

Examining the Effect of Peer Education on Mental Health Literacy of Female Dormitory Students

Abstract

Aims: Mental health literacy (MHL) encompasses a range of knowledge and beliefs that facilitate the recognition, management, and support of both personal and community mental health. Limited MHL can contribute to delayed identification of psychological issues, heightened social stigma, diminished quality of life, and an increased risk of suicide. Enhancing this literacy is achievable through broad educational initiatives, stigma reduction efforts, and improved access to credible resources. This study explores the impact of peer education on the enhancement of MHL among female dormitory students.

Materials and Methods: This interventional study was conducted among 80 female students residing in dormitories at Kurdistan University of Medical Sciences. Participants were randomly assigned to the control group (n=40) and intervention group (n=40). Five students with active involvement in mental health advocacy were trained as peer educators through three structured sessions. These educators subsequently provided instructional content to the intervention group over a one-month period. Data collection was carried out using standardized demographic and MHL questionnaires. Statistical analyses, including Chi-square and independent t-tests, and ANCOVA were performed using SPSS software.

Findings: Following the peer education intervention, significant improvements were recorded across multiple subscales, including awareness, misconceptions, first aid skills and help-seeking, self-help strategies, and overall MHL ($p < 0.05$).

Conclusion: Findings from this study underscore the effectiveness of peer education in substantially enhancing MHL among female dormitory students.

Keywords: Educational Intervention, Peer Group, Health Promotion

Introduction

A mental disorder is a behavioral problem that causes distress or poor functioning in an individual [1]. It directly leads to disability and death, and indirectly contributes to long-term disabilities by affecting the progression and prognosis of other diseases. If left untreated, mental disorders can result in educational, interpersonal, familial-social problems, and a reduction in life expectancy [2]. In recent years, socio-economic changes such as rapid population growth, urbanization, migration, and industrialization have led to a wide and increasing range of mental disorders in various societies. Mental disorders are among the top five leading causes of disability, accounting for more than 30% of all lifetime disabilities [1]. Globally, 12% of all diseases are related to mental disorders, and in developed countries, this figure rises to 23% [3]. In recent years, the incidence of mental disorder-related illnesses in Iran has also shown an upward trend, It is estimated that 24–43% of individuals over the age of 15 in Iran suffer from depression and anxiety [4, 5].

Mental health in young people is of great importance. In fact, the onset of mental health problems usually occurs before the age of 25 [6]. Studies have shown that mental disorders are more prevalent among adolescents and young adults who face multiple social and personal pressures. It has been observed that about 25% of children and young people have a mental health problem [4], approximately 30.6% of university students suffer from depression [7]. Additionally, one in four students has suicidal thoughts [8]. Youth is a critical period that directly impacts personality development. During this time, individuals undergo physical and psychological changes and become ready to accept major social responsibilities, such as choosing a career and a spouse. Therefore, the emergence of mental disorders in this period, through risks such as depression, anxiety, eating disorders, addiction, and suicidal thoughts, leads to failure in fulfilling social roles [9, 10]. Moreover, dormitory students, who lack direct support from family and close acquaintances, are at higher risk of developing mental health issues [11]. It has also been found that female students suffer from depression and anxiety more than male students, because females face greater social and cultural pressures related to appearance expectations, gender roles, and family responsibilities, requiring more psychological support [12]. As a result, mental health education offers an important opportunity to assist adolescents and young people, especially female dormitory students, by guiding mental health information and increasing knowledge about mental health disorders [6]

Due to the low level of Mental Health Literacy (MHL), despite the high prevalence of mental health disorders, the demand for care remains very low [13]. For instance, nearly 90 million Americans have reported difficulties in understanding information related to their mental health [14]. The concept of MHL is not new; it emerged in the late 1990s through the research of Jorm and his colleagues, who defined MHL as the knowledge and beliefs that aid in the recognition, management, and prevention of mental health disorders [15]. The World Health Organization defines MHL as the cognitive and social skills which determine the motivation and ability of individuals to access, understand, and use information in ways that promote and maintain good health [1]. More researchers have attempted to expand this concept, and recently, four domains have been proposed for building MHL: 1) understanding good mental health, mental health promotion, also known as positive MHL, 2) knowledge of mental disorders and treatment, 3) stigma of mental illness, and 4) help-seeking behavior.

