

Assessing mental health literacy: What medical sciences students' know about depression

Azadeh Sayarifard¹, Laleh Ghadirian², Ahmad Mohit³, Mehrdad Eftekhari⁴
Mahnaz Badpa⁵, Fatemeh Rajabi⁶

Received: 21 April 2014

Accepted: 2 September 2014

Published: 26 January 2015

Abstract

Background: Mental health literacy is an individual's knowledge and belief about mental disorders which aid their recognition, management and prevention. The aim of this study was to investigate mental health literacy among students of Tehran University of Medical Sciences.

Methods: In this cross-sectional study, data were collected by the anonymous self-administered questionnaires and finally 324 students participated in the study. Random cluster sampling was used. Questions were in different areas of the mental health literacy for depression include recognition of disorder, intended actions to seek help and perceived barriers, beliefs about interventions, prevention, stigmatization and impact of media. T-test was used for statistical analysis.

Results: The mean (\pm SD) age was 23.5 ± 2.8 . The participants were 188 (58.1%) females and 136 (41.9%) males. In response to the recognition of the disorder 115 (35.6%) students mentioned the correct answer. In help-seeking area, 208 (64.3%) gave positive answer. The majority of affected students sought for help from their friends and parents. Stigma was the greatest barrier for seeking help. Television and Internet were the most common sources of information related to mental health.

Conclusion: Generally students' mental health literacy on depression was low in some areas. Appropriate educational programs specifically for reducing mental disorders stigma seems necessary. Organizing networks of co-helper students for mental health could be considered.

Keywords: Mental health literacy, Medical sciences' students, Knowledge.

Cite this article as: Sayarifard A, Ghadirian L, Mohit A, Eftekhari M, Badpa M, Rajabi F. Assessing mental health literacy: What medical sciences students' know about depression. *Med J Islam Repub Iran* 2015 (26 January). Vol. 29:161.

Introduction

At present there is no doubt that mental health is a major criterion in evaluating individuals' health and wellbeing. According to findings by United State Center for Disease Control and Prevention (CDC), mental diseases are among the most important health problems and worldwide 450 million people suffer from this group of disorders (1). Mental disorders are the fourth out of

five major disease groups causing disability in the people aged 15-44 years (2). Disability adjusted life years (DALYs) rate for mental disorders is 30.8% worldwide. In addition, it should be noted that depression and anxiety disorders are the most common diseases in the group and depression alone causes for 12% of these disabilities (3). The DALY rate for depression in Middle East and North Africa (MENA) region, includ-

1. MD, Assistant Professor, Community Medicine Specialist, Community Based Participatory Research Center, Iranian Institute for Reduction of High-Risk Behaviors, Tehran University of Medical Sciences, Tehran, Iran. drsayarifard@gmail.com

2. (Corresponding author) MD. MPH, Community Medicine Specialist, Community Based Participatory Research Center, Iranian Institute for Reduction of High-Risk Behaviors, Tehran University of Medical Sciences, Tehran, Iran. lalehghadirian@yahoo.com

3. MD, Professor, Psychiatrist, Tehran Psychiatric Institute, Iran University of Medical Sciences, Tehran, Iran. mohitahmad@gmail.com

4. MD, Associate Professor, Psychiatrist, Mental Health Research Center, Tehran Psychiatric Institute, Iran University of Medical Sciences, Tehran, Iran. mehrdad.eftekhari@gmail.com

5. MSc student of Health administration, Mental Health Research Center, Tehran University of Medical Sciences, Tehran, Iran. badpa.mahnaz@gmail.com

6. MD MPH, Assistant professor, Community medicine specialist, Community Based Participatory Research Center, Iranian Institute for Reduction of High-Risk Behaviors, Tehran University of Medical Sciences, Tehran, Iran. frajabi@tums.ac.ir

ing Iran, was reported as 4.1% years (4). According to a review article, nationwide prevalence of these illnesses in Iran is 18.6-28.7% (5). Several studies have shown high prevalence of mental diseases in Iran (6-11). In one study, 70.8% of samples considered themselves healthy; but after test it was found that 17.3% of them had some type of psychological disorders (12). In addition to direct impact on disability and increased rate of early deaths, mental disorders also affect incidence, progress and prognosis of other diseases and are underlying factors for emergence of many other critical problems such as substance abuse, alcohol abuse, tobacco, and reduced physical activity. In turn, they contribute to the emergence of other chronic diseases such as hypertension, coronary heart disease and diabetes (1). Based on several studies, prevalence of psychiatric disorders among students has been estimated as 28.1- 73% (12-15).

