



## ASSESSMENT OF HEALTH LITERACY LEVEL OF 18-30 YEAR-OLD CLIENTS IN SHEMIRANAT HEALTH CENTER, TEHRAN; AN IRANIAN EXPERIENCE

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### ARTICLE INFO

**Received:**

03<sup>th</sup> Jun 2017

**Accepted:**

29<sup>th</sup> Nov 2017

**Available online:**

14<sup>th</sup> Dec 2017

**Keywords:** Health Literacy, Shemiranat Health Center, Health Literacy For Iranian Adults Questionnaire (HELIA)

### ABSTRACT

**Introduction:** Health literacy is knowledge for comprehension, assessment and achievement of health and performing to health promotion. People, who have low literacy of health, have less knowledge about their health condition therefore they don't take sufficient preventive services; instead they receive relatively more services of hospital and emergency units. Identification and promotion of health literacy level is one of the best solutions to increase social health which play important role in making healthy social life in future too.

**Material and Methods:** 170 individuals, ranging from 18-30 Year-Old clients in Shemiranat health network during June to August 2016, entered into the study. Health literacy was measured using the Standard Questionnaire of Iranian Health Literacy (health literacy for Iranian adults) which the validity and reliability was proven by Montazeri et al (2014). Data were analyzed by SPSS 21.0 software. The statistical analyses were performed by using T-test, ANOVA.

**Results:** Internet was the most common way to access Health information (40.4%) and infrequent information source was IVR (1.4%). health literacy level was estimated as "marginal" health literacy. The mean health literacy score in the dimensions of "reading" was higher than other dimensions and "Decision-making" was at least. There was statistical significant relationship between health literacy level and source of information, age and education status, but there was no statistical significant relationship between health literacy level with job and gender.

**Discussion:** In general health literacy level among clients in Shemiranat Health Center was unacceptable. Thus public awareness and constructing web sites related to health by Health Networks and administrate them will effect on people health promotion. Indeed planning and implementing educational interventions by related organs and institutions are recommended to improve health literacy among clients.

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**To Cite This Article:** Masoumeh Ansari, Fatemeh Mohammadmoradi, Mehrdad Khaledian, Maryam Shekofteh, Asrin Karimi, (2017), "assessment of health literacy level of 18-30 year-old clients in shemiranat health center, Tehran; an Iranian experience", *Pharmacophore*, **8(6S)**, e-117380.

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**Introduction**

Health literacy as a widespread concept in health promotion was mentioned in health literature from 1970 [1, 2]. According to WHO, health literacy is social and cognitive skills determine individuals ability and motivation to obtain and access information and realizing them to make suitable decision for medical health care [1, 3]. Considering the importance of health literacy, it became a global challenging issue in 21<sup>st</sup> century [4]. WHO through a report introduced health literacy as the most undeniable determinants of health, therefore it was advised to all countries to conducting an association including people who affected by this issue for monitoring and coordinating strategic activities concerning health promotion in societies [5, 6]. In developing countries, people are facing with information and health information pollution increasingly [7-10], confronted with complex health systems for human even people with adequate literacy is onerous [11-14]. Awesome outcome of health literacy appears in health services utilization [15]. People with inadequate health literacy need to hospital services more and they should pay medical costs much and the rate of death in those people is considerable compare to individuals with high health literacy[11, 15, 16]. Subsequences of low health literacy appear directly and indirectly [3, 17, 18]. Due to important role of health literacy in making decision related to health [7, 19], the level of health literacy has been studied in different groups which indicates that their health literacy level is inadequate [20-23]. The aim of this study was to assess the health literacy level in 18-30 year-old clients in Shemiranat health network in Tehran.

