



Original Article

## Mental Health Knowledge and Perceptions Among Dental Students: An Exploratory Study

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### ABSTRACT

The purpose of this study is to assess dentistry students' and interns' attitudes and knowledge regarding mental illness. A self-administered questionnaire was created, evaluated, and sent to dentistry students and interns through social media platforms to assess their attitudes and understanding regarding mental illnesses. Participation was optional following consent. The study involved 125 dental interns and students in total. SPSS was used to statistically examine the data. According to our findings, over 50% of the sample participated in a mental health education course. Nearly 40% of participants reported having been in contact with people who suffer from mental illness. The findings also showed a good attitude but inadequate knowledge. Additionally, nothing was known regarding the negative impacts of drugs. Academic level and gender had an impact on knowledge and attitude. Also, it showed that the subjects were stigmatized. The significance of academic instruction throughout courses and ongoing professional development was revealed by our study. The fact that most people have a positive mindset may help to reinforce information.

**Keywords:** Dental students, Interns attitude, Knowledge, Mental illness

### Introduction

A mental illness is a crippling mental disorder that can affect a person's thoughts, mental health, and behavior. PTSD, eating disorders, bipolar disorder, panic disorder, depression, schizophrenia, and addictive behaviors are just a few of the many problems that are associated with it. People of all ages and backgrounds can be impacted by the aforementioned issues [1]. It has been repeatedly documented that the unfavorable attitude regarding psychiatric diseases is widespread across the general public, regardless of its global reach [2]. Because most people have negative views about mentally sick and psychiatric patients, it is more common for them to conceal their illness and never disclose their treatment histories to anybody unless they can be trusted to prevent social rejection. Due to a lack of funds or significant psychopathology, such as depression, negative side effects, or disruption of function, mental patients often neglect their dental health needs. These people report more tooth loss than others, have fewer scheduled referrals to the dental clinic, and use medication for longer periods [3-5]. The majority of these drugs result in xerostomia, or dry mouth, which raises the risk of stomatitis, periodontitis, gingivitis, and caries [6-8]. Numerous studies examining how education affects people's attitudes toward individuals with mental illnesses have demonstrated that education may help to lessen prejudice; additionally, knowledge of patients with special needs can have a favorable impact on healthcare providers' confidence in treating these populations and their behavior in practice [9-12]. Therefore, while treating these patients at their clinical centers, dentists with little expertise feel less confident [5]. If such unfavorable views are evident among health professionals, they may be detrimental to patient care as well as to society's perception of psychiatric diseases. Because they will be involved in treating these patients, either directly or indirectly, during their careers,

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undergraduate dentistry students' knowledge, attitudes, and understanding of mental health and psychiatric diseases are extremely important [4]. Students who lack information, take on negative views, avoid people with mental illnesses, and lack contact are typically the ones who experience stigma and prejudice [13]. Therefore, dental students must possess adequate information and a good attitude about mental diseases to provide standard dental treatments to patients with mental problems. However, when it comes to talking with patients, dental students who lack understanding about mental problems or who have a negative attitude or preconception may encounter difficulties, which might lead to the patient's integration and treatment failure [14]. It is impossible to undervalue this issue at the dental office. Therefore, the purpose of this study is to assess dentistry students' and interns' attitudes and understanding regarding mental illness.

## Materials and Methods

This cross-sectional study was done to evaluate the knowledge and attitudes toward mental illness among dental students and interns. A structured self-administered questionnaire will be developed after reviewing the relevant literature, which is composed of 3 sections: (1) an introduction to the study and request for participation (consent); (2) demographic questions; and (3) a list of questions measuring knowledge and attitudes toward mental illness using a Likert scale and Yes/No questions. The questionnaire employed a 5-point Likert scale, with the points indicating measures ranging from strongly agree to strongly disagree. The questionnaires were anonymous and contained no private information about the participants. Participation in this study was completely voluntary, and the questionnaire required only 3-6 minutes to complete. Data were disseminated on online platforms using a social media outlet. First, a pilot study was conducted on individuals with different demographic characteristics to assess the clarity of the questions.

### Statistical analysis

Data were collected and analyzed, after which they were summarized and presented in tables. All statistical analyses were performed using the Statistical Package for Social Sciences program (version 22). Descriptive statistics such as frequency distributions were performed. In addition, t-tests, one-way analysis of variance (ANOVA), and post hoc analysis were used to measure the relationship between variables. P-values  $\leq 0.05$  were considered statistically significant.

