



The effect of intervention based on adapted mental health literacy curriculum on attitude and help-seeking intention in high school students in Iran

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Abstract:

BACKGROUND: Adolescent mental health is a major public health concern in Iran, with 1 of every 5 adolescents suffering from a mental disorder. Mental health literacy (MHL) is an important factor in improving mental health outcomes. To address this issue, a mental health literacy school curriculum used in Canada was adapted, piloted, and evaluated for use in Iranian schools. This study examines the impact of the intervention on the attitude and help-seeking intentions of first and secondary students in Iran.

MATERIALS AND METHODS: This study is semiexperimental research that was conducted on 200 female teenagers who were studying in girls' secondary schools in Saveh, Central part of Iran, in 2023. The participants were divided into two groups, namely, the intervention group and the control group. Both groups completed a valid and reliable questionnaire that assessed their attitude and help-seeking intention at two different time points. To evaluate the intervention's effects, a repeated-measures analysis of variance (ANOVA) was used.

RESULTS: The study used the repeated-measures ANOVA to assess the changes in the mean attitude and help-seeking intention scores between the intervention and control groups. The findings indicated significant improvements in the attitude of help-seeking ($P < 0.001$), informal help-seeking intention ($P < 0.001$), and formal help-seeking intention ($P < 0.001$) for the intervention group as compared to the control group during the study.

CONCLUSION: The adapted mental health literacy school curriculum has been used and evaluated for the first time in Iran, and it has shown a significant increase in attitude and help-seeking intention among first and secondary female students. These results need to be confirmed by further studies, which should also analyze the interrelationships between different dimensions of mental health knowledge and help-seeking practices. Keywords for this study include mental health literacy, help-seeking, attitude, and female students.

Keywords:

Attitude, female students, help-seeking, mental health literacy

Introduction

Adolescence is a stage of life marked by several physical, emotional, and social changes, and it is a time of high vulnerability to developing mental health problems.^[1] According to the World Health

Organization,^[1] half of mental disorders begin before the age of 14 years, but most cases are not detected or treated and therefore tend to extend into adulthood.^[2]

According to a study, high parental expectations for academic achievement can cause anxiety and depression in

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school-going children, as parents exert immense pressure on adolescents.^[3] A recent study on Iranian teenagers found that 11.5% of them had experienced at least one type of childhood psychiatric disorder. The highest rate of psychiatric disorders was found in children between the ages of 10 to 14 years. The most common types of psychiatric disorders were anxiety disorders, followed by behavioral disorders, neurodevelopmental disorders, and depressive disorders.^[4] Furthermore, depression and anxiety are associated with years of life lived with disability and may lead to life-threatening behaviors such as suicide.^[5] Insufficient social support systems for help-seeking among Iranian high school students and scarce previous studies hinder the mediation of mental health problems and prevention of serious mental illness in adolescents.^[6]

Help-seeking is a worldwide issue in the area of mental health care.^[7] During adolescence, mental health disorders often first emerge, and their frequency and severity are on the rise.^[8] Seeking help is an interaction that focuses on addressing problems and can help reduce the long-term effects of mental health issues while also preventing severe mental disorders. This help-seeking can come from both informal sources, such as family, friends, and neighbors, as well as formal sources such as mental health and healthcare professionals, teachers, and other trained individuals.^[9]

According to previous studies, the tendency to seek help among teenagers is low.^[10,11] Previous studies have found that many young adults with mental health issues would rather not talk to anyone, including their colleagues.^[12,13] The reason why some people delay or refuse to seek help for their mental health issues is because they shift from focusing on their personal struggles to considering how seeking help might impact their relationships with others. This delay in seeking help can also be influenced by the way mental health disorders develop over time.^[14] Anxiety symptoms often come before mood disorder symptoms. They can affect an individual's thoughts and actions and delay seeking help.^[15]

Help-seeking intentions refer to beliefs and knowledge about mental disorders that aid in their recognition, management, or prevention.^[16] Mental health literacy is a significant determinant of mental health and can improve the health of individuals and the public.^[17] Adolescents lack the mental health knowledge to recognize and seek help for mental health issues, according to researchers.^[13,18]

