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Teaching Media Literacy to Psychiatry Residents in Iran

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Abstract

Background: Negative public perceptions of mental diseases and even therapists are among the most important obstacles to patients' therapeutic progress. Such attitudes are constructed by cultural and social structures. Through continuous reproducing and representing these attitudes, the media can strengthen the negative attitudes toward mental patients. On the other hand, the critical representation of social and cultural clichés in the media can reduce mental illness stigma. Psychiatrists should interact with the media regarding their concerns about mental illness stigma to achieve this goal; as a result, they must learn how to communicate with the media.

Methods: A 5-day workshop was designed and implemented with the participation of 11 facilitators and 16 psychiatry residents from five universities in Iran. Then, a focus group session was held.

Results: According to the results of the quantitative data analysis, the trainees prefer online media over traditional media, implying that they prefer interactive media platforms. Before the workshop, the trainees had believed that media coverage of psychiatry is biased and erroneous and that they should oversee the entire process of health content development by journalists. Besides, they were also interested in communicating with society. After the workshop, the focus group interview showed that the participating psychiatry residents felt that this activity improved their media literacy, enhanced their skills at interacting with the media, and encouraged them to interact more with the media in the future on health-related issues.

Conclusion: Residents in psychiatry have a higher tendency for communicating with the media in the field of mental health in general. They stated that they needed to engage in the creation of popular mental health content.

Keywords: Psychiatry Residency, Online Media, Media Literacy, Mental Illness Stigma

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Introduction

Nowadays, many researchers release their findings only through peer-reviewed journals, and it is not common among them to communicate scientific outcomes via mass and online media. Mass media are "the content industries," which are distinguished by "one to many centralized addresses, standardized content, and high capital

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↑What is "already known" in this topic:
In the field of health, attitudes and beliefs play a crucial role in the persistence of mental illness stigma. Some of the recent advancements in public acceptance of mental illness can be the result of media exposure to mental health issues; thus, media can play an important educational role in shaping public attitudes toward the field of mental health and psychiatry.

→What this article adds:
The performance of psychiatric residents will be improved if they understand their professional values in addition to the behaviors of journalists who belong to a different world of values. As a result, improving the media literacy of psychiatry residents can assist them with the purpose of reducing false beliefs about mental illnesses in society. Workshops can help psychiatric residents to be familiarized with the media.

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costs," including television (TV) & radio, newspapers, magazines, et cetera (1). Online media (like websites, blogs, search engines, and mobile applications) include all Internet-based communication platforms, which are nonlinear, multifaceted, and nonhierarchical, with a high possibility of interaction (2). Because of the potential opportunity to create 2-way direct communication with the public, online media can improve the relationship between psychiatrists and society and reduce mental diseases stigma; however, many psychiatrists believe that the media outlets are not often beneficial or even can have adverse effects on their educational careers (3). Another reason that psychiatrists are not willing to use social media professionally is because of the doctor-patient boundaries in psychiatry, which can be considered by educating psychiatrists on the professional use of various media (4). The role and manner in which scientists communicate with the media and the general public have altered as a result of historical and societal changes, as well as changes in communication settings (5). Therefore, there is an increasing number of people who ask scientists to be involved in scientific and health debates (6).

The internet, on the other hand, has profoundly altered numerous media outlets as well as people's media consumption patterns (5). It means that online media share a huge amount of information from a variety of sources with their audiences and eliminate the barriers to access to information significantly (2). In modern life surrounded by online information, communication skills should be considered one of the most important priorities of scientists; unfortunately, many scientists are reluctant to communicate with the general public. It is almost difficult for them to be heard among different kinds of social media; however, adopting appropriate strategies can help them to engage with the public and participate in at least science-related policymaking processes (7). This kind of communication training has been suggested to professional scientists and also graduate and undergraduate students (8, 9). Likewise, we can expect a significant influence of science in society by developing efficient interactions between scientists and the public (10).

A study in the USA showed that people were interested to use the internet and television to reach scientific news and information (8, 11). Another study stated that about 87% of the American population used the internet to obtain scientific knowledge and 80% of them used it for increasing their health information (12, 13). The literature review indicates that there is considerable relevance between efficient health media communication and patients' well-being (14). Moreover, many research reports are suggesting that scientists, participating in communication training workshops, are interested in receiving more courses and communicating with the media (15-17). Other studies have revealed the scientists' willingness to communicate with the media despite their many challenges (18).

