Investigating the Relation Between Health Literacy and Behaviours Promoting Health in Health Ambassadors of Kazeroon City Healthcare Centers 2017

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ABSTRACT

Background: During the past decade, significance and impacts of low level of health literacy on individuals’ health status has been greatly noticed. This study was conducted with the aim of determining the relation between health literacy with promoting behaviors in health ambassadors of Kazeroon city healthcare centers.

Methods: This study was descriptive – analytical and of cross-sectional type. The research sampling method was multi-stage method. Samples were selected from three urban healthcare centers and three rural health care centers and from each center respectively two bases and two health houses were randomly selected. In the present study, two questionnaires of health literacy and standard questionnaire (HpLp-II) was used. Pearson correlation test, independent t-test and bilateral variance analysis were used for data analysis.

Results: 528 health ambassadors completed the questionnaires that from them 79.85 were woman and 20.20% man. The results of the present study showed that there is a significant relation and positive correlation between health literacy rate of ambassadors and general behaviors promoting health and its components like liability, physical activity and nutrition habits (P<0.05).

Conclusion: The results of the present study showed that increasing of ambassadors health literacy is effective in increasing their health promoting behaviors and it is recommended that in future with effective interventions, besides promoting health literacy of people in various fields, increase their cooperation and participation for self-care and doing health promoting behaviors.

Key words: health training, health literacy, health promoting behaviors, health ambassadors, healthcare centers

INTRODUCTION

Health literacy is the ability of access, perception, evaluation and transfer of information through health promotion, maintenance and improvement all over life. But, it should be noticed that health literacy is a concept beyond individual abilities of a person. Health literacy is related to abilities, tastes and expectations of information providers and cares relating to health, people like physicians, nurses, media and many other people

World Health Organization, in a report has newly introduced health literacy as one of the greatest determiners of health affairs. Also, in world conference of health promotion in Mexico, this organization introduces health literacy as cognitive and social skills which determine motivation and capability of individuals for access, perception and utilizing information so that it leads to preservation and promotion of their health. But, yet various studies show a wide range of insufficient health literacy in various countries. A systematic
review by Orlue et al in North America on studies performed in this field showed that about 26% of people generally had low health literacy and 20% had marginal health literacy. Of course, the changes domain has been very wide. In Iran, the results of a study by Tehrani, Banihashemi et al by investigating health literacy and factors effective on it in 5 provinces of the country (Bushehr, Mazandaran, Kermanshah, Ghazvin and Tehran) showed that generally health literacy in Iran is low.

During the past decade, significance and impacts of low health literacy on individuals' health status has been greatly noticed. Chio, Bradly & Boyco in their study showed that low health literacy is related to undesirable consequences like more hospitalization, using more emergency services, more drug consumption, less ability in consuming suitable drugs, non-realizing medicinal labels and health messages and weak reporting of their health status.

Health literacy is one of the greatest determiners of health issue which includes skills of reading, listening, analyzing and decision making and the ability of using these skills in health situations which don’t necessarily refer to education years of general reading ability. The performed studies show insufficient health literacy in various countries.

Health promotion and supplying health of people in the society is one of pillars of the society's progress. Health promotion is the process of empowering people for increasing control on health and its improvement and includes a wide domain of social and environmental interventions. According to Pender theory, health promoting behaviors include any type of action performed for increasing health level and an individual or a group self-actualization. Health promoting behaviors emphasize positive life patterns which cause increasing of health and life quality level. Health professions which previously focused on illness treatment, now focus on preventing illness and supplying health through improvement of life style, physical activity, stress management, health responsibility and spiritual growth and also omitting factors which somehow have a negative impact on human health level.

Health promotion is the process of empowering people for increasing control on health and its improvement and includes a wide domain of social and environmental interventions. Health promoting behaviors are one of main criteria of determining health which impacts life positive patterns and causes increasing of health level and life quality.

Health promoting behaviors are one of main criteria of determining health which have been known as the background factor in non-affectation to many illnesses and health promotion and preventing from diseases are related to these behaviors. Several studies have shown that performing health promoting behaviors and following it, healthy life style significantly intervene with life prolongation and life expectancy. Modifying health promoting behaviors is a significant and considerable strategy for preventing from non-communicable diseases during 20 and 21st century. Promoting behaviors relating to health will lead to preserving performance and independence of people and increasing their life quality and reduction of healthcare costs, so that 53% reasons of people death are related to life style and their non-healthy behaviors.