The high frequency of mental disorders among young generation of the Iranian population (6-11) suggests necessity of planning for mental disorders' early assessment, prevention and treatment.

Health literacy means an individual ability for obtaining, understanding and using health information to make appropriate decisions about health problems and how to seek treatment, if necessary (16). Thus, mental health literacy means understanding of signs and symptoms of psychiatric diseases and understanding the necessity for referring to a proper specialist for necessary treatment. Many people do not receive correct information about psychiatric disorders and wrong information could deprive them from appropriate medical care and proper support (16). To this end, an important step for promoting community mental health understands the status of mental health literacy (16).

In one study on health literacy in Iran, it was found that 56.6% of participants had insufficient health literacy (17). Various studies have determined the prevalence of psychiatric disorders among different

groups of the community. Nonetheless, we could not find any related mental health literacy study in the literature in Iran.

This study aimed at investigating mental health literacy about depression among students of Tehran University of Medical Sciences. Mental health literacy on depression was considered as their information about "recognition of the disorder", "intention of help seeking and perceived barriers", "beliefs about interventions", "beliefs about prevention", "stigma and social isolation attitudes", "exposure to mental disorders", "effects of campaign and media and "provision of services". The data were gathered using a mental health literacy inventory.

Methods

It was a cross-sectional study. Target population included students of Tehran University of Medical Sciences. Sample size was obtained as 267 using sample size formulae for estimating prevalence considering $\alpha = 0.05$ and $\beta=20\%$. Considering 20% clustering coefficient, it was determined as 320. Samples were from faculties of Medicine, Dentistry, Pharmacy, Nursing - Midwifery, Paramedics and Rehabilitation based on 2011-2012 student enrolment ratios in each faculty. We used random cluster sampling. To this end, a list of specialized course titles (to avoid getting duplicate samples) in different faculties was prepared. Then, one specialized course was selected randomly for each field of study. Related classes were considered as clusters. Then, a summary of the study and its goals was provided for the students and finally questionnaires were filled out by volunteer students.

For data collection tool, we searched for international valid questionnaires and ultimately Australia Inventory was selected as a perfect questionnaire covering all aspects of mental health literacy (18). Following translation of the inventory, two focus group discussions (FGD) were held with students separately (10 and 8 student in each one). The questionnaire items were discussed, and then some items were modi-

fied accordingly. Face and content validity of the questionnaire approved by five specialists consisted of psychiatrists (2), psychologists (1) and methodologist (2). Reliability of the questionnaire was checked against 20 students' data in a pretest- post-test (after 2 weeks) method. Results of statistical analysis suggested internal-class correlation coefficient (ICC) as 0.83 for each person.

The final structured questionnaire including 2 sections was filled anonymously. Section 1 was related to the items for mental health literacy and included 28 main questions of which some had a few sub questions. After introducing a vignette about the depressed person, items related to "recognition of the disorder" (1 question), "intention of help seeking and perceived barriers" (6 questions), "beliefs about interventions" (7 questions), "beliefs about prevention" (1 question), "stigma and social isolation attitudes" (3 questions), "exposure to mental disorders" (6 questions), "effects of campaign and media" (3 questions) and "provision of services" (1 questions) were introduced. Section 2 was dedicated to demographics including age, gender and faculty of the study. Vignette of depression was selected since it was the most common psychiatric problem in the community (6-11).