Gallup and BBG (Broadcasting Board of Governors) suggested that national TV is the main source of information, and satellite TV and the internet are in the second and third places in Iran, respectively (19). Recent studies show that social media can be considered the second source of information after TV (20), and 66% of Iranians use at least one of the most popular social media platforms, including Telegram (62%), Instagram (32.2%), and WhatsApp (25%) (21). Furthermore, some recent advancements in public acceptance of mental illness can be the result of media exposure to mental health issues, thus, media can play an important educational role in shaping public attitudes toward the field of mental health and psychiatry (22).

In the field of health, attitudes and beliefs play a crucial role in the persistence of mental illness stigma. An Iranian study indicated that the major barriers that promote mental health stigma in Iran include the universality of stigma, beliefs, attitudes, lack of awareness, mental health providers (professional psychiatrists, psychoanalysts, etc.), cultural barriers, up to down power structures and policymakers, and insufficient financial resources (23).

The purpose of this study was to teach junior psychiatry residents how to communicate with the media and audiences outside of the academic setting, and to assess their attitude changes through a focus group session on the workshop's final day. Theories of communication, learning how to explain complicated scientific knowledge to lay audiences through concise writing, how to record, construct, and publish a scientific podcast, and how to conduct an effective interview with a journalist were among the tasks covered throughout the workshop. This type of training has received little attention in Iran's science communication literature. Thus, the present study is an attempt to fill this gap by evaluating the impact of training on the changing attitude of psychiatry residents in this regard.

Methods

The present study concentrated on the importance of reducing mental illness stigma and promoting the patients' mental health. For this purpose, we decided to improve the media literacy of psychiatry residents and allow them to communicate with the media and society. Therefore, a 5-day workshop (30 hours) was planned, which aimed to improve the theoretical and practical foundations of psychiatrists' communication with the public via the media. To achieve this goal, the first day of the workshop was allocated to speak about the characteristics of audiences who seek scientific content in the media, doctor-patient relationships, and the mental illness stigma. On the second day, we strived to present a precise image of the media logic by considering such topics as the media representation of mental illnesses, and a short review of the health communication theories, as well as the communication theories. It is also worth mentioning that the facilitators were mostly academics on the first two days of the workshop. On the third and fourth days, the participating psychiatry residents were trained in how to produce content and interact with the media. The facilitators in these two days were professional health journalists, TV & radio producers, and anchors. On the final day, controversial issues, such as potential conflict of interest between health journalists and psychiatrists, fake news (masterfully manipu-

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lated to look like credible journalistic reports), and pseudoscience (a collection of statements, beliefs, or practices erroneously regarded as scientific) were raised. The conversations about the complexities of relations between journalists and the medical community were propounded to empower the psychiatry residents on how to interact with both the media and society. The closing day was conducted jointly with the participation of academic and professional facilitators. Meanwhile, the psychiatry residents found the opportunity to discuss the representation of mental health images in Iranian media, and the challenges, which may arise when communicating mental health to society.

In total, 11 facilitators, including psychiatrists, science and health journalists, and professors of communication sciences, took part in the workshop. There was already a great amount of correspondence with the medical university chancellors in Tehran (Iran) and some adjacent cities to select the participants. Then, the heads of psychiatric departments were requested to select psychiatry residents. Ultimately, 16 psychiatry residents from five medical universities were selected and invited to participate in this study by invitation letters, which were sent to directors of the psychiatric departments. They were informed that participation is voluntary and they can choose to take part in the workshop as a part of their 3-month community psychiatry course.

