Original Article :

Medical Students' Recognition for the Roles of Psychologists versus Psychiatrists at Umm Al-Qura University: A Cross-Sectional Study.

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Received on Sep 21, 2023, accepted for publication on Apr 17, 2024, dx.doi.org/10.5455/mjhs.2024.03.012

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Abstract

Background and Aims:
The professions of psychiatry and psychology are recognized to possess considerable overlap and have historically been a source of confusion among the general populace, The consequences of poor societal awareness of psychologists may reach medical students and could negatively affect their attitudes to psychiatry. This study aims to assess the medical student's knowledge of the role of psychiatrists and psychologists at Umm al-Qura University in Makkah.

Methods:
A cross-sectional study was conducted by using a self-administered questionnaire. All undergraduate medical students, both male and female, attending the medical college were included. Then, data were analyzed using the SPSS software.

Results:
A total of 499 medical students were included in the study. The most common sources of medical/general information that medical students use to gain their knowledge are books and readings online (61%). More than half of the students between 18-21 years had a low level of knowledge (66.5%) compared to 48.6% of students between 22-25 with a recorded statistical significance of p=0.008.

Students in their pre-clinical years (second and third years) demonstrated lower levels of knowledge (70.3%) than their peers in the clinical years (fourth to sixth years) (48.3%), with a statistically significant p-value of 0.002.

Conclusions:
The current study found that more than half of the medical students at Umm Al-Qura University have a low level of knowledge related to the differences between psychologists' and psychiatrists' professional roles. Psychiatry courses and rotations in medical curriculums need more refinements to help students better understand work in mental health fields.

Keywords:
Medical Students, Psychiatrists, Psychologists, UQU, Makkah.

Introduction

The professions of psychiatry and psychology are recognized to possess considerable overlap and have historically been a source of confusion among the general populace[1]. Both psychologists and psychiatrists are helping people with their problems, treating mental illnesses, and studying human behavior and personality; nevertheless, there is a broad differentiation between psychologists' and psychiatrists' academic backgrounds, professional affiliations, and responsibilities [1,2]. A meta-content analysis study published in 1995 showed that public awareness about the role, responsibilities, and educational background of psychologists, psychiatrists, psychotherapists, and counselors has some inaccurate beliefs. Still, these beliefs have been improving with time [3]. It is worth noting here that we have taken into account the definition of professional practice of psychology and psychiatry, according to the review of the American Psychiatric Association and the American Psychological Association (APA) [4,5].

The potential impact of inadequate societal understanding of the psychologist's role could extend to the medical student community. This may adversely shape their attitudes and potentially decrease their interest in pursuing a career in psychiatry, thereby negatively influencing recruitment into the specialty. Despite some cyclical volatility, the percentage of medical students in the United States who choose to specialize in psychiatry has steadily declined in the past years, and in some states, psychiatrist shortages have reached crisis levels [6]. A previous study conducted at the University of New South Wales in Australia has reported that only 15% of the students showed a significant likelihood of psychiatry as a career compared to other specialties [7]. Hence, several studies proposed reasons for the decline of

medical students, such as the lack of curriculum focus on psychiatry and the lack of practical training, poor interest in this field, and perception-related reasons as some students express psychiatry as an artistic approach to medicine [8,9]. In addition, a previous study published in 2011 reported that social concerns in psychiatry, the reality of mental illness, the role of trauma, difficulty building alliances with patients, the efficacy of therapies, the strength of empathetic connection, and students' own identifications were among the most prevalent thematic content [10].

However, the extent of students' knowledge of the role of psychiatrists and psychologists has not been well studied worldwide. Locally, it has not yet been reviewed among medical students in Makkah, Saudi Arabia. This study also address local culture and beliefs, focusing on how religious and cultural viewpoints affect people's knowledge regarding the fields of psychology and psychiatry. especially the fact that the treatment of mental illness in Saudi Arabia often includes spiritual therapy as an integral part of the overall approach to the illness. Including Ruqyah, hence, the term refers to the use of the Quran (the Islamic sacred book) for the treatment of illnesses. Furthermore, demonic possession is a widespread cultural belief in which the body and mind are possessed by another spirit or ghost; hence, many people incorrectly assume that mental diseases are caused by demonic possession. That's why it is essential to study this issue in depth because gaining a better knowledge of the nature of medical students' knowledge and perception may aid in developing interventions and educational efforts to rectify inaccurate or damaging beliefs about mental health fields. The present study aims to assess the knowledge of the role of psychiatrists and psychologists among medical students at Umm Al-Qura University (UQU), Makkah, Saudi Arabia.

