



## Evaluating Mental Health Literacy among Iranian Women: A Cross-Sectional Study



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### ABSTRACT

**Background:** Mental health literacy (MHL) is an important determinant of mental health and influences individuals' decisions to seek mental health services. This study aimed to investigate the level of MHL in women referring to health centers in Khodabandeh, Zanjan, Iran.

**Methods:** This cross-sectional study was conducted in 2022, involving 599 women of reproductive age in Khodabande, Zanjan. The data were collected using the Persian version of the Mental Health Literacy Scale (MHLS) and analyzed using SPSS 23 software. A significance level of less than 0.05 was considered.

**Results:** The participants' mean age was 30.47 ( $\pm 7.8$ ). The MHL mean score was 81.53 ( $\pm 12.47$ ). There was a statistically significant difference in MHL scores based on marital status, education level, income status, and employment status ( $P < 0.05$ ), but no significant difference was found based on age ( $P > 0.05$ ). The main sources of information about mental health were the Internet and social networks, radio and TV programs, and mental health professionals.

**Conclusion:** The results of this study showed that the MHL level among the women participating in the study was at a medium level. Therefore, implementing educational intervention programs can effectively improve women's MHL and ultimately improve their access to mental health services.

## 1. Introduction

Mental health has always been regarded as one of the most essential indicators of health status (Paltiel, 2018). In recent years, the Sustainable Development Goals (SDGs) have highlighted the significant impact of mental health on achieving global development goals (Mirsalimi et al., 2020). Women, being vulnerable and leading members of society, face various responsibilities that can endanger their health (Mugisha et al., 2016). Compared to other disorders, mental health disorders appear at younger ages and often last longer. Not only do mental disorders adversely impact

various aspects of life, including educational performance, employment, income, personal relationships, and social participation (Yousefi, 2018), but they also directly contribute to disability and increased premature mortality rates. Mental health disorders are associated with the incidence, progress, and diagnosis of other diseases, as well as underlying factors for problems such as substance abuse, alcohol abuse, smoking, and reduced physical activity. Moreover, they are linked to chronic diseases such as high blood pressure, coronary heart disease, and diabetes (Sayarifard et al., 2015), leading to long-term disabilities (Noorbala et al., 2012). In addition, research has found that



children born to mothers with mental disorders are at a higher risk of developing depression and are more likely to experience academic and career failure. (Dossett et al., 2018). Untreated mental health disorders lead to significant personal, social, and economic consequences such as loss of independence, strained relationships, and high healthcare costs, respectively exacerbating mental disorders' symptoms (Andrade et al., 2014; Whiteford et al., 2015). Therefore, managing mental health disorders is one of the main priorities of healthcare systems. About 8 % (586 million) of the world's population suffer from mental disorders (Depression, 2017). According to the results of a systematic review in Iran, 31.03 % of Iran's population have mental disorders (Taheri Mirghaed et al., 2020). According to a study by Noorbala *et al.* (2017) mental illness symptoms are more common in women than men (Noorbala et al., 2017). Mental health literacy (MHL) is individuals' knowledge and attitudes about mental health and mental health care services (Jorm, 2000). The MHL has been considered as the knowledge of how to acquire and maintain positive mental health, mental disorders, and their treatment, reducing the associated stigma related to mental disorders, and increasing the usefulness of asking for help (knowing when and where to ask for help and developing self-management skills for mental health care) (Kutcher et al., 2015). Specifically, MHL encompasses six domains: (1) the ability to recognize mental disorders; (2) Knowledge of risk factors and causes; (3) knowledge of self-treatment; (4) awareness of available professional assistance; (5) Knowledge of reliable sources of information; and (6) attitudes that promote the recognition or appropriate help-seeking behavior (Jorm, 2015). Therefore, MHL is an important component in improving access to mental health care services and enhancing mental health outcomes. Although mental health literacy is a new concept in health promotion research, it is an important determinant of mental health (Wei et al., 2015). Although developed countries have achieved minor improvements in MHL, the level of MHL is unacceptable in other countries, especially in developing countries, including the Middle East (Al-Yateem et al., 2017; Furnham & Swami, 2018). According to some studies conducted in Iran, the level of MHL in adults and adolescents has been unsatisfactory (Ghadirian & Sayarifard, 2019; Sayarifard et al., 2015). A study by Mirsalimi *et al.* (2020) assessing MHL regarding postpartum depression and its related factors in pregnant women in Tehran revealed an average level of MHL among the participants (Mirsalimi et al., 2020). However, less attention has been paid to the study of women's health literacy in Iran. Improving health literacy is one of the main tools in the hands of policymakers to improve health and the quality of health services in communities, as it plays a fundamental role in people's decisions in health-related matters (Jafari et al., 2021b). Currently, mental illness has become a growing, serious health problem. An effective solution to reduce mental health disorders is to raise the public's MHL (Jafari et al., 2021b). However, inadequate MHL is a global concern, especially in developing countries (Furnham & Swami, 2018;