On the first day of the workshop, all the trainees were asked to fill in a 2-part questionnaire. The first part contained questions about their media consumption habits and demographic characteristics. The trainees were asked how frequently they use the media. They could pick the answer from a 5-part spectrum—every day, at least once a week, at least once a month, rarely, and never. The media consumption habits were assessed and the participants were divided into the following three groups: low, average, and high consumption. They were assigned to the high consumption group if they reported using a media platform every day; the average consumption group was assigned to them if they reported using a media platform at least once a week and once a month, and the low media consumption group was assigned to them if they reported using a media platform rarely or never. The trainees' opinions toward media coverage of medical issues, communicating with the media, and communication with society were assessed in the second part of the questionnaire. They specified their attitudes on a 5-part Likert scale—ranged from very agree, agree, neutral, disagree, and very disagree. Each indicator was assessed through seven items.

Because of the limited sample size (N = 16), a focus group interview (FGI) was made to evaluate the different aspects of the workshop. The workshop aimed to create a curriculum focused on the participants' attitude and knowledge changes (the first three days), and practical work (the last two days). Therefore, the focus group session drew attention to the knowledge, attitude, and skill changes of the residents during training. All the psychiatry residents were present in the focus group session; however, the facilitators did not participate to avoid bias interference. An executive team member, who had not taken part in the workshop, ran the focus group.

Thematic analysis was used to analyze the FGI. This method identifies and analyzes the patterns (themes) within the data. It organizes and subtly describes the data (24). Because the present study included plenty of details and complexity of data, this method was chosen as the most proper way for data analysis (25). Therefore, the codes were expanded to identify the themes and then, as a classifier, link the data for the next analysis (26). MAXQDA 10.0 was used to accomplish the process of coding in three phases. At first, we attached descriptive codes to the text and then related them to each other to create abstract concepts. Finally, the interpretive codes were connected to build more abstract concepts. We called them pervasive codes.

Results

A total of 16 psychiatry residents attended the 5-day workshop. Also, 56.3% (n = 9) of the participants were women and 43.8% (n = 7) were men, with an age range of 29 to 48 years. The duration of psychiatric residency in Iran is four years and most of the participating residents were in the second and third years of their training. Table 1 summarizes the results. It indicates that the psychiatry residents use mass media and online media simultaneously; however, the percentage of online media usage is remarkably high.

As shown, the trainees used news websites (93.75%) more than other media platforms. None of the participants used radio programs. Online search engines and TV are in the next place with 87.5% and 43.75%, respectively. Among the mass media, the residents used TV (43.75) more than the others. To extract more interpretation out of the data, the media were stratified into mass media and online media (internet-based media), and the trainees were categorized into low, moderate, and high consumption.

As indicated in Table 2, of the trainees, 87.5% used

Table 1. Percentage of media consumption habits of trainees

Media/ consumption	Everyday	At least once a week	At least once a month	Rarely	Never	Total
TV	43.7	37.5	6.2	12.5	0.0	100
Radio	0.0	37.5	12.5	37.5	12.5	100
News paper	6.2	31.2	25	37.5	0.0	100
Pop science magazines	12.5	25	31.2	31.2	0.0	100
News websites	93.7	0.0	6.2	0.0	0.0	100
Blogs	25	62.5	6.2	6.2	0.0	100
Social media	20	53.3	20	6.7	0.0	100
Search engines	87.5	0.0	0.0	12.5	0.0	100

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Table 2. Stratification of the trainees' media consumption habits based on mass media or online media

Consumption habits of trainees[a]	Mass *media*[b]	Online *media*[c]
Low consumption	18.75%	0
Moderate consumption	56.25%	12.50%
High consumption	25%	87.50%

a. If trainees reported using a media platform every day, they were ranked in the high consumption group; at least once a week and once a month were ranked as the average consumption, and rarely and never were put in the low media consumption group.
b. TV & Radio, newspapers, pop science magazines were categorized as mass media.
c. News websites, blogs, social media, and search engines were categorized as online media.

Table 3. Mean distribution of the trainees' attitudes toward the media coverage of medical issues, and communicating with the media, and society

Indicators[a]	Mean
Media coverage of medical issues	2.1
Communicating with media	2.7
Communicating with society	3.7

a. Each indicator was assessed through 7 items.

online media every day (high consumption), and none of them said they never or rarely used it (low consumption), although their mass media consumption patterns were quite different. Only 25% of the trainees used mass media every day (high consumption). Most of them moderately used mass media, which varied from at least once a week to at least once a month. This amount for online media was about 12%.