Many high school students in Iran are not familiar with the concept of mental health literacy. There is a lack of research and education programs on mental health management and knowledge among adolescents in

Iran. Therefore, more attention and support are needed in this area.^[19]

The Canadian Mental Health and High School Curriculum Guide is a resource designed to improve mental health literacy in schools, created by mental health experts, educators, and the Canadian Mental Health Organization.^[20] The Guide is divided into six modules, which cover a range of topics related to mental health and mental illness. These modules include understanding mental health and mental illness, debunking stigma myths, providing information on specific mental illnesses, sharing experiences of mental illness, offering help-seeking strategies and support, and emphasizing the importance of maintaining positive mental health. The Guide has been shown to be effective in improving students' mental health literacy in Canadian schools over a sustained period.

Mental health literacy interventions have been implemented for Iranian teenagers thus far.^[21,22] "This study is the first of its kind to implement an intervention based on formal mental health literacy guidelines."^[20] To provide a perspective on mental health interventions in Iran, Iranian adolescents were provided with a translated and adapted version of The Canadian Mental Health and High School Curriculum Guide.^[23] An analysis of the effect of a Guide intervention on adolescent mental health literacy, stigma, and help-seeking self-efficacy in England^[24] and Germany^[25,26] has been recently published.

This study aimed to evaluate the impact of a mental health literacy curriculum on high school students' attitudes and help-seeking intentions in Iran.

The Canadian High School and Mental Health Curriculum Guide^[23] was recently translated into English and German. It demonstrated promising results on adolescent stigma in England^[27] and stigma,^[28] as well as help-seeking self-efficacy^[24] of adolescents in Germany. Interventions aimed at improving mental health literacy in Iranian teenagers were conducted without previous guidelines.^[21,22] In this study, we used the Persian translation of the Canadian Mental Health Curriculum Guide. Despite previous research on this official program in Canada, Germany, and England, no study has yet examined the impact of this program on attitudes and intentions to seek help. Given the high prevalence of mental illnesses in adolescents and their low tendency to seek help, our study aims to assess the effectiveness of an educational intervention based on an adapted mental health literacy curriculum for high school students in Iran. We will examine how this intervention affects attitudes and willingness to seek help.

Materials and Methods

Study design and setting

An experimental study was conducted in 2023 with a control group, using pre-test-post-test repeated measures. The study was conducted in Saveh schools in the central part of Iran and included female students aged 13 to 16 years.

Study participants and sampling

A semiexperimental study was conducted on female students aged 13 to 16 years in Saveh City, Iran in 2023. Based on a comparable earlier study (18 based on the study conducted by Zare *et al.*^[22] The study compared two groups, an intervention group, and a control group. The mean score and standard deviation of the study objectives were 24.56 ± 3.39 and 20.93 ± 5.24 , respectively. The study had a test power of 80% with 95% confidence and an error rate of 5%. After accounting for potential sample loss, the sample size was determined to be $n = 200$, with each group consisting of $n = 100$ participants.

$$n = \frac{(Z_{1-(\alpha/2)} + Z_{1-\beta})^2 (\delta_1^2 + \delta_2^2)}{(\mu_1 - \mu_2)^2}$$

To select participants for our study, we used a multistage cluster sampling method. First, we randomly chose two schools from a list of public schools in Saveh City ($n = 18$) to be in the intervention group and two schools to be in the control group. We selected a total of four female-only schools. Next, we chose a random class from each school and invited the students to participate in the study. We assigned the groups randomly at the school level to prevent contamination of data between the intervention and control groups. To be eligible to participate, the students had to be females in the eighth and ninth grades, with regular attendance records, and they needed to provide informed consent. They also could not be enrolled in any other therapeutic or educational programs at the same time. Any students who did not meet these criteria were excluded from the study.

Data collection tool and technique

Before, one month, and three months after the educational intervention, two questionnaires were administered to the study groups. The questionnaires comprised three sections.

