

RESEARCH ARTICLE

Faith healers are taking over the role of psychiatrists in Iraq

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ABSTRACT

Background: Due to lack of education and awareness, faith healing has become a popular way of treating psychiatric patients.

Objective: To ascertain the role of faith healers in the treatment of psychiatric illnesses by exploring the percentage of patients attending those healers. Methods: A semi-structured questionnaire was applied through a direct face-to-face interview with the patients and their companions; it inquired whether the patient has ever visited faith healers, the method of treatment the patients were subjected to, and their opinion about the benefit they got regarding improvement in their condition. Results: Among the total 482 cases; 279 (57%) reported going to faith healers (FHs) at any time before, during, or after a psychiatric consultation. Of those, 84.6% reported visiting FHs less than 10 times, while 15.4% went 10 times or more; 36.9% still believe that the treatment of FHs is accepted or even good (21.5%), while 30.9% realized that it is useless, and 10.7% think it is bad. No association was found between going to FHs and patient age or gender, while there was a significant association with marital status (p < 0.02) and with education (p < 0.001). Patients with schizophrenia/psychosis or bipolar disorders visited FHs significantly more often than those with other diagnoses. Conclusion: Faith healing is prevalent in Iraq and FHs may overwhelm the role of psychiatrists in treating mental illnesses. Sincere efforts are needed to help build public awareness and to improve accessibility

and utilization of mental health services for this vulnerable group.

Keywords: faith, healers, psychiatrists, Iraq

INTRODUCTION

The incidence of psychiatric disorders is increasing all over the world. Global figures show that there are 400 million cases of depression, 60 million bipolar affective disorders and 21 million schizophrenia/ psychoses.¹

For thousands of years, in almost all ancient civilizations, insanity (losing sound mind) was never separated from beliefs in adversity from supernatural agents like evil spirits, demons and devils, or witchcraft and envying eyes as causative factors.² In many cultures, especially in less developed areas of the world, most of these mental disorders continue to be viewed as non-medical diseases that are believed to be caused by invisible entities, spirit possession, or supernatural powers³ that require supernatural intervention. A remarkable number of people with such beliefs adopt additional ways of treating psychiatric patients such as going to religious centers and visiting faith healers (FHs).^{4,5} Faith healing has become a popular way of treating psychiatric patients due to lack of education and awareness about mental illness.⁶ In ancient Iraq (Mesopotamia), many cuneiform clay texts illustrated symptoms of mental disorders, attributing them to punishment by Gods and Goddesses for misdeeds or being possessed by evil spirits; thus, priests treated patients inside temples using exorcism (extracting the possessing spirit), usually using herbal remedies to alter the state of consciousness, and reading prayers. Healing the mentally ill was a folk problem with priority given to shamans and priests during paganism and after the descent of heavenly religions in Iraq and the Middle East.⁷

The ancient belief that fairy demons and sorcery were the solo explanation of insanity was replaced by Muslims' beliefs in jinn possession. After the inception of Islam 646 A.C., the Arabic vocabulary of insanity (Jinoon) guoted from the Holy Ouran was used to refer to the possession of supernatural spirits known as "jinn."^{8,9}

Seeking help from traditional or FHs negatively interferes with providing efficient mental healthcare to patients, causing a delay in accessing psychiatric consultation for treatment of serious mental disorders. It may lead to homicide or suicide, medical complications, social problems, and/or financial exploitation in addition to physical, verbal, and sexual abuse of the patients. 10

The role of cultural factors in the management of mental disorders needs adequate attention from mental health professionals. It is important to consider cultural and traditional methods for conceptualizing and managing mental illnesses as beliefs about mental illness can affect the willingness of the patients to seek and adhere to treatment. Understanding cultural beliefs about mental illness is fundamental for effective implementation of mental healthcare approaches. 11,12

Iraq has been exposed to a long period of continual wars, armed conflict, terrorism, and sectarian fundamentalism, which paved the way for many behavioral and mental disorders and precipitated illiteracy that encouraged such practices.