Venkataraman et al., 2019). Hence, examining MHL as a facilitator in the process of seeking help and using mental health services, early diagnosis and treatment of mental disorders, reducing stigma, and increasing public awareness is necessary. On the other hand, mental health services have been integrated into primary health care in Iran. Psychologists are present in comprehensive urban health centers to provide mental health services. Therefore, examining women's MHL and its six dimensions can help health service providers in designing and implementing appropriate interventions to improve women's health and promote their help-seeking behavior. Therefore, the present study aimed to investigate MHL and its dimensions in women referring to comprehensive health centers in Khodabande, Zanjan.

## 2. Materials and Methods

### 2.1 Study design and participants

This cross-sectional study was conducted in 2022 on 599 women of reproductive age (18-45) who were referred to the health centers in Khodabande, Zanjan. The inclusion criteria included: being between the ages of 18 and 45, having a middle school degree and above, having no physical or mental disorders (based on the information recorded in the person's health record), and providing voluntary consent to participate in the study.

### 2.2 Sample size and sampling method

Based on the Electronic Health Record (EHR) entitled "SIB" which includes information on the women population of reproductive age in Khodabande City (N = 8683), the expected MHL level of 50 %, an accuracy of estimate ( $d = 0.04$ ), and a confidence interval of 95 % ( $z = 1.96$ ), the sample size was calculated ( $n = 561$ ) using the equation Eq1. Finally, the questionnaire was completed by 599 participants. To recruit participants, the first step involved determining the number of women aged 18 to 45 in each comprehensive health center (5 centers). Based on the population size of each center, convenience sampling was used to select the required number of participants for the study. For this purpose, health centers were visited at different hours and days, and individuals who met the inclusion criteria were selected.

$$Eq1 = n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N} \left[ \frac{z^2 pq}{d^2} - 1 \right]}$$

### 2.3 Measurements

The research instrument included a questionnaire divided into 2 parts. The first part was related to the participants' demographic information, including age, education, marital status, number of children, occupation, financial status, and accommodation type. In this study, financial status was assessed through participants' subjective perception, categorized as relatively good income, sufficient income to

meet basic needs, or difficult financial situation. The second part of the questionnaire included the Persian version of the Mental Health Literacy Scale (MHLs). The original version of the MHLs was developed by O'Connor *et al.* (2015) and consisted of 35 items and six subscales (O'Connor & Casey, 2015). The reliability and validity of this scale were investigated by Nejatian *et al.* (2021) in Iran. The Persian version of MHLs with 29 items and six subscales was confirmed with Cronbach's alpha of 0.797 (Nejatian *et al.*, 2021b). This scale measures the MHL across six subscales, including (a) Knowledge of where to seek information (4 items), (b) Ability to recognize disorders (8 items), (c) knowledge of self-treatment (2 items), (d) Knowledge of risk factors and causes (2 items), (e) Attitudes that promote the recognition or appropriate help-seeking behavior (10 items), and (f) Knowledge of the professional help available (3 items). The response spectrum for the knowledge of the self-treatment domain was a 4-point rating scale, ranging from very useless (score 1) to very useful (score = 4). The response spectrum for the knowledge of where to seek information and attitudes that promote recognition or appropriate help-seeking behavior dimensions was a 5-point Likert scale from strongly disagree (score 1) to strongly agree (score 5). The response spectrum of other subscales was a 4-point rating scale from very unlikely (score 1) to very likely (score 4). In the analysis, the scores of 6 items were reversed. The total MHL score ranged from 29-130, with higher scores indicating a higher level of mental health literacy.