Section 1 contains sociodemographic information such as age, parents' education, and occupation. Please take note of the following text:

Section 2: Attitude toward Seeking Professional Psychological Help Questionnaire (ATSPPH). The ATSPPH is a questionnaire consisting of ten questions that measure attitudes toward seeking professional help

for mental health issues. The questions are answered on a 4-point Likert-type scale (with 3 being "agree" and 0 being "disagree"), and items 2, 4, 8, 9, and 10 are reverse scored. The questionnaire scores range between 0 and 30, with higher scores indicating a more favorable attitude toward seeking help.^[29] Sharifi *et al.*^[23] conducted a study to test the psychometric properties of the questionnaire and found that the ATSPPH-S structure is a valid model in Iran. The study also reported a Cronbach's alpha value of 0.84, indicating good internal consistency.

Section 3 of the study involved the administration of the Help-Seeking Intention Questionnaire (GHSQ). This questionnaire is composed of 10 questions that measure help-seeking on two main subscales: formal and informal. Formal subscales measure the likelihood of seeking help from close friends or family members for personal or emotional problems. Informal subscales measure the likelihood of seeking help from professionals, such as doctors or therapists. As the participants in this study were of a specific age group, one of the informal help-seeking questions (regarding a spouse) was removed. Therefore, the scale used for analysis consisted of nine items, with five items measuring formal help-seeking intention and four measuring informal help-seeking intention. The study used two questionnaires to measure the likelihood of seeking help, with scores ranging from 1 to 5 for informal help-seeking and 4 to 20 for formal help-seeking. The questionnaires were designed for high school students and showed good internal consistency (Cronbach's alpha = 0.85).^[30] This study investigated the reliability and validity of instruments used to measure help-seeking intention (GHSQ) and perceived barriers related to mental health services. To ensure content validity, a team of 10 experts, consisting of five psychologists, and five health education experts, evaluated the first version of the questionnaire through online discussion. The experts' feedback was considered, and the questions were modified based on their suggestions. The revised version of the questionnaire on perceived barriers to mental health services underwent quantitative evaluation to determine its content validity. This was performed by calculating the content validity ratio (CVR) and content validity index (CVI). The CVR and CVI values for the questionnaire were 0.88 and 0.9, respectively. Similarly, for the GHSQ questionnaire, the CVR and CVI values were 0.86 and 0.88, respectively. Additionally, the questionnaires' internal consistency, measured by Cronbach's alpha, was 0.79 for perceived barriers related to mental health services and 0.82 for the GHSQ.

The "Mental Health and High School Curriculum Guide Intervention" is officially translated into Persian as "the Guide [Table 1]." The translation into Persian and adaptation for the Iranian school setting were finished as

Table 1: Educational program implemented in the experimental group “the Guide” (Iranian version)

