Knowledge, attitude and health-seeking behavior among family caregivers of mentally ill patients at Assiut University Hospitals: a cross-sectional study

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Abstract

Background: Mental illness is associated with misunderstanding and unfavorable attitude worldwide. The belief in its spiritual nature made traditional healers the main service consultants for mentally ill patients. The present study is a cross-sectional study conducted among 425 main family caregivers of mentally ill patients at Assiut University Hospital. The objective of the study was to assess the caregivers’ knowledge and attitude towards mental illness as well as their health-seeking behavior for their mentally ill relatives.

Results: The studied caregivers had low scores of knowledge and attitude towards mental illness. Age of the caregivers, their education, and the type of first consulted care and aggressive behavior of the mentally ill relatives were the significant predictors of caregivers’ knowledge and attitude towards mental illness. The majority of caregivers (80.2%) sought advice for the first time from traditional healers. Traditional healers referred only 16.4% of caregivers’ mentally ill relatives to psychiatric care.

Conclusion: The studied caregivers had poor knowledge and a negative attitude towards mental illness. Traditional healers were the main consulted care. So, increasing awareness of mental illness is highly recommended.

Keywords: Knowledge, Attitude, Mental illness, Health seeking, Family caregivers, Assiut
they reach the psychiatric clinics or hospitals [12]. This route corresponds with the worldwide allocation to use the medical model for psychiatric illnesses to lessen stigma [13].

In Egypt, The National Survey of Mental Disorders estimated overall prevalence as 16.93% of the studied adult population. Mood and anxiety disorders were the commonest disorders reported in this study (mood disorders (6.43%), anxiety disorders (4.75%), and multiple disorders (4.72%)) [14].

In the Egyptian community, psychiatric disorders are facing stigmatizing attitude and often met with social rejection [15]. Traditional healers play a key role in primary psychiatric care [16]. The majority of people live in rural areas; however, psychiatric facilities located mainly in major cities. This shortage of mental health facilities enhances the inclination of people towards the use and practice of traditional healing [17].

In Upper Egypt, no previous studies explored knowledge and attitude towards mental illness among family caregivers of mentally ill patients as well as their health-seeking behavior for their relatives. The current study aimed to provide an overview of knowledge, attitude, and pattern of seeking care among family caregivers of mentally ill patients at Assiut University Hospital; Upper Egypt.

Methods
A cross-sectional study design was carried out among 425 family caregivers of mentally ill patients at Neurological and Psychiatric Hospital at Assiut University Hospitals. The parameters used to estimate the sample size included an estimated proportion of good knowledge among caregivers of 0.5, a 95% confidence level, and a 5% margin of error. The sample size was 384 caregivers and after adding10% as non-response rate, it was raised up to 425. The studied caregivers were recruited by a purposive non-probability sampling technique from both outpatient and inpatient psychiatric departments during the period from 11 March 2017 to 14 August 2017.

Caregivers who fulfilled the following criteria were included in the study after obtaining their written informed consent:

For caregivers:
- Aged 21 years old or more,
- Were the main care providers for the patients for ≥ 1 year (looking after their daily needs, supervising their medications, taking the patient to the hospital, staying with the patient during the inpatient stay and continuing contact with the hospital staff)

For patients:
- Met the principal diagnosis of any mental disorder according to the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5) [18] criteria for ≥ 1 year.

Study instruments
The enrolled participants were interviewed using a semi-structured questionnaire that included four parts:

1. The socio-demographic characteristics of the caregiver and the patient.
2. Modified Attitude towards Mental Illness questionnaire: it is composed of 17 items on three-points Likert scale (agrees, neutral, and disagree). It measures mental health literacy of the participant regarding causes of mental illness, knowledge of people with mental illness and attitude toward people with mental illness and management of people with mental illness. Higher scores indicate more literacy [19]. The English version of the scale was translated into Arabic by the researchers, and then it was revised by a psychologist and linguistic consultant.
3. The mental condition of the patient; diagnosis of mental illness (was obtained from the patient records), duration of mental illness, regular administration of prescribed medication, frequency of seeking outpatient psychiatric care and times of inpatient psychiatric hospital admission in the past 6 months, and whether previously injured or threatened to injure himself/others, and if previously committed or talked about suicide.
4. The health-seeking behavior of the studied caregivers for their mentally ill relatives; type of first sought care (whether from psychiatrist or non-psychiatric physician or traditional healers), those who sought traditional healers were asked about type of traditional healers’ management, duration of seeking care from traditional healers, and the reasons for attending psychiatric outpatient clinics after consulting traditional healers [20].