#### 2.4 Statistical analysis

The obtained data were analyzed using IBM® SPSS® Statistics version 23 (IBM® Corp., Armonk, NY, USA). Skewness and kurtosis were used to determine the normality of data distribution (Kim, 2013). Descriptive statistics (mean, standard deviation, frequency, percentage frequency) are presented for socio-demographic characteristics. Analytical statistics (one-way ANOVA, independent t-test) were used to compare mental health literacy with various demographic factors. A significance level of 0.05 was considered.

#### 2.5 Ethical Consideration

This study was approved as a part of a master's thesis in the field of Health Education and Health Promotion by the Ethics Committee of the Research and Technology Vice-Chancellor of Zanjan University of Medical Sciences (ID code: IR.ZUMS.REC.1400.140). Before collecting the data, the researchers of the present study fully explained the purpose of the study to the participants and they were assured that their participation in the study was completely voluntary. Privacy and confidentiality of the data were considered. Informed consent was obtained from participants in the study.

### 3. Results and Discussion

In the present study, data from 599 participants was analyzed. One participant was not analyzed due to

incomplete data. The mean ( $\pm$  SD) age of the participants was 30.47 ( $\pm$  7.8), with a range of 18-45 years. The majority of the participants were married (57.4 %) and housewives (45.6 %). Further, most of them were diploma holders (29 %). The demographic characteristics of the participants are presented in Table 1.

Table 1. Demographic characteristics of study participants (n = 599)

Demographic Variables	Grouping	n	%
Marital status	Single	193	32.2
	married	344	57.4
	widow	62	10.4
Age	Age (18-30 years)	306	51.5
	Age (31-45 years)	288	48.5
Education status	lower than Diploma	208	34.7
	Diploma	161	26.9
	Diploma and above	227	37.9
Employment	Housewife	412	68.8
	Employed	184	30.7
Number of children	0	85	23.7
	1	98	27.3
	2	104	29.0
	> = 3	72	20.1
Financial status	Relatively good	197	33.0
	Middle( sufficient income to meet basic needs)	259	43.4
	Low (difficult financial situation)	141	23.6
Accommodation type	Personal	390	65.3
	Rental	207	34.7

Table 2 illustrates the results related to the dimensions of MHL scores. The participants obtained a mean ( $\pm$  SD) MHL score of 81.53 ( $\pm$  12.47), which is in the average range compared to the maximum attainable score. A significant correlation was observed between MHL and demographic variables (Table 3). The findings of the present study suggested no significant correlation between age and the level of MHL among the women. However, marital status, level of education, employment status, having a child, and income affect women's MHL. It was also found that MHL was higher in married, employed, and educated women (diploma and above) with relatively good income levels, and personal accommodations. This study also investigated the frequency of information sources used by women to obtain mental health information. The results showed that three main sources of information for women were the Internet and social networks (59.53 %), Radio and TV programs (41.43 %), and mental health specialists (psychiatrist, psychologist, social worker, counselor, etc.) (06.35 %) (Figure 1). This study focused on the MHL of women referring to the health centers of Khodabande in Zanjan province. The findings revealed that the mean MHL score among women was at the medium level. This result is consistent with previous studies conducted on the Iranian population over 18 years old (Jafari *et al.*, 2021a; Nejatian *et al.*, 2021a). In comparison, the results of the MHL survey in target groups such as students are more than the present study (Publico, 2020). According to the literature, education is significantly related to MHL, with better-educated individuals reporting higher MHL (Mirsalimi *et al.*, 2020; Azita Noroozi *et al.*, 2018).