Methods & Materials

Participants and Ethical Consideration

A cross-sectional study was conducted at UQU College of Medicine using an online self-administered questionnaire distributed in English. The target population included all undergraduate medical students, both male and female, of all years, attending the medical college. Interns and preparatory-year students were excluded. The sample size was determined using the OpenEpi program version 3.0, keeping the confidence interval (CI) level at 95% with a 5% margin of error. According to the population size of 1300 students, the study required a minimum of 297 participants. Students were selected using a simple random sampling method. Each select-

ed student was sent a questionnaire via an online form created using Google Forms and distributed on different social media platforms.

The biomedical research ethics committee at UQU College of Medicine reviewed and approved this study before completing the questionnaire (Approval No. HAPO-02-K-012-2021-11-848). All participants provided informed consent. No names or phone numbers were requested to ensure the participants' data confidentiality.

Tool and Materials

The questionnaire was divided into two sections. The first section collects sociodemographic data about the participants, including age, academic year, gender, marital status, and the sources from which they obtain their medical information. The second section of the questionnaire is meant to assess medical students' recognition of the differences between psychiatrists and psychologists. This section comprises 37 multiple-choice questions; each question refers to a specific role or a characterization that may be presented for each specialty. For each question, there were five options provided: psychiatrist characteristic, psychologist characteristic, characteristic for both, neither, and I do not know. There is one correct answer for each question that carries one point; the points are calculated with a score out of 37 points. The participant's level of knowledge is divided into three categories according to the total score. Low level of knowledge for a total score between 0-12 point/s, moderate level of knowledge for a total score between 13-25 points, and high level of knowledge for a total score between 26-37 points.

Validity and reliability of the tool

Upon reviewing the literature, we found no updated tool to answer our question, hence, the most recent tool was published in 1959 by Tallent and Reiss called "Test of Knowledge about Psychologists and Psychiatrists" 2. Thus, we updated the scale of Tallent and Reiss by adding four items that correspond to some variables of professional practice and common beliefs today. In addition, we added a few more items that correspond with religious beliefs, as it is common practice in Muslim nations to combine medical and spiritual therapy for mental illnesses, for example using Ruqyah. The term "Ruqyah" describes the practice of using the Quran, Islam's sacred text, to alleviate illness and other issues. Therefore, the total number of items became 37 instead of 33 in the original form, and the estimate was calculated in the correct balance for the cut-off point according to this addition.

Face validation was applied first via the

revision of two consultants in psychiatry as well as a professor in psychology. Then, a pilot study was applied among 30 individuals. The reliability test indicated that the questions accurately reflected a Cronbach's Alpha of 0.938, a mean of 59.52, and a standard deviation of 27.949. For language validation of the questionnaire, two independent native English physicians reviewed and validated the language. The back-to-back technique was not needed since the questionnaire was distributed to the participants in the English language.

Statistical Analysis

The data was obtained and cleansed using an Excel sheet and analyzed using the SPSS software version 23. the descriptive analysis was carried out using frequency and percentages to describe the categorical data and mean ± SD to describe continuous data in the tables. The chi-square test was used to determine the relationship between the students' demographic characteristic and their level of knowledge. The p-value was determined as statically significant at $P < 0.05$.

Results

General characteristics of the study subjects

A total of 499 medical students were included in the current study; 19.4% were in the second year, 17.0% were in the third year, 16.4% were in the fourth year, 29.7% were in the fifth year, and 17.4% in the sixth year. Participants were nearly equally distributed by gender, with female predominance (54.9%). Additional demographic data are demonstrated in Table 1.

Table 1. Socio-demographic data of medical students at Umm Al-Qura University (n=499)

Personal data	Frequency	Percent (%)
Age in years		
18-21 years	221	44.3%
22-25 years	276	55.3%
26	2	0.4%
Gender		
Male	225	45.1%
Female	274	54.9%
Academic year		
Second year	97	19.4%
Third year	85	17.0%
Fourth year	82	16.4%
Fifth year	148	29.7%
Sixth year	87	17.4%
Marital status		
Single	478	95.8%
Married	8	1.6%
Engaged	9	1.8%
Divorced/widow	4	0.8%

The most common source of medical/general information that medical students use to gain their knowledge was shown in Figure 1, in which more than half of the students reported "books and reading online" as the primary source of knowledge (61%), followed by social media and friends/family members (62% and 7%,

respectively). Other sources reported by the students were medical websites, evidence-based databases, and TV shows and movies (7%).