For each participant, the questionnaire filling took 20 min on average. The researcher assured that the respondents had a comprehensive understanding of the questionnaire with a full explanation of misunderstood questions. About 5% (20 caregivers) refused to complete the questionnaire and were not included in the studied sample.

Statistical analysis
The analysis was conducted using SPSS version 20. Mean standard deviation and standard error were used.
to express quantitative data, while qualitative data were presented in frequencies and percentages. Reliability was assessed for modified Attitude towards Mental Illness questionnaire (Cronbach’s alpha was 0.68). After performing bivariate analysis, linear regression model was conducted to identify the determinants of poor knowledge and negative attitude (outcome variable). The model included significant variables based on the bivariate analysis as independent variables. A significant $P$ value was considered when it was less than 0.05.

Results
As shown in Table 1, the mean age of caregivers was $45.1 \pm 14.3$, 64% of the studied sample was equal or above 40 years of age. Females represented 60.7% of the sample compared to 39.3% males. Most of the studied subjects were rural residents (86.1%) and about 70% were married. Two-thirds were not working/housewives and 63.1% were illiterates/can read and write. Parents represented the main caregivers for about half of the mentally ill patients (48.9%).

Regarding the characteristics of the studied mentally ill patients, the mean age was $32.7 \pm 12.2$. About half of the patients were females (52.9%) and singles (48.5%). Patients who were illiterates/could read and write formed 50.4%, while a small percentage (4%) completed university education. Only 2.4% were employed with maintained paid fixed salary even in their illness, while 60% were unemployed, financially supported by their own families.

Table 2 shows a description of the mental condition of the studied mentally ill patients. The common mental illnesses among the studied patients were bipolar disorder (48%) and schizophrenia/other related psychotic disorders (42%). About one-third of patients had aggressive behavior (32.2%), while patients who previously thought about, threatened, to attempt or attempted suicide were 15.5%. The duration of patients’ mental illness

| Variable                        | No. (425) | Percent |
|---------------------------------|-----------|---------|
| Age (years)                     |           |         |
| < 40 year                       | 153       | 36      |
| ≥ 40 year                       | 272       | 64      |
| Mean ± SD (45.1 ± 14.3)         |           |         |
| Gender                          |           |         |
| Male                            | 167       | 39.3    |
| Female                          | 258       | 60.7    |
| Residence                       |           |         |
| Urban                           | 59        | 13.9    |
| Rural                           | 366       | 86.1    |
| Marital status                  |           |         |
| Currently married               | 295       | 69.4    |
| Unmarried                       | 130       | 30.6    |
| Educational status              |           |         |
| Illiterate/can read and write   | 268       | 63.1    |
| Basic education                 | 35        | 8.2     |
| Secondary/technical/ University | 90        | 21.2    |
| University                      | 32        | 7.5     |
| Occupation                      |           |         |
| Does not work/housewife         | 283       | 66.6    |
| Unskilled/skilled worker/farmer | 108       | 25.4    |
| Employee                        | 25        | 5.9     |
| Professional                    | 9         | 2.1     |
| Relationship with the patients  |           |         |
| Parents                         | 208       | 48.9    |
| Brother/sister                  | 103       | 24.2    |
| Spouse (husband/wife)           | 48        | 11.3    |
| Son/daughter                    | 30        | 7.1     |
| Others*                         | 36        | 8.5     |

