

ORIGINAL RESEARCH

Women's Mental Health Literacy in a Conflict-Recovery Setting: Evidence from Telafer, Iraq



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Article Info

Article History:

Received: 25 September 2025
Revised: 14 February 2026
Accepted: 16 February 2026
Online: 30 April 2026

Keywords:

Mental health literacy;
post-conflict settings;
sociodemographic factors;
Turkmen; women

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Abstract

Background: Mental health literacy plays a significant role in addressing mental health issues. However, evidence regarding mental health literacy among women from Turkmen communities living in post-conflict settings in Iraq remains limited.

Purpose: This study aimed to determine the level of mental health literacy and its associated factors among women in the context of conflict recovery in Telafer City, Iraq.

Methods: This study employed a descriptive cross-sectional design involving 603 women attending a general hospital in Telafer city. The Arabic version of the Mental Health Literacy scale was used to collect data. Descriptive statistics (mean and standard deviation) were calculated to assess mental health literacy scores. Inferential analyses, including one-way ANOVA, independent-samples t-tests, and multiple linear regression at a 95% confidence level ($p < .05$), were conducted to assess the relationship between mental health literacy and eight sociodemographic predictors (age, educational level, employment status, marital status, residence, culture, and mental health clinical and family history).

Results: The mean mental health literacy score among women was 88.06 (SD = 13.80). Bivariate Pearson's correlation analysis indicated that age, educational level, employment status, and marital status were significantly associated with mental health literacy ($p < .05$). However, in the multiple linear regression analysis, only educational level remained a significant predictor ($B = 1.342$, $SE = .456$, $p = .003$, 95% CI [0.447, 2.237]).

Conclusion: Mental health literacy among women in Telafer City was moderate. Educational level was the only significant predictor of mental health literacy among Turkmen women. These findings highlight the need for targeted interventions to improve mental health literacy among women in conflict- and war-affected settings. Additionally, the results support the development of mental health education programs tailored for women's educational levels in Turkmen and Arab communities.

How to cite: Baktash, M. Q. (2026). Women's mental health literacy in a conflict-recovery setting: Evidence from Telafer, Iraq. *Nurse Media Journal of Nursing*, 16(1), 42–53. <https://doi.org/10.14710/nmjn.v16i1.78086>

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1. Introduction

Between 2014 and 2017, Iraqi regions under the control of the Islamic State group (ISIS) experienced significant violence (Ahmed et al., 2024). Reports indicate that conflict and war in these areas increased the risk of mental health problems among many people, especially women from the Turkmen minorities living in the districts and villages on the outskirts of Nineveh Governorate, such as Telafer City (Golpashin & Chen, 2021). A study on mental health in Iraq found that roughly 37.5 to 40% of Iraqi women affected by war, conflict, and displacement, or those who are pregnant or postpartum, experience at least one severe mental health issue, including anxiety, depression, post-traumatic stress disorder, or suicidal thoughts. Contributing factors included the loss of husbands or primary earners, sexual violence, forced marriage, kidnapping, and displacement (Taha & Sijbrandij, 2021).

According to the Iraqi Ministry of Migration and Displacement, most displaced people have returned to their original areas after the cities were liberated (Ministry of Migration & Displaced, 2025). However, interest in mental health remains limited, particularly in the outskirts of Nineveh Governorate (Rometsch-Ogioun El Sount et al., 2018). Studies conducted in neighboring

countries of Iraq indicate that this may be related to the low level of mental health literacy (MHL), misunderstandings about mental health, and stigma. However, the severe shortage of mental health services caused by infrastructure damage during military operations and the lack of specialized psychiatric centers in these areas may also contribute to this issue (Jafari et al., 2021; Porter, 2019).

MHL is an essential mental health construct introduced by Jorm et al. in 1997 and defined as individuals' knowledge and beliefs about mental disorders, including their identification, management, and/or prevention. MHL comprises several components, including: (a) capacity to recognize various forms of psychological distress; (b) knowledge and beliefs about risk factors and etiologies; (c) beliefs and knowledge about self-help interventions; (d) perceptions about available professional assistance; (e) attitudes that facilitate appropriate help-seeking; and (f) awareness of how to access mental health information (Jorm et al., 1997). Poor MHL increases the risk for mental diseases and impedes individuals' abilities to seek appropriate assistance and treatment. It can contribute to the onset of new diseases, worsen existing symptoms, adversely affect treatment outcomes, and also lead to significant consequences for individuals and society. Furthermore, an inadequate level of MHL among women may lead to adverse reproductive health outcomes and negatively affect pregnancy-related psychological well-being, as well as potentially contribute to abnormal psychological development in their children (Tulane University School of Public Health and Tropical Medicine, 2024).