Low MHL is associated with adverse mental health outcomes, while high MHL is considered an important contributing factor in reducing psychological problems and improving individuals' mental health [16]. Despite its significance, various studies have reported inadequate MHL levels across different societies [1, 17]. Consequently, mental health management has become one of the main priorities of health systems in various countries and a subject that has attracted the attention of many researchers and policymakers. Given the high prevalence, chronic nature, and long-term negative consequences of mental disorders, urgent action—including continuous monitoring of the population's mental health and the design and implementation of effective educational strategies—has become a critical need in all countries [18].

MHL education through peers enables the formation of positive and deep connections among young people and encourages them to talk with each other about psychological issues, their experiences, and strategies for coping with stress and anxiety. These interactions and shared experiences can enhance young people's knowledge and awareness in the area of MHL and motivate them to achieve a better understanding of psychological issues. According to recent research, participation in mental health education programs through peers increases young people's knowledge and skills

in identifying and coping with mental health problems [19, 20]. As a result, it can be an effective approach to promoting the mental health of young people. Based on the above, the aim of this study is to investigate the impact of peer-based education on improving the MHL of young female dormitory students.

Methodology

This study was an interventional trial with a pre-test–post-test design, conducted in the year 2024 on 80 female students residing in the dormitories of Kurdistan University of Medical Sciences. Based on the findings of the study by Tehrani and colleagues [2], the sample size was calculated using the following formula with a 95% confidence level, 90% test power, a mean change in MHL score of 7 units, and a standard deviation of 9 units. Based on these calculations, a minimum of 36 participants per group (control and intervention) was required. However, to enhance precision and reduce sampling error, 40 participants were allocated to each group.

$$n = (z_1 - \alpha/2 + z_1 - \beta)^2 [\sigma_1^2 + \sigma_2^2] / (\mu_1 - \mu_2) \quad (1)$$

Inclusion and Exclusion Criteria

Inclusion criteria for the study were: residing in the university dormitories, willingness to participate in the research, no history of diagnosed psychiatric disorders, and no participation in mental health workshops within the past six months. Exclusion criteria included unwillingness to continue participation in the study, illness or any other reason preventing the participant from continuing, and leaving the dormitory for any reason.

Sample Size

The sampling method was as follows: for the intervention group, five peer educators each selected eight of their roommates and classmates. For the control group, 40 students were randomly selected from the university's female dormitories. It was ensured that students in the control group were not allowed to participate in the intervention group's educational program.

Data Collection Tools

The data collection tools in this study included a questionnaire containing demographic information (18 questions) and a MHL questionnaire, the face and content validity of which were confirmed by academic experts.

In the study conducted by Zarabi et al., the content validity of the MHL questionnaire was evaluated through a panel of experts, and both the Content Validity Ratio (CVR) and the Content Validity Index (CVI) were calculated. To assess the reliability of the instrument, the researchers employed Cronbach's alpha. Their findings indicated that the alpha coefficient for the different subscales was as follows: knowledge of mental health problems (0.702), misconceptions about mental health (0.284), first-aid and help-seeking skills (0.650), self-help strategies (0.386), and the total mental health literacy score (0.770). According to Zarabi et al., these results demonstrate an acceptable level of internal consistency of the questionnaire in measuring mental health literacy [21].

The structure of the questionnaire consisted of 29 questions across four dimensions: 11 questions related to awareness of mental health problems, 8 questions about misconceptions, 6 questions on help-seeking skills, and 4 questions related to self-help strategies.

The questionnaire was designed using a 5-point Likert scale (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree), and the questions aimed to assess youths' perspectives and attitudes toward mental health issues. The questions focused on various aspects, including individuals' awareness and knowledge of mental health problems, their attitudes and beliefs, and the resources they might turn to if needed. In the analysis, scoring of the questionnaire was structured in a way that a lower score indicated a higher level of MHL.

Educational Intervention

After obtaining the necessary approvals from relevant authorities, receiving the ethics code, and collecting informed consent forms from the students, the objectives of the study were explained to the participants. Peer educators were selected from among active and interested students who had previously participated in mental health activities at the university's mental health center and whose qualifications had been confirmed by that center. A total of five peer educators were selected.