Promoting behaviors relating to health will lead to preserving performance and health of people and increasing their life quality and reduction of healthcare costs. Healthcare services system of our country has taken valuable steps for supplying health and improving people life quality till now, but today life demands greater and faster changes. Therefore, from 2014, effort for developing public health coverage and improving life quality of all people resident in our country in the format of health evolution plan in health domain has been started. One of objectives of public health coverage is that people be empowered for self-care.

One of goals of public health coverage is that that people be empowered for self-care. Self-care plan is one of general policies of health imparted by Great Leader in executing article one of constitution 110 which emphasizes increasing awareness, liability, empowerment and structured and active participation of the individual, family and society in supplying, preserving and promoting health using capacity of cultural, educational and media identities and organizations under supervision of Ministry of Health, Treatment and Medical Training.

Self-care includes acquisitive, informed and purposeful actions that people perform for themselves, their children and family to remain healthy, preserve their mental, physical and social health, manage their mental, social and physical needs, prevent from illnesses and events, manage their chronic diseases and preserve their health after acute illness or discharge from hospital.

Therefore, for implementing national self-care plan, one person from any family is selected voluntarily as health ambassador. Health ambassador is a member of family who has at least 8 grades literacy of reading and writing and voluntarily undertakes transferring learned topics in the health domain and active care of themselves and their family and society. Health ambassador is not special to a specific job or class and may be householder, employee, university student, second grade high school student or other occupations. It may be said that major liability of health ambassador, self-care culture development, preserving and promoting their family health.

In this study, by utilizing the relation between health literacy and health promoting behaviors in health ambassadors of Kazeroon City healthcare centers, it was tried that the results of this study to be valuable in preventing and controlling chronic diseases, health problems and micro and macro plans and objectives of managers and decision makers and with real implementation, public health to be institutionalized.

**METHODS**

This study was descriptive-analytical and of cross sectional type. The statistical population of this study was all active ambassadors under coverage of Kazeroon City health center. The study sampling method was multi-stage and for determining the sample content, the following formula was
By considering the above assumptions, the suitable sample content is 528 cases.

Samples were selected with multi-stage method from healthcare centers of Kazeroon City. At first, three urban healthcare centers and three rural healthcare centers were randomly selected as cluster. Then, from each urban healthcare center two bases and from each rural healthcare centers two health houses were randomly selected. In the next stage, a list of families which had health ambassadors were prepared that in this list, the item number and family number were registered and then from any base and health house, 44 ambassadors were systematically and randomly selected and totally from every six bases and six health houses, 528 questionnaires were completed.

The questionnaires completion method was in this way that questionnaires were provided for ambassadors and the required explanations about responding method to questionnaires were given to ambassadors by researchers to answer them. For determining the status of health promoting behaviors, standard questionnaire of Health (HpLp-II) Promotion Lifestyle Profile II was used. This questionnaire is an instrument which is used for multi-dimensional evaluation of health promoting behaviors while there are other instruments which cover just a dimension of health promotion behaviors. HpLp-II has been widely used in studies of health promotion and its validity and reliability have been sufficiently reported among different populations such as students, adolescents and adults for discovering correlation or health determinants. This questionnaire includes 52 items and a combination of two classes and five subscales. Also, for evaluating health literacy, a questionnaire designed by Montazeri et al. was used. This questionnaire included 33 five-option items and in 5 dimensions was designed. People were free for participating in the study. The questionnaire was completed by them in case of satisfaction. It was explained for them that there is no need to write the specifications (name and surname) and the information will remain confidential. Data after collection was analyzed using SPSS 22 software. Descriptive data was analyzed based on comparing average and standard deviation and in investigating the relation between variables, Pearson correlation test and for comparing averages; independent t-test and bilateral variance analysis were used. In this study, the significance level for all statistical tests was considered 0.05.

RESULTS

528 persons participated in this study as health ambassadors from rural and urban healthcare centers of Kazeroon city that among them, 394 persons (79.8%) were women and 100 persons (20.20%) were men. 34 participants in this study didn’t specified their sex. For investigating whether health literacy rate among men and women in this study has a significant difference or not, independent t-test was used. The results showed that regarding the rate (t=2.27) and significance level (P=0.023), health literacy rate of Kazeroon City healthcare centers ambassadors has a significant difference among men and women ambassadors and women had higher health literacy level than men (Table 1) And for investigating health literacy level among urban and rural health centers ambassadors, independent t-test was used and the results showed that regarding t=6.02 and significance level P=0.001, health literacy rate of health ambassadors resident in urban centers has a significant difference with rural centers and urban centers ambassadors have higher health literacy level than rural centers ambassadors (Table 1).