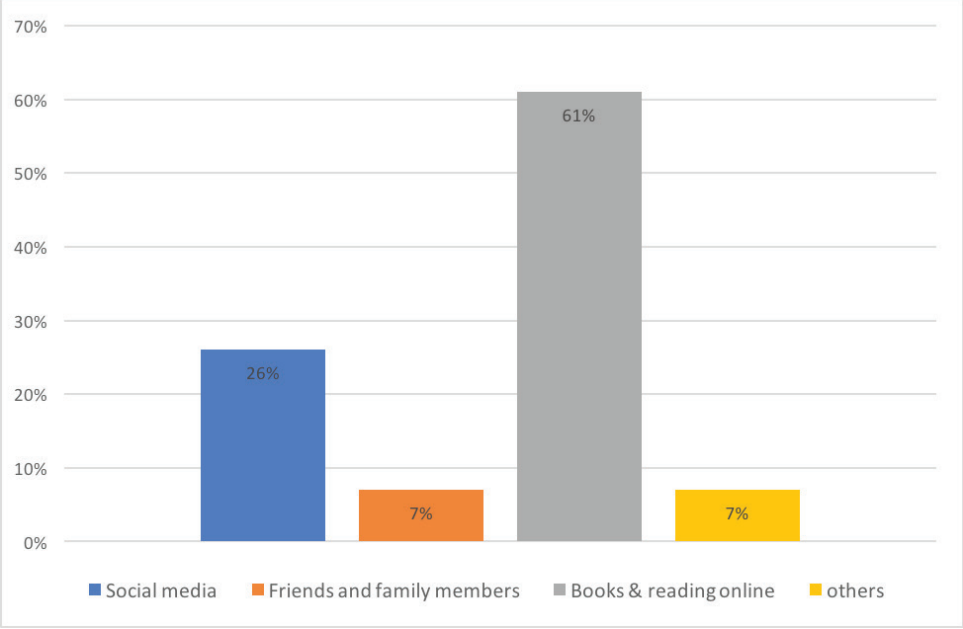


Figure 1. The most common sources of medical/general information among the included students

Level of Knowledge

Table 2 presents the level of knowledge about the responsibilities and nature of psychologists' and psychiatrists' jobs by the students' academic level (clinical and pre-clinical years). Of the 182 pre-clinical students who participated in the study, most of them were recorded to have a low level of knowledge (70.3%). Compared to 317 clinical years students included in the survey, 48.3% had a low level of knowledge, while more than half had a moderate level of knowledge (51.4%). The overall prevalence of knowledge among all students was mostly low, followed by moderate levels (56.3% and 43.3%, respectively). And only two students had a high level of knowledge (0.4%).

Table 2. Level of Knowledge about Psychologists and Psychiatrists by academic level among the included medical students at Umm Al-Qura University (n=499)

Level of Knowledge	Clinical years students		Pre-clinical years students		Total	
	No.	%	No.	%	No.	%
Low level of knowledge	153	48.3%	128	70.3%	281	56.3%
Moderate level of knowledge	163	51.4%	53	29.1%	216	43.3%
High level of knowledge	1	0.3%	1	0.5%	2	0.4%

The participants were most knowledgeable about the facts related to the profession of psychiatrists, in which more than half of the students answered correctly about the ability of psychiatrists to prescribe medications, it is a medical specialty, psychi-

atrists are doctors (physicians), and they could have an M.D. (Doctor of Medicine) degree (61.7%, 59.1%, 57.7%, and 55.9%, respectively). On the other hand, the least questions answered correctly by the participants were: psychiatrists are unable to understand and analyze the personality of people simply by sitting with them even if it is out of the context of therapy, both psychiatrists and psychologists study how surgical removal of various parts of the brain influence human behavior, both psychiatrist and psychologist investigate the tensions between nations which might lead to conflicts, and neither psychiatrist nor psychologist is professional mind reader (6.6%, 12.6%, 13.6%, and 14%, respectively). Table 3 illustrates all students' answers to each question of the tool.