Three training sessions were held by the researcher for the peer educators. The educational content was designed based on the Mental Health Curriculum Guide authored by Kutcher and Stanley [22].

In the first session, topics such as mental illness stigma, concepts of mental health and mental illness, and information related to specific mental disorders were taught. The second session

focused on experiences with mental illness, the importance of family communication, help-seeking, and finding social support. The third session involved group discussion and Questions and answers, with a focus on effective methods of information delivery between the researcher and peer educators. A digital version of the educational booklet was provided to the peer educators for reference and to assist in answering potential student inquiries. Peer educators were required to submit weekly progress reports, detailing training advancements, observed challenges, participant interactions, and raised questions via phone, social media, or in-person meetings with the researcher, through which they received necessary guidance.

MHL Assessment

To assess MHL, all participants (both intervention and control groups) were asked to complete the MHL questionnaire at the pre-test stage. Then, over the course of one month (from 22 October 2024 to 21 November 2024), the peer educators delivered the educational content in group sessions to eight of their roommates at suitable times in the dormitory rooms. After the completion of the training, an electronic version of the educational booklet was provided to the participants in the intervention group.

At the end of the program, the post-test questionnaire was completed by all participants (intervention and control groups) during 21 December 2024 to 25 December 2024. To maintain confidentiality, the distribution and collection of the questionnaires were carried out by the researcher. The control group did not receive any intervention until the end of the data collection phase. To adhere to ethical principles, after the completion of the study, an educational session on MHL was conducted by the researcher for the control group.

Data Analysis

After data collection, statistical analysis was performed using SPSS software, version 22. To assess the normality of quantitative variables the Kolmogorov–Smirnov test was applied. The results confirmed that all quantitative variables were normally distributed. Accordingly, the independent t-test was used to compare these variables between the intervention and control groups (Age). To compare categorical variables between the two groups, the Chi-square test was applied. An ANCOVA test was conducted to compare the subconstructs of MHL between the two groups following the intervention. A significance level of 0.05 was considered for all analyses.

Results

The age range of the participating students was between 19 and 25 years. The mean age of the students' mothers was 51.6 ± 6.8 years in the control group and 56.8 ± 5.9 years in the intervention group ($P = 0.15$). The mean age of the students' fathers was 48.15 ± 5.64 years in the control group and 54.02 ± 5.54 years in the intervention group ($P = 0.31$). No statistically significant differences were observed between the two groups in other demographic variables such as parents' occupation, students' field of study, history of divorce, mental illness, or addiction in the family ($P > 0.05$) (Table 1).

The variables mother's education, household income level, and number of residents per dormitory room showed statistically significant differences between the intervention and control groups at baseline. Therefore, ANCOVA was conducted to control for their potential confounding effects. The results indicated that these variables had no significant impact on the dependent outcomes.

Table 1: Absolute and relative frequency distribution of demographic variables in the control and intervention groups.

Demographic variable	Parameter	Intervention	Control	P value
Mother's education	Secondary school	22 (55%)	8 (20%)	0.003
	High school	15 (37.5%)	23(57.5%)	
	University	3 (7.5%)	9 (22.5%)	
Father's education	Secondary school	10 (25%)	8 (20%)	0.91
	High school	16 (40%)	17(42.5%)	
	University	14 (35%)	15(37.5%)	
Mother's job	Employee	5 (12.5%)	11(27.5%)	0.50
	Housewife	33 (82.5%)	23(57.5%)	
	Others	2 (5%)	6 (15%)	