The vignette was introduced as follows:

Maryam/Ali is a 20 year old who has been feeling unusually sad and miserable for the last few weeks. She/He is tired all the time and has trouble sleeping at night. Maryam/Ali doesn't feel like eating and has lost weight. She/He can't keep her/his mind on her/his studies and her/his marks have dropped. She/He puts off making any decisions and even day-to-day tasks seem too much for her/him. Her/His parents and friends are very concerned about her/him.

Since social and cultural beliefs may influence answering questions, the questionnaires with Maryam and Ali as vignette figures, were given to female and male students respectively.

The data were analyzed through SPSS v.

11. Descriptive findings were reported and t-test was used for statistical analysis. P value below 0.05 was considered as significant.

Results

Finally 324 questionnaires were filled. Participants mean (SD) age was 23.5 (± 2.8) (range: 19-26) years. Totally 188 women (58.1%) and 136 men (41.9%) took part in the study.

Of participants 103 (31.8%) students were from Faculty of Medicine, 61 (18.8%) from Faculty of Nursing-Midwifery, 48 (14.8%) from Faculty of Paramedics, 47 (14.5%) from Faculty of Pharmacy, 40 (12.3%) from Faculty of Dentistry, and 25 (7.7%) from Faculty of Rehabilitation.

Of participants, 115 (35.6%) provided proper answer of 'Depression' for the person disorder. Two students (0.6%) diagnosed it as cancer, 12 (3.7%) diagnosed it as Schizophrenia, 64 (19.8%) diagnosed it as stress and 131 (40.6%) reported it as emotional problems.

The mean (\pm SD) age in two groups of correct and incorrect diagnosis was 23.19 \pm 1.94 and 23.7 \pm 3.1, respectively, which showed no significant difference ($p=0.13$). In terms of gender, 59 (43.8%) out of 136 male students and 77 (41.2%) out of 188 female students gave the correct diagnosis which showed no significant difference ($p=0.26$).

Regarding the question 'Would you seek help if you faced similar problem?' there were 208 (64.3%) positive and 116 (35.7%) negative answers. Mean age in both groups was 23.9 \pm 1.4 and 23.2 \pm 3.3, respectively, which did not point to any significant difference ($p=0.17$). In terms of gender, 129 (68.8%) female and 86 (63.3%) male students gave positive answers with no significant difference ($p=0.41$).

Among 208 students answering the question 'Who do you seek for help if you faced problem', following options were the selections respectively: 'friend(s)' 62 (29.8%), 'parents' 49 (23.5%), 'only my mother' 36 (17.3%), 'other people' 28 (13.4%), 'using

Table 1. Frequency distribution: Belief on the effect of persons' help and interventions

Service Provider	Neither N (%)	Harmful N (%)	Helpful N (%)
psychiatrist	43(13.2%)	26(8.1%)	255(78.7%)
psychologist	56(17.3%)	14(4.3%)	254(78.4%)
lecturer /teacher	80(24.6%)	13(4%)	231(71.4%)
GP or family doctor	114(35.2%)	23(7.1%)	187(57.7%)
telephone counseling service	95(29.3%)	52(16.1%)	177(54.6%)
Herbal medicine Seller	178(55%)	84(25.9%)	62(19.1%)
Pharmacist	194(59.8%)	88(27.3%)	42(12.9%)
medicines			
Vitamins	81(25%)	16(4.9%)	227(70.1%)
Antidepressants	37(11.4%)	78(24.1%)	209(64.5%)
Minor tranquilizers	64(19.7%)	76(23.5%)	184(56.8%)
Herbal medicine	135(41.7%)	20(6.1%)	169(52.2%)
Sleeping pills	68(21%)	133(41%)	62(38%)
Antipsychotics	104(32.1%)	141(43.5%)	79(24.4%)
interventions			
Becoming more physically active	17(5.2%)	8(2.5%)	299(92.3%)
Getting relaxation training	41(12.7%)	0	283(87.3%)
Receiving counseling	29(9%)	17(5.2%)	278(85.8%)
Reading a self-help book on vignette problems	38(11.7%)	20(6.2%)	266(82.1%)
Having regular massages	75(23.2%)	5(1.5%)	244(75.3%)
Suggest vignette should seek professional help.	57(17.6%)	27(8.3%)	240(74.1%)
Joining a support group of people with similar problems	96(29.6%)	19(5.9%)	209(64.5%)
Looking up a web site giving information about vignette problem	87(26.8%)	29(9%)	208(64.2%)
Make an appointment to see a GP if necessary: This would be with the vignette knowledge.	98(30.2%)	46(14.2%)	180(55.6%)
Going to a local mental health service	106(32.8%)	52(16%)	166(51.2%)
Getting acupuncture	177(54.6%)	25(7.7%)	122(37.7%)
Being admitted to a psychiatric ward of a hospital	98(30.3%)	120(37%)	106(32.7%)
Ask the vignette whether (he/she) is feeling suicidal	86(26.5%)	180(55.6%)	58(17.9%)
Using alcohol to relax	47(14.5%)	250(77.2%)	27(8.3%)
Ignore the vignette person until (he/she) gets over the disease	46(14.2%)	257(79.3%)	21(6.5%)
Smoke cigarettes to relax	26(8.1%)	280(86.4%)	18(5.5%)