**Materials and Methods**

This study was descriptive in practical. It was conducted among adults aged 18-35 years Shemiranat health network clients in Jun-August 2016 in Tehran, Iran. The inclusion criteria were ability to read and write among the age group of 18-30 years and face-to-face referral to Shemiranat health network. The data collection tool was standard Iranian adult health literacy questionnaire the validity and reliability of which was proved by Montazeri et al. It includes five components and thirty-three items. The break up wise components are availability (6 items), reading skill (4 items) understanding (8 items), assessment (4 items), making decision and utilization of health information (12 items) [24]. The research questionnaire framework includes a total of 33 questions which scored based on Likert 1to 5 options with score of 1 till 165. The scores were classified as: 1-55, adequate health literacy, 56-109, marginal health literacy and 110-165, inadequate health literacy and lower score interpreted high level health literacy. By Cochran formula, sample size was determined about 170 people. Total 170 questionnaires was distributed and collected after completion. Statistical analyses were performed using SPSS software ver.21. Descriptive statistics were used to mean, SD and percentage of variables. ANOVA test and independent T-test analyzed relationship between health literacy and age, educational attainment, health information source gender and job.

**Results**

Characteristics of participants are summarized in Table-1. Most of participants were female (52.4%) and rest (47.6%) were male. The Mean age of participants was 25.83 years (ranging from 18-30). About 44.1 percent were BS and the a few (5.9%) were Ph.D. and 75.97% were Diploma. Most of samples were employee (55.3%). The majority of respondents (40.4%) expressed internet as an information access resource and just 1.04% had chosen IVR. The mean of health literacy score for male (73.28) was more than female (69.62). The mean of 24-27 year-old was the highest about 72.51 and in 28-30 year-old was the lowest amount 70.29. The highest mean in job category was allocated to students (75.67) and the lowest average was for employees (70.46). In diploma respondents the mean score of health literacy was 75.97 and for those had associated degree was 62.33. About health information resource, mean score of asking from friends and relatives was 79/08 and IVR usage was 52. Through ANOVA test, statistical significant relationship was found between health literacy level with age, educational attainment, health information source respectively (P=0/015), (P= 0.003), (P= 0.035). In addition no significant relation was observed among health literacy level with job and gender. Totally, according to our results 82.90% of participants had adequate health literacy and 17.10 % had marginal health literacy (table 1).

**Table 1.** Comparison of the mean and relation analysis of health literacy level according to population variable

P.value	Health Literacy Level <sup>1</sup>		Dimensions of Health Literacy						The Number (Percentage)	Variable	
	Adequate Health Literacy	borderline Health Literacy	Health literacy score	Decision-making and use of information	Evaluation	understanding	Reading Skill	Access			
0.149	72 (80.9%)	17 (19.1%)	69.62(16.08)	26.53(7.97)	9.87(3.57)	12.71 (4.17)	8.3(2.48)	12.21(3.83)	89(52.4%)	Female	Gender
	69 (85.2%)	12 (14.8%)	73.28(16.9)	28.41(8.74)	9.91(3.13)	13.98(4.67)	8.96(3.07)	12.28(3.82)	81(47.6%)	Male	
0.015	12 (80.0%)	3 (20.0%)	72.27(17.93)	26.47(8.81)	9.6(2.53)	14.6(4.67)	9.47(2.85)	12.13(3.87)	15(8.8%)	18-21	Age
	22 (84.6%)	4 (15.4%)	72.15(17.24)	27.81(8.15)	10.27(4.57)	13.92(4.47)	8.0(2.37)	12.15(3.25)	26(15.3%)	21-24	