## Results and Discussion

3rd-, 4th-, and 5th-year students and interns made up almost equal numbers of participants in the sample size of 125. The whole scale's Cronbach's alpha is 0.865. The majority of responders (83.2%) were women. The demographic data is compiled in **Table 1**.

**Table 1.** Demographic sample – responses about encountering mentally ill individuals and attending courses

Variable	Gender		Total
	Male	Female	
	<b>Level</b>		
<b>3rd year</b>	7 (5.6%)	23 (18.4%)	30 (24%)
<b>4th year</b>	4 (3.2%)	24 (19.2%)	28 (22.4%)
<b>5th year</b>	8 (6.4%)	34 (27.2%)	42 (33.6%)
<b>Intern</b>	2 (1.6%)	23 (18.4%)	25 (20%)
<b>Have you ever encountered a patient with a mental illness?</b>			
<b>Yes</b>	7 (5.6%)	42 (33.6%)	49 (39.2%)
<b>No</b>	12 (9.6%)	58 (46.4%)	70 (56%)
<b>Not Sure</b>	2 (1.6%)	4 (3.2%)	6 (4.8%)
<b>Any previous contact with individuals with a mental illness beyond the caregiver</b>			
<b>Yes</b>	8 (6.4%)	32 (25.6%)	40 (32%)

<b>No</b>	11 (8.8%)	50 (40%)	61 (48.8%)
<b>Not Sure</b>	2 (1.6%)	22 (17.6%)	24 (19.2%)
<b>Have you attended an educational course about mental illness?</b>			
<b>Yes</b>	12 (9.6%)	43 (34.4%)	55 (44%)
<b>No</b>	9 (7.2%)	61 (48.8%)	70 (56%)

**Table 2.** Attitude of dental students toward mental illness

Variable	Completely agree (%)	Agree (%)	Slightly agree (%)	Slightly disagree (%)	Disagree (%)	Completely disagree (%)
Compared to the average individual, a mentally sick person is more prone to hurting other people.	20 (16)	26 (20.8)	43 (34.4)	16 (12.8)	17 (13.6)	3 (2.4)
The recovery time for mental illnesses would be significantly greater than that of other general illnesses.	19 (15.2)	48 (38.4)	32 (25.6)	9 (7.2)	15 (12.0)	2 (1.6)
A person with a psychiatric condition maybe someone you should avoid because of their potentially harmful actions.	6 (4.8)	23 (18.4)	22 (17.6)	24 (19.2)	30 (24.0)	20 (16.0)
The term "psychological disorder" makes me feel embarrassed.	-	12 (9.60)	23 (18.40)	22 (17.60)	37 (29.60)	31 (24.80)
A job with little duties is ideal for someone with a psychiatric illness.	5 (4.0)	22 (17.6)	42 (33.6)	19 (15.2)	22 (17.6)	15 (12.0)
People with mental illnesses are more prone to committing crimes.	4 (3.2)	15 (12.0)	24 (19.2)	17 (13.6)	41 (32.8)	24 (19.2)
A psychological disorder is recurrent.	10 (8.0)	36 (28.8)	37 (29.6)	15 (12.0)	18 (14.4)	9 (7.2)
If I were given a psychiatric condition diagnosis, I'd be worried about what my friends, boss, and others might say.	11 (8.8)	40 (32.0)	32 (25.6)	20 (16.0)	11 (8.8)	11 (8.8)
People with a mental illness diagnosis experience its symptoms all of their lives.	14 (11.2)	37 (29.6)	38 (30.4)	16 (12.8)	11 (8.8)	9 (7.2)
Individuals who have already had psychological therapy are likely to require more care in the years to come.	10 (8.0)	39 (31.2)	35 (28.0)	19 (15.2)	16 (12.8)	6 (4.8)
People with mental illnesses may find it challenging to adhere to social norms like being on time or maintaining their word.	8 (6.4)	27 (21.6)	38 (30.4)	25 (20.0)	19 (15.2)	8 (6.4)
If others found out that I had dated someone who had previously gotten psychological therapy, I would feel ashamed.	6 (4.8)	14 (11.2)	32 (25.6)	21 (16.8)	25 (20.0)	27 (21.6)
People with psychiatric disorders frighten me because I fear they may hurt me.	4 (3.2)	6 (4.8)	29 (23.2)	26 (20.8)	27 (21.6)	33 (26.4)
It is less probable that someone with a psychiatric problem will be a good parent.	3 (2.4)	17 (13.6)	42 (33.6)	28 (22.4)	23 (18.4)	12 (9.6)
If someone in my family developed a mental illness, I would feel ashamed.	3 (2.4)	8 (6.4)	15 (12.0)	19 (15.2)	31 (24.8)	49 (39.2)

