

The Effect of an Education Intervention on Mental Health Literacy among Middle School Female Students

ABSTRACT

Background and Objective: Enhancing the mental health literacy (MHL) through school-based education intervention may encourage mental health promotion, prevention, and care and reduce stigma in adolescents. The present study aimed to determine the effect of educational intervention on MHL among middle school female students in Mashhad.

Materials and Methods: A quasi-experimental study was carried out on 140 female students aged between 13-15 years from two governmental middle schools in 2019 Mashhad, Iran. A multistage sampling method was used. First, one education area was randomly selected and two middle schools were randomly selected from this area. One middle school was considered as intervention setting and the other middle school considered as control setting. A total of 70 students were randomly selected from each school and allocated into two intervention and control groups. Mental Health Literacy Scale (MHLS) was used to estimate MHL among students in two stages (before and after intervention). The intervention group received four training sessions (90 minutes) based on MHL concept. Descriptive, Paired t-test, independent sample t-test and Chi-square test were used to analyze the data using SPSS 21 software.

Results: Before the intervention, the two groups had no significant difference in the mean score of MHL ($P > 0.05$). After the intervention, the mean score of MHL increased from 10.5 ± 1.34 to 17.27 ± 11.33 in the intervention group which was statistically significant ($P < 0.001$).

Conclusion: Designing and implementing educational interventions can promote MHL of middle school female students.

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Hadi Tehrani

Assistant Professor, Department of Health Education and Health Promotion, Social Determinants of Health research center, Mashhad University of Medical Sciences, Mashhad, Iran.

Samira Olyani

*Student Research Committee, Mashhad University of Medical Sciences, Mashhad, Iran; Department of Health Education & Health Promotion, School of Health, Social Determinants of Health Research Center, Mashhad University of Medical Sciences, Mashhad, Iran. (Corresponding Author): Alianis971@mums.ac.ir.

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Introduction

Mental health problems are associated with poorer physical health outcomes and educational attainments (1). The burden of mental health disorders is growing increasingly with considerable impacts on health economic results worldwide (2). In recent decades, mental health problems are the most common disorders and one of the major causes of disability and early death worldwide. It is also responsible for more than one third of all disabilities in a lifetime (3). Mental health problems affect 10% to 20% of children and adolescents. Moreover, half of the presenting mental health disorders appears before the age of 14 (4) as well as responsible for over 13% of the global burden of disease(5).

Mental problems have a direct and indirect impact on health, directly cause disability, and early death and indirectly associated with long-term disabilities including, the progression and prognosis of other diseases(6). Untreated mental health disorders lead to educational, interpersonal, family, and social problems, and decreased life expectancy due to the associated disabilities(7). Generally, mental problems could significantly decline the quality of life and increase a considerable economic and social burden for communities. Therefore, designing and implementing appropriate control strategies for the management of mental health problems should be one of the main priorities in all countries(8, 9). The promotion of MHL is one such strategy(6).

MHL is a subset of health literacy that refers to the knowledge and beliefs about mental disorders that can help to recognize, manage, and prevent mental disorders (10). Individuals with an inadequate levels of MHL have lower rates of recognition and treatment for their mental problems(11). MHL consists of seven components: (1) ability to recognition specific

disorders; (2) knowing how and where to seek mental health information; (3) knowledge of the risk factors of mental disorders; (4) knowledge of causes of mental disorders;(5) knowledge of self-treatments; (6) knowledge of professional help available; and (7) attitudes that promote recognition and appropriate help-seeking(12, 13). Studies have shown that Individuals with adequate MHL have better care behaviors of diseases, knowing how to seek health-related information, and have a better quality of life(14); Furthermore, individuals with limited MHL fail to obtain mental health services, which in turn leads to worse outcomes(7).