related services' 23 (11%), 'my spouse' 8(3.8%), and 'only my father' 2 (0.9%) students.

In answer to the question 'What may prevent you from seeking help of other people/services?', following options were selected respectively: 'Concern for creating negative attitude' 121 (37.5%), 'Concern for wrong help' 56 (17.2%), 'Cost which should be paid for visiting people/receiving services' 31 (9.6%), 'Distance to the people/service center' 24 (7.4%), 'Embarrassment/shame' 21 (6.5%), 'Lack of interest to the possible treatment' 18 (5.7%), 14 (4.3%) 'Long waiting time', 'Difficulty in taking visit time' 10 (3.1%), 'The belief that nothing can help you' 10 (3.1%), 'Concern on side effects of treatment' 3 (1%), and 16 (4.6%) students mentioned other cases. Answers of students to the questions about beliefs on interventions for introduced vignette are given in Table 1.

gnette are given in Table 1.

For the question 'If Maryam/Ali feels no improvement after 5 days using prescribed meditation, what is your appropriate decision?' 130 students (40.1%) selected 'Continuation of drug consumption' option, 120 students (37.2%) 'Stopping drug consumption', and 74 students (22.7%) chose 'No idea'.

Students' beliefs about prevention of developing or progressing potential problem of the person introduced in the vignette are given in Table 2. Students' answers related to stigma and social isolation attitudes are given in Tables 3 and 4.

Out of 298 students, 173 (58%) students stated they experienced conditions similar to that of the person introduced in the vignette, 112 of whom (64.7%) experienced it in the last one year.

Out of 173 students experiencing condi-

Table 2. Students' belief on the impact of effective factors towards mental disorders

Influential factor	Neither N (%)	Little N (%)	Much N (%)
Negative attitudes towards one's self	18(5.6%)	14(4.3%)	292(90.1%)
Stressful situations	31(9.5%)	5(1.5%)	288(89%)
coping skills	30(9.3%)	17(5.2%)	277(85.5%)
No regular contact with the family	48(14.9%)	17(5.2%)	259(79.9%)
No regular contact with friends	52(16.1%)	25(7.7%)	247(76.2%)
poverty	49(15.1%)	31(9.6%)	244(75.3%)
Inheritance	67(20.7%)	62(19.1%)	195(60.2%)
Being single	100(30.9%)	53(16.4%)	171(52.7%)
Not Having a religious or spiritual belief	49(15.1%)	124(38.3%)	151(46.6%)
Avoiding sugary foods	190(58.7%)	95(29.3%)	39(12%)