Maintaining sufficient levels of MHL is particularly important for people in the context of displacement and conflict recovery. It not only aids in the early recognition of psychological distress but also supports appropriate help-seeking decisions. This is particularly true for women, as they are more vulnerable to mental health problems during conflict and war due to multiple sociocultural factors (Porter, 2019; Zhong et al., 2024). In the Iraqi context, mental health is often understood through sociocultural norms, which interpret psychiatric disorders through religious, moral, and social traditions, such as "lack of faith" and "ayab." Such an interpretation can reduce women's mental health awareness and increase stigma in conflict recovery settings (Baktash & Sulaiman, 2024; Darya, 2022).

The relationship between MHL and its effect on women in conflict recovery settings can be explained using the Health Belief Model, as conflict and war can increase women's risk of mental illness. MHL can shape women's perceptions of their susceptibility to and the severity of mental illness. Additionally, MHL can significantly influence perceived benefits, barriers, and self-efficacy related to mental health behaviors (Janz & Becker, 1984; Jorm et al., 1997). From a stigma theory perspective, low MHL can increase stigma toward mental illness and may lead to poorer mental health outcomes by reducing appropriate help-seeking behaviors from healthcare professionals (Pescosolido, 2015; Wilandika & Sari, 2025).

International research on women's MHL, including studies from neighboring countries such as Saudi Arabia and Iran, shows high levels of MHL in developed countries and lower levels, along with considerable stigma, in developing nations (Abonassir et al., 2021; Chesser et al., 2021). There is variation in MHL levels among women worldwide. Some studies indicate that about 70% of women in the USA, Australia, Canada, and Europe have good MHL and help-seeking knowledge (González-Sanguino et al., 2024; Hill et al., 2024; Simões de Almeida et al., 2023). These studies also suggest that women in developed countries have higher mental health literacy than men (Spedding et al., 2018). In contrast, a study in Saudi Arabia showed that women's MHL has increased recently but remains moderate to low, with roughly 40 to 50 % lacking the necessary knowledge to manage mental illnesses such as anxiety and depression (Abonassir et al., 2021). According to Jafari et al. (2021), women in Iran have a moderate level of MHL and face significant stigma. Lastly, studies in Jordan and Turkey indicate that MHL has improved considerably in recent years (Al-Qerem et al., 2024; Uguz et al., 2024).

Previous studies also identified several sociodemographic factors that influence women's MHL levels (Daehn et al., 2022; Oftadeh-Moghadam & Gorczynski, 2022). A study in Iran revealed that women's MHL is significantly correlated with income, occupational status, marital status, and education level (Jafari et al., 2021). A study in Egypt indicated that women aged 21 or older were more likely to seek mental health information. Another study suggests that residence, culture, and clinical and family mental health history may also significantly influence MHL scores (Baklola et al., 2024). These findings suggest that women's mental health literacy is shaped by a complex interplay of sociodemographic, cultural, and contextual factors.

Previous international studies on MHL have mainly focused on economically and politically stable countries, with limited attention to women in conflict and war zones. In Iraq, although some studies have assessed women's overall mental health after conflict, to the best of the author's knowledge, no research has specifically examined the level of MHL and its related demographic factors, particularly among Turkmen women, a culturally unique and underrepresented group in post-conflict Iraqi research (al-Uzri & Dyer, 2020; Lafta & Merza, 2021). This gap may hinder the development of culturally sensitive mental health interventions, highlighting the need for context-specific research (Ahmed et al., 2024; Golpashin & Chen, 2021). Furthermore, several factors drove the decision to assess MHL among women in Telafer City, including the city's specific post-conflict context and its severe psychological consequences. Women in Telafer have experienced armed conflict, displacement, and unstable socio-economic status, all of which have contributed to increased psychological distress and stigma, along with limited coping resources (Golpashin & Chen, 2021). Despite these challenges, MHL remains an essential issue that has not been explored in this setting. On the other hand, since women's MHL affects the entire society and nurses are often the primary, and sometimes the only healthcare providers for women, understanding its levels in this fragile setting (Telafer City) is essential. Estimating MHL scores and their associated factors among post-conflict women can assist nurses in designing culturally sensitive interventions to enhance mental health help-seeking behaviors and reduce stigma.

