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Healthcare students' perception about mental illnesses– A cross-sectional study

Muhammad Zahid Iqbal[1], **Ahmed A. Albassam**[2], **Ziyad S. Almalki**[2], **Salah-Ud-Din Khan**[3], **Muhammad Shahid Iqbal**[2]✉

[1]Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, AIMST University, 08100, Bedong, Kedah Darul Aman, Malaysia

[2]Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam bin Abdulaziz University, Al-kharj, 11942, Saudi Arabia.

[3]Department of Biochemistry, College of Medicine, Al Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia

✉**Corresponding author**

Department of Clinical Pharmacy, College of Pharmacy, Prince Sattam bin Abdulaziz University,
Al-kharj, 11942, Saudi Arabia;
Email: m.javed@psau.edu.sa

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ABSTRACT

Objective: This study evaluated perceptions of healthcare students of a university regarding mental illnesses (MIs). *Methods:* The convenience sampling method was adopted to target the study participants and to obtain the data. A self-developed and validated research questionnaire was used to collect the data. Descriptive and inferential statistics were performed using the Statistical

Package for Social Sciences (SPSS) version 24.0. *Results:* A total of 284 students from three healthcare faculties were involved in the study. Around 95 (33.5%) students were from the faculty of medicine, 94 (33.1%) from the faculty of pharmacy, and 95 (33.5%) were from faculty of dentistry who participated in the study. Out of 284 study participants, females were 180 (63.4%), and males were 104 (36.6%). The majority of the respondents (>60%) had an appropriate perception of MIs. *Conclusion:* This study observed proper awareness and positive perception of MIs among healthcare university students.

Keywords: mental illnesses, MIs, healthcare, students, university

1. INTRODUCTION

Mental illness (MI) is a disorder of the brain, which causes many instabilities in behaviors, that may lead to an incapability to manage the ordinary demands of life (Kamarulzaman and Jodi, 2018). Mental health may comprise a person's emotional, psychological, spiritual, and social wellness (Keyes, 2002). Mental health can also affect people's thinking, feeling, and actions (Fredrickson and Losada, 2005). There are more than 200 forms and disorders of various established mental illnesses (MIs). Some of the common diseases are clinical depression, bipolar disorder, dementia, eating disorders, attention deficit hyperactivity disorder (ADHD), schizophrenia, and anxiety disorders (Ollendick *et al.,* 2008). MIs symptoms may include changes in mood, insomnia, develop suicide ideation, non-suicide self-injury, substance consumption, personality, personal habits, and social withdrawal (Giang *et al.,* 2006).

Mental health wellness is essential in every phase of life. Sometimes MIs only appear in geriatric age, but sometime they may appear in teenagers as well (Hardy and Castonguay, 2018). When assessing MIs among university students, it is critical to identify the age, onset, and current psychopathology (Pedrelli *et al.,* 2015). Specifically, early age of onset of any mental health disorder is associated with a more unsatisfactory outcome and may be associated with a different presentation of a later onset (Zisook *et al.,* 2004). Multiple studies have shown that childhood-onset mood disorders are linked to longer episode duration of all types of Mis (Kessler *et al.,* 2001).

Anxiety disorders are the most predominant problems among college and university students (Mustafa, 2020; Ajayi & Idiong, 2017). According to a study, the prevalence of anxiety disorders was around 11.9 % among teenage students (Levinson *et al.,* 2007). Therefore, the students' perception of MIs must be appropriate to side step any problem later on in their life. Moreover, the perception of medical, dental, and pharmacy students is essential as they are the future healthcare providers (Mori, 2000). In Malaysia, there is a lack of research on the evaluation of the perception of university healthcare students about MIs. Throughout the literature search, no data concerning the perception of university students about MIs were found in Malaysia. Therefore, the current study was planned to evaluate the perception of MIs among medical, dental, and pharmacy students in a private medical university.

2. MATERIALS AND METHODS

Study approval, type, duration and study participants

The ethical approval for the current study was taken from the Institutional Medical Ethics Committee of the university. A cross-sectional study was conducted among university students using a convenience sampling technique to target the study participants. The study duration was from Sep 2016 until May 2018.