Table 2. Mean and standard deviation, kurtosis, and skewness of the mental health literacy scores of the participants

Variables	Range scale <sup>1</sup>	Min-Max <sup>2</sup>	X ± SD	Kurtosis	Skewness
MHLS Total Score	26-130	43-13	81.53 ± 12.47	0.003	-0.29
Ability to recognize disorders	8-32	11-32	23.09 ± 4.04	-0.07	-0.19
Knowledge of where to seek information	4-20	4-20	13.68 ± 3.22	-0.43	-0.25
knowledge of self-treatment	2-8	2-8	5.60 ± 1.11	0.12	-0.48
Attitudes that promote the recognition or appropriate help-seeking behavior	10-50	10-47	25.54 ± 7.11	-0.43	-0.25
Knowledge of risk factors and causes	2-8	2-8	5.41 ± 1.39	-0.60	-0.22
Knowledge of the professional help available	3-12	3-12	8.19 ± 1.84	-0.33	-0.28

<sup>1</sup> The lowest and highest values that can be obtained in the MHLs

<sup>2</sup> The lowest and highest values that were obtained in this study

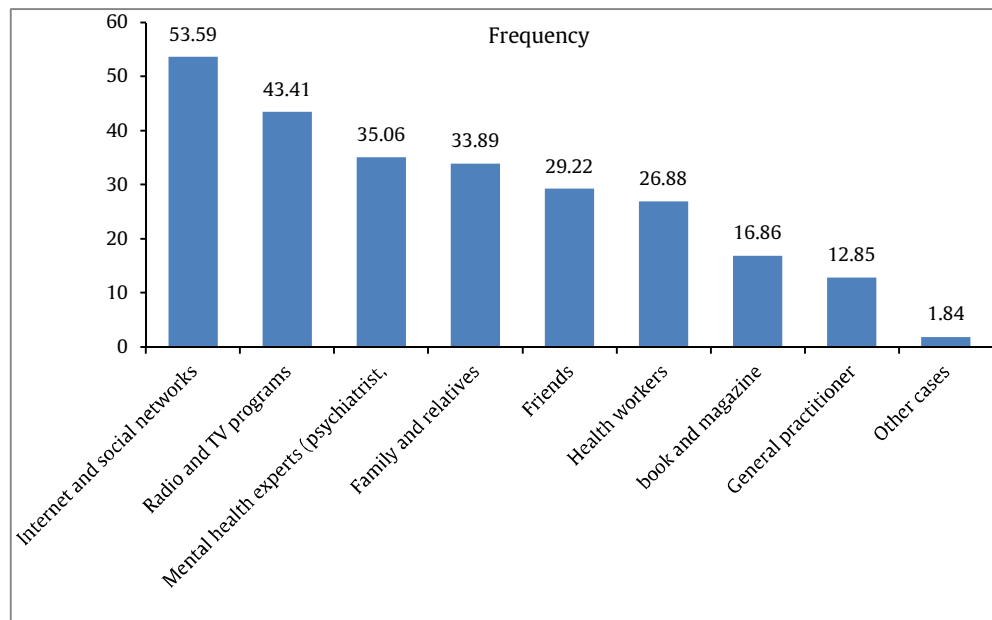


Figure 1. Frequency of information sources used to obtain information about mental health

The findings of the present study showed a significant positive relationship between women's MHL and educational level. In other words, women with a diploma or higher education had the highest MHL scores, whereas those with less than a diploma education had the lowest mean scores. There was a statistically significant difference between the MHL score and the level of education in women ( $p < 0.001$ ) which is in line with the results of Mirsalimi *et al.*'s (2020) study conducted in Tehran. They concluded that there was a statistically significant relationship between the MHL mean score regarding postpartum depression and education ( $p < 0.001$ ) and that women with higher education had a higher level of mental health literacy (Mirsalimi *et al.*, 2020). These results confirm the findings of Noroozi *et al.* (2018), which similarly suggested a difference between the MHL mean score and the level of education ( $p < 0.001$ ) (A. Noroozi *et al.*, 2018). The present study's results are further supported by Arafat *et al.*'s (2018) study in Bangladesh (Arafat *et al.*, 2018), Fonseca *et al.* (2017) in Portugal (Fonseca *et al.*, 2017), Wang *et al.* (2013) (Wang *et al.*, 2013), and Yu *et al.* (2015) (Yu *et al.*, 2015) in China. The findings of