This study was designed to ascertain the role of FHs in the treatment of psychiatric illnesses through exploring the percentage of patients attending those healers to seek help, and to study some relevant factors. This may help build public awareness about this issue in order to end this malpractice in the future.

METHODS

This cross-sectional study was conducted during the period from August 2018 through January 2019 in the Psychiatric Consultation Clinic in Medical City Hospital, the main teaching hospital in Baghdad.

A consecutive sample was collected throughout the study period by pooling all psychiatric cases flowing into the consultation clinic (and the referred cases from other hospitals and clinics) on an almost daily basis (excluding holidays) during the six month period of the study. The diagnosis of mental diseases was done on a symptomatic basis depending on the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders) criteria. Only children were excluded because of the differences in the symptomatic diagnostic modules.

FHs were defined as people held in high regard who are considered to be spiritual or moral guides; they are available and accessible in rural and urban areas all over Iraq, and they are self-authorized to practice healing of patients without any license or governmental supervision.

Study instruments

A semi-structured questionnaire form was developed by the researchers; the main question was whether the patient had ever visited FHs, religious persons or any traditional healer to seek curative help for his/her illness. The questionnaire also inquired about the method of treatment the patients were subjected to, how much they paid for it, their opinion about the benefit they got regarding improvement in their condition and whether they would or would not advise others to experience this practice. The questionnaire was translated into Arabic and then retranslated to English to enhance validity.

Two well-trained senior psychiatrists (a male and a female) were recruited for data collection; they were supervised by the leading researcher who is a Professor and Consultant in Psychiatry with extensive experience in the field.

Data collection was done through a direct face-toface 15 – 20 minute interview with the patients (and their companions). The questions were direct, and the answers given by the patients were confirmed by the companions for more precision. As Iraq is not a cosmopolitan country and Islam is the state religion, this was taken into consideration when probing for details concerning the traditional healing methods.

Ethical issue

The purpose of the study was explained to the patients and their companions giving them the complete unconditional choice whether or not to participate. A verbal consent was taken from the patients (or their companions) after assuring them that the information they gave would be kept strictly confidential, would not be accessible to anyone but the researchers and would not be used for any purpose other than research work.

Statistical analysis was done using the available statistical package of SPSS (Statistical Packages for Social Sciences-version 24). Data was presented as central tendency measures of frequencies and percentages. Significance of association was tested using Pearson Chi-square and Fissure-Exact test. Statistical significance was considered with a p-value equal to or less than 0.05.

RESULTS

The total collected sample was 482 cases with a response rate of 100%.

Table 1 shows the demographic distribution of the sample: 71.2% aged between 20-49 years with a female predominance (58.7%); 57% of the patients

Table 1. Socio-demographic characteristics of the studied sample.

	No.	
Age < 20 20 - 29 30 - 39 40 - 49 50 - 59 ≥ 60	40 137 115 91 57 42	8.3 28.4 23.9 18.9 11.8 8.7
Gender Male Female	199 283	41.3 58.7
Marital status Single Married Divorced, widowed	164 248 70	34.0 51.5 14.5
Education Illiterate Primary school Secondary school College and higher	89 134 147 112	18.5 27.8 30.5 23.2
Visited FHs Yes No	279 203	57.9 42.1
Total	482	100

reported going to FHs at any time before, during, or after the psychiatric consultation.

Table 2 reveals that 73.1% of those who went to FHs did so before visiting the psychiatric clinic, and 23% were still going to FHs while receiving their medical treatment. 84.6% reported visiting FHs less than ten times, while 15.4% went 10 times or more. In respect to the method of treatment, in 55.2% of the cases, a mascot (amulet) was used, while the Quran (the holy book of Muslims) was mentioned by 49.8%. Some of the patients (3.6%) were subjected to different forms of sexual harassment as a "method of treatment." Most of the patients (77%) mentioned paying money to FHs; of those, 11.6% paid more than \$1000.

The top three mental disorders seen were depression (33.2%), psychosis (23.2%) and anxiety disorders (22.3%). Analysis of the association between the studied variables is shown in Table 3; no significant association was found between going to FHs and age or gender of the patients, while the association was

Table 2. Going to FHs - frequency, timing, payment, and method of treatment (n = 279).

