

# Knowledge, Attitude, And Stigma Perception Of The General Population Towards People With Mental Illness: A Cross-Sectional Study From Saudi Arabia

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## Abstract

**Background:** Interest in studying the personal attitude and stigma perception towards mental health concerns has grown substantially over the past few decades. However, such data from the general population of Saudi Arabia is lacking. This cross-sectional study aimed to investigate the attitude, knowledge, and stigma perception of the general population in Saudi Arabia towards mental illnesses and people with mental illnesses.

**Methods:** A pre-structured interview questionnaire with Cronbach's- $\alpha$  value of 0.79 was used to measure the individual's demographic data, knowledge, personal attitude, and stigma perception towards mental illnesses and people with mental illnesses.

**Results:** The study result showed 44.2 percent of participants had an adequate knowledge level, while 55.8% had a poor knowledge level regarding mental illness. Association of demographic information with knowledge level showed that good knowledge level was found significantly higher ( $p=0.028$ ) in females (47.6%) vs. males (38.5%), significantly higher ( $p=0.001$ ) in university graduates (48.9%) vs. those with below secondary educational level, significantly higher ( $p=0.001$ ) in participants graduated from the colleges of health sciences (61.6%) vs others (34.2%), and significantly higher ( $p=0.001$ ) in participants with family member complaining of psychological disorders compared to those without (35.8%). Further, it was found that 25.5% of male participants had a positive attitude compared to 11.4% of females ( $p=0.001$ ). Also, positive attitude was significantly higher among those with no family member complaining of psychological disorder than those who had (23.4% vs. 2%,  $p=0.001$ ).

**Conclusion:** The study findings provided an overview of the attitude, knowledge, and stigma perception of the general population of Saudi Arabia towards mental illnesses and people with mental illnesses.

**Keywords:** Personal attitude, knowledge, mental illness, Saudi Arabia, stigma.

## 1. Introduction

Mental health is an integral and essential part of good health. World Health Organization (WHO) (2004) states that mental health is a condition in which individuals identify their capabilities and can cope with stress in life, perform productively, and contribute towards the community. It has been documented that globally one in four people are associated with mental health concerns (Mihailescu & Neiterman, 2019). Multiple social, biological, and psychological factors, including rapid social change, gender discrimination, stressful work environments, social exclusion, physical ill-health,

unhealthy lifestyles, and human rights violations, have been associated to poor mental health (Murphy, 1961; Rajgopal, 2010; DE Hert et al., 2011; Mfoafo-M'Carthy & Huls, 2014; Tanihata et al., 2015; Richter & Hoffmann, 2019; Vigod & Rochon, 2020). Observations from these different related studies reflect that individuals are more vulnerable to mental health problems with specific personalities and psychological factors. In addition to these factors, genetic factors also contribute significantly to mental health conditions (Hyman, 2000). Mental health and well-being are critical issues contributing to the efficiency of communities and the quality of life of people. (Connell, Brazier, O' Cathain, Lloyd-Jones, & Paisley, 2012; Sultan, Choudhary, & Parganiha, 2017; Sultan, Pati, Choudhary, & Parganiha, 2018; Sultan, Taj, Choudhary, & Parganiha, 2020).

Mental health concerns are very prevalent

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throughout the world, including Saudi Arabia (Alamri, 2016). A few reports from Saudi Arabia showed about one-fifth of primary-care clinic attendees are associated with mental health disorders (Al-Khathami & Ogbeide, 2002; Almutairi, 2015). Almutairi (2015) has also documented rates as high as 48% in specific populations of Saudi Arabia. Al-Khathami & Ogbeide (2002) conducted a cross-sectional epidemiological study including 609 Saudi adult patients. The authors found that demographic and clinical characteristics, that is, age, gender, and some chronic medical problems, were meaningfully linked with mental illnesses. Authors reported that the prevalence of mental concerns was significantly higher in younger age groups and women than men. The percentage was also high in widow's 43.8% and divorce cases 40%, respectively. The occurrence in patients with diabetes, hypertension, and bronchial asthma was 16%, 22.2%, and 28.3%, respectively.