Therefore, the present study aimed to assess the women's MHL and its associated factors in the context of conflict recovery in Telafer City, Iraq. This study is expected to contribute to nursing knowledge by providing evidence from post-conflict areas, with implications for community-mental health nursing practice in similar settings worldwide.

2. Methods

2.1. Research design

A descriptive cross-sectional study was conducted to assess mental health literacy among women in Telafer City. This design aligns with the study's objective, as it permits the assessment of women's MHL levels and their associated factors in conflict recovery communities at a specific point in time. Given the exploratory nature of the study, the cross-sectional approach outperforms longitudinal and experimental studies, which face constraints such as population instability and ethical issues that make them impractical in conflict-affected areas (Wang & Cheng, 2020).

2.2. Setting and samples

This study was conducted from October 1, 2024, to May 1, 2025. The study's target population was displaced Turkman women residing in Telafer City, Iraq. All residents of Telafer had been displaced during the conflict and then returned; therefore, displacement was a common background characteristic and not a criterion for inclusion in the study (Ministry of Migration & Displaced, 2025). Inclusion criteria included women currently residing in Telafer city, aged 16 or older, able to understand Arabic, and willing to provide informed consent. Furthermore, women with previous clinical and family history of mental health conditions were not excluded. However, women with severe and acute psychological illness and those with critical illness were excluded.

The sample size was calculated using a standard method for estimating proportions in cross-sectional studies. A 95% confidence level ($Z = 1.96$), an expected proportion of 0.5 (in the absence of prior data), and a margin of error of 5% were applied to ensure adequate precision of the estimates (Baktash & Aziz, 2023; Wang & Cheng, 2020). This calculation indicated that the required sample size for the study was 385 women. To address the possibility of non-response and missing data in some questionnaires, the sample size was increased by 20%, bringing the required sample size to approximately 450 women.

During data collection, to ensure greater representation of women from diverse neighborhoods, ages, and sociodemographic groups in Telafer, the study sample was increased to 603 participants. A convenient sampling method was used to recruit women attending a general hospital in Telafer, the city's main public health facility. To increase sample diversity, recruitment was conducted on different days and at different times. Logistical and safety challenges in post-conflict communities have made hospital-based recruitment a more feasible approach.

2.3. Measurement and data collection

Data were collected using a two-part questionnaire. The first part comprised six questions on sociodemographic characteristics: age, residence, educational background, occupation, marital status, and culture. Furthermore, two additional self-reporting questions in (yes/no) format were included in this part to determine participants' clinical and family history. Specifically, for clinical history, the participant was asked: Have you been diagnosed by healthcare professionals with a mental illness (Yes/No). For family history, the participant was asked: Has any of your family members or relatives been diagnosed with a mental illness (Yes/No)?.

The second part of the questionnaire involved using the Arabic version of the mental health literacy scale (MHLS), originally developed by O'Connor and Casey (2015) and later translated into Arabic by BinDhim et al. (2023). MHLS comprises 35 questions distributed across four subscales: Mental Health Recognition, Seeking Mental Health Information, Overall Attitude towards Mental Health, and Attitudes towards People with Mental Illness. The items in the Mental Health Recognition subscale were scored on a four-point Likert scale ranging from 1 (Very Unlikely/Very Unhelpful) to 4 (Very Likely/Very Helpful). Other subscales were measured using a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). MHLS total score ranges from 35 to 160, with higher scores indicating better MHL.

In the validation study, the scale demonstrated good internal consistency ($\alpha = 0.87$) and test-retest reliability (interclass correlation coefficient = 0.89). Strong construct validity was supported by exploratory and confirmatory factor analyses that identified a four-factor structure, with factor loadings ranging from 0.40 to 0.85. In this study, after receiving approval from the scale developers to use and adapt the scale, the questionnaire was carefully reviewed by ten experts in relevant fields. The panel included five mental health physicians from the Nineveh Health Directorate and five nursing and medical experts from Telafer University. Based on their reviews, one item was modified to better align with the participants' characteristics. The revised item was question number 10, which initially asked: "To what extent do you think smokers in Saudi Arabia are generally more likely to develop anxiety disorders compared to non-smokers?" It was modified to: "To what extent do you think smokers in Iraq are generally more likely to develop anxiety disorders compared to non-smokers?" Ultimately, the MHLS, with all its subscales, demonstrated acceptable reliability ($\alpha \geq 0.8$).