the present study showed that educated people have more capacity to acquire, understand, and interpret basic information, which plays a significant role in people's knowledge about preventing and treating mental health disorders. Also, people with high education can gain more knowledge about MHL through various sources such as books, magazines, and the Internet. Based on the results, married women had the highest MHL mean score, and widows had the lowest mean score. There was a significant statistical relationship ( $p < 0.001$ ), which is in line with the results of Tahmasebi *et al.*'s (2018) study (Azita Noroozi *et al.*, 2018). They evaluated the level of MHL which was conducted among 378 people in public places in Bushehr City and found a statistically significant relationship between marital status and MHL scores ( $p < 0.013$ ) (Azita Noroozi *et al.*, 2018). In addition, Oztas and Aydoğan (2021) in Turkey reported that married individuals had higher MHL compared to their single counterparts (Öztaş & Aydoğan, 2021). The present study also revealed a statistically significant relationship between the MHL mean score and the job status of the participants ( $p < 0.001$ ).



Table 3. Assessment of the relationship between mental health literacy and demographic variables

Demographic Variables		MHLS Total Score	Ability to recognize disorders	Knowledge of risk factors and causes	knowledge of self-treatment	Knowledge of the professional help available	Knowledge of where to seek information	Attitudes that promote the recognition or appropriate help-seeking behavior
		X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD	X ± SD
Age (year)	18-30	81.21 ± 12.06	22.86 ± 4.12	5.30 ± 1.31	5.59 ± 1.12	8.14 ± 1.79	13.58 ± 3.18	25.72 ± 6.98
	31-45	81.95 ± 12.87	23.35 ± 3.96	5.53 ± 1.45	5.62 ± 1.10	8.27 ± 1.89	13.80 ± 3.26	25.36 ± 7.23
	t; p	-.726; 0.46	-1.458; 0.145	-1.996; 0.04*	-.293; 0.76	0.884; 0.37	-0.860; 0.39	0.613; 0.54
Marital status	Single	79.30 ± 11.90	22.43 ± 4.06	5.20 ± 1.33	5.47 ± 1.17	5.22 ± 1.81	13.36 ± 3.14	24.86 ± 7.18
	Married	84.23 ± 12.09	24.00 ± 3.76	5.56 ± 1.40	5.74 ± 1.05	8.43 ± 1.74	14.04 ± 3.22	26.44 ± 6.96
	Widow	73.54 ± 11.61	20.17 ± 3.73	5.17 ± 1.40	5.22 ± 1.09	7.64 ± 2.23	12.67 ± 3.24	22.64 ± 6.85
	F; p	25.851; .000*	29.974; .000*	29.974; .006*	7.858; .000*	7.294; .001*	6.219; .002*	9.011; .000*
Educational status	Less than a Diploma	74.46 ± 12.24	21.30 ± 4.36	4.70 ± 1.27	5.08 ± 1.203	7.23 ± 1.773	12.42 ± 3.27	23.70 ± 7.27165
	Diploma	80.37 ± 10.80	23.13 ± 3.44	5.32 ± 1.23	5.60 ± 1.013	8.12 ± 1.57	13.69 ± 2.82	24.49 ± 6.90
	Diploma and Above	88.77 ± 9.54	24.70 ± 3.43	6.12 ± 1.253	6.08 ± .863	9.14 ± 1.60	14.77 ± 3.03	27.93 ± 6.43
	F; p	95.035; .000*	43.728; .000*	70.313; .000*	50.602; .000*	71.900; .000*	31.889; .000*	23.141; .000*
Income status	Low	86.44 ± 11.51	24.67 ± 3.46	5.75 ± 1.37	5.84 ± 1.02	8.63 ± 1.88	14.50 ± 3.29	27.02 ± 7.30
	Middle	81.66 ± 11.17	22.86 ± 3.80	5.40 ± 1.35	5.65 ± 1.03	8.14 ± 1.77	13.68 ± 3.08	25.90 ± 6.71
	Relatively good	74.42 ± 12.79	21.28 ± 4.39	4.96 ± 1.36	5.17 ± 1.24	7.68 ± 1.77	12.50 ± 3.03	22.80 ± 6.89
	F; p	43.46; .000*	32.66; .000*	13.63; .000*	16.10; .000*	11.52; .000*	16.57; .000*	15.70; .000*
Having a child	No	85.50 ± 10.58	23.89 ± 3.64	5.47 ± 1.28	5.94 ± .95	8.51 ± 1.81	14.45 ± 3.40	27.22 ± 5.90
	Yes	82.32 ± 12.60	23.38 ± 4.07	5.54 ± 1.449	5.59 ± 1.07	8.30 ± 1.80	13.78 ± 3.18	25.71 ± 7.19
	t; p	2.104; .036*	1.035; .301	-.438; .662	2.666; .008*	.940; .348	1.687; .092	1.757; .092
Accommodation type	Personal	84.14 ± 11.58	23.87 ± 3.75	5.55 ± 1.37	5.74 ± 1.40	8.44 ± 1.79	14.22 ± 3.03	26.29 ± 7.23
	Rental	76.85 ± 12.59	21.69 ± 4.18	5.15 ± 1.40	5.35 ± 1.19	7.72 ± 1.85	12.70 ± 3.32	24.22 ± 6.66
	t; p	6.917; .000*	6.286; .000*	3.358; .001*	3.954; .000*	4.637; .000*	5.496; .000*	3.410; .001*
Employment	Housewife	80.53 ± 12.78	22.75 ± 4.11	5.29 ± 1.34	5.53 ± 1.12	8.03 ± 1.86	13.49 ± 3.28	25.41 ± 7.41
	Employed	83.83 ± 11.54	23.86 ± 3.79	5.66 ± 1.46	5.76 ± 1.06	8.58 ± 1.74	14.11 ± 3.06	25.83 ± 6.43
	t; p	-2.997; .003*	-3.115; .002*	-3.013; .003*	-2.259; .024*	-3.379; .001*	-2.180; .030*	-.675; .500