Father's job	Employee	16 (40%)	18 (45%)	0.18
	Worker	0	2 (5%)	
	Self-employed	24 (60%)	20 (50%)	
History of divorce in the family	Yes	5 (12.5%)	8 (20%)	0.54
	No	35 (87.5%)	32 (80%)	
Residence status	Urban	32 (80%)	29(72.5%)	0.6
	Rural	8 (20%)	11(27.5%)	
Household income level	Low income	12 (30%)	2 (5%)	0.009
	Average income	24 (60%)	34 (85%)	
	High income	4 (10%)	4 (10%)	
Mental disorder history of family	Yes	1 (2.5%)	4 (10%)	0.359
	No	39 (97.5%)	36 (90%)	
History of roommate conflicts	Yes	19 (47.5%)	17(42.5%)	0.411
	No	21 (52.5%)	23(57.5%)	
Family history of addiction	Yes	4 (10%)	9 (22.5%)	0.225
	No	36 (90%)	31(77.5%)	
number of residents per dormitory room	3people	4 (10%)	1 (2.5%)	0.0001
	4people	19 (47.5%)	4 (10%)	
	5people	6 (15%)	9 (22.5%)	
	6people	11 (27.5%)	26 (65%)	
Birth order in the family	First child	14 (35%)	13 (35%)	0.51
	Second child	17 (42.5%)	16 (40%)	
	Third child	9 (22.5%)	7 (17.5%)	
	Fourth child	0	2 (5%)	
	Fifth child and	0	2 (5%)	

Chi-square test was used

ANCOVA results showed significant improvements in all subscales of mental health literacy in the intervention group compared to the control group, with the largest effect size observed for knowledge and substantial effects for first aid skills, help-seeking, and misconceptions about mental health ($p < 0.05$) (Table 2).

Table 2: Comparison of post-test means scores for the subscales using analysis of covariance (ANCOVA).

Subscale	Type III Sum of Squares	df	Mean square (ms)	f	P value	Partial η^2
Knowledge	1816.490	1	1816.490	192.403	0.000	0.714
Misconceptions about mental health	490.523	1	490.523	85.745	0.000	0.527
First Aid Skills and Help Seeking	832.050	1	832.050	115.449	0.000	0.597

Self-Help Strategies	105.800	1	105.800	24.473	0.000	0.239
Total score	9548.450	1	9548.450	110.512	0.000	0.586

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Discussion

In recent years, advancements in industry, society, and healthcare—particularly the COVID-19 pandemic—have contributed to a rise in psychological challenges. This study aims to evaluate the effectiveness of a peer-led intervention program designed to enhance the MHL of young women residing in dormitories. Additionally, it examines how demographic factors influence intervention outcomes. MHL plays a vital role in preventing psychiatric disorders and mitigating their impact. Research has shown that improving MHL among young individuals increases their awareness, understanding, and health-related skills, directly contributing to better mental well-being [23].

Knowledge refers to a proper understanding of mental health concepts, recognition of mental disorder symptoms, and awareness of prevention and treatment methods. This understanding empowers individuals to make informed decisions to improve their mental well-being [24]. According to the results, a significant increase in awareness and knowledge scores was observed after the intervention. This improvement was attributed to the interactive teaching approach and the involvement of peer educators, who conveyed mental health concepts in a simple and accessible manner.

Regular implementation of an MHL educational curriculum can enhance students' understanding of mental health disorders [25]. The findings of this study can be compared with research conducted in other universities and schools aimed at improving MHL. For example, Li and colleagues at the University of Hong Kong demonstrated that their intervention—an online game within a social network—effectively enhanced the mental health knowledge of 73 undergraduate students [26]. Similarly, the results of Sarah Hunt and colleagues' study on British students aligned with the present intervention, showing that it successfully improved students' MHL [27]. In a study conducted by Vanessa Pinfold and colleagues, a brief MHL educational program was developed for secondary school students in the United States. Similar to the present study, this program had a significant positive impact on individuals' awareness and understanding of mental health disorders [28].

Moreover, similar intervention studies have shown that participants' awareness and knowledge of mental health disorders—particularly depression and anxiety—have significantly increased [13].

However, some studies did not align with the results of the present research. Marin Correo and colleagues examined the impact of an educational intervention using instructional videos on the MHL of French university students. Their results showed that knowledge and awareness scores had increased; however, compared to the control group, the effect was not significant. This was because all participating students had a basic understanding of mental health due to prior school-based education [6].