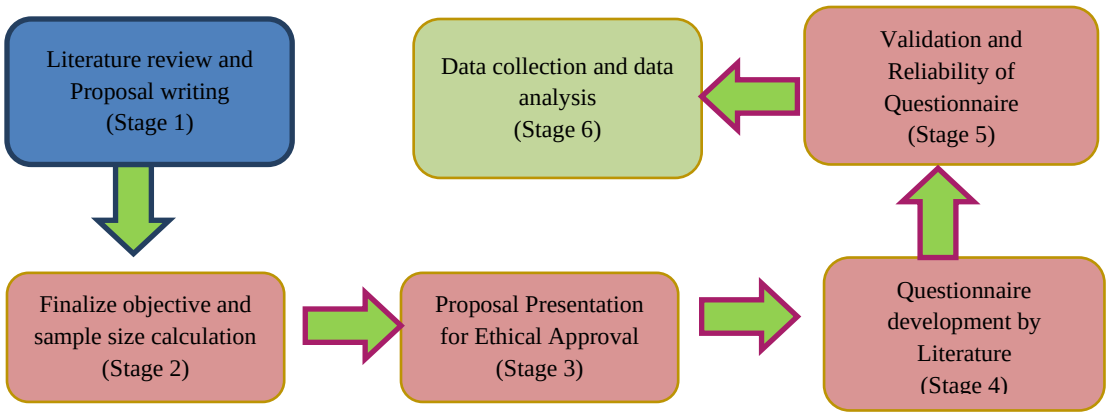

Figure 1 Flow chart of the study

Study sample size, instrument and data collection

A stratified convenient sampling technique was used to calculate the sample size for the present study. The targeted sample size from different healthcare faculties in university was 300 participants. Informed consent was taken from all the willing participants for the study. Data were collected using a research instrument that was developed after an extensive literature review. The reliability and validity of the research instrument were also performed (figure 1). The research was approved by the ethics committee of the university. However, participation was voluntary.

Statistical analyses

Data analyses were carried out using Statistical Package for Social Science (SPSS) version 24.0 and Microsoft Excel (Microsoft Corp., Redmond, WA, USA). Means and standard deviations (SD) were calculated for the continuous variables, whereas the frequencies and percentages were presented for the categorical variables.

3. RESULTS

Demographic particulars of the study participants

Table 1 shows the various demographic characteristics of the study participants. A total of 284 study participants, i.e. university students from various faculties, were recruited to take part in the study. According to the results obtained, females were 180 (63.4%), and males were 104 (36.6%). Among the total study participants, there were 95 (33.5%) students from the faculty of medicine, 94 (33.1%) from the pharmacy, and 95 (33.5%) from dentistry participated in the study. Hostlers were 143 (50.4%) and non-hostlers were 141 (49.6%).

Table 1 Demographic particulars of study participants (N =284)

Variables	N	%
Year of education		
Pre-final	143	50.4
Final	141	49.6
Gender		
Male	104	36.6
Female	180	63.4
Age (Years)		
< 25	277	97.5
≥ 25	7	2.5
Race		
Malay	3	1.1
Chinese	231	81.3
Indian	46	16.2
Others	4	1.4
Family		
< 3 members	42	14.8
3-6 members	209	73.6
> 6 members	33	11.6

There were five diverse questions regarding MIs asked from the study participants. They are presented in Table 2.

Table 2 Perception questions regarding MIs

No.	Questions
1	Most of the healthcare students develop MIs due to academic loads.
2	Healthcare students have the highest risk of getting MIs than other students.
3	MIs can be acquired by inheritance.
4	MIs affect daily performance, working capacity, and sleeping patterns.
5	Cognitive-behavioral and dialectical-behavioral therapies are examples of combined psychotherapy for MIs.

Table 3 presents the demographic information and responses regarding the first question about the perception of MIs of the study participants. The correct answer was given by 216 (76.1%) of the study participants.

