanding of health care information, it would be difficult for a woman to make informed decisions leading to better health outcomes for herself and her family. Thus, health literacy is an essential factor in a woman's ability to understand, process and act on health-related information.¹¹

In a study conducted on HL among Spanish-Latino speaking parents with little English proficiency, results revealed that

mothers with higher HL skills are more likely to administer the correct amount of medication to a child.¹² The result of Kohan et al study about the association of HL with prenatal care and pregnancy outcome indicated that women with higher HL have begun prenatal care earlier and have more frequently referred for health care compared to women with low HL.¹³

Given the importance of HL, its impact on women's health, and differences in ethnicity and language in Sistan and Baluchistan province with other parts of the country, it seemed necessary to evaluate the HL. Hence the current study aimed at determining the HL level and its related factors in women of reproductive age.

Methods

This cross-sectional descriptive study conducted from September to November 2015, for the women of reproductive age who referred to health centers in Zahedan. In this study, a stratified cluster sampling was used. At first the city was divided into 5 geographical regions including North, South, East, West and Center and then a city health clinic was selected randomly by drawing from the list of urban health centers in each district of the city. After that, 50 females were selected from each health center by convenience sampling. The inclusion criteria were the being able to read and write, having Iranian citizenship, not being pregnant, and being at the minimum age of 15 years and the maximum age of 49 years. The exclusion criteria were unwillingness to participate in the study and failure to complete the questionnaire.

The sample size of 247 was calculated using the following formula based on a previous study,¹⁴ and taking into account the 95% confidence level, $d = 4.5$ and $S = 36.1$.

$$n = \frac{(Z_{1-\frac{\alpha}{2}})^2(S)^2}{(d)^2}$$

Data collection instrument included a demographic information form (age, marital status, education, occupation, dialect or the language used at home), and Iranian Health Literacy Questionnaire (IHLQ). The questionnaire was designed by the Health Modeling Center associated with Kerman University of Medical Sciences to evaluate HL in Persian speaking adults and was approved in terms of reliability and validity in a national research project.¹⁵ In the current study, for the sake of content validity, a number of subject-matter experts were asked to decide how well the questions measure the HL. Cronbach α for IHLQ was calculated 0.92 in this study. IHLQ contains 9 sub-components which are as follows: access to health information sources (5 items), using of these sources (6 items), the ability to read (5 items), the ability to understand (8 items), the judgment and assessment (6 items), the ability to make decisions and communications (8 items), health knowledge (5 items), individual empowerment (8 items) and social empowerment (4 items). In order to determine HL score, each sub-component score was calculated separately and then was multiplied by the number of questions of the same sub-component. Ultimately, sum of the com-

ponents scores was divided by the total number of questions (55 items) to obtain the total score. The final score of HL was based on a 0 to 20 scale, in which less than 10, 10 to 14 and more than 14 was considered limited, marginal and adequate health literacy, respectively.

A total of 250 demographic information forms and questionnaires were provided to the eligible people after explaining study objectives and obtaining the written consent.

All the 250 distributed forms and questionnaires were completed in 30 minutes and returned. Descriptive statistics, independent t test for continuous variables and chi-square test for categorical variables were used to analyze the data. SPSS version 15 was used for statistical analysis; $\alpha = 0.05$ was considered as the level of statistical significance.

Results

According to the results, the mean \pm standard deviation (SD) of age in these participants was 26.32 ± 5.83 years old with a minimum of 15 and maximum of 45 years and the majority held a diploma (32.4%), were married (92%) and were housewives (88.8%). The average HL score was limited (7.15 out of 20), and 100% of patients had inadequate HL. Table 1 shows the demographic characteristics of the participants based on the health literacy level.

Table 2 indicates the average raw score of health literacy in each sub-component.

Comparison of health literacy level in health centers

Table 1. Demographic and Background Characteristics, by Health Literacy Level

Characteristics	Limited Health Literacy No. (%)	Marginal Health Literacy No. (%)	P Value
Age (y)			<0.001
15-25	112 (44.8)	3 (1.2)	
26-35	103 (41.2)	17(6.8)	
36-45	9 (3.6)	6 (2.4)	
Ethnicity			0.001
Fars	88 (35.2)	19 (7.6)	
Balouch	136 (54.4)	7 (2.8)	
Education			< 0.001
Elementary school	47 (18.8)	0 (0)	
Middle school	37 (14.8)	0 (0)	
High school	28 (11.2)	1 (0.4)	
Diploma	71 (28.4)	10 (4)	
Associate degree	20 (8)	6 (2.4)	
BA or higher degree	21 (8.4)	9 (3.6)	
Job			< 0.001
Housewife	208 (83.2)	14 (5.6)	
Employed	7 (2.8)	12 (4.8)	
Unemployed	9 (3.6)	0 (0)	
Marital status			0.409
Married	205 (82)	25 (10)	
Single	19 (7.6)	1 (0.4)	

based on chi-square test was significant ($P < 0.001$). Table 3 shows the health literacy level of the participants disaggregated by urban health centers.

Discussion

The results showed that 100% of females of reproductive age had inadequate health literacy. The results of a study by Peyman et al on rural females in Roshtkhar, Razavi Khorasan province, Iran, showed that 88.8% of participants had inadequate health literacy.¹⁶ Also, the results of a study in Isfahan, Iran, by Kohan et al on females after childbirth showed that 82% of females had limited and marginal health literacy.¹³ These studies and the present study findings were in line with the results of the study conducted by Ghanbari et al on HL in pregnant mothers in Tehran,¹⁷ but the percentage of females who had inadequate health literacy (54.6%) remarkably differed from those of the present study. It seems that the difference was due to different geographical regions, research population, and the questionnaires used in the studies. The study by Ghanbari et al indicated that access to information and benefiting from health care services were easier for people who live in Tehran, the capital, compared with the ones living in distant locations and underserved cities such as Zahedan. The present study population included females of reproductive age, while Ghanbari et al studied pregnant mothers who were likely more motivated, and paid more attention to health information and health recommendations. In addition, IHLQ used in the present study measures a wider scope, compared with other health literacy

assessment questionnaires; e.g. Test of Functional Health Literacy in Adults (TOHFLA), which only examine the areas of reading and computation.