Table 3. Attitude of students towards stigma

Statement	Neither N (%)	Disagree N (%)	Agree N (%)
The vignette problem is treatable	54(16.7%)	26(8%)	244(75.3%)
The vignette person is not dangerous.	49(15.1%)	47(14.5%)	228(70.4%)
The vignette could snap out of it if intended	73(22.5%)	41(12.7%)	210(64.8%)
The vignette problem is a real medical illness.	69(21.3%)	182(56.2%)	73(22.5%)
You would not tell anyone if you had a problem like (Maryam's/ Ali's).	89(27.5%)	163(50.3%)	72(22.2%)
It is best to avoid the vignette so that you do not develop this problem yourself.	44(13.6%)	236(72.8%)	44(13.6%)

Table 4. Attitude of students towards sparing time with the person introduced in the vignette

The following questions aim at understanding how you would feel about spending time with (Maryam/Ali): Would you be happy (INSERT STATEMENT BELOW)	No N (%)	Yes N (%)
To develop a close friendship with the vignette?	39(12.1%)	285(87.9%)
To invite the vignette to your house?	49(15.1%)	275(84.9%)
To go out with the vignette on the weekend?	64(19.8%)	260(80.2%)
To go to the vignette house?	71(21.9%)	253(78.1%)
To work on a project with the vignette?	117(36.1%)	207(63.9%)

tions similar to that of the person introduced in the vignette, 102 (59%) stated they had not taken any professional help or treatment. Of 71 students who received professional help or treatment 51 (71.8%) evaluated interventions as useful.

In campaign and media area, 179 (55.2%) students stated they had read, seen or heard news or material about mental health in the past 12 months and 88 (49.2%) of them remembered the material. Of these, 51 (28.5%) students received information via internet, 48 (26.8%) TV, 23(12.8%) radio, 18 (10%) magazines, 12 (6.7%) newspapers and 27 (15.1%) other sources.

For the question 'To what center you probably refer the vignette figure?' participants selected options were: private counseling centers 143 (44.1%), student counseling centers 104 (32.1%), centers for community-based mental health services 44 (13.6%), public hospitals 11 (4.3%), offices 10 (3.1%), telephone counseling 7 (2.2 7%)

and psychiatric hospitals 5 (1.5%).

Discussion

It is widely accepted that the community would be beneficiary from having health experts who know well about measures for prevention, early intervention and treatment of mental and physical diseases. However, most people have no or poor knowledge on different types of mental disorders. Their ideas about mental health and causes of psychiatric disorders and their effective treatment varies greatly. Their attitude may prevent them from appropriate understanding and search for medical care in this regard. Thus, they do not receive proper support for such disorders. Major part of mental health information which is easily accessible for the public is misleading (19).

A national study in Australia in 1995 indicated that mental health literacy level should be promoted for early diagnosis of psychiatric disorders and effective interven-

tions, through which public awareness about the psychiatric disorders treatment would be improved considerably (20). According to studies in different countries, there is low public knowledge about prevention of psychiatric disorders and their progress, seeking help and awareness of the existing treatments (20).

Current study showed that below 40% of students were able to diagnose depression correctly. This finding was very low compared to findings obtained in some countries (70%) such as in the work by Reavley (18) on students of Australian community and by Marie (21) in New Zealand; however it was more consistent with works by Jorm (22) and Olsson (23) in Japan and USA. Since diagnosis of a psychiatric disorder is the first step in the process of search for help and treatment, it seems that training students for understanding symptoms of this group of disorders is very important for promoting mental health literacy.

Accurate diagnosis of depression showed no significant difference in terms of the gender in the current work; while in the work by Reavley (18) female students had significantly more correct diagnosis than male students. In the study by Yeap (24) in Malaysia, it was found that the awareness of women about psychiatric disorders is similar to that of men.

Health literacy is considered as a set of individual abilities that enable them to obtain new information and use it for promoting their health status (16). In an Australian study, over 80% of the students sought for help in case they faced problem, while it was 64% in the present study. In the work by Olsson, probability for seeking help and consulting with an older person was lower in adolescents with no awareness of psychiatric disorders (22).