Table 3 Response of study participants to question 1N (%)

Variables	Correct answer	Incorrect answer	*p*-Value	Effect size #
Faculty				
Medicine	69 (72.6)	26 (27.4)		
Pharmacy	77 (81.9)	17 (18.1)	0.262*	-
Dentistry	70 (73.7)	25 (26.3)		
Year of education				
Pre-final	114 (79.7)	29 (20.3)	0.165**	-
Final	102 (72.3)	39 (27.7)		
Gender				
Male	73 (70.2)	31 (29.8)	0.085**	-
Female	143 (79.4)	37 (20.6)		
Age (Years)				
< 25	210 (75.8)	67 (24.2)	0.990**	-
≥ 25	6 (85.7)	1 (14.3)		
Residence				
Hostelers	138 (79.3)	36 (20.7)	0.118**	-
Non-hostelers	78 (70.9)	32 (29.1)		
Race				
Malay	2 (66.7)	1 (33.3)		
Chinese	179 (77.5)	52 (22.5)	0.689*	-
Indian	32 (69.6)	14 (30.4)		
Others	3 (75.0)	1 (25.0)		
Family				
<3 members	27 (64.3)	15 (35.7)		
3-6 members	168 (80.4)	41 (19.6)	0.017*	0.169
> 6 members	21 (63.6)	12 (36.4)		

*Pearson Chi-Square, **Fisher's Exact Test, #Phi Cramer's V

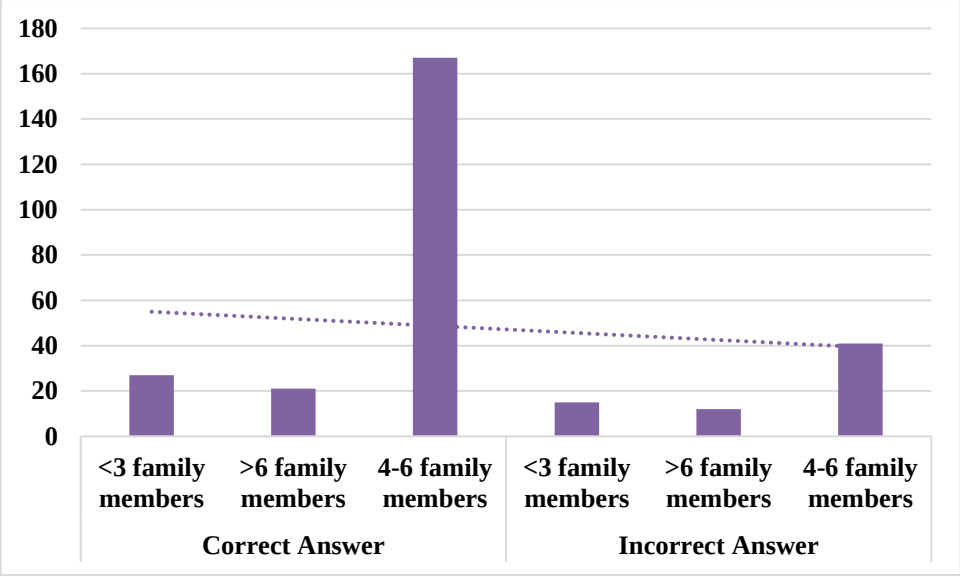

Figure 2 Difference in perception regarding MIs infamily variable

In table 3, the family members' variable was found to be statistically significant with a p-value of 0.017. This variable was further analyzed to see the association among the participants and the effect size was determined using Phi Cramer's V. The effect size obtained was 0.169. These results are presented in figure 2.

Table 4 presents the demographic information and responses regarding the second question about the perception of MIs of the study participants. The correct answer was given by 106 (37.3%) of the study participants.

Table 4 Response of study participants to question 2N (%)

Variables	Correct answer	Incorrect answer	*p*-Value	Effect size #
Faculty				
Medicine	34 (35.8)	61 (64.2)		
Pharmacy	36 (38.3)	58 (61.7)	0.929*	-
Dentistry	36 (37.9)	59 (62.1)		
Year of education				
Pre-final	50 (35.0)	93 (65.0)	0.462**	-
Final	56 (39.7)	85 (60.3)		
Gender				
Male	34 (32.7)	70 (67.3)	0.252**	-
Female	72 (40.0)	108 (60.0)		
Age (Years)				
< 25	104 (37.5)	173 (62.5)	0.990**	-
≥ 25	2 (28.6)	5 (71.4)		
Residence				
Hostelers	67 (38.5)	107 (61.5)	0.617**	-
Non-hostelers	39 (35.5)	71 (64.5)		
Race				
Malay	3 (100.0)	0 (0.0)		
Chinese	80 (34.6)	151 (65.4)	0.030*	0.177
Indian	20 (43.5)	26 (56.5)		
Others	3 (75.0)	1 (25.0)		
Family				
< 3 members	24 (57.1)	18 (42.9)		
3-6 members	72 (34.4)	137 (65.6)	0.114*	-
> 6 members	10 (30.3)	23 (69.7)		