Sessions	Learning objectives	Activities
First	<ul style="list-style-type: none"> Understand stigma surrounding mental illness, and the impact of stigma on help-seeking behavior Explore the differences between the myths and realities of mental illness Learn about some ways of overcoming stigma and promoting a realistic understanding of mental illness 	<ul style="list-style-type: none"> Activity 1: Defining Stigma (15 min.) Activity 2: PowerPoint Presentation: Stigma: Myths and Realities of Mental Illness (10 min.) Activity 3: Digital Story Telling (10 min.) Activity 4: Which Famous People Lived with a Mental Illness? (10 min.)
Second	<ul style="list-style-type: none"> Some of the basic concepts involved in normal brain function, and the role the brain plays in controlling our thoughts, feelings and behaviors That mental health and mental illness both include a wide range of states That having a mental health problem is not the same thing as having a mental illness That a person can have a mental illness and be mentally healthy at the same time Some of the language used to discuss mental health and mental illness 	<ul style="list-style-type: none"> Activity 1: Teenage Brain (10 min.) Activity 2: PowerPoint Presentation: Mental Health and Mental Illness: The Common Basis (20 min.) Activity 3: Language Matters (25 min.)
Third	<ul style="list-style-type: none"> Recognize that mental illnesses are associated with changes in usual brain functions Gain a better understanding of the symptoms, causes, treatments and other supports for specific mental illnesses that commonly arise during adolescence 	<ul style="list-style-type: none"> Activity 1: PowerPoint Presentation: What Happens When the Brain Gets Sick? (20 min.) Activity 2: PowerPoint Presentation: Common Mental Illnesses (25 min.) Activity 3: Understanding Common Mental Disorders Found in Teenagers (45 min.) Activity 4: Discussion Groups (25 min.) Activity 5: Sharing the Pieces (20 min.)
Fourth	<ul style="list-style-type: none"> To understand that people may need support to deal with some very stressful life events and situations To learn to distinguish between “normal” responses to stress and those that may indicate a need for additional support from health professionals To get students to consider who they could talk to if they were worried about their own mental health, or that of a friend or relative To identify support personnel in the school relevant to mental health To become familiar with the range of community-based healthcare services and groups available to support people who are experiencing mental illness and their families and friends 	<ul style="list-style-type: none"> Activity 1: PowerPoint Presentation: Treatment and Recovery (15 min.) Activity 2: Getting Help (20 min.) Activity 3: My Health Questions (20 min.)
Fifth	<ul style="list-style-type: none"> To understand that people may need support to deal with some very stressful life events and situations To learn to distinguish between “normal” responses to stress and those that may indicate a need for additional support from health professionals To get students to consider who they could talk to if they were worried about their own mental health, or that of a friend or relative To identify support personnel in the school relevant to mental health To become familiar with the range of community-based healthcare services and groups available to support people who are experiencing mental illness and their families and friends 	<ul style="list-style-type: none"> Activity 1: PowerPoint Presentation: Treatment and Recovery (15 min.) Activity 2: Getting Help (20 min.) Activity 3: My Health Questions (20 min.)
Sixth	<ul style="list-style-type: none"> To learn about what the stress response is and how to use it to help develop resilience To learn when to apply stress reduction techniques and what kinds of stress reduction techniques can be helpful To learn and apply activities designed to enhance both mental and physical health 	<ul style="list-style-type: none"> Activity 1: Understanding the Stress Response (25 min.) Activity 2: Challenging our Thinking (10 min.) Activity 3: Reviewing Useful Strategies for Modulating the Intensity of the Stress Response (10 min.)

part of the Ph.D. thesis research project in Iran on health education and health promotion. The main objective of the project was to develop, implement, and evaluate an intervention that focuses on mental health literacy for young people. Canadian academics and professionals

in adolescent mental health collaborated to create a curriculum called “Guide Intervention.” This curriculum consists of comprehensive educational resources about mental health and mental illness. Teachers can use it in the classroom to help young people learn and improve

their own mental health literacy (MHL).^[27] The Guide is primarily intended for children between the ages of 13 and 15 years, in the eighth to tenth grades in Iran. The Iranian version of the Mental Health Literacy (MHL) program, such as the original, comprises of six modules that cover the elements of MHL. These modules cover the following topics: (1) stigma related to mental illness; (2) knowledge of mental health and mental illness; (3) information on certain mental disorders; (4) personal experiences of mental illness; (5) seeking support and assistance; and (6) the importance of maintaining good mental health. The primary objective of modules 1 and 4 is to decrease the stigma associated with mental health by addressing attitudes and beliefs about it. To address preconceived notions and encourage empathy and acceptance, students are exposed to personal accounts of experiences with mental illness. In the fourth module of the program, which focuses on lived experiences with mental illness, there are two ways to provide the contact aspect. You can either use young people's digital stories in the form of videos (indirect contact) or invite speakers to share their personal experiences with mental illness with the class (direct contact). With a variety of instructional tools and strategies such as worksheets, videos, PowerPoint presentations, activity cards, group activities, and dialogs, the program provides participatory learning about mental health. There are other resources available in addition to the primary activities and contents. At least seven to eight school hours are required to complete the program. Consent forms were obtained from all study participants. In the fourth module of the program, which focuses on lived experiences with mental illness, there are two ways to provide the contact aspect. You can either use young people's digital stories in the form of videos (indirect contact) or invite speakers to share their personal experiences with mental illness with the class (direct contact). With a variety of instructional tools and strategies such as worksheets, videos, PowerPoint presentations, activity cards, group activities, and dialogues, the program provides participatory learning about mental health. There are other resources available in addition to the primary activities and contents. At least seven to eight school hours are required to complete the program. Consent forms were obtained from all study participants.