For the question 'Which factors may prevent you from seeking help', the most common answer was stigmatization, which suggests the importance of intervention for reducing stigma about mental health related issues. Since seeking help and referring to

mental health centers is generally higher in women than men, lack of significance in the difference for both genders in this study may indicate severity of stigma in this regard.

Highest rate of help seeking was from friends and parents, respectively. While using related services was in the lowest priorities in this work. In a Japanese study people preferred seeking help from friends and parents (22), while both students (18) and community (22) in Australia mentioned the highest help seeking from general physicians, which may show success of family physician system in this country. Australian students mentioned help seeking from friends in the next place after physicians which is similar to the current study (18). High rate of answers for help seeking from parents in this work may be due to the fact that Iranian adolescents and youths mostly live with their parents up to higher ages (compared to western communities).

The above results may reflect the fact that stigma of referring to physicians is stronger than that of referring to friends and parents in Iran. The other reason may be lack of trust in the mental health system in the country. Family physician plan is still in pilot stages and it is hoped that when it is fully established; the family physician will be at the first level of health service delivery, including mental health (25). Hence, attempt for promoting knowledge and skill of the family physicians as well as improving communication of this level of service delivery with people with psychiatric disorders seems necessary. To this end, family physician must have sufficient mental health literacy. Preparing clinical practice guidelines is useful, and considering the need for macro level intervention at community level, using local public health guidance appropriate to national needs and culture is necessary. Further works to identify reasons for not using mental health services among students and Iranian population is important (26).

Lower rate of using mental health services was probably due to concerns about

creating negative attitude toward person which indicates necessity for intervention for reducing stigma.

Activities which found useful for the mental patient by students were physical activity, relaxation and counseling introduced in this study, mentioned in the work on Australian students too(18). Increased physical activity was mentioned as the most effective intervention by the respondents in Australian and Japanese communities (22).

Answer of the respondents about drug therapy of psychiatric disorders showed the fact that less than half of the students mentioned continuing drug consumption. It indicates the necessity for inclusion of treatment modalities, characteristics and special considerations of treatment measures in psychiatric disorders in medicine curriculum.

In the current study, most respondents maintained that depression is not a real disease; which is a finding consistent with several other studies in Australia and the United Kingdom (18, 27).

According to findings related to stigma (table 3) the need for extra emphasis on the fact that reduction of stigma about depression is a must.

In answer to the question 'have you ever had problems similar to the vignette person?' over half of the respondents gave positive answer; of whom, less than half were received professional help or treatment for their problem and most of them were satisfied with the results of the treatment. This finding suggests the high prevalence of psychiatric disorders among students which shows the importance of necessity for further studies. Satisfaction of the majority of the help receivers denotes encouraging mental people for receiving help in such situations must be considered.

Most students received information about mental health from internet and TV, which shows the potential role of these media in promoting mental health in students.

In answer to the question of higher accessible mental health centers, students believed that public consulting centers and

student counseling centers are the most accessible places for receiving these services.

Since participation in the study was voluntary, it was probable that students who were more interested and aware of mental health issues took part in the study.

With regard to results, we recommend promoting quality and quantity of the education related to mental health literacy in the university, planning and designing appropriate interventions especially for reducing mental health disorders' stigma.

Because the most help-seeking was mentioned from friends, organizing networks of co-helper students for mental health could be considered. For this reason, a number of volunteer mental health educated students, would gather peers as a community network for discussing and sharing mental health issues in order to improve students mental health literacy.

Since student counseling centers and public counseling centers were mentioned as the most accessible centers of mental health services, attempts for promotion of these centers in terms of quality and quantity is necessary and performing more studies for identifying barriers for using mental health services is recommended.

Participating and involving national media as a main source of obtaining correct information about mental health issues is very important and should be considered.

Limitation: This study was performed in Tehran University of Medical Sciences, thus it is not representative of all students of whole country. So the results of this study could be helpful for designing interventions for this specific university.