*Others: (grandmother, uncle/aunt, nephew, cousin)

| Variable                        | No. ($n = 425$) | Percent |
|---------------------------------|-----------------|---------|
| Diagnosis of mental illness     |                 |         |
| Bipolar disorder                | 204             | 48.0    |
| Schizophrenia and other related psychotic disorders | 182 | 42.8 |
| Depression                      | 29              | 6.8     |
| Child psychiatric disorders     | 10              | 2.4     |
| Injuring or threatening to injure anyone |           |         |
| Yes                             | 137             | 32.2    |
| No                              | 288             | 67.8    |
| Talking about, threatening, or attempting suicide |       |         |
| Yes                             | 66              | 15.5    |
| No                              | 359             | 84.5    |
| Duration of current illness in years |            |         |
| Mean ± SD (range)               | 7.93 ± 7.32(1–40)|        |
| Regular administration of prescribed medications |           |         |
| Yes                             | 415             | 97.6    |
| No                              | 10              | 2.4     |
| Frequency of seeking outpatient psychiatric care in the past 6 months |         |         |
| Mean ± SD (range)               | 2.17 ± 1.66 (0–10) |        |
| Frequency of hospital admission after seeking care in the past 6 months |       |         |
| 0                               | 242             | 56.9    |
| 1                               | 162             | 38.2    |
| 2 or more                       | 21              | 4.9     |
| Mean ± SD (range)               | 0.48 ± 0.59 (0–3) |        |
ranged from 1 to 40 years. The mean of frequencies of seeking outpatient psychiatric care in the past 6 months was 2.17. Nearly 60% of patients were not admitted to psychiatric hospitals in the past 6 months, compared to 38% who were admitted only for one time.

As regards the health-seeking behavior, the majority of caregivers (80.2%) sought advice for the first time from traditional healers for the care of their mentally ill relatives. While only 17.4% of them sought psychiatric care from the start (Fig. 1).

Table 3 shows that the mean duration of seeking care from traditional healers was 18.77 weeks. The most reported methods of traditional healers’ management for mental illness were Holy Koran/Gospel followed by hegab (talisman), and physical methods. The consulted traditional healers referred to small percentage (16.4%) of mentally ill patients to psychiatric care.

Table 4 shows the results of the modified Attitude towards Mental Illness questionnaire. The mean value of the total scale was 16.90 ± 4.22. Regarding the causes of mental illness, 63% of the study participants disagree that mental illness is genetic, while about 25% of participants believed that mental illness is caused by spirits. About 77% of study participants believed that the mentally ill patients (except a few of them) cannot tell the difference between good and bad. About one quarter (24%) disagreed with the statement of “the mentally ill should not get married” while only 9% disagreed with the statement of “mentally ill people should be prevented from walking freely in public places”. The majority of the studied subjects (82%) disagreed with the statement of “the mentally ill should live only among themselves”. About 60% disagreed with the statement of “mental illness cannot be cured”.

In the multivariable linear regression model (Table 5), the significant predictors of poor knowledge and negative attitude towards mental illness among the studied caregivers were increasing age of the caregivers (β = −0.045), not completing any level of education (β = −1.301), seeking first care from traditional healer or non-psychiatrist (β = −2.073), and presence of aggressive behavior of the mentally ill relatives (β = −1.434).

**Discussion**

Poor knowledge about mental illness and negative attitudes toward people with mental illness are widespread [4]. In the present study, the studied caregivers had poor knowledge and negative attitude toward mental illness (16.90 ± 4.22) compared to Omani relatives of mentally ill patients (23.66 ± 4.88) [19]. Similarly in Iran, the majority of the families of schizophrenic patients had a negative attitude towards mental illness (88.90%) [21].

Seeking care from traditional healers for the treatment of mentally ill patients is considered a cultural belief in the Egyptian context [22]. In the current study, about 80% of the studied caregivers sought care first from traditional healers for their mentally ill relatives. Sixty percent of outpatients attending in Ain Shams University psychiatric clinic, 59% of schizophrenic patients in Ismailia, and 46.2% of outpatients in Al Minia University Hospital consulted traditional healers as the first help before coming to psychiatrists [23] [24] [20]. In addition, 40.8% of bipolar disorder patients recruited from three different governmental and private psychiatric hospitals in Cairo sought traditional healers, of that 62.2% were before seeking psychiatric services and 37.8% after [22].