The data were analyzed using various statistical tests in SPSS 21, with a significance level of 0.05.

Ethical consideration

The authors have observed ethical issues such as plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc., in accordance with the ethics code of Iran University of Medical Sciences (IR. IUMS.REC.1401.713).

Results

In this study, 200 students participated, with the mean age of 14.49 ± 0.77 years in the intervention group and 14.06 ± 0.56 years in the control group. The study compared the demographic variables of the two groups, including fathers' and mothers' education and employment. The results of the Chi-square test revealed no statistically significant differences between the intervention and control groups in these variables [see Table 2].

The study used a repeated-measures ANOVA to assess changes in the mean scores of help-seeking attitude, formal help-seeking intention, and informal help-seeking intention in both the intervention and control groups. The results indicated that there was a significant change in the help-seeking attitude and formal and informal help-seeking intention in the intervention group ($P < 0.05$). However, there was no significant difference observed within the control group [as shown in Table 3].

Discussion

The study's results indicated a significant improvement in teenagers' help-seeking attitude immediately after the educational intervention and during the three-month follow-up. Attitude toward a behavior refers to how desirable, pleasant, effective, or useful the behavior is to the individual, which is based on their evaluation of the behavior's outcomes.^[27] This study's results are consistent with studies conducted in Taiwan^[28] and Portugal.^[24] The curriculum we used in our study to improve mental health literacy covered various aspects such as understanding the nature, causes, symptoms, and treatment of mental illnesses and reducing the

Table 2: Comparing demographic variables of participants in intervention and control groups

Variable		Intervention group n (%)	Control group n (%)	P
Fathers' education	Illiterate	8 (8)	3 (3)	0.156
	Elementary	7 (7)	6 (6)	
	Secondary	16 (16)	19 (19)	
	Diploma	20 (20)	17 (17)	
Mother's education	Graduate study	49 (49)	52 (52)	0.296
	Illiterate	8 (8)	6 (6)	
	Elementary	15 (15)	13 (13)	
	Secondary	19 (19)	23 (23)	
Father's job	Diploma	25 (25)	28 (28)	0.114
	Graduate study	33 (33)	27 (27)	
	Unemployed	5 (5)	3 (3)	
	Open market	64 (64)	63 (63)	
Mother's job	Staff	31 (31)	31 (31)	0.16
	Employed	15 (15)	15 (15)	
	Housewife	85 (84)	85 (85)	

Table 3: A comparison of the mean scores of the attitude and intention to seek help before, one month, and three months after the intervention

Group Perceived threat		Mean (SD)		Significance level comparison of the two groups
		Intervention	Control	
Help-seeking attitude	Before the intervention	4.82±20.65	4.63±20.05	<0.001**
	One month after the intervention	5.28±25.53	4.89±20.33	
	Three months after the intervention	5.53±26.60	4.66±20.95	
	**Significance level	<0.001*	0.09*	
Formal help-seeking intention	Before the intervention	2.23±13.48	3.38±13.22	<0.001**
	One month after the intervention	3.97±16.53	3.01±13.96	
	Three months after the intervention	3.41±16.66	3.43±13.88	
	**Significance level	<0.001*	0.135*	
Informal help-seeking intention	Before the intervention	3.43±12.74	3.65±12.41	<0.001**
	One month after the intervention	4.11±15.39	3.89±12.77	
	Three months after the intervention	4.84±16.81	3.96±12.65	
	**Significance level	<0.001*	0.288*	

*Intergroup repeated-measures ANOVA. **Intragroup ANOVA

stigma associated with them. We used methods such as contact theory and studying famous people who have experienced mental illness. Using group discussions as a teaching method resulted in a significant improvement in help-seeking attitudes after the intervention. Previous research has shown that traditional, one-sided educational methods and passive participation of learners do not lead to significant improvements in attitudes.^[25] It is suggested that different media should provide more frequent and interesting explanations of the positive effects of referring people to mental health services, to encourage people to seek help.