Data were collected from participants after obtaining approval from the director of the hospital where the study took place and informed consent from the subjects. Data were collected using study instruments and through personal face-to-face interviews, each lasting 15 to 20 minutes. The high illiteracy rate among women necessitated this data collection method. Interviews with participants were conducted in a private room in the hospital's nursing department, with assistance from doctors and nurses who referred women meeting the inclusion criteria. Each woman was interviewed individually, informed of the study's objectives, and invited to participate. These processes ensured the privacy and confidentiality of the participants and gave women the freedom to withdraw from the study at any time without consequences.

2.4. Data analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows, version 26. Descriptive statistics, including frequencies, percentages, ranges, means, and standard deviations, were calculated to describe participants' demographic characteristics and MHL scores. Assumptions for parametric tests, such as normality and homogeneity, were confirmed using the Shapiro-Wilk test and Levene's test. The result of the Shapiro-Wilk test indicated no significant deviation from a normal distribution ($p > .05$). Furthermore, Levene's test showed no significant violation of homogeneity ($p > .05$). These findings supported the use of parametric statistical tests.

The associations between MHL scores and participants' sociodemographic characteristics, including age, residence, educational background, occupation, marital status, culture, clinical history of mental illness, and family history of mental illness, were calculated using one-way ANOVA and independent-sample t-tests. Specifically, one-way ANOVA was applied to age and education, while independent-sample t-tests were used for the remaining variables. Factors associated with mental health literacy were examined using multiple linear regression. A p-value of less than 0.05 was considered statistically significant.

2.5. Ethical considerations

Ethical approval was obtained from Telafer General Hospital and the Scientific and Ethical Committee in the College of Nursing, University of Telafer, with approval letter number C. N. 833 dated August 27, 2024. The study strictly adhered to ethical guidelines, including the 1964 Helsinki Declaration and its subsequent revisions. Informed consent was obtained from all women using a consent form. For illiterate women, the form was read aloud clearly, and then verbal consent was obtained by the investigator. The consent form included information about the nature of the research, such as the title, objectives, ability to withdraw, and the confidentiality and anonymity of the information. Participants were allowed to ask questions, and voluntary participation was emphasized. The study was conducted within the Nursing College's research program at the University of Telafer.

3. Results

3.1. Characteristics of participants

Table 1 shows that the participants' mean age was 34.16 years (SD = 12.58). Most participants (32%) were in the 26–35 age group, followed by 31.3% in the 16–25 age group. The table also indicates that the majority of women lived in urban areas (89.2%), had either no formal education or only elementary school education (21.9% and 22.6%, respectively), were unemployed (65.8%), were married (64.3%), identified with Turkmen culture (83.9%), and had no family or clinical history of mental illness (66.7% and 76.6%, respectively).

Table 1. Sociodemographic characteristics of the study participants (n=603)

Characteristics	Categories	Frequency (f)	Percentage (%)	Mean (SD)
Age	16-25	189	31.3	34.16(12.58)
	26-35	193	32.0	
	36-45	99	16.4	
	46-55	74	12.3	
	56-65	44	7.3	
	≥ 66	4	0.7	
Residence	Urban	538	89.2	
	Rural	65	10.8	
Educational background	No formal education/illiterate	132	21.9	
	Elementary school	136	22.6	
	Intermediate school	84	13.9	
	High school	106	17.6	
	Diploma	54	9.0	
Occupation	Graduate	91	15.1	
	Employed	137	22.7	
Marital status	Unemployed	466	77.3	
	Single	174	28.9	
Culture	Married	388	64.3	
	Divorced	13	2.2	
	Widowed	28	4.6	
Clinical history of mental illness	Turkman	506	83.9	
	Arabic	87	14.4	
	Kurdish	2	0.3	
	Yazidi	8	1.3	
Family history of mental illness	Yes	90	14.9	
	No	402	66.7	
	Do not know	111	18.4	
Family history of mental illness	Yes	141	23.4	
	No	462	76.6	

3.2. Scores of mental health literacy among women

Table 2 presents the scores for overall mental health literacy and its subscales. The lowest mean score was observed in Attitudes toward People with Mental Illness (M = 13.90; SD = 5.38), whereas the highest was observed in Seeking Mental Health Information (M = 12.80; SD = 3.60).