P.value	Health Literacy		Dimensions of Health Literacy						The Number (Percentage)	Variable
	Adequate Health Literacy	borderline Health Literacy	Health literacy score	Decision-making and use of information	Evaluation	understanding	Reading Skill	Access		
	39 (83.0%)	8 (17.0%)	72.51(17.67)	27.72(8.6)	10.11(3.09)	13.3 (5.24)	8.62(3.25)	12.77(4.01)	47(27.6%)	24-27
	68 (82.9%)	14 (17.1%)	70.29(15.59)	27.3(8.36)	9.7(3.23)	12.9(3.89)	8.39(2.58)	12.0(3.89)	82(48.2%)	27-30
0.887	20 (87.0)	3 (13.0%)	73.09(15.39)	29.0(7.52)	10.35(3.88)	12.74(3.19)	8.96(2.77)	12.04(3.18)	23(13.5%)	Unemployed
	18 (94.7%)	1 (5.3%)	71.89(12.44)	28.68(8.2)	9.58(2.89)	12.58(3.82)	7.89(2.05)	13.16(3.96)	19(11.2%)	Housewife
	22 (88.0%)	3 (12.0%)	71.24(15.91)	26.8(9.07)	11.0(4.06)	13.44(3.07)	8.6(2.08)	11.4(3.91)	25(14.7%)	University Student
	7 (77.8%)	2 (22.2%)	75.67(19.73)	28.11(10.25)	9.44(1.51)	15.0(5.27)	9.89(3.18)	13.22(3.99)	9(5.3%)	Student
	74 (78.7)	20 (21.3%)	70.46(17.56)	26.88(8.33)	9.59(3.22)	13.41(5.04)	8.33(3.0)	12.24(3.9)	94(55.3%)	Clerks
0.003	31(93.9)	2 (6.1%)	75.97(12.87)	27.91(8.27)	10.15(2.59)	14.58(4.57)	9.42(2.68)	13.91(3.16)	33(19.4%)	Diploma
	8 (66.7%)	4 (33.3%)	62.33(18.62)	22.58(8.59)	9.67(4.83)	11.33(2.81)	8.17(2.66)	10.58(3.42)	12(7.1%)	Associate degree
	63 (84.0%)	12 (16.0%)	74.53(18.0)	29.63(8.8)	10.04(3.66)	13.79(4.84)	8.63(3.0)	12.45(3.82)	75(44.1%)	BA
	30 (75.0%)	10 (25.0%)	64.82(13.46)	25.0(6.8)	9.25(2.93)	12.1(3.72)	7.7(2.2)	10.77(3.19)	40(23.5%)	MA
	9 (90.0%)	1 (10.0%)	69.4(71.36)	24.8(27.42)	10.7(9.89)	12.9(13.32)	7.9(8.49)	13.1(12.25)	10(5.9%)	PhD
0.035	54 (84.4%)	10 (15.6%)	69.73(15.23)	25.2(7.4)	10.39(3.46)	13.33(14.42)	8.33(2.81)	12.48(4.07)	64(22.5%)	Asking Doctor
	93 (80.9%)	22 (19.1%)	70.23(16.74)	27.43(8.24)	9.76(3.43)	13.09(4.32)	8.17(2.65)	11.8(4.22)	11.5(40.4)	Internet
	2 (50.0%)	2 (50.0%)	52.0(18.49)	16.5(5.2)	8.0(5.23)	10.0(2.16)	7.0(2.16)	10.5(5.2)	4(1.4%)	IVR
	28 (75.7%)	9 (24.3%)	69.84(19.11)	26.73(9.91)	8.7(2.83)	13.62(4.88)	8.73(2.81)	12.05(3.4)	37(13.0%)	Radio & TV
	14 (63.6%)	8 (36.4%)	65.77(19.51)	25.41(10.15)	9.5(4.16)	12.45(4.13)	7.64(2.44)	10.77(3.34)	22(7.7%)	Publications
	25 (96.2%)	1 (3.8%)	79.08(16.58)	29.27(10.03)	11.27(3.62)	15.27(4.36)	9.38(2.65)	13.89(3.87)	26(9.1%)	Asking Friends
	13 (76.5%)	4 (23.5%)	67.18(16.56)	25.06(9.86)	10.18(4.43)	12.59(3.59)	8.12(2.18)	11.24(4.71)	17(6.0%)	Training Brochures

Among health components, top score was related to ‘reading skill’ (8.49), and making ‘decision and information utilization’ got the lowest score (27.42). Health literacy average of 18-30 year-old who participates in present study form Shemiranat health network, was in ‘marginallevel (between 56 & 109)’ health literacy (71.36) (Table 2).