Stigma is conceptualized to be attributes of persons or institutions that elicit negative attitudes and opinions and often lead to discrimination against the people or institutions. A great deal of research has been done on internalized stigma across many mental illnesses. Results have consistently shown that stigma leads to discrimination, segregation, and significantly lower independence and self-efficacy (Brohan, Slade, Clement, & Thornicroft, 2010; Pedersen & Paves, 2014). It has been found that stigmatization and psychiatric labeling are more distressing than the mental illness itself and have been found to negatively impact the associated person's work status and economic condition (Link, 1982; Kurihara, Kato, Sakamoto, Reverger, & Kitamura, 2000). These authors also reported that a positive personal attitude towards people with mental illness (PWMI) positively correlates with proper community care. Several studies have reported that demographic variables such as social class, age, levels of schooling, and profession significantly correlate with community attitudes towards PWMI (Bhugra, 1989; Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear, 1981; Wolff, Pathare, Craig, & Leff, 1996a). The younger age and people with higher education and social class levels have been associated with a more positive attitude towards PWMI (Bhugra, 1989). Other important factors such as culture, religious belief, and previous contact with PWMI can influence the attitude towards mentally ill persons (Angermeyer & Matschinger, 1997; Lam, Chan, & Chen, 1996; Roth, Antony, Kerr, & Downie, 2000).

The issue of attitude and stigma towards mental

illnesses in Saudi Arabia, so far has not received enough attention, and studies are still scarce on this subject. Thus, this present study aimed to determine the knowledge, attitude, and stigma perception related to mental illnesses and PWMI among people of Saudi Arabia.

## Literature Review

Different studies conducted in the USA and Europe have seen individual's beliefs regarding PWMI and repercussions as discrimination. On the contrary, few studies have examined the prevalence of stigma among people from Saudi culture. Most of the available data is attributed to hospital audits or attitudes of health care workers but not from the general population (AbuMadini & Rahim, 2002; Alnamlah, 2006; El-Gilany, Amr, & Iqbal, 2010; Shahrour & Rehmani, 2009). In a recently published study, stigma, knowledge, and behaviors of attendees of outpatient clinics towards PWMI in Jeddah city were investigated. It was found that more than half of the participants still have pessimistic and autocratic attitudes toward PWMI, and Stigma against PWMI was higher among males, older people, and people with low education and lower income (Ibrahim et al. 2020). In another study on Saudi residents about the attitudes toward mental illness and mentally ill persons, 87.5% of the participants reported a lack of knowledge about the nature of mental illnesses, 59% reported negative perception, 66.5% reported negative attitudes to mentally ill persons, and 54.5% reported negative attitudes to professional help-seeking (Abolfotouh et al. 2019).

## 2. Methods and material

### 2.1. Study design and selection of participants

A study of cross-sectional nature was carried out targeting the general population from Aseer region of Saudi Arabia. These participants who lived in Aseer region for the last two years, aged 18 years or more, and had no psychological disorders agreed to participate in the study. Two stages cluster sampling techniques were used for participant recruitment. Firstly, two cities from the Aseer region were chosen randomly (Abha, the providence, and Khamis Mushait). Secondly, the study sample was consecutively included and interviewed at public areas in the included settings with high attendance rates (Malls, Gardens, and Markets).

### 2.2. Data collection

A semi-structured interview questionnaire was used to collect data developed after an in-depth

literature review and expert consultation. The questionnaire's validity and reliability were done using a pilot of 30 persons who were not a part of the final study. The questionnaire was precise and reliable (Cronbach's- $\alpha$  was 0.79), and all modifications were considered. The questionnaire included data regarding sample demographic characteristics, knowledge regarding mental illness, personal attitude towards persons with mental illness, and stigma perception.

### 2.3. Data processing and analysis

Once the data was collected, it was reviewed, coded, and analyzed using statistical software IBM SPSS version 22 (SPSS, Inc. Chicago, IL). Two-tailed tests were performed for all statistical analyzes. Variables that showed a  $p$ -value less than 0.05 were statistically significant. For knowledge related to mental illness, one point was scored for each correct answer, and for different items, a separate score for the total sum was calculated. A patient who scored less than 60 percent (4 points) of the maximum score was considered to have poor awareness whereas, if he had a score of 60 percent (5 points or more) of the maximum score was considered to have good awareness. The composite mean of all attitude items was calculated, and the participant was considered to have a negative attitude if the composite mean of all items was less than 2, neutral if composite mean was between 2 and 3, while those who had composite mean of 3 were considered to have a positive attitude. Descriptive analysis was performed based on the incidence and percent distribution of all variables, including demographic data, knowledge items, and participants' attitudes. Cross tabulation was used to assess the distribution of participant's knowledge and attitude regarding mental illness according to their personal data. Relations were tested using the Pearson chi-square test.