Overall, the mean scores across MHL dimensions were relatively low compared to the maximum possible scores for each subscale. The total mental health literacy score was ($M = 88.06$; $SD = 13.80$). The distribution of scores appeared to be approximately normal.

Table 2. Descriptive statistics and scores of mental health literacy and its subdomains among the study sample ($n=603$).

Variables	M	SD	Range in Sample		Skewness		Kurtosis		Actual Scale Range
			Min	Max	Statistic	Std. Error	Statistic	Std. Error	
Mental Health Recognition	36.15	6.82	19.0	56.00	.230	.100	-.562	.199	15-60
Seeking Mental Health Information	12.80	3.60	4.00	20.00	-.460	.100	-.443	.199	4-20
General Attitude toward Mental Health	25.20	4.81	9.00	39.00	.044	.100	-.113	.199	9-45
Attitude toward people with Mental Illness	13.90	5.38	6.00	31.00	.734	.100	-.070	.199	7-35
Total Mental Health Literacy	88.06	13.8	54.0	130.0	.008	.100	-.465	.199	35-160

Notes. M: Mean; SD: standard deviation; Min: minimum; Max: Maximum

3.3. Differences in the score of MHL and its subdomain according to women's characteristics

Table 3 shows that the total MHL scores among women varied significantly across age groups, educational backgrounds, occupations, and marital statuses ($p < .05$). Post-hoc tests using LSD indicated that overall literacy scores decreased with age and increased with education. Younger, educated women had higher scores than older, uneducated women. An independent sample t-test revealed that MHL scores are higher among women who are married or employed.

3.4. Determining factors predicting mental health literacy among women

Table 4 presents the results of the multiple linear regression model. The model was statistically significant, $F = 5.731$, $p < .001$, accounting for 5.9% of the variance in MHL (Adjusted $R^2 = .059$). Among the eight predictors, only educational level was significantly associated with MHL ($B = 1.342$, $SE = .456$, $p = .003$, 95% CI [0.447, 2.237]).

4. Discussion

This is the first study that aims to assess mental health literacy (MHL) and related factors among women of the Turkmen Arab culture in Iraq, especially in a region impacted by recent conflict and war. The results showed that women's MHL score was relatively moderate ($M = 88.06$). Significant associations were observed between MHL and age, educational level, occupation, and marital status. Furthermore, educational level was the only predictor of MHL score among women from the Turkmen culture.

The findings pointed to a substantial gap in different domains of women's mental health comprehension. A significant portion of women demonstrated difficulty in identifying mental illnesses, accessing mental health information, and possessed negative attitudes toward mental health and those with mental disorders. This presents a potential risk to the health of women, their families, and society in Telafer. Unfortunately, there are no prior studies on MHL among Iraqi women to compare with these findings. Nevertheless, the study's results are consistent with those of Jafari et al. (2021) and Abonassir et al. (2021), which indicated that women's MHL scores were moderate in Iran and Saudi Arabia.

Table 3. Differences in the scores of mental health literacy and its subdomain according to women’s characteristics