Conclusion

Generally there was low awareness in the students about diagnosis of depression disorder. Level of help seeking by the students in facing psychiatric disorder was appropriate and friends and family were mostly mentioned as the sources of help. The greatest barrier for help seeking from other people or services was stigma and concern for receiving wrong consultation. Internet

and TV were mentioned as the main sources of obtaining information about mental health diseases. Results of this study could be useful for future planning in order to promote the mental health literacy of medical and health students.

Acknowledgements

Special thanks for Dr Nicola Reavley's support. We appreciate all people and students who helped in performing the study. The project was funded by Research Department of Tehran University of Medical Sciences, grant number: 91-02-62-17718. The Authors declare no conflict of interest.

References

1. A report of the assessment of the mental health system in the Islamic Republic of Iran using the World Health Organization - Assessment Instrument for Mental Health Systems (WHO-AIMS), 2006. Available from: http://www.who.int/mental_health/evidence/who_aims_report_iran.pdf
2. Palant R, Steimnitz R, Bornemann T, Hawkins K. The Carter Center Mental Health Program, Addressing The Public Health Crisis in the Field of Mental Health Through Policy Change and stigma reduction. *Prev Chronic Dis* 2006; 3(2):A62. Epub 2006 Mar 15. PMID: 16539803.
3. Investing in Global Health, A Regional Spotlight on the Middle East and North Africa Region, The 10 Leading Causes of Burden of Disease, 2006, Available from: <http://siteresources.worldbank.org/INTMNAREGTOPHEALTH/Resources/D CPP-15-MENA.pdf>
4. Mathers CD, Lopez AD, Murray CJL. The burden of disease and mortality by condition; data, methods and results for 2001, In: Lopez AD, Mathers CD, Ezzati M, Jamison DT, Murray CJL, editors. *Source Global Burden of Disease and Risk Factors*. Washington (DC): World Bank; 2006. Chapter 3. PMID: 21250373
5. Farhoudian A, Sharifi V, Amini H, Basirnia A, Mesgarpour B, Mansouri N, Salesian N, Mohammadi MR, Yousefi-Nooraie R, Rahimi-Movaghar A. Prevalence of psychiatric disorders in Iran: A systematic review. *Iran J Psychiatry* 2007; 2:137-150, Available from: <http://ijps.tums.ac.ir/index.php/ijps/article/view/253.pdf>
6. Mohammadi M.R, Rahgozar M, Bagheri Yazdi S.A, Mesgarpour B, Khalkhali M.R, Farsi M.R, Sharafati M. An epidemiological study of psychiatric disorders in Guilan province (year 2001), *Journal of Guilan university of medical sciences* 2004; 13(51): 55-66.
7. Mohammadi MR, Bagheri Yazdi SA, Rahgozar M, Mesgarpour B, Barimani F, Taheri SK, Malekzadeh Sh. An epidemiological study of psychiatric disorders in Mazandaran province, year 2001; *Journal of Mazandaran University of Medical Sciences* 1382; 41(13): 18-8. Available from: http://jmums.mazums.ac.ir/browse.php?a_id=345&sid=1&slc_lang=en
8. Mohammadi MR, Bagheri Yazdi SA, Rahgozar M, Mesgarpour B, Behnam B, Imani E, Hassan Zadeh AR, Ghanbari H, Farzaneh Kh. An epidemiological study of psychiatric disorders in Semnan province in year 2001, *Koomesh Journal of Semnan University of Medical Sciences*, 1382; 2-1(5):17-7, Available from: http://www.koomeshjournal.ir/browse.php?a_code=A-10-4-182 & slc_lang = en & sid = 1
9. Mohammadi MR, Rahgozar M, Bagheri Yazdi SA, Mesgarpour B, Nazari MK, Poush AR. An epidemiological study of psychiatric disorders in Kohgilouie & Boyerahmad province. *Armaghane-danesh* 2003, 8 (30): 13-24.
10. Mohammadi MR, Bagheri Yazdi SA, Rahgozar M, Mesgarpour B, Hoseinifakhr GR, Bargesteh H, Zamiad A, Parandeh Afshar H. The epidemiology of psychiatric disorders in Kerman province (Year 2001). *Journal of Rafsanjan university of medical sciences* 2005; 4(3):136-145.
11. Kaviani H, Ahmadi Abhari AS, Nazari H, Hormozi K. Prevalence of depressive disorders in Tehran resident population (year 2000). *Tehran Univ Med J*. 2002; 60 (5):393-399.
12. Akbari ME, Asadolahi Gh.A, Namaki S, Taban H, Zayandeh M, Jafari N. A survey on psychological disorders in an apparently healthy community. *Paramedical Sciences, Journal of the Faculty of Paramedical Sciences* 2004; 1(4):174-169.
13. Masoudzadeh A, Khalilian A, Ashrafi M, Kimiabigi K. The midtrimester mean arterial pressure in the prediction of pre-eclampsia. *J Mazandaran Univ Med Sci*. 2004; 14 (45):74-83
14. Zahiroddin AR, Hosseini SM, Semnani Y. Prevalence of depression and its related factors in high school students of Firouzkouh. *Pejou-handeh Quarterly Research Journal* 2004; 9(37):64-61.
15. Dadkhah B, Mohammadi M, Mozaffari N. Mental Health Status of the Students in Ardabil University of Medical Sciences, 2004. *Journal of Ardabil University of Medical Sciences & Health Services* 2006; 6(1): 31-36.
16. Sayarifard A, Ghadirian L. Mental health literacy in Iran: An urgent need for a remedy, *Int J Prev Med* 2013; 4:741-3. PMID: 24049590
17. Tehrani Banihashemi SA, Amirkhani MA, Haghdoost AA, Alavian SM, Asgharifard H, Baradaran H, et al. Health Literacy and the Influencing Factors: A Study in Five Provinces of Iran. *Strides in Development of Medical Education* 2007;4(1): 1-918.
18. Reavley NJ, McCann TV, Jorm AF. Mental health literacy in higher education students. *Early*