One of the main challenges in the field of mental health is reducing misconceptions and negative stereotypes. Misconceptions include inaccurate beliefs about mental health and psychological disorders. Reducing these misconceptions can help decrease social stigma and increase acceptance of psychological services [29]. The analysis of the present study's data showed that the intervention effectively reduced these misconceptions. For example, the false belief that "seeking help is a sign of weakness" significantly declined after the intervention. This change reflects the program's success in providing accurate information and emphasizing the importance of mental health as an integral part of life. The findings of other interventions were also consistent with the present study [30]. The results of a study conducted in the northern province of Iran showed that four key components of mental health significantly improved as a result of a life skills educational intervention for middle school students [31]. However, the study by Swartz and colleagues in the United States on students showed that misconceptions and social stigma did not change after the intervention. Notably, the educational intervention was very brief, consisting of only two 90-minute sessions, whereas longer interventions are typically required to alter beliefs. [32].

first aid skills and help-seeking, and self-help strategies are additional components of MHL that improved following the intervention in the present study. Before the intervention, some students avoided consulting counselors or mental health professionals. However, after the program was implemented, their willingness to seek help increased significantly. This indicates that the program successfully built students' trust in the mental health system. Other studies have also reported similar findings [33, 34].

However, the results of Amanda Wells' study in Africa regarding the lack of impact of the intervention on first aid skills and help-seeking showed that the participants were aware of the

services provided by mental health professionals. However, due to the high cost of these services, they did not seek help. Meanwhile, the free health services offered by the government did not meet the high standards of specialized mental health care [35]. The overall MHL score also significantly improved following the present intervention, aligning with the findings of previous studies [13, 30]. According to studies by Campos and colleagues, an educational intervention for students aged 12 to 14 has generally improved MHL. This fosters the hope that continuous mental health education can enhance individuals' knowledge of mental disorders, first aid skills and help-seeking, and self-help strategies [34].

The controlled study by Ojio and colleagues demonstrated that the short- and long-term effects (two months after the intervention) of the educational intervention for adolescents were significantly positive across all components of MHL [36].

The study by Hadi Tehrani and colleagues provided evidence indicating that the educational intervention was effective in improving adolescents' mental health [2].

However, some studies showed opposite results. A cluster randomized trial evaluating a multifaceted intervention on MHL across several universities in Melbourne, Australia, found no impact on MHL, first aid skills and help-seeking for mental health issues, or mental health first aid provided to family or friends in psychological distress. The near-zero effect of this intervention can be explained by the fact that it was conducted through emails, posters, university events, and informational sheets/booklets, which lacked an interactive and face-to-face approach. It is likely that to achieve meaningful changes in MHL, interventions need to be more personalized and intensive [37].

These findings indicate that alongside the enhancement of MHL, structural barriers must also be addressed. However, further research is needed to establish the connection between MHL (and its various components) and psychological well-being across different populations.

One limitation of the present study is its reliance on self-report tools, which may have led participants to choose responses inconsistent with their own beliefs due to social norms. Therefore, future research is encouraged to incorporate mixed methods, such as face-to-face interviews and behavioral data. Another limitation of this study is the short duration of the intervention. To assess the sustainability of MHL and gain a deeper understanding of its impact on young people's mental health issues over time, longer follow-up periods are required.

Future research should develop coordinated programs to enhance each component of MHL as well as overall MHL among young populations. To achieve this, more experimental or quasi-experimental studies are needed to obtain the best possible evidence, using valid assessment tools and long-term follow-up periods. Interventions could include "booster" sessions to reinforce and maintain MHL levels while incorporating complementary explanatory and interactive strategies. The findings of this study hold significant value for various stakeholders, including students, families, educational institutions, healthcare centers, and policymakers. Universities and educational institutions can leverage these insights to design targeted educational programs. Additionally, organizations involved in public health and education can use these findings to develop comprehensive interventions aimed at improving MHL and reducing mental disorders.

Conclusion

Following the implementation of the educational intervention and based on the obtained results, it can be noted that designing and executing peer-led educational interventions can significantly improve the MHL of young female students. This study highlights that increasing the number of research efforts in the field of MHL among dormitory students will yield beneficial effects, emphasizing the need for mental health education programs in universities. Therefore, future university interventions should adopt this format to deliver effective programs aimed at enhancing MHL. The results of this study demonstrate that peer-led education facilitates the improvement of young people's MHL while also providing insights into certain essential features—such as face-to-face interviews and interactive peer education—that such interventions should incorporate. These findings will aid in overcoming barriers, strengthening facilitators for future MHL educational interventions, and identifying gaps within this research area.