Variables	Categories	Mental Health Recognition		Seeking Mental Health Information		General Attitude toward Mental Health		Attitude toward people with Mental Illness		Total Mental Health Literacy	
		M (SD)	F/t (p)	M (SD)	F/t (p)	M (SD)	F/t (p)	M (SD)	F/t (p)	M (SD)	F/t (p)
Age	16-25	37.82 (6.85)		13.35 (3.60)		25.14 (5.03)		14.80 (5.59)		91.13 (13.78)	
	26-35	36.80 (6.84)		12.94 (3.70)		24.95 (4.94)		13.67 (5.05)		88.38 (14.67)	
	36-45	34.81 (6.28)	7.47**	12.29 (3.33)	2.809*	24.78 (4.59)	1.102	12.83 (5.15)	2.006	84.73 (12.39)	4.14**
	46-55	34.12 (6.39)	(.000)	12.56 (3.76)	(.016)	25.86 (4.58)	(.358)	13.55 (5.36)	(.076)	86.10 (12.64)	(.001)
	56-75	33.02 (6.24)		11.56 (3.03)		26.40 (4.21)		13.95 (5.67)		84.95 (12.40)	
	≥ 76	30.50 (3.78)		10.50 (3.00)		24.50 (1.73)		14.75 (8.99)		80.25 (12.99)	
Residence	Urban	36.46 (6.84)	3.27**	(3.62) 12.80	.067	(4.89) 25.02	-2.62*	14.00 (5.41)	1.185	(13.83) 88.29	1.170
	Rural	(6.12) 33.55	(.001)	12.69 (3.43)	(.947)	26.67 (3.88)	(.009)	13.16 (4.98)	(.237)	86.16 (13.64)	(.242)
Education	Illiterate	33.18 (5.98)		11.68 (3.16)		25.98 (4.46)		13.73 (5.79)		84.59 (12.51)	
	Elementary	35.58 (6.79)		12.64 (3.67)		25.18 (4.93)		12.94 (4.85)		86.35 (13.48)	
	Intermediate	34.17 (6.71)	15.44**	11.50 (4.01)	11.01**	24.61 (5.01)	1.896	12.92 (4.89)	3.045*	83.22 (14.97)	10.58*
	High school	38.15 (6.15)	(.000)	13.52 (3.21)	(.000)	24.27 (4.54)	(.093)	14.87 (5.56)	(.010)	90.83 (12.47)	(.000)
	Diploma	39.59 (6.11)		14.55 (3.27)		25.66 (5.18)		15.00 (5.30)		94.81 (12.12)	
Occupation	Graduated	38.75 (6.82)		13.97 (3.35)		25.45 (4.90)		14.70 (5.44)		92.89 (13.98)	
	Employed	38.81 (6.70)	5.31**	14.21 (3.32)	5.32**	25.05 (5.09)	423	14.74 (5.54)	2.087*	92.82 (13.74)	4.67**
Marital Status	Unemployed	35.36 (6.66)	(.000)	12.38 (3.57)	(.000)	25.24 (4.73)	(.673)	13.65 (5.30)	(.037)	86.66 (13.52)	(.000)
	Single	37.24 (7.21)	2.96**	12.95 (3.62)	.771	25.18 (4.95)	-.033	14.72 (5.65)	2.907*	90.10 (14.37)	2.788*
Culture	Married	35.53 (6.53)	(.003)	12.71 (3.59)	(.441)	25.19 (4.73)	(.973)	13.40 (5.11)	(.004)	86.85 (13.29)	(.005)
	Turkman	36.28 (6.70)	1.118	12.86 (3.57)	.981	25.07 (4.85)	-1.526	14.06 (5.45)	1.706	88.29 (13.97)	.940
Mental Illness History	Arabic	35.44 (7.41)	(.264)	12.47 (3.74)	(.327)	25.88 (4.53)	(.128)	13.05 (4.88)	(.089)	86.85 (12.88)	(.348)
	Yes	35.37 (7.53)	-1.168	12.52 (3.23)	-.801	26.16 (4.59)	2.06*	15.07 (5.79)	2.252*	89.14 (13.83)	.805
Family History of Mental Illness	No	36.28 (6.69)	(.243)	12.85 (3.66)	(.42)	25.03 (4.83)	(.040)	13.69 (5.28)	(.025)	87.87 (13.80)	(.421)
	Yes	36.30 6.83	.417	12.15 (3.46)	-2.49*	25.71 (4.82)	1.548	14.68 (5.12)	1.963*	88.85 (13.64)	.855
	No	36.02 (6.81)	(.677)	13.02 (3.63)	(.013)	24.99 (4.78)	(.122)	13.66 (5.41)	(.050)	87.70 (13.87)	(.393)

Notes:

M: Mean; SD: standard deviation; *: significant at p-value <.05; **: significant at p-value <.001; For sociodemographic variables, the reference categories were as follows: age (16-25 years), residence (urban), education (illiterate), occupation (employed), marital status (single), culture (Turkman), mental health history (yes), family history of mental health (yes)

Table 4. The association between mental health literacy and sociodemographic characteristics