For investigating this hypothesis, regarding existence or lack of difference between health literacy level of healthcare ambassadors based on their education method, bilateral variance analysis test was used.

As Table 2 shows, most of healthcare ambassadors (365 equal to 69.1%) receive their health literacy through three sources of internet (45.3%), radio and television and their physician. That internet with 239 references (45.3%) is the major source of acquiring health literacy and referring to physician with 126 references (23.9%) and radio & TV with 105 references (19.9%) are in the second and third ranks. About health literacy rate of healthcare ambassadors, the results of this study showed that the ambassadors whose health literacy source has been training booklet, pamphlet and brochures designated the highest average (112.5) to themselves. In other words, they had higher health literacy level. Refugees to sources of newspaper, magazine and journal (105.1), internet (102.3) and physician (99.4) were in the next ranks respectively. The least health literacy level was related to ambassadors who had referred to sources of IVR with average 68.7 and other resources (without information of the source) with average of 72.5.

The results of table 3 show that generally, there is a positive and significant relation between general behaviors of health promotion and health literacy rate of ambassadors in Kazeroon City healthcare centers with correlation coefficient and significance level of r=0.668 and p=0.001. In other words, by increase of ambassadors’ health literacy, the score of their health promoting general behaviors increases.

Also, the results of this table show that there is a significant and positive correlation between health literacy level of

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Table 1 - comparing the average of ambassadors health literacy based on sex and being rural or urban

<table>
<thead>
<tr>
<th>p-value</th>
<th>Number</th>
<th>Sex</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.023</td>
<td>526</td>
<td>Woman</td>
<td>Rural</td>
</tr>
<tr>
<td>0.001</td>
<td>526</td>
<td>Man</td>
<td>Urban</td>
</tr>
</tbody>
</table>

Table 2 - descriptive statistics of health literacy rate of ambassadors regarding resource of acquiring health literacy

<table>
<thead>
<tr>
<th>Source</th>
<th>Standard Error</th>
<th>Standard Deviation</th>
<th>Average</th>
<th>Number</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>1.32</td>
<td>20.44</td>
<td>102.3</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>IVR</td>
<td>8.45</td>
<td>14.64</td>
<td>88.7</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Radio-TV</td>
<td>2.12</td>
<td>21.82</td>
<td>98.3</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td>Journals and magazines</td>
<td>5.40</td>
<td>28.10</td>
<td>105.1</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Booklet &amp; brochure</td>
<td>5.87</td>
<td>10.13</td>
<td>112.5</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Asking friends</td>
<td>6.94</td>
<td>24.12</td>
<td>87.6</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Asking physicians</td>
<td>9.97</td>
<td>22.18</td>
<td>99.4</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>10.50</td>
<td>14.84</td>
<td>72.5</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.960</td>
<td>21.83</td>
<td>100.49</td>
<td>528</td>
<td></td>
</tr>
</tbody>
</table>
ambassadors and their liability score in healthcare centers with correlation coefficient and significance level of \( r = 0.539, p=0.001 \). In other words, by increasing of ambassadors' health literacy level, their liability increases.

In the rest of this table results, there is a significant and positive correlation between physical activity and health literacy level of health ambassadors in Kazeroon city healthcare centers with correlation coefficient and significance level of \( r = 0.419 \) and \( p=0.001 \). In other words, by increasing of ambassadors' health literacy, their physical activity increases.

Also, there is a positive and significant difference between nutritional habits of health promoting behaviors and health literacy level of health ambassadors in Kazeroon City healthcare centers with correlation coefficient and significance level of \( r =0.416 \) and \( p=0.001 \). In other words, by increasing of ambassadors' health literacy rate, their score of nutritional habits increases.