The belief in traditional healing is strongly held in the Arab world and is transmitted through generations. A study in the United Arab Emirates showed that about 60% of bipolar disorder patients attending the psychiatric clinics at Al Rashid Hospital, Dubai had visited faith healers before seeking medical services [25].
The usage of traditional medicine as a tool for the treatment of psychiatric patients is not limited to Arabic or Middle East countries. It has been reported by other studies that were conducted in Asia (e.g., Singapore) and in Europe (e.g., Norway and Germany) [26] [27] [28].

The result of study conducted in Malay stated that about 44% of Singaporean mentally ill patients consulted traditional healers as the first contact [26]. While in Norway, 50% of Sámi and 31% of Norwegian psychiatric patients used traditional and complementary healing modalities for psychological problems. It was attributed to the greater importance of religion and spirituality and dissatisfaction with the public psychiatric services especially in the Sámi community [27].

A German study at a public hospital showed that half of the psychiatric inpatients had used traditional or complementary medicine parallel to psychiatric treatment and that those patients from a migrant background had predominantly used traditional forms of healing in comparison with the German patients who had used complementary treatment forms [28].

Educational level, socioeconomic standard, the residence of the caregivers in addition to patients' behavior are the factors proved to predict caregivers' literacy and attitude towards mental illness in several studies [29] [30]. As regards to our study, the increasing age of the caregivers significantly predicted poor knowledge and negative attitude towards mental illness ($P = 0.036$, $\beta = -0.045$). In a systematic review on public attitudes towards mental illness, out of the 33 studies included in the systematic review, 32 reported positive associations between negative attitudes and age [31].

| Table 3 Pattern of traditional healers' management for the studied mentally ill patients, Assiut University Hospitals 2017 |
| Variable | No. ($n = 341$) | Percent |
| Type of traditional healers management for patient illness (either traditional healer only or both traditional and non-psychiatric physician)* |
| Holy Koran/Gospel | 339 | 99.4 |
| Plants and herb | 6 | 1.8 |
| Hegab (talisman) | 101 | 29.6 |
| Hijama (cupping) | 9 | 2.6 |
| Physical methods (including Zar and beating) | 23 | 6.7 |
| Duration of seeking care from traditional healers (weeks) |
| Mean ± SE (range) | 18.77 ± 0.35 (1–480) |
| The reasons for attending psychiatric outpatient clinics after consulting traditional services |
| Symptom progression | 215 | 63.0 |
| Symptoms did not change | 69 | 20.2 |
| Referral by traditional care providers | 56 | 16.4 |
| Symptom recurrence after improvement | 1 | 0.3 |