Variables	B	Std. Error	95% CI (Lower–Upper)	T	Sig	Adjusted R-Square	F	Sig
(Constant)	90.640	4.956	80.906 - 100.374	18.288	.000			
Age	-.090	.051	-.190 - .011	-1.755	.080			
Residence	.508	1.105	-1.663 - 2.678	.460	.646			
Occupation	2.361	1.681	-.941 - 5.663	1.404	.161			
Education	1.342	.456	.447 - 2.237	2.944	.003	.059	5.731	.000
Marital status	-.597	1.120	-2.796 - 1.603	-.533	.594			
Culture	-.738	1.528	-3.738 - 2.262	-.483	.629			
Clinical history	-2.437	1.606	-5.591 - .717	-1.518	.130			
Family history	-.470	1.241	-2.907 - 1.966	-.379	.705			

Notes. Dependent variable: Total Mental Health Literacy

The results showed that the score of mental health awareness among Turkmen women varies across different dimensions. Some areas performed well, especially in mental health information seeking. This illustrates that women in Telafer feel confident in accessing mental health information through their technological skills or by consulting a doctor or mental health service providers. This highlights an often-overlooked aspect of Telafer city: the need for the Iraqi Ministry of Health and the Nineveh Health Directorate to establish specialized psychiatric and mental health counseling centers in regions affected by war and conflict (Porter, 2019). Furthermore, high confidence in using computers and mobile devices as sources of mental health information supports the development of a mobile phone app compatible with popular platforms like iOS and supporting Arabic. Such an app could be useful not only in conflict zones and camps but also in cities with low MHL and high mental health-related stigma (Yeo et al., 2024). Conversely, some aspects of MHL demonstrated notable weaknesses, particularly in women's attitudes towards people with mental illness and their ability to identify psychological conditions. This reflects a significant level of stigma among Turkmen women concerning mental health. Therefore, future efforts and interventions must help women detect mental illnesses and related issues, while promoting a favorable orientation toward mental health and mentally ill persons (Gallagher & Watt, 2019; Lee et al., 2020). These results also align with a systematic review that identified and evaluated existing research on MHL among Arabic adults in the Gulf Cooperation Council countries. This review highlighted a moderate level of MHL and a high level of mental health stigma (Elyamani et al., 2021).

Women in the study reported significant differences in MHL scores and their components across demographic groups. Specifically, younger, single, educated, and employed women showed better MHL levels. This may be attributed to greater access to mental health information, social exposure, and interaction with healthcare professionals. This implies that mental health education efforts in post-conflict communities should focus on older, married, uneducated, and unemployed women. This result is partially consistent with the study by Jafari et al. (2021), which reported a significant association between MHL and education and occupation, although no significant correlation was found between women's age and MHL level.

Surprisingly, this study revealed no significant relationship between women's MHL levels and their residence, culture, clinical mental health, and family history. This may be explained by two reasons: first, the vast majority of Telafer women who participated in the study were from the Turkmen culture and resided in urban areas. This sample homogeneity may contribute to the lack of significant differences in the MHL score. Second, the moderate level of MHL observed among women in the study might reduce appropriate help-seeking behaviors and the recognition of clinical mental health and family history, which ultimately prevents determining the exact association between MHL levels and clinical mental health and family history. This finding suggests the need to conduct transcultural studies to better understand the actual relationships between women's culture and mental health, clinical, and family history. However, these results are inconsistent with the study by Elyamani et al. (2021), which found different levels of MHL across various Arab Gulf countries and cultures.

This study showed that younger women, urban residents, those with higher education, those who were employed, and married women demonstrated higher knowledge and competency in

recognizing mental disorders. This implies that efforts to improve women's mental health identification capacity should emphasize older, rural residents, the uneducated, and single women. This result is somewhat inconsistent with the study by [Jafari et al. \(2021\)](#), which found no significant effect of age and residence on women's ability to recognize mental illnesses. Educated younger women and those with a family history of mental illness also felt more confident in their capacity to find and access mental health information. This illustrates the need to develop interventions tailored for uneducated, older women and those not exposed to mentally ill individuals to help them find accurate mental health information. This finding is consistent with previous studies showing that educated women use resources such as mental health professionals, the Internet, social networks, TV, and radio programs as their main sources of mental health information ([Elyamani et al., 2021](#); [Jafari et al., 2021](#); [Yang et al., 2023](#)).