	No.	%
Timing Before psychiatric consultation During psychiatric consultation Before and during	204 64 11	
Number of visits <5 5 – 9 10 – 19 ≥ 20	22	67 17.6 7.9 7.5
Type of healer Faith healer (clerk, Imam,	264	94.6
Sayed, Sheikh) Holy shrine Shaman (witchcraft therapist) More than one	8 2 5	2.9 0.7 1.8
Gender of healer Male Female	269 10	96.4 3.6
Method of treatment* Mascot (amulet) Holy Quran (prayer, Ruqiya) Herbal remedies Exorcism – physical (beating by stick or slap) Exorcism – by stabbing or vaporization	139 83 38 23	55.2 49.8 29.7 13.6
**others	10	3.6
Payment Yes No		77.1 22.9
Fees equivalent to US dollar (n = 215) <\$ 100 100 – 1000 >\$1000	85	48.9 39.5 11.6

^{*}In most cases, there is an overlap in the method of treatment as more than one method was used

significant regarding marital status (p < 0.02) and education (p < 0.001).

Patients who have schizophrenia/psychosis or bipolar disorders visited FHs significantly more often than other diagnoses (p = 0.02), while those with personality disorders or obsessive compulsive disorders tended not to visit FHs.

DISCUSSION

FHs in Iraq represent an undeniable source of care for mentally ill patients despite the availability of qualified mental health professionals in Baghdad (the capital) and almost all governorates. 10,13 This finding is reinforced by the marked increase in the number of FHs to the degree of becoming highhanded masterful therapists. Interestingly, some famous healers are practicing their job frankly under the eyes of the state without any control. In our study, we tried to explore the size and magnitude of this phenomenon as a community and how health problems continue to flourish despite continuous efforts since 2003 to build a sustained mental health system. 13,14

Depression topped the list of psychiatric diagnoses, in line with the results of some international studies. This finding is not surprising as depression is usually precipitated by repeated exposure to violence and psychological trauma in addition to persistent daily-life difficulties which is the case in post-conflict Iraq. This results in anxiety disorders as well; the third common diagnosis; it is common for anxiety and depression to co-exist, especially in times of war and conflict. 14,15 Psychotic disorders (presented mainly by schizophrenia) were the second most common diagnosis, which is consistent with previous studies. 16 A sizable ratio of the cases were co-morbidity;

a well-defined psychiatric disorder overlapping with a less defined one or with somatic and dissociative symptoms. The results revealed that more than half of the patients (57.9%) reported going to FHs; this is

comparable to some studies conducted in other Arab and Muslim countries 17,18 but is obviously higher than what was found in those studies. 19 This high percentage is alarming as it indicates that FHs have started to overwhelm the role of psychiatrists in treating mental illnesses, which takes us back to ancient times when FHs and witchcraft therapists had the upper hand in this field. There might even be a slight underestimation here as some patients may feel ashamed to reveal that they are visiting FHs so as not to be judged.

The vast majority of FHs were males (this might be because females in Iraq are still wary of taking on such jobs), most of whom were of religious nature, perhaps to be more convincing and appearing pious in order to make patients feel more at ease.

^{**}Sexual abuse: harassment, or agree to practice sex as a method of treatment

Table 3. Association between visiting FHs and demographic variables and diagnosis.

	Going to FHs		
	Yes	No	p-value
Age <20 20-29 30-39 40-49 50-59 ≥60	25 (5.2%) 82 (17%) 72 (14.9%) 48 (10 %) 33 (6.8%) 18 (3.7%)	15 (3.1%) 55 (11.4%) 43 (9%) 43 (8.9%) 24 (5 %) 24 (5%)	>0.05
Gender Male Female	121 (25.1%) 158 (32.8%)	78 (16.2%) 125 (25.9%)	>0.05
Marital status Single Married Divorced, widowed	103 (21.3%) 135 (28.1%) 41 (8.5%)	61 (12.7%) 113 (23.4%) 29 (6%)	0.02
Education Illiterate Primary school Secondary school University/higher	59 (12.3%) 87 (18.0%) 83 (17.2%) 50 (10.4%)	30 (6.2%) 47 (9.8%) 64 (13.3%) 62 (12.8)	0.001
Diagnoses Depression Schizophrenia/psychosis Anxiety disorders Manic attack Bipolar disorders Alcohol and substance abuse Personality disorders Conversion disorders More than one diagnosis	77 (16%) 80 (16.6%) 55 (11.4%) 12 (2.5%) 11 (2.4%) 4 (0.8%) 2 (0.4%) 3 (0.6%) 23 (4.8%)	83 (17.2%) 32 (6.6%) 52 (10.9%) 5 (1%) 3 (0.6%) 4 (0.8%) 2 (0.4%) 16 (3.3%)	0.02*