The attitudes of psychiatry residents toward the media coverage of mental health, communicating with the media, and communicating with the society were evaluated through a Likert-scale questionnaire. Table 2 shows that psychiatry residents have a negative attitude toward the media coverage of mental health issues. Also, the majority of participants reported a moderate attitude toward communicating with the media, showing their lack of familiarity with the role of media. However, all of them had a positive attitude toward communicating with society; thus, from their point of view, communicating with society is not an unprofessional behavior or unnecessary action. This shows the importance of promoting media literacy among psychiatrists. From their point of view, these actions may help them to communicate with society more effectively.

Table 3 shows that the trainees had a negative view of the media coverage of medical issues. Also, the mean obtained for communicating with the media (2.7) was less than the average (3), which means that the trainees did not believe in a balanced relationship with journalists. From their perspective, the process of health content production in media needs to be controlled by them and not by the journalists. In comparison with the other two indicators, communicating with society is more favorable for residents. In addition to the primary assessment, an FGI session was held. All participants declared their experiences of the workshop during the FGI session. The viewpoints of the participants were classified into three clusters of positive points, including knowledge improvement, attitudinal change, and strengthening of media skills. The summary of the FGI session is outlined in Table 4.

Knowledge Improvement

The participants agreed that they obtained a good deal of information about media and communication. One of the participants mentioned: "As a psychiatrist, I learned how to use media, and if I want to be heard, I know the rules and principles." Although some participants in their evaluations pointed out that they were confronted with some unnecessary and pointless information as well: "It was not essential to learn theoretically-orientated contents." Some participants believed that this workshop had a positive effect on improving their knowledge about media: "On the first day of the workshop, the title on the board 'Promoting media literacy of psychiatry residents' made me feel awkward but now I believe that the title was exactly right and my media literacy was not efficient. I feel privileged for taking all this information."

Attitude Changes

All participants were unanimous that the workshop was not merely assigned to give information; rather it also aimed to change the attitudes of psychiatry residents toward media. One of the participants said, "I did not use any kind of social network such as Telegram. I was thinking that it is time wasting and instead I can read books; however, during this workshop, I've changed my mind and I decided to install Telegram. This workshop motivated me on how to get my scientific messages across."

Some participants believed that the workshop modified their attitudes toward different groups of audiences, and consequently, brought their attention to the crucial role of psychiatrists in society. In this regard, a participant said, "During the workshop, I learned about the public opinion concepts, and now I know how to influence the public opinion". He also added: "This workshop helped me to obtain a better understanding of society and how to be more effective at a macro-level and provide psycho-social education for the general population."

Another participant stated, "This workshop assisted me to alter my opinion toward using media for my professional purposes and I learned how to speak with the general public understandably." The qualitative feedback from the participants indicated that before the workshop, almost none of them had a precise view of the role of media in their profession.

Strengthening Media Skills

In addition to the theoretical content, the workshop included skill-focused training. This section trained the participants to communicate with the media more effectively. One of the participants mentioned, "The last two days of the workshop focused on practical work; for instance, how to be prepared for a TV interview, and how to deal with the consequences of your interview". He added, "This kind of training can be useful for your professional career and may help you to have satisfactory experiences with the media."

A few of the participants declared that the workshop was notably useful in writing scientific content in the me-

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Table 4. Positive points of the workshop from the trainees' *view*[a]

Persuasive codes	Interpretive codes	Descriptive codes
Knowledge improvement	Understanding the nature of media	• Different nature of scientific facts and media facts • Media needs hot news
	Understanding different approaches toward communicating with media	• Different actors with different point of views •
	Providing basic information to have effective communication with media	• Basic rules in journalism • Know basics about audiences
Attitude changes	Utilizing social media for professional purposes	• Proper psychiatric content for media is necessary • Necessity of interaction with media and audiences
	Learning to be a social activist not a passive psychiatrist	• Being a citizen along with being a psychiatrist • Communicating with society as an accountable psychiatrist
	Practical efforts to understand the functions of media	• Media's role in health promotion
Strengthening media skills	Learning strategies to deal with media	• Preparation for a TV interview • Learning how to choose proper media to communicate
	Learning strategies to avoid unpleasant experiences with media	• Learning how to face challenging questions • Learning how to reject an interview
	Learning how to write scientific content for media	• Enable to search and evaluate media content • Learning how to translate psychiatry to lay people's language
	Learning how to deliver scientific content to various groups of lay people	• Learning how to choose proper platform for my massage • Categorizing scientific content for different publics.

a. Table 4 summarizes the trainees' point of views about the effects of workshop on their knowledge, attitudes and skills to engage with the media.

dia. Moreover, it aroused the participants' interest in science journalism activities. One of the psychiatry residents said, "In these few days, I called one of my friends who is a columnist and is interested in mental health stigma. I had many questions about what exactly she was doing?!"