*Pearson Chi-Square, **Fisher's Exact Test, #Phi Cramer's V

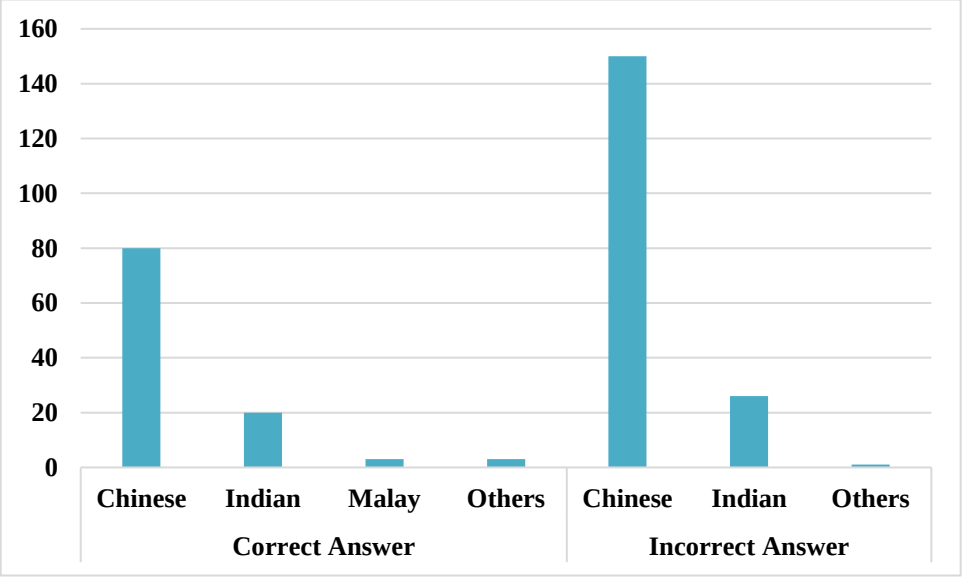

Figure 3 Difference in perception regarding MIs in the race variable

In table 4 the race variable was found to be statistically significant with a p-value of 0.030. The association was further determined using Phi Cramer's V with an effect size of 0.177. These results are presented in figure 3.

Table 5 illustrates the demographic information and responses regarding the third question about the perception of MIs of the study participants. The correct answer was given by 214 (75.3%) of the study participants.

Table 5 Response of study participants to question 3 N (%)

Variables	Correct answer	Incorrect answer	*p-value*	Effect size #
Faculty Medicine Pharmacy Dentistry	 80 (84.2) 66 (70.2) 68 (71.6)	 15 (15.8) 28 (29.8) 27 (28.4)	0.048*	0.146
Year of education Pre-final Final	 102 (71.3) 112 (79.4)	 41 (28.7) 29 (20.6)	0.130**	-
Gender Male Female	 76 (73.1) 138 (76.7)	 28 (26.9) 42 (23.3)	0.568**	-
Age (Years) < 25 ≥ 25	 208 (75.1) 6 (85.7)	 69 (24.9) 1 (14.3)	0.980**	-
Residence Hostelers Non-hostelers	 120 (69.0) 94 (85.5)	 54 (31.0) 16 (14.5)	0.002**	0.186
Race Malay Chinese Indian Others	 2 (66.7) 171 (74.0) 38 (82.6) 3 (75.0)	 1 (33.3) 60 (26.0) 8 (17.4) 1 (25.0)	0.649*	-
Family < 3 members 3-6 members > 6 members	 32 (76.2) 155 (74.2) 27 (81.8)	 10 (23.8) 54 (25.8) 6 (18.2)	0.632*	-