^{*}Fisher's exact test was used.

Many people think that visiting FHs is not as stigmatizing as going to psychiatric clinics and receiving medications, which is a likely reason for increasing numbers of patients who choose traditional healers as their first treatment choice prior to seeing a psychiatrist. 13 Choosing FHs as the first station of treatment was considered by more than 70% of the patients in the current study; this is higher than what Alosaimi found in Saudi Arabia. 17

Visits to FHs between one and nine times was reported in 84.6% cases, while 15.4% reported 10 visits or more, which reflects the strength and preservation of their beliefs in FHs, and may also give an indication of these patients' financial capacity. 1

From a clinical point of view however, by seeking medical help, this indicated that the patients were gaining no or very limited benefit from FHs.

Most of the patients (89.9%) reported going to a Shiite cleric (Sayed) or Sunni cleric (Sheikh), both of whom were believed to be either a descendant of holy dynasty or a blessed religious guide who have the capability to practice mystic therapy.

FHs in this study utilized methods to protect from or to exorcise evil eyes, the devil, and jinn possession. The most common methods used were reading certain verses of the Holy Quran; they also performed oral and written prayers in the form of sealed amulets, incantations read-in-water for drinking and/or

bathing, steaming by blessed incense, and re-wearing the patient's own gown after storing it in the FH's place for one night. However, many other traditional remedies not linked to Islamic beliefs were also used, such as ingestion of uncharted herbs as powder, liquid, alone or mixed with honey, or as a paste to massage onto the body. These methods are commonly used in Arab communities. 7,17,18,20

About one quarter of the patients were treated with harmful methods for exorcism like frequent jabbing by the healer's baton, harsh thrusting or cruel beating all over the body, beating with a stick or slapping or hitting the patient's head against the wall to get the "jinn" out. More rarely, stabbing or cautery was used. Some young female patients reported sexual exploitation by FHs at their houses or at secure hostels near shrines.

More than three quarters of the patients reported paying fees for FHs consultation reaching up to US\$1000 or more; however, the other quarter said that they were not asked for any fees, but that they did give the FHs certain gifts in appreciation for their efforts.

When probing the patients' opinions about the benefits they gained from attending FHs, approximately half expressed negative attitudes towards the treatment outcomes, reflecting discouraging experiences. Moreover, the majority expressed reluctance to recommend their healers to others; yet, most of them also refused to condemn them. This ambiguous attitude might be due to the built-in veneration of guides and masters as part of the belief context superadded by the cultural beliefs in traditional therapies.²¹

The analysis of association between variables revealed that age and gender did not play a role in determining visiting FHs; this was surprising as many Arab and Muslim authors have indicated an excess of female FH visitors.²²

There was a significant association between marital status and seeking help from FHs. Being single was associated with an obvious tendency to visit FHs, which may be explained by the fact that singles may feel lonelier than married people, which may exacerbate their desperate need to enlist different types of assistance.

High school education was clearly associated with lower attendance to FHs. This might give the impression that school education has an influence on

this traditional belief; however, it is difficult to rely on this assumption as illiteracy is a rapidly growing problem in Iraq nowadays, reaching more than 24%, especially among females, 23 which means that this trend is unlikely to change in the near future.