Table 3. Students' answers to each question of the tool using the given 5 chooses*

Items	Correct answer		Wrong answer	
	No.	%	No.	%
1. Systematically studies the behavior of people:	186	37.3%	313	62.7%
2. Works with children:	218	43.7%	281	56.3%
3. Devises methods to measure intelligence and personality:	216	43.3%	283	56.7%
4. Develops techniques for determining employee skills and efficiencies:	219	43.9%	280	56.1%
5. Examines intelligence:	173	34.7%	326	65.3%
6. Is a teacher:	93	18.6%	406	81.4%
7. Systematically studies the personality of people:	146	29.3%	353	70.7%
8. Studies how various techniques of advertising influence consumers to buy goods:	189	37.9%	310	62.1%
9. Assists students in selecting a vocation:	154	30.9%	345	69.1%
10. Is a scientist and does research:	173	34.7%	326	65.3%
11. Investigates different methods of teaching and reading to decide which is best:	158	31.7%	341	68.3%
12. Has a Ph.D. (Doctorate) degree:	144	28.9%	355	71.1%
13. Systematically studies the behavior of animals:	151	30.3%	348	69.7%
14. Give tests to probe into the unconscious mind:	139	27.9%	360	72.1%
15. Investigates the tensions between nations that might lead to Conflicts:	68	13.6%	431	86.4%
16. Collaborates with engineers in the design of equipment:	115	23.0%	384	77.0%
17. Tells people what to do in order to become more popular:	172	34.5%	327	65.5%
18. Is trained primarily as one who practices a profession (practitioner):	200	40.1%	299	59.9%
19. Studies how surgical removal of various parts of the brain influences human behavior:	63	12.6%	436	87.4%
20. Practices psychoanalysis:	138	27.7%	361	72.3%
21. Works with mentally ill people:	124	24.8%	375	75.2%
22. Talks with people who have mental or emotional troubles and tries to relieve them of their problems:	126	25.3%	373	74.7%
23. Is a doctor (physician):	288	57.7%	211	42.3%
24. Uses hypnosis in his work:	76	15.2%	423	84.8%

Items	Correct answer		Wrong answer	
	No.	%	No.	%
25. Examines people to find out if they have a mental illness:	89	17.8%	410	82.2%
26. May have an M.D. (Doctor of Medicine) degree:	279	55.9%	220	44.1%
27. Uses a couch in his profession:	75	15.0%	424	85.0%
28. Does physical examination:	272	54.5%	227	45.5%
29. Gives shock therapy to people with mental illness:	273	54.7%	226	45.3%
30. Is a medical specialty:	295	59.1%	204	40.9%
31. Prescribe medications to people with mental illness	308	61.7%	191	38.3%
32. Is a professional mind reader:	70	14.0%	429	86.0%
33. Is able to foretell the future:	192	38.5%	307	61.5%
34. Do Ruqyah to help the people with mental illness	216	43.3%	283	56.7%
35. Treat some cases of demonic possession	107	21.4%	392	78.6%
36. Can submit a report, if requested by the court, on the mental health state of the patient with mental illness:	78	15.6%	421	84.4%
37. Able to understand and analyze the personality of people simply by sitting with them even if it is out of the context of therapy	33	6.6%	466	93.4%

* The given choices: "Psychiatrist," "Psychologist," "Both," "Neither," and "I don't know."

Associations with medical students' level of knowledge

Among the included participants, more than half of the students between the age of 18-21 years had a low level of knowledge (66.5%) compared to 33.5% of students with moderate to high level of knowledge at the same age, with a recorded statistical significance (p= 0.008). Male participants have recorded higher levels of low knowledge than female participants. An exact 59.1% of males had a low level of knowledge while 54.0% of females recorded low levels of knowledge. Students in their pre-clinical years (second and third years) demonstrated lower levels of knowledge, with a statistically significant p-value of 0.002. Additional information on the association between socio-demographic characteristics by medical students' level of knowledge is demonstrated in Table 4.

Table 4. Socio-demographic characteristics by medical students' level of knowledge (n= 499)

	Low level (%)	Moderate/high level (%)	Total (%)	P-value
Age in years				
18-21 years	147 (66.5%)	74 (33.5%)	221 (44.3%)	0.008*
22-25 years	134 (48.6%)	142 (51.4%)	276 (55.3%)	
26	0 (0.0%)	2 (100%)	2 (0.4%)	
Gender				
Male	133 (59.1%)	92 (40.9%)	225 (45.1%)	0.253
Female	148 (54.0%)	126 (46.0%)	274 (54.9%)	