After the educational intervention was implemented, the score of informal help-seeking intention among the adolescents in the intervention group increased significantly when compared with the control group. The informal help-seeking intention of adolescents in this study included fathers, mothers, siblings, friends, and teachers. This indicates that the implementation of a mental health literacy curriculum through an educational intervention was effective in improving the informal help-seeking intention of adolescents. The study results are similar to Kruger *et al.* in America,^[26] Caelear *et al.* in Australia,^[31] and Queroue *et al.* in France.^[32] According to a quasi-experimental study conducted in Germany, teenagers are more likely to seek help from people they know and trust. Before the intervention, there was a significant intention to seek help from a mother and close friend. However, after the implementation of the educational program, the intention to seek help from the teacher significantly increased among students. These results are consistent with previous studies that also support the idea that teenagers prefer to seek help from familiar and trustworthy individuals. The three-part school-based program called "Crazy? Then what!" has shown promising results in promoting awareness and encouraging teenagers to seek help from their teachers.^[33]

The study found that seeking help from teachers after receiving educational intervention was not significant. This may be due to the high volume of teaching materials at the secondary level, making it difficult for teachers in Iran to address the mental health issues of their students.^[34]

After conducting the study, it was found that the score of formal help-seeking intention among the adolescents who were given educational intervention increased significantly compared with the control group. Although there was no significant change observed for mental health professionals and doctors, the intention of students to seek help from school counselors and telephone helplines increased significantly. Previous studies have shown that perceived behavioral control is a crucial factor in behavioral intention.^[35-37] Perceived behavioral control refers to a person's perception of how easy or difficult it is to perform a particular behavior.^[38] It appears that hotlines and school counselors are more accessible than mental health professionals and doctors, which could explain why students were more inclined to seek help from them. As a result of the educational intervention, students find it easier to refer to telephone helplines and school counselors for help. However, depending on their age, seeking assistance from doctors and mental health specialists may require parental cooperation and consent. These study findings are consistent with previous research on the subject.^[21,39] According to this study, there were different results compared with the study conducted by Bonnie A. The study by Bonnie A. showed that the intention to seek help did not change after the educational intervention. One possible explanation for this inconsistency in the results could be attributed to the insufficient duration or dosage of the Clough program. In addition, the Clough study may have had a sampling bias that limited its ability to demonstrate the effects of the intervention.^[40] The

educational intervention did not lead to a change in the intention to seek help, according to the study conducted by Cassie M. Hazell and colleagues.^[41] In this educational intervention, we only used posters, which differs from our study guidelines.

It is recommended that future studies focus on educational interventions for teachers and mothers of teenagers to understand the role of the family and teachers in encouraging help-seeking behavior. In addition, it is important to evaluate the mental health status of adolescents before implementing the educational intervention to objectively measure the impact of the translated Canadian mental health literacy curriculum on help-seeking behavior. Moreover, it is essential to adopt healthy policies that facilitate easy access to counselors and encourage the intention to seek help for teenagers.

The current research effort is strengthened by the utilization of an evidence-based resource that already exists. Furthermore, this effort aims to expand the application of this resource to Iranian teenagers, which provides the opportunity to identify elements that are universally applicable across different countries and contexts. It is worth noting that schools have been identified as relevant settings for promoting mental health among young people,^[6] and this resource adds value to school-based interventions in Iran. It also complements and expands other similar intervention efforts.^[21,22]

Limitation and recommendation

This study had a limitation wherein data were collected from different places, which may restrict the generalizability of the findings. Because of the unavailability of resources and limited time, a training program for mothers of teenagers and school teaching staff could not be implemented. It is recommended that future studies implement such educational interventions as a team. Another limitation of the study was that we did not assess the long-term educational effects. Therefore, it is suggested that future studies evaluate the effectiveness of the intervention over an extended period.

Conclusion

The study found that the Iranian version of the MHL-based intervention, known as the Guide, is a suitable program to enhance attitudes and intentions to help among students in Iran. Further research is required to confirm the results and explore the factors that affect the program's effects in the short and long term. These initial findings are promising and demonstrate the usefulness and applicability of an established MHL resource for Iran, paving the way for a wider implementation of the program and future effectiveness studies.

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Conflicts of interest

There are no conflicts of interest.

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