Adolescents, whose mental health plays an important role in society's efficacy and dynamics, are among one of the most important vulnerable age groups in each society. Adolescence is identified as one of the most important and critical stages of physical and mental growth, a series of significant changes occur in this period that can affect the mental health of adolescents(15). Globally, the high prevalence of mental disorders in children and adolescents has attracted much attention(16). Findings of a population-based survey indicated that more than 22% of the Iranian children and adolescents aged between 6 and 18 years had at least one mental problem(16). Moreover, findings of one other survey indicated that more than 20% of the 15-19-year-old Iranian adolescents suffer from at least one mental disorder(17). Also, a high prevalence of mental disorders among adolescents have been reported by various other studies(18-20). Results of a study revealed that the mental disorders are more prevalent in Iranian women in comparison to Iranian men and had a first place(8). Therefore, focus on the mental health of female middle school students is more valuable and healthier mothers can train

healthier children.

Recently, improving MHL has been one of the most significant governmental concerns. A recent study of help-seeking for mental problems found a lack of knowledge regarding mental health to be a significant obstacle preventing adolescents from seeking assistance (21). Therefore, preparing the appropriate interventions and services for improving students' mental health has become the main concern of Iranian policymakers in the recent decade. Education is critical to enhancing mental health knowledge, reducing stigma, and improving access to care.

There have been a limited number of school-based MHL educational interventions for adolescents(22). Thus, this study was conducted with the aim of investigating the effect of a school-based MHL educational intervention on MHL of middle school female students in Mashhad.

Method

A quasi-experimental study with pre-test, post-test and a control group implemented in 2019 in Mashhad, Iran. The study population included middle school female students. A multistage sampling method was used. First of all, one education area was randomly selected from all education area then two middle schools were randomly selected from that area. In the next stage, one middle school considered as an intervention setting, and the other middle school considered as a control setting. At the final stage, a total of 70 students randomly selected from each school and allocated into two intervention and control groups. Based on a similar study(23), a confidence level of 95% and a test power of 90% were considered. The mean and standard deviation of MHL before and after intervention were 11.13 ± 1.45 and 16.26 ± 12.33 for the intervention group, respectively. The sample size for each group calculated as 60

individuals, and considering the missing data, 70 subjects were selected for each group.

The intervention group received four MHL training sessions (90 minutes) by a qualified educator. Educational content of each session is showed in table1.

Table1. Content of each session

Session 1	Types of mental disorders
Session 2	Risk factors and causes of mental disorders Where to seek information about mental disorders
Session 3	Appropriate help seeking behaviors and sources of help available
Session 4	Increase the knowledge about self-treatment

The inclusion criteria consisted of individuals should not have any mental problems, should be a middle school student and should have the required tendency for cooperating in this study. Lack of desire to continue cooperation in the study was considered as exclusion criteria.

After explaining the aims and objectives of the study for students, informed consents were completed by all participants and were assured that their personal information would be kept confidential. The students participated in this study with the allowance of their parents who had the opportunity to refuse to let their children participate in this study.

MHL was assessed using the Mental Health Literacy Scale, which assesses all attributes of MHL. This scale including 35 Likert scale items relating to knowledge of where to seek information relating to mental health (4), risk factors and causes of mental health problems (2), self-treatment (2), and professional help available (3). Further items relate to recognition of disorders (8) and attitudes that promote recognition or appropriate help-seeking behaviour (16). The measure is scored between 35–160, with higher scores indicating a higher level of MHL. Questions with a 4-point scale are rated

from 1 (very unlikely/unhelpful) to 4 (very likely/helpful) and for 5-point scale are rated from 1 (strongly disagree/definitely unwilling) to 5 (strongly agree/definitely willing Reverse) (24). The Persian version of the questionnaire which its Cronbach alpha was reported 0.89 has been used(25).

Descriptive statistics (means and standard deviations), chi-square, paired t-test and independent sample t-test were conducted using SPSS version 21. In all analysis 0.05 considered as significant level.