### 2.4. Ethical clearance

This study got its ethical clearance from the Research Ethics Committee of King Khalid University. Verbal, as well as written consent, were taken from all the participants. The purpose of the survey was conveyed to all participants.

## 3. Results

### 3.1. Demographic information

Table 1 shows the demographic details of the participants. The study sample consisted of a total of 626 participants who completed the questionnaire. The age of the participants ranged from 18 to 54 years, having a mean age of  $34.8 \pm$

11.9 years. The exact 395 (63.1%) participants were females, and 377 (60.2%) were single while 238 (38%) were married. About 88% of the married participants had children. As for educational level, 22% of the participants had an education level below university, while 74.4% were university graduates. Among university graduate participants, 47.2% were graduates from colleges of health sciences. Nearly 199 (31.8%) of the participants reported having someone in the family with psychiatric illness.

### 3.2. Participant's awareness regarding mental illness and its treatment

Table 2 illustrates the results of participant's awareness regarding mental illness and its treatment. The exact 58.6% of the participants know that mental illness is like other organic diseases, while 67.9% refused magic or devil's eye as causes for mental illness. Also, 94.6% of the participants know that psychological conditions may be attributed to psychological stress in daily life and calamities, and 85.1% know about medical treatment for psychiatric disorders. Genetics as a cause of the psychiatric illness was reported by 44.2% of the study participants. Also, 58% of the participants know that psychiatric patients could have a normal life. About 277 (44.2%) participants had a good knowledge level regarding mental illness.

### 3.3. Participant's attitude and stigma towards mental illness

The results of participant's attitudes and stigma towards mental illness are presented in Table 3. It was found that 88.8% of the participants refused to consider a person with mental illness is insane, 87.2% refused the concept that persons with mental illness should be isolated, while 74.3% refused to be ashamed to mention that members of their families are suffering from a psychiatric illness. Also, 60.4% of the participants denied being afraid of someone with a psychiatric illness, and 55.8% refused that mental illness is worse than cancer, while only 3.2% refused that if one of their acquaintances has a psychiatric condition, they will recommend it to a psychiatrist. Generally, 6.1% of the participants had a negative attitude towards persons with mental illness, while 16.6% had a positive attitude.

### 3.4. Distribution of participant's knowledge regarding mental illness by their personal data

Table 4 presents the distribution of participant's

knowledge regarding mental illness by their personal data. Good knowledge level was detected among 47.6% of female participants compared to 38.5% of males with reported statistical significance ( $p=0.028$ ). Also, 48.9% of university graduate individuals had adequate knowledge level about mental illness compared to 24.1% of those below secondary educational level ( $p=0.001$ ). Good knowledge level was detected among 61.6% of those who have medical education versus 34.2% of others ( $p=0.001$ ). Also, 62.3% of participants with family members complaining of psychological disorders had a good knowledge of mental illnesses compared to 35.8% of those without ( $p=0.001$ ).

### 3.5. Participant's attitude towards mental illness by their personal data

Table 5 illustrates the distribution of participants' attitudes towards mental illness by their personal data. It was found that 25.5% of male participants had a positive attitude compared to 11.4% of females ( $p=0.001$ ). Also, positive attitude was significantly higher among those with no family member complaining of psychological disorder than those who had (23.4% vs. 2%, respectively;  $p=0.001$ ).

## 4. Discussion

Interest in studying the personal attitude and stigma perception towards mental health concerns and associated individuals has grown substantially throughout the world over the past few decades (Alamri, 2016; Al-Khathami & Ogbeide, 2002; Almutairi, 2015). Irrespective of this considerable global interest, there is still a lack of significant data that could reflect the general population's knowledge and awareness, personal attitude, and stigma perception towards the individuals affected with mental illnesses in Saudi Arabia. The findings of the current study provide an overview of the same.