### Table 3- Pearson correlation test for determining the relation between general health promoting behaviors, liability dimension, physical activity and nutritional habits with health literacy level

<table>
<thead>
<tr>
<th>Significance level</th>
<th>Correlation coefficient</th>
<th>Standard deviation</th>
<th>Average</th>
<th>Number</th>
<th>Variables</th>
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</thead>
<tbody>
<tr>
<td>0.001</td>
<td>0.686</td>
<td>32.06</td>
<td>138.4</td>
<td>528</td>
<td>General health promoting behaviors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.83</td>
<td>100.5</td>
<td>528</td>
<td>Health literacy</td>
</tr>
<tr>
<td>0.001</td>
<td>0.539</td>
<td>6.69</td>
<td>23.4</td>
<td>528</td>
<td>Liability dimension</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.83</td>
<td>100.5</td>
<td>528</td>
<td>Health literacy</td>
</tr>
<tr>
<td>0.001</td>
<td>0.419</td>
<td>6.69</td>
<td>23.4</td>
<td>528</td>
<td>Physical activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.83</td>
<td>100.5</td>
<td>528</td>
<td>Health literacy</td>
</tr>
<tr>
<td>0.001</td>
<td>0.416</td>
<td>6.69</td>
<td>23.4</td>
<td>528</td>
<td>Nutritional habits dimension</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.83</td>
<td>100.5</td>
<td>528</td>
<td>Health literacy</td>
</tr>
</tbody>
</table>

Also, our study regarding existence and lack of difference among ambassadors health literacy based on education and access method indicates that most ambassadors receive their major health literacy through three sources of internet, radio and TV and their physician that perhaps the most important reason for using them is their ease of access, but the ambassadors whose health literacy source was training booklets, pamphlet and brochures, had higher health literacy level. And the lowest health literacy level belonged to access to IVR and other resources. Hassan Mahmoudi et.al achieved similar results but Zare et.al[3] in their study introduced the most prevalent means of acquiring health information as watching TV and asking questions.

Another result of our study was that there was a significant and positive correlation between the variable of health literacy and general health promoting behaviors of the ambassadors, that Teimour Aghamolaei et.al also obtained similar results in their study. In a study conducted by Piri et.al the total score of health behaviors of students was in a medium status and in another study there was a similar condition.

Also, the results of the present study showed that there is a significant relation between ambassadors health literacy rate and liability component of their health promoting behaviors, in other words, by increasing of ambassadors health literacy rate , their liability score increases too, while the results obtained by Aghamolaei in this field is inconsistent with our findings, but the average of liability score in Piri et.al study was consistent with these findings.

There was a positive and significant relation between health literacy rate and physical activity of ambassadors so that by increasing health literacy, their physical activity score increased. In the study of Aghamolaei et.al the average score of physical activity was the least. Other studies had a similar status which is inconsistent with our study. It is obvious that by increasing of health literacy, the role of physical activity as an effective approach for preventing from illness and preserving health will be sensible for people and will be placed in daily plans.

In investigating other results of this study, we address the component of nutritional habits of ambassadors health promoting behaviors that the results showed that there was a significant and positive relation between health literacy rate and nutritional habits, that is, by increasing of health literacy rate their nutritional habits score increases. Studies of Piri et.al and Aghamolaei et.al showed similar results, but in the study of Aghil Habib Sola et.al, nutritional habits including consumption of low-salt and low-fat foods and controlling health status by elderlies with lower life quality score had been more observed which is inconsistent with our results there was other studies similar to this and inconsistent with our findings.

It is obvious that by increasing health literacy in ambassadors through various ways, it is expected that all components of health promoting behaviors in them is increased, since health literacy has several components that total increase attitude and knowledge for changing behavior in people that this was true for health ambassadors participating in this study.

### DISCUSSION

Health literacy has had a fundamental role in health training and health promotion in recent decades and is one of health social components. In this study the relation between sufficient health literacy and promoting behaviors leading to health in ambassadors was evaluated.

Findings of this study showed that there is a significant difference between health literacy level of men and women and health literacy level of women is more than men. These findings were inconsistent with results of Teimour Aghamolaei et.al, Raeisi et.al[1], Javadzadeh et.al and were consistent with study of Afshari et.al.[2] Other studies also confirmed our study. It seems that one of possible reasons of difference is inequality in the number of man and woman participants, though some studies have discussed lack of relation of sex with health literacy level.

Among other findings of our study was the rate of health literacy of urban healthcare ambassadors which had a considerable statistical difference with rural healthcare ambassadors. Perhaps, this issue is due to unequal access to training media and insufficient health literacy, in this regard, there are studies consistent with what we have performed.

### CONCLUSION

The results of the present study showed that ambassadors health literacy is effective in increasing their health promoting behaviors and it is recommended that in future with effective interventions besides promoting people health literacy in
various fields, their cooperation and participation for self-care and doing health promoting behaviors is encouraged and necessity of promoting health literacy and consequently improving health behaviors seem necessary.

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