There was a significant association between psychiatric disorder type and seeking faith healing, with depression and psychotic disorders being the most common for visitors, while those with conversion and obsessive compulsive disorders visited less than was expected. This might be attributed to the fact that presentations of psychosis are mostly sudden and bizarre that can identify with stereotypes of possession. 17,18,19,24

It is well known that depression can present with somatic symptoms that resemble those attributed (as perceived by lay people) to evil eyes or witchcraft; these include chest tightness, marital disparity, headache, bad sleep, and nausea and vomiting, while symptoms of conversion disorders (hysterical) are usually interpreted by the family as medical emergencies based on dysfunction or non-function of certain organs or systems; this is why for these cases, they usually seek medical help from emergency units in general hospitals or from physicians in private clinics.²⁵

We dare to attribute the dominance of seeking faith healing to the successive wars and armed conflicts (and the resulting increasing illiteracy rates) that have persisted in Iraq for the last four decades, yet we need more elaborate community studies in order to confirm our speculations. Unfortunately, no similar studies from the pre-2003 war era were available for comparison. The exacerbation of this phenomenon in the last 15 years might also be linked to inadequate health services in general, including mental health services, attributed to many factors, the main one of which is the noticeable shortage of psychiatrists as a result of the flight of doctors from the country due to repeated waves of wars and terrorism.²⁶ A shortage of psychiatric medications, advanced facilities for psychotherapy and clinical psychology are additional factors.

Limitations of the study

The major limitation was underreporting as some patients may have hidden information about going to FHs considering their belief in those people as "sacred" persons; therefore, they may avoided revealing information related to this. On the other hand, some

patients might stick with and acquiesce to the intervention of FHs and never seek medical care, causing an underestimation of this problem.

CONCLUSION

Faith healing is prevalent in Iraq to the extent that FHs may overtake the role of psychiatrists in treating mental illnesses. Sincere efforts and collaboration of health authorities is needed to help build public awareness and momentum for behavior changes that should be adopted as a national priority to develop policy initiatives for mental health programs, and to

improve accessibility and utilization of mental health services for this vulnerable group.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

All authors contributed equally to the design, collection, and revision of references and writing of the final article.

REFERENCES

- 1. WHO. Mental disorders fact sheet No. 396. October 2014. (Accessed 11 February 2019). http://www.who.int/mediacentre/factsheets/ fs396/en/.
- 2. Bazzoui W, Al-Issa I. Psychiatry in Iraq. Brit J Psychiatry. 1966;112(489):827. https://doi.org/ 10.1192/bjp.112.489.827.
- 3. Mishra N, Nagpal SS, Chadda RK, Sood M. Help-seeking behavior of patients with mental health problems visiting a tertiary care center in north India. Indian J Psychiatry. 2011;53(3):234 – 238. doi: 10.4103/0019-5545.86814.
- 4. Kishore J, Gupta A, Jiloha RC, Bantman P. Myths, beliefs and perceptions about mental disorders and health-seeking behavior in Delhi, India. Indian J Psychiatry. 2011;53(4):324-329. doi: 10.4103/0019-5545.91906.
- 5. Grover S, Patra BN, Aggarwal M, Avasthi A, Chakrabarti S, Malhotra S. Relationship of supernatural beliefs and first treatment contact in patients with obsessive compulsive disorder: An exploratory study from India. Int J Soc Psychiatry. 2014;60(8):818 – 827. doi: 10.1177/0020764014527266.
- 6. Pal SK, Sharma K, Prabhakar S, Pathak A. Psychosocial, demographic, and treatment-seeking strategic behavior, including faith healing practices, among patients with epilepsy in northwest India. Epilepsy Behav. 2008;13(2):323 – 332. doi: 10.1016/ j.yebeh.2007.12.023.
- 7. Khalifa N, Hardie T. Possession and jinn. J Roy Soc Med. 2005;89(8):351 – 353. doi: 10.1258/jrsm.98.8.351.
- 8. Younis MS. The foundation of modern psychiatry in Iraq: exploring personal archives. AJP. 2009;20(1): 78 – 83. http://arabjournalpsychiatry.com.
- 9. Fakhr El-Islam M. Arab culture and mental health care. Transcult Psychiatry. 2008;45(4):671 – 682. doi: 10.1177/1363461508100788.