\* X: Mean, Standard Deviation; t: Independent Sample T-test; F: One-way Analysis of Variance (ANOVA); \*  $p < 0.05$

In other words, employed women had a higher MHL mean score than housewives. This result is in line with similar studies conducted in Iran (Mirsalimi et al., 2020; Azita Noroozi et al., 2018; Zahmatkesh et al., 2020). It can be argued that employed women usually have a higher level of education and they are exposed to a wider range of information through in-service training due to their job position, which impacts their knowledge about mental health disorders and prevention. Employed women are in contact with different people through their jobs and experience interactions, exchange of information, and different relationships compared to unemployed women and housewives. Most of these relationships and interactions are because of social networks which makes the exchange of experiences and opinions in different centers more widespread daily; therefore, it is obvious that there is a difference between their level of MHL total score compared to unemployed women. The outcome of this study showed that there was a statistically significant relationship between income status and women's MHL level ( $p < 0.001$ ). Women with a relatively good income status had a higher level of mental health literacy. This finding is consistent with the results of other studies. Zahmatkesh et al. (2020) reported that higher-income women had better MHL status (Zahmatkesh et al., 2020). Moreover, Fonseca et al. (2017) found that low income was associated with poor depression literacy in women (Fonseca et al., 2017). Also, Yu et al. (2015) introduced higher income as a strong factor associated with higher MHL (Yu et al., 2015). In another study by Javadzadeh et al. (2013) among people over 18 years old in Isfahan City, the results showed that insufficient health literacy was more common in lower-income people (Seyed Homamodin Javadzade et al., 2013). It can be argued that women with high incomes are often exposed to information because of their educational status and have access to various sources of information such as the Internet. As a result, all these cases are related to the level of mental health literacy and cause the difference between the level of MHL in women with higher and lower income. The results of the present study also showed no statistically significant difference between the level of MHL and age in women ( $p = 0.46$ ). This finding is in line with findings obtained in a study by Zolfaghari et al. (2019) (Zolfaghari et al., 2019). However, these results contradict other studies conducted in this field. Yu et al.'s (2015) study among people aged 18-60 showed that younger ages were associated with higher MHL (Yu et al., 2015). Furthermore, Wang et al. (2013) (Wang et al., 2013) reported a statistically significant relationship between younger ages and MHL, as well as higher awareness of mental disorders among the residents of Shanghai, China ( $p < 0.001$ ). Moreover, based on a survey in 5 provinces of Iran, it was shown that there was a significant relationship between old age and insufficient health literacy. (Tehrani-banihashemi et al., 2007). Tavousi et al. (2016) reported a negative relationship between the health literacy scores of Iranian adults aged 18-65 and their age (Tavousi et al., 2016). In Javadzadeh et al.'s (2013) study, insufficient health literacy levels were reported in older people (Seyed Homamodin Javadzade et al., 2013). Similarly, Sadeghi et al. (2011) found a statistically significant relationship between MHL and women's age in Kermanshah City (Sadeghi, Zareipour, Akbari, & Khan-Beygi, 2011). Perhaps one of the reasons for this difference is the age range examined in this study. In most of the mentioned studies, adults over 18 years old were investigated; however, in the present study, participants in the age range of 18-45 years were involved, and people with older ages were excluded from this study. The study also identified a statistically significant relationship between accommodation type and MHL level in women. It means that those living in personal houses had a higher mean score than women in rented houses ( $p < 0.001$ ). The finding is consistent with Sadeghi et al.'s (2006) study (Sadeghi, Zareipour, Akbari, & Khan-Beygi, 2011). One of the reasons for this difference in the current study may relate to the fact that most of the women who live in rented accommodation are lower-income and have low socioeconomic status; therefore, there is a possibility that they have less education. On the other hand, considering the relationship between educational level and MHL, it can be concluded that the level of