Almost all participants believed that the workshop has taken the first steps to help them to communicate with the general public. The workshop stressed delivering scientific content to the general public and how the participants can apply it for stigma reduction purposes. One of the participants pointed out, "The workshop was very useful for me, and if my grandmother does not understand what I'm saying, then nobody would."

Furthermore, some of the participants agreed that the workshop was tailored intelligently, and all the theoretical and practical parts were related reasonably. One of them said, "I'm fascinated by all the topics and I wonder how all of them can be related to my future work as a psychiatrist." Another participant stated, "The arrangement of presenting topics was masterly planned, and my questions were answered exactly in the last two days of the workshop."

Discussion

Media, as one of the most influential factors, can affect setting our agenda and framing our beliefs about health, disease, and death (26). Based on magic bullet and cultivation theories, some beliefs and attitudes may be planted or formed in the human mind via the influence of the media (27), implying the critical role of the media in some dimensions of our lives.

Recent studies show that the media are the primary source of information about mental disorders (28, 29), such that even university students, as an educated group of society, obtain the bulk of their knowledge about mental illnesses from the media (19). Moreover, evidence indicates that the media depiction of mental illnesses is aggressive and negative. Studies of past decades suggest that the media portray people with mental illnesses as being dangerous (20, 30). On the other hand, research findings are pointing to the positive role of media in reducing the stigma of mental illness. Hoffner, for example, reported a person with obsessive-compulsive disorder on a TV show, and it was later shown that this program was beneficial in eliminating the stigma associated with mental diseases (21). Corrigan found that when media outlets tell stories about the recovery of people with mental illnesses; this, in turn, reduces the mental illness stigma. If they provide precise information about mental illnesses, then people may show more eagerness to follow these stories (23).

Various studies have underlined the importance of improving people's mental health literacy and its effectiveness in different aspects of mental health. Another example can be found in a study by Levine. In this study, people who were aware of the influence of media on their weight had a better understanding of their physical condi-

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tion and self-esteem and were less affected by eating disorders (31). Promoting media literacy helps people to think critically (32).

The present study was performed to increase the media literacy of psychiatry residents. The majority of participants were unanimous that they learned how to use media potentials to reduce mental illness stigma. This finding is in agreement with the results of other studies, including the study of Poliakoff and Webb on the empowerment of scientists to communicate with the public (17), Austin et al on increasing youths' health media literacy (33), and Bergsma and Carney on the effectiveness of health-promoting media literacy education (34).

Furthermore, more interactions between the media and mental health professionals can be effective in reducing negative attitudes toward mental illnesses. A review of the literature (35) put stress on two major solutions: (a) media workers should be trained to develop a more precise image of mental illnesses, and (b) mental health professionals must be equipped more practically and effectively with media literacy. Therefore, the media and mental health professionals have to come to a mutual understanding. In this case, a more accurate depiction of mental illnesses can be presented in the media. If scientists think of an effective way of communicating with people, more valid and authentic knowledge is expected to be available to the public (10). Similarly, the results of the present study showed that psychiatry residents had a pessimistic view of the media coverage of mental health issues. They were also keen to gain media communication skills to better communicate with society, in the hopes of decreasing the prevalent stigma associated with mental diseases, which they see as a critical setback in Iran (3).

The views of psychiatry residents in the FGI session were divided into three categories. The participants verified their knowledge improvement during this workshop, obtaining knowledge about the nature of the media and how to communicate with them. Additionally, they stated that their attitudes toward themselves have changed from a passive psychiatrist to a social activist who can use media as a means for professional purposes. Moreover, the participants reported that the workshop provided them with basic skills for communicating with the media and producing effective content for media audiences.