A psychiatric condition, in my opinion, can never be fully treated.	4 (3.2)	11 (8.8)	23 (18.4)	18 (14.4)	34 (27.2)	35 (28.0)
People with mental illnesses are unlikely to be capable of living alone since they are incapable of taking on obligations.	4 (3.2)	12 (9.6)	35 (28.0)	35 (28.0)	24 (19.2)	15 (12.0)
The majority of individuals wouldn't intentionally be friends with someone who had a mental illness.	6 (4.8)	29 (23.2)	36 (28.8)	28 (22.4)	20 (16.0)	6 (4.8)
People with psychological illnesses might behave in surprising ways.	8 (6.4)	31 (24.8)	55 (44.0)	18 (14.4)	9 (7.2)	4 (3.2)
Regardless of treatment, a psychiatric condition has no chance of being healed.	3 (2.4)	14 (11.2)	25 (20.0)	33 (26.4)	32 (25.6)	18 (14.4)
If someone on my team had a psychological disorder, I wouldn't trust their job.	1 (0.8)	7 (5.6)	25 (20.0)	49 (39.2)	27 (21.6)	16 (12.8)
Compared to the average individual, a mentally sick person is more prone to hurting other people.	57 (45.6)	7 (5.6)	30 (24.0)	12 (9.6)	10 (8.0)	9 (7.2)

Over fifty percent of the respondents (46.4%) had never met a patient with a mental condition, as seen in **Table 2**. Similarly, 40% had never interacted with someone who had a mental condition in a way that went beyond their role as a caretaker. Of those surveyed, 56% had not participated in any educational courses on how to care for people with mental illnesses. Nearly three-quarters (71.2%) of those surveyed concurred that those with mental illnesses are more likely to hurt others. Nearly one-third (31.2%) of those surveyed said they are terrified of persons who have a psychiatric problem, and 40.8% said it is best to avoid them. The majority of the sample (62.6%) disagreed that those with mental illnesses are more likely to be criminals. People with psychiatric disorders should have jobs with very limited obligations, according to more than half of the respondents (55.2%). 73.6% of respondents disagreed that mentally ill people should be trusted with their employment. The psychological problem is recurring, according to 29.6% of respondents, and almost 30% (30.4%) of respondents somewhat agreed that people with mental illnesses have their symptoms all their lives. Additionally, 66.4% of the sample disagreed that a psychological condition can never be fully treated, whereas 31.2% of respondents stated that they would probably require additional therapy after receiving psychological treatment. According to the majority of the sample (79.2%), if a family member had a mental illness, they would not feel ashamed. Of the sample, 44% somewhat agreed that the conduct of persons with psychological problems is unforeseeable, and over fifty percent (58.4%) believed that it is hard for those with mental illnesses to obey social rules. **Table 3** shows what dental students and interns know about certain mental diseases and the negative impacts of medications.

**Table 3.** Knowledge of dental students about mental diseases and medication side effects

Variable	Yes	No	Not sure
	N (%)	N (%)	N (%)
Psychotropic drugs often cause dry mouth (xerostomia) via decreasing salivary production.	50 (40.0)	14 (11.2)	61 (48.8)
Psychotropic drugs may result in sialorrhoea.	25 (20.0)	24 (19.2)	76 (60.8)
Epinephrine and antipsychotic medications do not interact.	68 (54.4)	22 (17.6)	35 (28.0)
Schizophrenia patients are in greater danger of dental illness since their oral health is lower than that of the general population.	98 (78.4)	11 (8.8)	16 (12.8)
The capacity and motivation to maintain oral hygiene are diminished by negative symptoms of the underlying illness (schizophrenia), such as indifference or difficulty in starting and sustaining the habit.	104 (83.2)	8 (6.4)	13 (10.4)
Patients with psychosis may exhibit pain delusions that are hard to differentiate from other types of pain.	54 (43.2)	54 (43.2)	62 (49.6)
Treatment may be unneeded as a result of pain delusion.	40 (32.0)	14 (11.2)	71 (56.8)
Dental anxiety may be a symptom of psychotic people.	94 (75.2)	2 (1.6)	29 (23.2)