*Pearson Chi-Square, **Fisher's Exact Test, #Phi Cramer's V

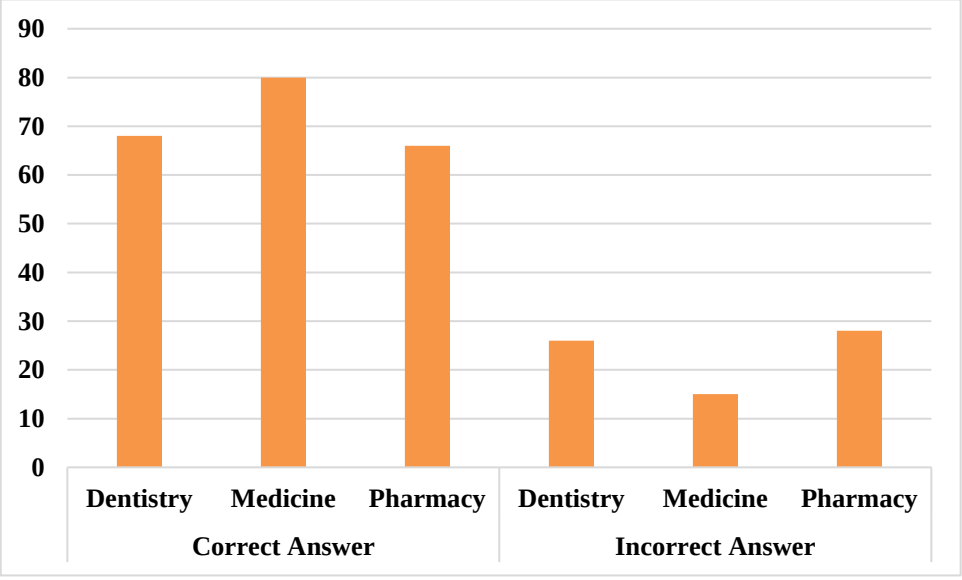

Figure 4 Difference in perception regarding MIs in faculty variable

In table 5 the faculty variable was statistically significant (p-value 0.048), and the effect size was 0.146. These results are presented in figure 4.

In table 5 the residence variable was statistically significant (p-value 0.002), and the effect size was 0.186. These results are presented in figure 5.

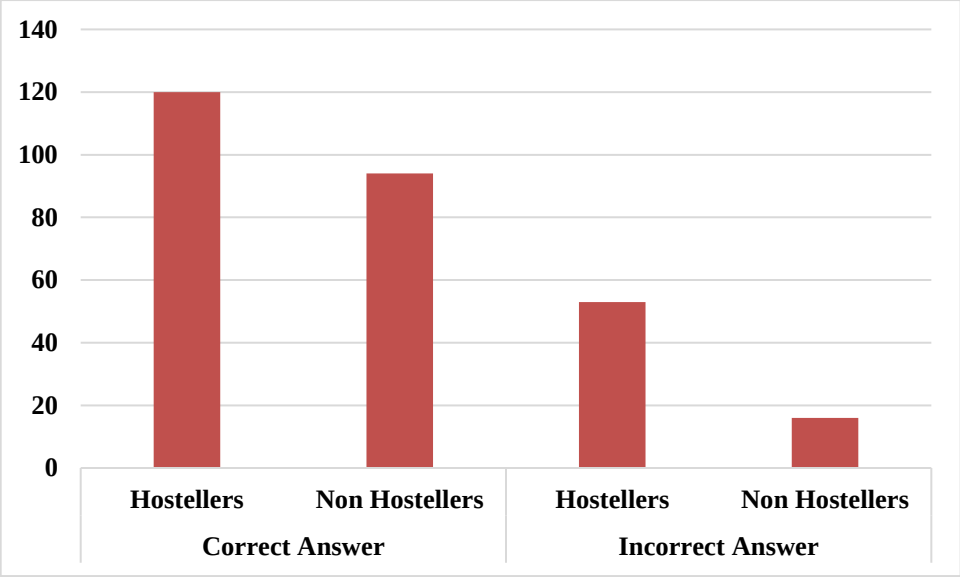

Figure 5 Difference in perception regarding MIs in residence variable

Table 6 presents the demographic information and responses regarding the fourth question about the perception of MIs of the study participants. The correct answer was given by 272 (95.8%) of the study participants.