**Table 2.** Mean health literacy score based on the health literacy dimensions

S.D	Mean	Max.	Min.	No.	Health Literacy components	The Ranking Dimensions of Health Literacy
2.78	8.49	15.00	4.00	170	Reading skill	1
3.36	9.89	19.00	4.00	170	assessment	2
3.82	12.25	24.00	6.00	170	availability	3
4.45	13.31	27.00	7.00	170	comprehension	4
8.37	27.42	49.00	12.00	170	Making decision and information usage	5
16.53	3671.	109.00	33.00	170	Total (health literacy)	

## Discussion

Health literacy includes a variety of skills such as reading, listening, comprehension, access, information assessment, health services and utilization for health improvement [1, 25] and it has undeniable effect on community health [21]. Health literacy is a global concerning issue, based on WHO statement, health literacy has central role in assigning health inequality in both rich and poor countries[5]. Considering to our findings 82.90% of respondents had adequate health literacy and 17.10% were in marginal health literacy. Another finding also showed that health literacy score mean in male (73.28) was more than female (69.62), it was agree with Khosravi and Ahmadzadeh survey. Based on the results, there was no relationship between health literacy and gender as Lindstrom[26]andKleindl[27]studies. Our findings were in consistent with Rafizadeh et al. study about gender, education attainment and health information sources [28]. The majority of health literacy mean was observed in 24-27 age groups. While in Reisi et al., Artinian and Cho et al. studies [22, 23, 29], statistical significance relationship was found between gender and health literacy.

Present study has shown several statistical significant relationships between health literacy levels with age, education attainment, and health information source in contrast there was no significant relationship among health literacy and gender and job. In Rafizadeh et al. (2015) report, health literacy was associated with education, job, and information source access, but it didn't apply to health literacy with gender and age[28]. In education attainment category, those who were diploma degree had the highest score mean (75.97). Although Tehrani Banihashemi and Tavosi have shown strong relationship between education attainment and health literacy, but according to research and health care quality agency report, despite individual health literacy levels and education association, correlation between years of education and literacy is not completely[30]. Therefore, years of education is not considered merely as the valid criteria to evaluate reading skills assessment[31].

Totally mean of health literacy of 18-30 year-old in present study was in marginal health literacy (71.36). Other related researches confirm inadequate and marginal health literacy [32-34]. Tavosi et al. (1394) affirmed inadequate health literacy in Iranian adults inhabiting in urban area [19], in Khosravi et al. study (2015) indicated inadequate health literacy Level of patients referred to Bushehr hospitals [23]. Tehrani Banihashemi et al. in 2007 reported low health literacy level in five provinces of Iran[21]. Furthermore Izadirad and Zareban in 2015 and Mohseni et al.[35] reported low health literacy level in Region of Baluchistan and Kerman of Iran[36]. National adult's health evaluation in US found inadequate health in 36% adult in 2003 [37] High level of health literacy in educated people confirms education role in increasing health literacy. In accordance with other research, high educated people had high health literacy[20, 26, 28, 38-40].

## Conclusion

In conclusion, as regards asking friends and relatives and internet were the most used resources to obtain health information, community awareness and supporting websites related to health by health care centers and validity monitoring of provided information to improving quality of life and community health literacy levels seems to be effective. Generally, according to this study indicating limited health literacy in youth population, it is necessary to plan solutions about health information supporting and providing reliable scientific products by related organs and institutions. Specialists in health and those who are producer and distributor of information should be able to set appropriate education programs, so that community health literacy would be improved.

**Conflict of interest:** The authors declare no conflict of interests.

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