Results

Table 2 showed that more than 50% of parents had university degree. Most of mothers (82.2%) were housewife and most of fathers (65.7%) were employee. There were no significant correlations between demographic characteristics and MHL score of participants($P>0.05$).

Table2. Sociodemographics of the sample (N=140)

Mental Health Literacy		n(%)	Characteristics
P-value*	X2		
0.11	2.224	47(33.5)	Grade of education
		47(33.5)	7th
		46(33)	8th 9th
0.70	0.467	56(40)	Mother education status
		84(60)	Diploma University
0.66	0.603	61(43.5)	Father education status
		79(56.5)	Diploma University
0.993	0.000	25(17.8)	Mother job status
		115(82.2)	Employee Housewife
0.060	3.568	92(65.7)	Father job status
		48(34.3)	Employee
			Housewife

*Chi-square test

Table 3 indicated that, participants' MHL increased significantly after intervention

($p<0.001$).

Table3. Mean and standard deviation of mental health literacy in participants

Variables	Pre-Test		Post-Test		P-value*
	Mean	SD	Mean	SD	
Intervention group	10.5	1.34	17.27	11.33	<0.001
Control group	10.8	1.16	10.4	1.15	0.875
**P-value	0.643		<0.001		

*Independent sample t-test

**Paired t-test

Discussion

The current study provided evidence that education intervention was effective for improving the MHL of adolescents. This significant effect, immediately post-intervention, suggesting supplementary teaching is required throughout the year. Results of one study which was done in Mazandaran province indicated that life skills education intervention for middle school students had a significant effect on four components of mental health (stress, violence, addiction, sensation-seeking)(26). In another research, it has been found that life skills training had significant effects on depression, anxiety, and stress among students (27). Results of one study indicated that the prevalence of mental disorders in female high school students in Qom city was more than 42% which was high and suggested educational interventions for improving mental health of female high school students(8).

Some studies in other countries have been done in this field. In one study, a concise MHL education program was developed for secondary high school students and similar to the present study, had a significant positive effect on knowledge and attitudes of individuals about mental problems(22). Also, our finding is consistent with another study indicating positive associations between education and stigma reduction in adolescents (28). More

specifically, participating in the education program, weakened adolescents' beliefs and attitude that mental disorders make persons dangerous and unpredictable. This finding is significantly important, as studies in adolescents have demonstrated that perceived dangerousness is correlated with discrimination against people with the mental problem(29). Particularly, adolescents who have peers with a mental disorders are more likely to fear and avoid them.

A meta-analysis examining interventions aimed at social and emotional learning indicated that participants who got education interventions had significantly improved social and emotional skills, behaviour and academic performance(30). Some other studies also place emphasis on improving adolescent's MHL with the aid of educational interventions that focus on changing beliefs about mental disorders to aid their recognition, management or prevention, and increasingly include mental health first aid(31, 32).

The ultimate aim is a society where people with mental disorders take prompt action to seek professional help, receive and adhere to evidence-based treatments, feel supported by others in their social network, take preventive action to benefit themselves and their families, and where mental health services are seen as making a valuable contribution that merits public support.

Schools are well placed as settings for improving MHL because of the high-risk age groups that study . In developing countries, school-based programs can have broader community impacts.

Some of the limitations in the current study should be noted. Due to the restrictions from office of education, there was limitation to enter the schools to collect sample. Participants in thid study were limited to female middle schools.

Conclusion

After implementing educational intervention and based on the achieved results, it can be noted that designing and implementing educational interventions could make a significant improvement in the level of knowledge and awareness of female middle school students about mental disorders. Middle school students are an important population in which MHL should be improved, as MHL may impact middle school student's ability to care for themselves. This study provides a rationale for further study of MHL in middle school students, such that we can better understand the causes of students's distress, and the potential adverse personal and professional consequences that this may have, as well as how MHL can be improved to better improve middle school student wellbeing.

Our findings revealed the need for school-based mental health education programs in middle schools.

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