	Low level (%)	Moderate/high level (%)	Total (%)	P-value
Academic level				
Pre-clinical years (2nd and 3rd years)	128 (70.3%)	54 (29.7%)	182 (36.5%)	0.002*
Clinical years (4th to 6th years)	153 (48.3%)	164 (51.7%)	317 (63.5%)	
Marital status				
Single	268 (56.1%)	210 (43.9%)	478 (95.8%)	0.103
Married	6 (75.0%)	2 (25.0%)	8 (1.6%)	
Engaged	3 (33.3%)	6 (66.7%)	9 (1.8%)	
Divorced/widow	4 (100%)	0 (0.0%)	4 (0.8%)	

P: Pearson X2 test * P < 0.05 (significant)

Discussion

The confusion among the public and college students regarding the differences in functions and roles between psychologists and psychiatrists has been studied and reported in a few articles in the past [2,11,12]. However, no study has been conducted on medical students anywhere in the world. Therefore, we aimed to assess the knowledge of psychologists' and psychiatrists' roles and functions among medical students at UQU in Makkah to understand better the misconceptions medical students have that might affect their attitudes and views of recruitment in psychiatry.

Our results revealed the variation in knowledge between students based on their levels at the medical school. In which, students in their pre-clinical years (second and third years) demonstrated lower levels of knowledge (70.3%) than their peers in the clinical years (fourth to sixth years) (48.3%), with a statistically significant p-value of 0.002. The findings are consistent with the academic curriculum at UQU, where students engage with an in-depth psychiatry course during their fifth year, alongside exposure to fundamental concepts in internal medicine during the fourth year. This rigorous academic preparation may account for the reduced prevalence of minimal knowledge levels among students in clinical years as opposed to those in pre-clinical years. Nevertheless, the presence of a notable proportion of students with limited knowledge in the clinical years may suggest a potential requirement for curriculum enhancement.

Regarding knowledge of the academic backgrounds of psychologists and psychiatrists, in the present study, 55.9% of the students reported correctly their answers regarding the psychiatrists ability to hold an M.D. degree. In the other hand, 28.9% students thought that only psychologists have a Ph.D. degree. In comparison with

a previous study on psychology students, they had similar results to ours regarding academic backgrounds since 56% reported that psychiatrist may hold an M.D. while 26% thought a psychologist has a Ph.D.[12] Yet interestingly, 70% of the public thought a psychiatrist may hold an M.D., and 61% thought a psychologist has a Ph.D. [2]

Medical students in the present study have more knowledge about the facts related to the profession of psychiatrists as opposed to the profession of psychologists since more than half of the students answered correctly about the ability of psychiatrists to prescribe medications, it is a medical specialty, and psychiatrists are doctors (61.7%, 59.1%, and 57.7%, respectively). Similar results were found among psychology students, where 65% thought psychiatry is a medical specialty, and 56% thought psychiatrists are doctors [12]. On the other hand, 47% of the public thought psychiatry was a medical specialty, and 87% thought psychiatrists were doctors [2].

It must be mentioned that despite the similarities and differences between our study and the studies mentioned above, it must be known that these studies were conducted at least 50 years ago. Thus, many factors have been developed since then that might influence accessibility to information, modes of learning, and information extraction, such as exposure to technology, social media, and the increasing number of movies and TV shows. For instance, the present study explored the most common source of medical/general information that medical students use to gain their knowledge. In which more than half of the students reported "books and reading online" as the primary source of knowledge (61%), followed by social media and friends/family members (62% and 7%, respectively). Other sources reported by the students were medical websites, evidence-based databases, and TV shows and movies (7%). Compared to the international numbers, a previous study conducted among 1083 undergraduate medical students from two major Australian universities revealed the majority of students (92%) using e-learning tools including online videos to learn about medicine[13].

Students' tendency to study online instead of using traditional resources is a phenomenon that deserves research to discover the reasons and thus work to develop and improve current education. As online and e-learning may include unreliable and poor scientific sources that are affected by social, trends, and others.

Although the current study is the first to explore and assess medical students' knowledge regarding the roles of psychiatrists and psychologists, the sample of this study is medical students of only one

college. Therefore, the results of this study may not apply to other students outside the kingdom or students of other specialties. Another limitation of this study is the small sample size. So, we highly recommend studies with larger sample sizes and on different populations and students of other specialties.

In conclusion, our study found that more than half of the medical students at Umm Al-Qura University have a low level of knowledge related to the differences between psychologists' and psychiatrists' professions.

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