The findings of Jorm revealed that there is a considerable difference between the opinion of mental health professionals and laypeople toward mental health issues. This study recommends educating journalists to improve their mental health literacy (36). Also, Corrigan reported the crucial role of media in reducing stigma and promoting mental health (37). A comprehensive study by Stute showed the influence of media on public opinion about mental illnesses (29). On the contrary, media practitioners believe that mental health professionals are not willing to participate in the production of TV programs.

The present study had several limitations that should be taken into consideration. Only 16 psychiatric residents participated in this research. Also, there was no control group, quantitative/standardized results were minimal, and the workshop addressed only TV, pop science magazines, and social media, but not radio and books as other forms of mass media. Furthermore, the workshop did not measure additional outcomes (eg, whether the workshop led to actual changes in any media portrayals of or public attitudes toward mental illnesses). Finally, the results were limited to Iran. Having no control group and a small sample size made it impossible to utilize more extensive and/or quantitative pre- and postworkshop assessments. Thus, the generalizability of the findings should be dealt with cautiously.

Conclusion

According to the results of the present study, it is assumed that the performance of psychiatric residents will be improved if they understand their professional values in addition to the behaviors of journalists who belong to a different world of values. As a result, improving the media literacy of psychiatry residents can assist them with the purpose of reducing false beliefs about mental illnesses in society.

The focus group results indicated that such workshops can help psychiatric residents to be familiarized with the media. Although there are always conflicts of interest between journalists and psychiatrists, especially on controversial issues, increasing the interactions between mental health professionals and the media can create an opportunity for psychiatrists to challenge nonscientific content in the media regarding mental health issues.

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Ethics Approval and Consent to Participate

The study protocol was approved by Iran's Ministry of Health and Medical Education. All participants were invited by invitation letters and voluntarily participated in the study.

Consent for Publication

All authors reached a consensus on the content of the protocol. Moreover, all authors have the approval of submitting this protocol to be considered for publication in Medical Journal of The Islamic Republic of Iran (MJIRI).

Conflict of Interests

The authors declare that they have no competing interests.

References

1. Hartley J. Communication, cultural and media studies: The key concepts. 4th ed. London: Routledge; 2012. pp. 73.
2. Carroll B. Writing for digital media. 1st ed. London: Routledge; 2010. pp. 23-54.
3. Taghva A, Farsi Z, Javanmard Y, Atashi A, Hajebi A, Noorbala AA. Strategies to reduce the stigma toward people with mental disorders in Iran: stakeholders' perspectives. BMC Psychiatry. 2017;17(1):1-12.
4. Walsh AL, Peters ME, Saralkar RL, Chisolm MS. Psychiatry residents integrating social media (PRISM): using twitter in graduate medical

[DOI: 10.47176/mjiri.36.75]