*Percentages are not mutually exclusive as more than one answer are included

| Table 4 Modified Attitude towards Mental Illness questionnaire of the studied caregivers, Assiut University Hospitals 2017 |
| Variable | Agree N (%) | Neutral N (%) | Disagree N (%) |
| Cause of mental illness |
| Mental illness is genetic | 70 (16.5) | 87 (20.5) | 268 (63.1) |
| Mental illness is caused by spirits | 105 (24.7) | 32 (7.5) | 288 (67.8) |
| Knowledge of people with mental illness |
| One can always tell a mentally ill person by his or her physical appearance | 386 (90.8) | 33 (7.8) | 6 (1.4) |
| The mentally ill with a number of exception cannot tell the difference between good and bad | 329 (77.4) | 82 (19.3) | 14 (3.3) |
| Very view in any mentally ill are capable of true friendship | 338 (79.5) | 76 (17.9) | 11 (2.6) |
| Attitude towards people with mental illness |
| Life has no value for the mentally ill | 155 (36.5) | 82 (19.3) | 188 (44.2) |
| The mentally ill should be prevented from having children | 182 (42.8) | 141 (33.2) | 102 (24) |
| The mentally ill should not get married | 178 (41.9) | 144 (33.9) | 103 (24.2) |
| Mentally ill people should be prevented from walking freely in public places | 176 (41.4) | 210 (49.4) | 39 (9.2) |
| One should hide his/her mentally ill from his/her family | 25 (5.9) | 60 (14.1) | 340 (80) |
| The mentally ill should not be allowed to make decisions even those concerning routine events | 53 (12.5) | 44 (10.4) | 328 (77.2) |
| Care and management of people with mental illness |
| One should hide his/her mentally ill from his/her family | 3 (0.7) | 9 (2.1) | 413 (97.2) |
| The mentally ill should live only among themselves | 10 (2.4) | 65 (15.3) | 350 (82.4) |
| Psychiatric hospitals should not be located in a residential areas | 11 (2.6) | 39 (9.2) | 375 (88.2) |
| There are people who were never in a mental hospital and are more disturbed than those who are in a mental hospital | 360 (84.7) | 42 (9.9) | 23 (5.4) |
| Mental illness cannot be cured | 95 (22.4) | 76 (17.9) | 254 (59.8) |
| Every mentally ill person should be in an institution where he/she will be under supervision and control | 322 (75.8) | 82 (19.3) | 21 (4.9) |
| Total scale mean ± SD (range) | 16.90 ± 4.22 (4–28) |

In the present study, education was a significant predictor of caregivers’ knowledge and attitude towards mental illness, where non-educated (illiterates/can read and write) caregivers had poor knowledge and negative
Table 5 Predictors of knowledge and attitude towards mental illness among the studied participants, Assiut University Hospitals 2017

| Variable | Regression coefficient | P value | 95 % CI       |
|----------|------------------------|---------|---------------|
| Age of the caregiver | -0.045 | 0.036 | -0.087 to -0.003 |
| Caregiver gender (female) | 0.596 | 0.399 | -0.791 to 1.984 |
| Caregiver marital status (single) | 0.065 | 0.926 | -1.311 to 1.441 |
| Caregiver occupation (does not work/housewife) | -0.760 | 0.287 | -2.162 to 0.642 |
| Caregiver residence (rural) | -0.235 | 0.687 | -1.382 to 0.911 |
| Caregiver education (illiterate/read and write) | -1.301 | 0.009 | -2.274 to -0.327 |
| Caregiver relation (parents) | 0.882 | 0.169 | -0.376 to 2.139 |
| Age of patient | -0.004 | 0.864 | -0.046 to 0.039 |
| Patient gender (female) | 0.025 | 0.951 | -0.789 to 0.840 |
| Injuring (yes) | -1.434 | 0.002 | -2.328 to -0.540 |
| Suicide (yes) | -0.444 | 0.440 | -1.573 to 0.684 |
| First sought care (traditional healer or non-psychiatrist) | -2.073 | < 0.001 | -3.100 to -1.047 |
| Inpatient admission (yes) | -0.139 | 0.739 | -0.956 to 0.679 |
| Duration of current illness | -0.055 | 0.074 | -0.116 to 0.005 |
| Diagnosis of mental illness (schizophrenia and other related psychotic disorders) | -0.377 | 0.340 | -1.154 to 0.400 |

R square = 0.155
Reference groups: males, ever married, work, urban, educated at least primary education, other than parents, no injury, no suicide, psychiatrist, not inpatient admitted, other than schizophrenia

Knowledge and attitude towards mental illness of the studied subjects were not predicted by the diagnosed type of mental illness of their relatives (P = 0.340, ß = -0.377). This is consistent with a study of knowledge, attitude, perception, and belief (KAPB) of mentally ill patients’ relatives towards mental illness in India. That study found that KAPB of the relatives was not associated with the patient diagnosed illness (P < 0.05) [29]. Controversy with a Sweden study where public negative attitudes and social distance were significantly higher towards psychotic patients than depressed ones [37].