Interv Psychiatry 2012 Feb; 6(1):45-52. PMID: 22182365

19. Jorm AF. Mental health literacy. Public knowledge and beliefs about mental disorders. Br J Psychiatry 2000 Nov; 177: 396-401. PMID: 11059991

20. Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P. "Mental health literacy": a survey of the public's ability to recognise mental disorders and their beliefs about the effectiveness of treatment. Med J Aust 1997 Feb 17; 166(4):182-6. PMID: 9066546

21. Marie D, Forsyth DK, Miles LK. Categorical ethnicity and mental health literacy in New Zealand. Ethn Health 2004; 9(3):225-52. PMID: 15369998

22. Jorm AF, Nakane Y, Christensen H, Yoshioka K, Griffiths KM, Wata Y. Public beliefs about treatment and outcome of mental disorders: a comparison of Australia and Japan. BMC Med. 2005; 9(3):12. PMID: 16004615

23. Olsson DP, Kennedy MG. Mental health liter-

acy among young people in a small US town: recognition of disorders and hypothetical helping responses. Early Interv Psychiatry Nov; 4(4):291-8. PMID: 20977685

24. Yeap R, Low W Y. Mental health knowledge, attitude and help-seeking tendency: a Malaysian context. Singapore Med J 2009; 50(12): 1169-1176. PMID: 20087554

25. Majdzadeh R. Family Physician Implementation and Preventive Medicine; Opportunities and Challenges; Int J Prev Med. 2012 October; 3(10): 665-669. PMID: 23112890

26. Ghadirian L, Sayarifard A. Isn't it the Time for Working on Public Health Guidance in Health System of Iran? Int J Prev Med. 2013 February; 4(2): 125-127. PMID: 23112890

27. Pinfold V, Toulmin H, Thornicroft G, Huxley P, Farmer P, Graham T. Reducing psychiatric stigma and discrimination: evaluation of educational interventions in UK secondary schools. Br J Psychiatry 2003; 182: 342-6. PMID: 12668411