- 10. Okasha A, Karam E, Okasha T. Mental Health services in the Arab World. World Psychiatry. 2012;11(1): 52 – 54. doi: 10.1016/j.wpsyc.2012.01.008.
- 11. Gautam S, Jain N. Indian culture and psychiatry. *Indian J* Psychiatry. 2010;52(S3):309 - 313. (Accessed 15 February 2019). http://www.indianjpsychiatry.org/ text.asp?2010/52/7/309/69259.
- 12. Viswanath B, Chaturvedi SK. Cultural aspects of major mental disorders: a critical review from an Indian perspective. Indian J Psychol Med. 2012;34(4): 303 – 305. doi: 10.4103/0253-7176.108193.
- 13. World Health Organization (WHO). WHO-Aims Report on Mental Health System in Iraq. Iraq Ministry of Health (23-26). Geneva: WHO-Press (2006). Accessed 15 February 2019. http://www.who.int/ mental_health/evidence/WHO-AIMS/en/index.html.
- 14. Sharma S, Piachaud J. Iraq and mental health policy: A post invasion analysis. Intervention. 2011;9(3): 332 - 344.
- 15. Al-Hasanawi S, Sadik S, Rasheed M, Baban A, Al-Alak MM, Othman AY, et al. The prevalence and correlates of DSM-IV disorders in the Iraq Mental Health Survey (IMHS). World Psychiatry. 2009;8(2):97 - 107.
- 16. Younis MS, Al-Noaimi AS, Zaidan ZAJ, Al-Rubayie AF, Al-Farsi Y, Al-Zakwani I, et al. Clinical and demographic profile of attendees at Baghdad's walk-in psychiatric clinic. Oman Med J. 2013;28(5): 365 - 370. doi: 10.5001/omj.2013.104.
- 17. Alosaimi FD, Alshehri Y, Alfraih I, Alghamdi A, Aldahash S, Alkhuzayem H, et al. The prevalence of psychiatric disorders among visitors to faith healers in Saudi Arabia. Pak J Med Sci. 2014;30(5):1077 - 1082. doi: 10.12669/pims.305.5434.
- 18. Sorketti EA, Zainal NZ, Habil MH. The treatment outcome of psychotic disorders by traditional healers in central Sudan. Int J Soc Psychiatry. 2013;59(4): 365 – 375. doi: 10.1177/0020764012437651.

- 19. Al-Rakhawy M, Hamdi E. The attitude and use of faith healing by people with mental disorders in Upper Egypt: A community survey. *AJP*. 2010;21(1):29 – 49.
- 20. Dein S, Illaiee AS. Jinn and mental health: looking at jinn possession in modern psychiatric practice. The Psychiatrist. 2018;37(9):290 - 293. doi: 10.1192/ pb.bp.113.042721.
- 21. Rahim TA, Farhan HM, Rashid RA, Saeed BA. Schizophrenia and faith healing in Najaf/Iraq. AJBM. 2014;2(6):702 - 713.
- 22. Rayan A, Jaradat A. Stigma of mental illness and attitudes toward psychological help-seeking in Jordanian University students. RPBS. 2016;4(1): 7-14. doi: 10.12691/rpbs-4-1-2.
- 23. Shakir Z. Why the war has taken its toll on Iraqi women. The Guardian, (Accessed 11 January 2019).

- http://www.thequardian.com/lifeandstyle/thewomens-blog-with-jane-martinson/2012/dec/10/ war-taken-toll-iragi-women.
- 24. Lima A, Hoek HW, Bloom JD. The attribution of psychotic symptoms to jinn in Islamic patients. Transcult. Psychiatry. 2015;52(1):18 – 32.
- 25. Yahia M. Dealing with mental illness in the Middle East. (Accessed 16 January 2019). http://www.natureasia. com/en/nmiddleeast/article/10.1038/nmiddleeast. doi:10.1038/nmiddleeast.2012.103.
- 26. Burnham G, Lafta R, Doocy S. Doctors leaving 12 tertiary hospitals in Iraq, 2004-2007. Soc Sci Med. 2009;69(2):172 – 177. doi: 10.1016/j. socscimed. 2009.05.021.