Concerning knowledge and awareness of people regarding mental illnesses, several studies have reported that most people do not have adequate knowledge and are not familiar with the causes and treatments of mental illnesses (Puspitasari, Garnisa, Sinuraya, & Witriani, 2020; Salve, Goswami, Sagar, Nongkynrih, & Sreenivas, 2013; Yin, Wardenaar, Xu, Tian, & Schoevers, 2020). This study found that 55.8% of the participants from Saudi Arabia had inadequate knowledge regarding mental illness, reflecting efforts needed to improve community knowledge and awareness regarding mental illness and associated people. Some other related studies have also reported a lack of

awareness, knowledge, and understanding of mental illnesses among Saudi residents (Almutairi, 2015; Alsubaie, Almathami, Alkhalaf, Aboulyazid, & Abuhegazy, 2020; Ashour et al., 2021). In addition to these studies, other findings reflected a significant variation in the percentage of people with factual knowledge and awareness throughout the globe (Benti, Ebrahim, Awoke, Yohannis, & Bedaso, 2016; Sadik, Bradley, Al-Hasoon, & Jenkins, 2010; Salve, Goswami, Sagar, Nongkynrih, & Sreenivas, 2013). Mental illness conceptions of laypersons tend to vary dramatically across the world. There is still inconsistency in understanding what it is and what causes mental illness among people. This study found that more than half of the representative population know mental illness as an organic disease, and about 45% take genetics as a cause of the mental illness. About 32% of the participants think magic or the devil's eye is responsible for causing mental illness. We also found that the majority (about 95%) of the participants know that psychological conditions may be attributed to psychological stress in daily life and calamities. In comparison, other conducted studies have reported different perceptions of different people across the world. For example, studies have reported that people think mental illness is associated with God's will (Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Wesselmann & Graziano, 2010), a sign of weakness (Schnittker, Freese, & Powell, 2000), or a result of upbringing (Kuppin & Carpiano, 2006). A study from Pakistan by Waqas et al. (2014) showed that about 32% of the participants consider mental illness caused by black magic.

Studies have found that people across the globe had different explanations regarding treatment options for mental illness. This study determined that about 85% know about the medical treatment for mental illnesses. However, the percentage of people with awareness of treatment for mental illnesses can vary throughout the world. Behavioral Risk Factor Surveillance System, Atlanta, Ga, USA, reported that 80% of the adult population in the state is aware of the treatment of mental illnesses (BRFSS, 2012). Ibrahim et al. (2020) reported that about 60% and 86% of the participants know that mental illnesses can be treated with proper medication and psychotherapy, respectively.

This study also determined the attitude and stigma of people of Saudi Arabia towards mental illness and associated people. People with mental illness are often labeled as different than others. They are viewed negatively by other individuals, and it has been found that this negative attitude is

not limited to people who are far from the medical field but also associated with health professionals (Kassam, Glozier, Leese, Henderson, & Thorncroft, 2010; Picco et al., 2019). In this study, we found that only about 6% of the participants had a negative attitude towards persons with mental illness, while 16.6% had a positive attitude, and the remaining 73.3% showed a neutral attitude. In another local study, Abolfotouh et al. (2019) reported 66.5% of Saudi adults living in the central area of Saudi Arabia to have negative perceptions regarding people associated with mental illness. The big difference in the results between the current study and (Abolfotouh et al., 2019) is surprising and could be attributed to differences in questionnaires and the sample characteristics.

Globally, studies have reported that poor perception towards mental illnesses and associated people is associated with various socio-demographic and other factors (Crabb et al., 2012; Nsereko et al., 2011; Sadik, Bradley, Al-Hasoon, & Jenkins, 2010; Salve, Goswami, Sagar, Nongkynrih, & Sreenivas, 2013). Several studies have reported that demographic variable correlates with knowledge and community attitude towards mentally ill people (Ashour et al., 2021; Bhugra, 1989; Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear's, 1981; Wolff et al., 1996a). We found that good knowledge level was significantly associated with females compared to males, university graduate participants compared to those with less educational level, participants with medical education compared to others, and participants with family members complaining of psychological disorders compared to others without. These findings agree with few previously conducted studies that also reported the demographic correlates of mental illness (Bhugra, 1989; Brockington, Hall, Levings, & Murphy, 1993; Taylor & Dear's, 1981; Wolff, Pathare, Craig, & Leff, 1996a). The younger age and people with higher education and social class levels have been associated with a more positive attitude towards PWMI (Bhugra, 1989). Male participants were found to have a significantly higher percentage of a positive attitude as compared to females. Also, a positive attitude was markedly higher among those with no family member complaining of psychological disorder than those who had. These findings of our study corroborate with the observation of other studies which have reported significant gender differences in personal attitude towards PWMI (Abi Doumit et al., 2019; Ewalds-Kvist, Högberg, & Lützn, 2013; Savrun et al., 2007). These studies have reported a significant