The current study findings showed that there was a significant relationship between HL and age ($P < 0.001$), and that the older a participant was, the higher HL she had. The results of the studies by Jovic-Vranes et al¹⁸, Berens et al¹⁹ and Peyman et al¹⁶ showed that with increasing the age, health literacy decreased. This difference could be due to the limited age range of the present study (15 to 45 years). In other words, the current study was conducted on a young population, while Jovic-Vranes et al and Peyman et al studied individuals aged 35 years or older. Our study conducted only in females of reproductive age but Berens et al studied all age groups in both genders.

The current study results showed that with increasing the years of education, HL increased, which was consistent with the results of several other studies conducted in this field.^{18,20} In the current study, despite the significance of the relationship between health literacy and years of education, even educated people with more than 12 years of education lacked enough health literacy. Thus, education can be a predictor of HL, but it is usually more complex, and often lower than people's general literacy.²¹

In the current study, there was a significant relationship between employment status and HL score. Employed females had higher HL than housewives or the unemployed ones. These results were in line with those of the studies by Jovic-Vranes et al, and Haghghi et al.^{3,18} In the current study, employed females had higher level of education, compared with housewives or unemployed females, which can be the reason for their higher HL. Several studies also showed that generally, people with high socioeconomic status had higher HL.^{14,22} It seems that other reasons for higher health literacy in employed females were a better economic status and financial independence.

In the current study, there was no significant relationship between marital status and HL score. The results of the present study were not consistent with those of Haghghi et al who examined the health literacy of females of reproductive age with breast cancer.³ The current study was conducted in health centers where the number of referring single people was usually low. Most services provided at health centers include pre-pregnancy counseling, care during pregnancy, postpartum care, child health care, child growth monitoring, and reproductive health services. Basically, single people rarely came to these centers, thus, it seems to be the reason why the study results were not statistically significant.

The results also showed that the HL score in adults who spoke Baluchi was significantly lower than that of the people who spoke Persian. In various studies, ethnicity and language were identified as the factors influencing HL.²³⁻²⁵ Health care providers in health centers spoke Persian and written sources of information and health recommendations were also provided in Persian. Differences in language are a barrier to effective communication. In addition, cultural differences, often associated with

Table 2. Average Health Literacy Raw Score in Each Sub-component

Sub-component	No. of questions	Score Range	Mean (SD)
Access to information sources	5	0-5	12.02 (6.64)
Using Information	6	0-6	17.08 (9.38)
Ability to read	5	0-15	44.52 (13.17)
Ability to understand	8	0-24	120.73 (36.15)
Judgment and assessment	6	0-18	67.2 (21.61)
Ability to make decisions and communicate	8	0-16	81.98 (26.56)
Health knowledge	5	0-5	12.86 (6.74)
Individual empowerment	8	0-16	26.11 (30.42)
Social empowerment	4	0-8	10.36 (7.97)

Table 3. Health Literacy Level of the Participants Disaggregated by Urban Health Centers

Urban Health Centers ^a	Health literacy	
	Limited No. (%)	Marginal No. (%)
Imam Javad	50 (100)	0 (0)
Imam Reza	41 (73)	9 (27)
Imam Hadi	48 (96)	2 (4)
Imam Hasan Mojtaba	50 (100)	0 (0)
Farokhi Sistani	35 (70)	15 (30)

^a $P < 0.001$.

differences in language, are also communication barriers.²⁶ Language barriers decrease access to primary care and preventive care, reduce individual's compliance with treatment, and lower one's satisfaction.²⁷

Comparison of HL mean scores in different urban health centers showed significant differences. The highest and lowest scores belonged to Farokhi-Sistani and Imam Hassan health centers, respectively. The mean age of patients referred to Farokhi-Sistani Health Center was higher than those of other centers. The number of people with more than 12 years of education in this health center was higher than those of the other centers (48%). These results were consistent with the results of the study conducted by Ghanbari et al. Other studies conducted in this area also showed significant differences between HL level of people referred to rural and urban health centers as well as those of the ones referred to urban health centers and emergency units.^{14,28,29}

One of the strengths of this study was the use of Iranian native standard health literacy assessment tool which measures a wider scope of HL compared to the tools used in similar studies. The limitations of the study can be working hours of health centers and the type of services provided in them, because employed or single people were less likely to participate in the study.

Conclusion

The current study showed that females of reproductive age referred to health centers lack adequate HL. Considering the fact that health literacy is one of the most important components of increasing the level of public health, the results of the current study are alarming for the health system planners and policy makers. It is recommended to plan interventional programs to promote HL level of females with low socioeconomic level that belong to an ethnic minority, and live in deprived areas or countryside. It is also recommended to utilize HL assessment tools in health centers to screen people with inadequate HL, and provide education, prevention, treatment, and health promotion information and services in accordance with each person's HL level. Therefore, the consequences of inadequate health literacy can be reduced.

Ethical Approval

The study was approved by the ethics committee of Zahedan University of Medical Sciences (IR.ZAUMS.REC.1394.153). We obtained informed consent form our participants after explaining study objectives. Confidentiality of data was guaranteed by the researchers.

Competing Interests

The authors declare that they have no conflict of interest.

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