Table 6 Response of study participants to question 4N (%)

Variables	Correct answer	Incorrect answer	*p-value*	Effect size #
Faculty Medicine Pharmacy Dentistry	 92 (96.8) 92 (97.9) 88 (92.6)	 3 (3.2) 2 (2.1) 7 (7.4)	0.165*	-
Year of education Pre-final Final	136 (95.1) 136 (96.5)	7 (4.9) 5 (3.5)	0.770**	-
Gender Male Female	 97 (93.3) 175 (97.2)	 7 (6.7) 5 (2.8)	0.131**	-
Age (Years) < 25 ≥ 25	 265 (95.7) 7 (100.0)	 12 (4.3) 0 (0.0)	0.980**	-
Residence Hostelers Non-hostelers	 165 (94.8) 107 (97.3)	 9 (5.2) 3 (2.7)	0.380**	-
Race Malay Chinese Indian Others	 3 (100.0) 220 (95.2) 45 (97.8) 4 (100.0)	 0 (0.0) 11 (4.8) 1 (2.2) 0 (0.0)	0.813*	-

Family				
< 3 members	37 (88.1)	5 (11.9)		
3-6 members	204 (97.6)	5 (2.4)	0.017*	0.169
> 6 members	31 (93.9)	2 (6.1)		

*Pearson Chi-Square, **Fisher's Exact Test, #Phi Cramer's V

In table 6 the family variable was found to be statistically significant, and the p-value observed was 0.017. The effect size using the Phi Cramer's V was noted as 0.169. These results are presented in figure 6.

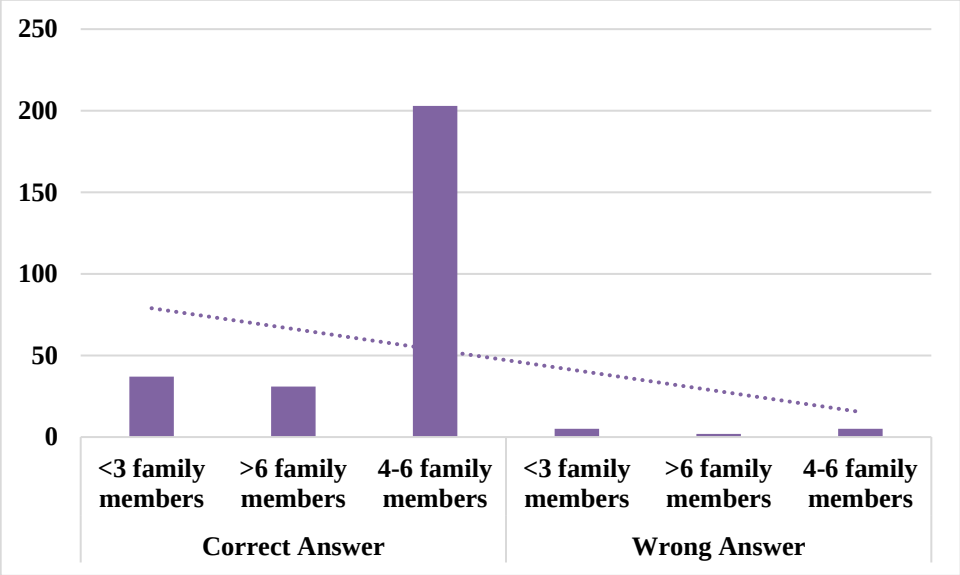

Figure 6 Difference in perception regarding MIs in family variable

Table 7 presents the demographic information and responses regarding the fifth question about the perception of MIs of the study participants. The correct answer was given by 248 (87.3%) of the study participants.