association of males with a positive attitude toward mentally ill persons. Several other factors such as culture, religious belief, and previous contact with PWMI can influence the attitude towards mentally ill people (Lam, Chan, and Chin, 1996; Angermeyer & Matschinger, 1997; Roth, Antony, Kerr, & Downie, 2000). Contact with the mentally ill is an important factor, but the nature and quality of contact could be more important (Wolff, Pathare, Craig, & Leff, 1996b; Ng & Chan, 2000). It has been speculated that direct contact, closeness to, and friendship with the mentally ill usually contribute to a more compassionate and tolerant attitude towards mentally ill people (Hannigan, 1999; Murray & Steffen, 1999).

### 5. Study Limitations

This study has some limitations. The cross-sectional nature of the data does not allow for a strict casual interpretation of the results, and using a self-administered questionnaire may bias the information. Another limitation, there might be a limit to the generalizability of the study result to the whole of Saudi Arabia as it is conducted in two cities of the same province. Moreover, comparisons of the results of this study with other studies should also be interpreted with caution and should take into account differences in methodology and context.

### 6. Conclusion and Implication

The current study's findings provide an overview of the public knowledge, attitude, and stigma perception towards mental illnesses and PWMI. The study highlighted a lack of knowledge related to mental illness in the people of Saudi Arabia. Moreover, this study provided an overview of demographic factors associated with people's knowledge, attitude, and stigma perception. The study implications invite different health policy planners to plan to eradicate the stigma attached to mental illness in society and increase social acceptance of PWMI. Such initiative will reduce the stigma and improve psychiatric services, thus resulting in better living conditions for these patients. In-depth analysis on the contributing factor to social stigma towards mental illnesses and the impact of internalized stigma on seeking professional help should be studied in the future.

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**Institutional Review Board Statement:** The study was conducted in accordance with the guidelines of the Declaration of Helsinki, and approved by King Khalid University Research Ethics Committee.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data set used and analyzed during the study is available from the author upon reasonable request.

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Table 1. Demographic data of study participants (n=626).

Personal data	No	%
Age in years		
< 40	541	86.4%
> 40	85	13.6%
Gender		
Male	231	36.9%
Female	395	63.1%
Marital status		
Single	377	60.2%
Married	238	38.0%
Divorced / widow	11	1.8%
In case of marriage, do you have children?		
Yes	218	87.6%
No	31	12.4%
Level of education		
Below secondary	29	4.7%
Secondary	108	17.3%
University	466	74.4%
Postgraduate	23	3.7%
In case of university study		
Medical Education	231	47.2%
Other	258	52.8%
Is there anyone in the family with a psychiatric illness?		
Yes	199	31.8%
No	427	68.2%

Table 2. Participant's awareness regarding mental illness and its treatment.

Knowledge regarding psychiatric disorders	No	%
Do you think mental illness is like other organic diseases?		
Yes	367	58.6%
No	215	34.3%
I do not know	44	7.0%
Do you think the cause of mental illness is magic or devil-eye?		
Yes	113	18.1%
No	425	67.9%
I do not know	88	14.1%
Do you think that psychological stress in daily life and calamities may cause psychological illness?		
Yes	592	94.6%
No	15	2.4%
I do not know	19	3.0%
Do you think genetic may be a cause of psychiatric illness?		
Yes	277	44.2%
No	250	39.9%
I do not know	99	15.8%
Do you think there is a medical treatment for psychiatric illnesses?		
Yes	533	85.1%
No	53	8.5%
I do not know	40	6.4%
People with mental illness can live a normal life?		
Yes	363	58.0%
No	187	29.9%
I do not know	76	12.1%
Overall knowledge level		
Poor	349	55.8%
Good	277	44.2%

Table 3. Participant's attitudes and stigma towards mental illness.