education. Acad Psychiatry. 2019;43(3):319-23.
5. Liang X, Su LYF, Yeo SK, Scheufele DA, Brossard D, Xenos M, et al. Building Buzz: (Scientists) Communicating Science in New Media Environments. J Mass Commun Q. 2014;91(4):772-91.
6. Besley JC, Dudo A, Storksdieck M. Scientists' views about communication training. J Res Sci Teach. 2015;52(2):199-220.
7. Smith DR. One scientist's struggle to be a better writer, and a plea for undergraduate science-writing engagement. Sci Commun. 2016;38(5):666-74.
8. Besley JC, Tanner AH. What science communication scholars think about training scientists to communicate. Sci Commun. 2011;33(2):239-63.
9. Trench B, Miller S. Policies and practices in supporting scientists' public communication through training. Sci Public Policy. 2012;39(6):722-31.
10. Besley JC. What do scientists think about the public and does it matter to their online engagement? Sci Public Policy. 2014;42(2):201-14.
11. Brossard D. New media landscapes and the science information consumer. Proc Natl Acad Sci. 2013;110(Supplement 3):14096-101.
12. Fox S. The engaged e-patient population. Washington, DC: Pew Internet & American Life Project. 2008.
13. Horrigan JB. The Internet as a resource for news and information about science: The convenience of getting scientific material on the web opens doors to better attitudes and understanding of science: Pew Internet & American Life Project; 2006.
14. Baker SC, Watson BM. Understanding the Health Communication Process: Advancing the Research Agenda to Improve Health Care Interactions and Patient Care. J Lang Soc Psychol. 2015;34(6):599-603.
15. Dunwoody S, Brossard D, Dudo A. Socialization or rewards? Predicting US scientist-media interactions. J Mass Commun Q. 2009;86(2):299-314.
16. Miller S, Fahy D, Team E. Can science communication workshops train scientists for reflexive public engagement? The ESConet experience. Sci Commun. 2009;31(1):116-26.
17. Poliakoff E, Webb TL. What factors predict scientists' intentions to participate in public engagement of science activities? Sci Commun. 2007;29(2):242-63.
18. Baram-Tsabari A, Lewenstein BV. An instrument for assessing scientists' written skills in public communication of science. Sci Commun. 2013;35(1):56-85.
19. BBG/Gallup. New BBG/Gallup Research: Iran Media Use 2012. US Agency for Global Media [cited 2012 Jun 12]; Available from: http://www.usagm.gov/2012/06/12/new-bbggallup-research-iran-media-use-2012-2/
20. Akbari H. The Relationship between internal and external media with the youth national identity. Interdiscip Stud Media Cult. 2018;7(2):1-22. [Persian].
21. The Iranian Students Polling Agency (ISPA). The tastes of Iranian users for social networks. Iranian Students Polling Agency [cited 2018]; Available from: http://ispa.ir/Default/Index/en
22. Morris NP, Johansen SL, May M, Gold JA. Media-related education in psychiatry residency programs. Acad Psychiatry. 2018;42(5):679-85.
23. Taghva A, Farsi Z, Javanmard Y, Atashi A, Hajebi A, Khademi M. Stigma Barriers of Mental Health in Iran: A Qualitative Study by Stakeholders of Mental Health. Iran J Psychiatry. 2017;12(3):163-71.
24. Braun V, Clarke V. What can "thematic analysis" offer health and wellbeing researchers? Int J Qual Stud Health Well-being. 2014;9(1):26152.
25. Dey, I. Qualitative data analysis research: A user friendly guide for social scientists. 1st ed. London: Routledge;1993.
26. Tewksbury D, Scheufele DA. Special issue on framing, agenda setting, & priming: Agendas for theory and research. J Commun. 2007;57(1):8..
27. Severin WJ, Tankard JW. Communication theories: Origins, methods, and uses in the mass media: Longman New York; 1997.
28. Minnebo J, Van Acker A. Does television influence adolescents' perceptions of and attitudes toward people with mental illness? J Community Psychol. 2004;32(3):257-75.
29. Stout PA, Villegas J, Jennings NA. Images of mental illness in the media: identifying gaps in the research. Schizophr Bull. 2004;30(3):543-61.
30. Wahl OF. Mass media images of mental illness: A review of the literature. J Community Psychol. 1992;20(4):343-52.
31. Levine M. Media literacy approaches to prevention. Encyclopedia of feeding and eating disorders Singapore: Springer. 2016:1-6.
32. Silverblatt A, Miller DC, Smith J, Brown N. Media literacy: Keys to interpreting media messages. 4th ed. US (CA): ABC-CLIO; 2014.
33. Austin EW, Pinkleton BE, Hust SJ, Cohen M. Evaluation of an American Legacy Foundation/Washington state department of health media literacy pilot study. Health Commun. 2005;18(1):75-95.
34. Bergsma LJ, Carney ME. Effectiveness of health-promoting media literacy education: a systematic review. Health Educ Res. 2008;23(3):522-42.
35. Stuart H. Media portrayal of mental illness and its treatments. CNS drugs. 2006;20(2):99-106.
36. Jorm AF, Medway J, Christensen H, Korten AE, Jacomb PA, Rodgers B. Public beliefs about the helpfulness of interventions for depression: effects on actions taken when experiencing anxiety and depression symptoms. Aust N Z J Psychiatry. 2000;34(4):619-26.
37. Corrigan P. How stigma interferes with mental health care. Am Psychol. 2004;59(7):614.

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