MHL in this group of women is lower. Finally, the results of the present study showed three main information sources about mental health in the studied women, namely the Internet and social networks (59.53%), Radio & TV programs (43.41%), and mental health professionals (psychiatrist, psychologist, social worker, counselor, etc.) (35.06%). This result is in line with the results of studies by Tavousi et al. (2016), who found these three sources as the common sources for obtaining health information (Tavousi et al., 2016). Additionally, from the point of view of Internet users, the Internet is an accurate and reliable source of mental health information; however, only 24% of the study subjects used it as the main source. Instead, mental health professionals were the main source for obtaining mental health information (Powell & Clarke, 2006). According to Wei (2014), adults with adequate health literacy were significantly more likely than individuals with inadequate health literacy to obtain health information from the Internet, books, newspapers, and magazines and were less likely to seek health information from health care providers (Wei, 2014). While executing the study, the researcher encountered some limitations: First, assessing the level of MHL in women of reproductive age and people over 45 years of age were excluded from this study. Thus, the results of this study can be generalized to this age group. Second, the information was collected using a self-report questionnaire resulting in response bias.

#### 4. Conclusion

The results of this study showed that the MHL of female participants in the study was medium level. Additionally, a statistically significant difference was observed between the level of MHL and other variables, including marital status, education level, employment status, income status, and accommodation type. Therefore, it seems that implementing educational intervention programs, based on adult learning principles in health and treatment centers, can effectively improve women's MHL and ultimately increase their receiving of mental health services. Considering the role of the Internet and social media in accessing mental health-related information, the findings of the present study may benefit healthcare professionals and encourage them to plan and implement appropriate programs to increase the public's MHL in the community. Several limitations must be acknowledged in this study due to its cross-sectional design, which may introduce selection bias. Also, this study was based on convenience sampling methods. However, by sampling different working days and hours from all comprehensive urban centers, we tried to reduce this limitation. The present study was conducted only in women aged 18 to 45 years referred to health centers. Therefore, it is recommended to replicate this study among other age groups and include male participants.

#### Authors' Contributions

Rahim Jafari: Conceptualization and methodology; investigation; writing, review, and editing. Saeedeh Zenoosian: Conceptualization and methodology; writing, review, and editing. Khadijeh Hajimiri: Conceptualization and methodology; formal analysis; writing, review, and editing. The manuscript was read and approved by all authors.

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#### Conflicts of Interest

The authors declare that they have no conflict of interest.

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## Ethical considerations

This study was approved as a part of the master's thesis in the field of Health Education and Health Promotion by the Ethics Committee of the Research and Technology Vice-Chancellor of Zanjan University of Medical Sciences. Before collecting the data, the researchers of the present study fully explained the purpose of the study to the participants and they were assured that their participation in the study was completely voluntary. Privacy and confidentiality of the data were considered. Informed consent was obtained from participants in the study. (ID code: IR.ZUMS.REC.1400.140).

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