Attitude items	Disagree		Disagree		Agree	
	No	%	No	%	No	%
Are you afraid of someone with a psychiatric illness?	378	60.4%	64	10.2%	184	29.4%
Are you ashamed to mention that a member of your family is suffering from a psychiatric illness?	465	74.3%	45	7.2%	116	18.5%
Do you think a person with a psychiatric illness should be isolated?	546	87.2%	44	7.0%	36	5.8%
Do you think a person with mental illness is insane?	556	88.8%	44	7.0%	26	4.2%
Do you think a person with mental illness is reliable?	155	24.8%	110	17.6%	361	57.7%
Will you recommend a psychiatric patient be employed if he has the opportunity?	169	27.0%	167	26.7%	290	46.3%
Do you mind taking care of your children with someone who has a psychiatric illness?	307	49.0%	106	16.9%	213	34.0%
Will you accompany someone with a psychiatric illness?	125	20.0%	95	15.2%	406	64.9%
Do you think a person with mental illness is susceptible to criminality?	126	20.1%	152	24.3%	348	55.6%
Do you think mental illness is worse than cancer?	349	55.8%	98	15.7%	179	28.6%
If one of your acquaintances has a psychiatric illness, will you recommend him/her to a psychiatrist?	20	3.2%	19	3.0%	587	93.8%
<b>Overall attitude</b>			<b>Negative</b>	<b>Neutral</b>	<b>Positive</b>	
	38	6.1%	484	77.3%	104	16.6%

Table 4. Distribution of participant's knowledge regarding mental illness by their personal data.

Personal data	Knowledge level				p-value
	Poor		Good		
	No	%	No	%	
Age in years					
< 40	304	56.2%	237	43.8%	0.575
> 40	45	52.9%	40	47.1%	
Gender					
Male	142	61.5%	89	38.5%	0.028*
Female	207	52.4%	188	47.6%	
Marital status					
Single	208	55.2%	169	44.8%	0.928
Married	135	56.7%	103	43.3%	
Other	6	54.5%	5	45.5%	
Level of education					
Below secondary	22	75.9%	7	24.1%	0.001*
Secondary	77	71.3%	31	28.7%	
University / above	250	51.1%	239	48.9%	
In case of university study					
Medical Education	94	38.4%	151	61.6%	0.001*
Other	196	65.8%	102	34.2%	
Had someone in the family with a psychiatric illness					
Yes	75	37.7%	124	62.3%	0.001*
No	274	64.2%	153	35.8%	

Pearson  $\chi^2$  test ; \*  $p < 0.05$  (significant)

Table 5. Distribution of participant's attitude towards mental illness by their personal data.

Personal data	Attitude						P-value
	Negative		Neutral		Positive		
	No	%	No	%	No	%	
<b>Age in years</b>							
< 40	31	5.7%	421	77.8%	89	16.5%	0.621
> 40	7	8.2%	63	74.1%	15	17.6%	
<b>Gender</b>							
Male	9	3.9%	163	70.6%	59	25.5%	0.001*
Female	29	7.3%	321	81.3%	45	11.4%	
<b>Marital status</b>							
Single	25	6.6%	286	75.9%	66	17.5%	0.703
Married	13	5.5%	188	79.0%	37	15.5%	
Other	0	0.0%	10	90.9%	1	9.1%	
<b>Level of education</b>							
Below secondary	3	10.3%	20	69.0%	6	20.7%	0.122
Secondary	1	.9%	87	80.6%	20	18.5%	
University / above	34	7.0%	377	77.1%	78	16.0%	
<b>In case of university study</b>							
Medical Education	19	7.8%	193	78.8%	33	13.5%	0.226
Other	15	5.0%	231	77.5%	52	17.4%	
<b>Is there anyone in the family with a psychiatric illness</b>							
Yes	29	14.6%	166	83.4%	4	2.0%	0.001*
No	9	2.1%	318	74.5%	100	23.4%	
<b>Knowledge level</b>							
Poor	12	3.4%	262	75.1%	75	21.5%	0.001*
Good	26	9.4%	222	80.1%	29	10.5%	

Pearson X2 test; \* $p < 0.05$  (significant)