The study findings address the specific needs of each Talafer women's group regarding MHL and demonstrate the need for immediate, tailored educational programs and culturally sensitive interventions to improve MHL. Fulfilling this gap is necessary for enhancing mental health knowledge, which can help reduce vulnerability to different psychological issues, increase the use of mental health services, and lower the rates of mental illnesses such as anxiety, depression, and suicidal tendencies. The role of sociodemographic characteristics in MHL levels in this study is consistent with previous studies that reported improvements in MHL among younger, highly educated, urban women ([Neto & Maugi, 2022](#); [Schneider et al., 2021](#)). Finally, the understanding of and perspectives on mental health were generally superior among highly educated displaced women. The multiple linear regression model's insufficient explanatory power reveals the necessity of integrating other variables and mental health constructs, such as self-efficacy, barriers to mental health information, stigma, and the availability and benefits of mental health awareness programs, to more efficiently capture the complexities affecting displaced women's MHL in conflict recovery regions. However, this evidence highlights an unaddressed aspect of displaced women: the connection between learning and women's MHL levels. These findings enable educational organizations and groups concerned with displaced people to highlight the importance of enacting laws that support girls' continued education, including the provision of necessary educational supplies in displacement camps and conflict-affected regions during recovery.

5. Implications and limitations

The study's findings indicated several implications for nursing practice, education, and health policy in conflict recovery settings. According to the observed mental health literacy level among Turkmen women, community mental health nurses can play a key role in delivering culturally sensitive mental health education, with particular emphasis on mental illness identification, stigma reduction, and appropriate help-seeking. The study's findings suggest that nurses should tailor mental health education to women's age, educational level, occupation, and marital status. Nurses need to deliver mental health awareness and preventive interventions to younger women, while older women may benefit from symptom recognition and coping-oriented education. Women with low educational levels may benefit from simplified mental health education programs using culturally appropriate language with visual tools. The association between MHL, occupation, and marital status indicated that nurses should consider women's occupational roles and marital responsibilities when planning mental health education, as time constraints, caregiving burdens, and social expectations may influence engagement and help-seeking behavior. Nursing education programs need to emphasize mental health literacy and culturally responsive communication skills to better prepare nurses for community outreach in low-literacy and conflict-recovery settings. Developing policies for community-based mental health education as a part of nursing services in primary health care centers is essential for early detection of mental health disorders among women in conflict recovery settings such as Talafer City.

However, this study faced several limitations. Its cross-sectional design limits the ability to make causal inferences between MHL and related factors. In addition, hospital-based recruitment and convenience sampling limit the generalizability of the results to women who do not use public health care facilities. Deeper insights into women's MHL in conflict-affected settings should be the focus of future efforts through qualitative and longitudinal studies.

6. Conclusion

This study demonstrated that mental health literacy (MHL) among Turkmen women in Telafer City is low to moderate. The study highlighted significant positive correlations between Turkmen women's age, education, occupation, and marital status and their MHL scores. Moreover, the study showed that in conflict recovery settings, education significantly predicts women's MHL levels. The findings of the current study support the need to develop nurse-led community-based mental health education programs to enhance MHL among women from Turkmen or Arab communities with insufficient educational attainment in conflict-affected societies. Upcoming initiatives should emphasize the design of interventions to improve women's MHL in communities recovering from conflict.

Acknowledgment

The author would like to extend his deepest gratitude to all the Turkmen women who participated in the study and to the experts who helped refine the questionnaire. The author also expresses his sincere appreciation to the administration, doctors, and nurses of Telafer General Hospital for their assistance in data collection. Special thanks to the National Center for Mental Health Promotion in the Kingdom of Saudi Arabia for granting permission to obtain and use the Arabic version of the Mental Health Literacy Scale.

Author contributions

The author contributed to the conceptualization and design of the study, data collection, data analysis and interpretation, and drafting and revising the manuscript. The author approved the final version of the manuscript and agrees to be accountable for all aspects of the work.

Conflict of Interest

There are no conflicts of interest.

Funding

There is no financial support or sponsorship.

Declaration of Use of AI in Scientific Writing

The author declares that no generative artificial intelligence (AI) tools were used in the writing, editing, or preparation of this manuscript.

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