Table 7 Response of study participants to question 5N (%)

Variables	Correct answer	Incorrect answer	*p-value*	Effect size #
Faculty				
Medicine	87 (91.6)	8 (8.4)		
Pharmacy	81 (96.2)	13 (13.8)	0.287*	-
Dentistry	80 (84.2)	15 (15.8)		
Year of education				
Pre-final	123 (86.0)	20 (14.0)	0.593**	-
Final	125 (88.7)	16 (11.3)		
Gender				
Male	89 (85.6)	15 (14.4)	0.579**	-
Female	159 (88.3)	21 (11.7)		
Age (Years)				
< 25	241 (87.0)	36 (13.0)	0.601**	-
≥ 25	7 (100.0)	0 (0.0)		
Residence				
Hostelers	151 (86.8)	23 (13.2)	0.855**	-
Non-hostelers	97 (88.2)	13 (11.8)		

Race				
Malay	3 (100.0)	0 (0.0)	0.416*	-
Chinese	199 (86.1)	32 (13.9)		
Indian	43 (93.5)	3 (6.5)		
Others	3 (75.0)	1 (25.0)		
Family				
< 3 members	39 (92.9)	3 (7.1)	0.188*	-
3-6 members	183 (87.6)	26 (12.4)		
> 6 members	26 (78.8)	7 (21.2)		

*Pearson Chi-Square, **Fisher's Exact Test, #Phi Cramer's V

4. DISCUSSION

The current study was novel in its nature in Malaysia regarding the evaluation of the perceptions of healthcare students about MIs. The results of the present study disclosed that a statistically significant association was observed in the variable of the family size regarding the question about the occurrence of MIs among healthcare students (*p*-value was 0.017 and the effect size was 0.169). This showed a weak positive association among the variable and the asked question about the occurrence of MIs. The results of the current study showed that the numbers of family members are directly affecting the perception of students. More than 80% of those students that belonged to the family size 4-6 agreed that the MIs often occur in healthcare students. The finding of the current study was in contrast with the study conducted by Grinde and Tambs, according to which the increase in family size will result in a decrease in the MIs in children (Grinde and Tambs, 2016).

According to the question about the risk of university students having MIs, the families sizes variables again show significant value, where *p*-values were 0.030, and 0.014 with effect sizes 0.177 and 0.173, respectively. In both of the variables, a weak positive effect was observed with the question asked about the risk of developing MIs among university healthcare students. The possible reason behind that could be that the healthcare students were having proper knowledge of MIs, and they do not perceive negatively about the risk of MIs. The perception results of the current study were different from a study conducted in China, according to which the Chinese students had wrong perceptions and more prevalence of MIs (Zeng *et al.,* 2019).

According to the question of 'mental illness causes by inheritance', the faculty and residence variables showed significant values, where *p*-values were 0.048 and 0.002 with effect size 0.146 and -0.186, respectively. This showed that the difference in perception was present among the different faculties. The medical faculty students had more good perception as compared with the other faculty students. The results of the current study was in contrast with the study conducted in Malaysia among different healthcare students, according to which the pharmacy students were having better awareness about mental health as compared with the other healthcare students (Iqbal *et al.,* 2020).

The results of the current study showed that the family size variable showed significant value, where *p*-value = 0.017 and the effect size was 0.169 when the question was asked about the effect of MISs on daily performance, working capacity, and sleeping pattern. The weak positive association was observed in these variables. The probable reason could be that the difference between the number of respondents in both categories. This study also found statistically significant differences among both of the genders of the study participants. These findings were supported by a study conducted in Kenya according to which the awareness of females was more appropriate as compared with males (Ndetei *et al.,* 2011). None of the studied variables showed statistically significant association when the question was asked regarding 'cognitive behavioral therapy, and dialectical behavioral therapy is the examples of combination treatment' to treat MIs. In the faculty variable, the majority of the students had a good perception of MIs. The possible reason could be the curriculum of medical, dentistry, and pharmacy students that directly affects their knowledge and perception regarding depression and stress (Dyrbye *et al.,* 2006). The results of the current study were in-line with another study conducted by Sawadogo and colleagues, where they found that healthcare students had better knowledge and perception about mental problems (Sawadogo *et al.,* 2020).

5. CONCLUSION

This study determined that perceptions among healthcare students of three faculties of a medical university in Malaysia regarding MIs were appropriate and positive. Different studied variables were found to be statistically significant in different questions. This study was also novel among its type as there was no former study evident in the literature to determine perceptions about MIs among healthcare students of a private university in Malaysia.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

Ethical approval

The ethical committee approval code of the study was AUHAEC/FOP/2017/09.

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Data and materials availability

All data associated with this study are present in the paper.

Peer-review

External peer-review was done through double-blind method.

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