In the present study, aggressive behavior of the mentally ill patient was a predictor of poor knowledge and negative attitude of the studied caregivers towards mental illness (P = 0.002, ß = -1.434). An Indian study compared the literacy and attitude of the family caregivers of mentally ill patients towards mental illness over a 23-year period between 1993 and 2016. The study revealed that the area of abnormal behaviors (non-restrained aggressive behavior, weak cognitive control, and bizarre behavior) showed a worsening of negative attitudes [30].

Among the studied caregivers, seeking psychiatric care from the start was a significant predictor of good knowledge and a positive attitude towards mental illness (ß = 2.073, P = 0.000). In concordance with this finding, a meta-analysis of twenty-seven studies among general population revealed that participants with a negative attitude towards mental health help-seeking and stigmatizing attitudes towards people with a mental illness were associated with less active psychiatric help-seeking [38].

Conclusion
The studied caregivers had poor knowledge and negative attitude towards their mentally ill patients’ relatives. The majority of them consulted traditional healers as first help for the care of their mentally ill relatives. The consulted traditional healers referred only a small percentage of patients to psychiatric care. Thus, it is highly recommended to increase public awareness about the nature of mental illness and its management that could promote seeking psychiatric care from the start and decreasing the role of traditional healers.

More focus should be implied on facilitating traditional healers to recognize the severity of mental illness and subsequently refer mentally ill patients to the psychiatrist on time. A further study evaluating the impact of caregivers’ knowledge, attitude and pattern of seeking health care on the patient illness outcome should be conducted. Psychiatric institutions should provide educational programs to family caregivers of mentally ill patients to improve their knowledge and attitude towards mental illness and to enable them to cope with the aggressive behavior of their mentally ill relatives and support more control on their relatives’ illness.

attitude towards mental illness (ß = -1.301, P = 0.009). Similar findings were reported among the public in Nigeria and Greece. In Nigeria, literate respondents were seven times more likely to exhibit a positive attitude towards the mentally ill as compared to non-literate subjects [32]. Grecian respondents with a high level of education had a favorable attitude towards mental illness and believed that the etiology of mental illness is biological and not God’s punishment [33].

Caregivers’ residence had no role in their knowledge and attitude towards mental illness in the current study. The residence of the family caregivers had a mixed relationship with their knowledge and attitude towards mental illness in previous studies. Rural residence was associated with poor knowledge and more negative attitude towards mentally ill persons in India, Nigeria, and Ethiopia [34] [35] [36]. This was attributed to a lower level of literacy and more belief in the spiritual origin of mental illness in rural areas [36]. However, Chinese rural residents had more positive attitudes toward people with mental disorders than urban ones. One possible explanation for this evidence is that rural communities may be more tolerant of unusual behaviors, typical of people with mental disorders.
Limitations of the study
The study was conducted at a psychiatric hospital in Upper Egypt and used purposive sampling. This limits the generalizability of the results to all family caregivers of mentally ill patients in the Egyptian community. Moreover, the cross-sectional nature of the study mitigates the inference of the causal relationship between determinants and outcomes.

Abbreviations
DSM-5: Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition; KAPB: Knowledge, attitude, perception and belief

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Ethical approval and consent to participate
Before starting data collection, approvals to conduct the study were obtained from the Ethical Review Committee of Assiut Faculty of Medicine and the administrative authority in Neurological and Psychiatric Hospital at Assiut University [39]. Prior to the interview, written informed consent was obtained from the literate participants and was signed in the presence of a witness for illiterate ones. Privacy and secrecy of all data were assured by ensuring the anonymity of the questionnaire, interviewing the participant separately in a closed room and keeping data files in a safe place.

Authors’ contributions
RH contributed in study design, interpretation of the data and preparing and revising the manuscript. GS contributed in study design, collected, analyzed, interpreted the data and prepared the main manuscript. DM contributed in study design, analyzing, interpretation of the data and writing the manuscript. GS contributed in analyzing, interpretation of the data and revising the manuscript. All authors approved the final manuscript.

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The data sets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

Consent for publication
Not applicable

Competing interests
The authors declare that they have no competing interests.

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