**Tables 4-6** display the results of the ANOVA analysis and the independent samples t-test. According to Scheffe post hoc analysis, men were more inclined to think that the illness recurs, while women were more likely to concur that anxiety is present in psychotic patients ( $P = 0.001$  and  $P = 0.003$ , respectively). Regarding the level, 3rd-year students showed a strong indication of having seen individuals with mental disease and feeling more embarrassed by the term "psychological disorder." Additionally, they were more likely to think that overtreatment was caused by pain illusion and that psychosis had an impact on motivation and oral hygiene. 3rd-year students also thought that schizophrenic individuals could exhibit higher dental anxiety than others. The likelihood of 4th-year students continuing their dentistry education on managing mental illness, however, was higher. Students in their 5th year were more likely to avoid people with psychotic illnesses and not believe in the work of someone who has a mental condition. Fifth-year students and interns were more likely to be aware of the negative effects of sialorrhoea and xerostomia.

**Table 4.** Independent samples t-test of analysis of the association between gender and knowledge

Variable	Gender	N	Mean	Std. deviation	T	Sig. (2-tailed)
A psychological disorder is recurrent.	Male	21	3.38	1.161	2.364	.020
	Female	104	2.71	1.188		
Dental anxiety may be a symptom of psychotic people.	Male	21	1.90	.995	2.213	.036
	Female	104	1.39	.793		

**Table 5.** ANOVA summary results between and within groups about the educational level

Variable		Sum of squares	Df	Mean square	F	Sig.
Have you ever interacted with someone who has a mental disorder?	Between groups	4.825	3	1.608	5.500	.001
	Within groups	35.383	121	.292		
	Total	40.208	124			
Have you participated in any mental health education programs?	Between groups	6.346	3	2.115	10.466	.000
	Within groups	24.454	121	.202		
	Total	30.800	124			
Because of their risky behavior, it would be wise to avoid those who suffer from psychiatric disorders.	Between groups	26.340	3	8.780	6.413	.000
	Within groups	165.660	121	1.369		
	Total	192.000	124			
The phrase "psychological disorder" embarrasses me.	Between groups	23.531	3	7.844	4.911	.003
	Within groups	193.269	121	1.597		
	Total	216.800	124			
If someone on my team had a mental illness, I wouldn't trust their job.	Between groups	12.389	3	4.130	3.579	.016
	Within groups	139.611	121	1.154		
	Total	152.000	124			

**Table 6.** Association of sample educational level with knowledge using ANOVA test

Variable		Sum of squares	Df	Mean square	F	Sig.
Psychotropic drugs often cause dry mouth (xerostomia) by decreasing salivary production.	Between groups	21.555	3	7.185	12.460	.000
	Within groups	69.773	121	.577		
	Total	91.328	124			
Sialorrhoea can be brought on by psychotropic drugs.	Between groups	7.696	3	2.565	4.111	.008

	Within groups	75.504	121	.624		
	Total	83.200	124			
Schizophrenia patients have a higher risk of dental illness because their oral health is lower than that of the general population.	Between groups	4.683	3	1.561		
	Within groups	57.205	121	.473	3.302	.023
	Total	61.888	124			
The capacity and motivation to maintain oral hygiene are diminished by adverse symptoms of the underlying illness (schizophrenia), such as indifference or difficulty in starting and sustaining the habit.	Between groups	14.452	3	4.817		
	Within groups	66.700	121	.551	8.739	.000
	Total	81.152	124			
Patients with psychosis may exhibit pain delusions that are hard to differentiate from other types of pain.	Between groups	21.862	3	7.287		
	Within groups	92.170	121	.762	9.567	.000
	Total	114.032	124			
Treatment may be unneeded as a result of pain illusions. Treatment may be unneeded as a result of pain illusions	Between groups	7.898	3	2.633		
	Within groups	104.710	121	.865	3.042	.032
	Total	112.608	124			
Dental anxiety may be a symptom of psychotic people.	Between groups	9.541	3	3.180		
	Within groups	79.659	121	.658	4.831	.003
	Total	89.200	124			

The likelihood of these individuals visiting dentistry clinics has grown in tandem with the rise in the frequency of mental illness. Furthermore, the research has demonstrated the connection between mental and oral health. Therefore, it becomes essential for dental professionals to be aware of and comprehend the financial, emotional, and physical burden that such problems take. Few researchers have examined this problem, despite its significance.

From a mild, inconspicuous characteristic to a serious, life-altering condition, mental illness needs medical care and treatment. A healthcare provider who frequently works with mentally ill people is the dentist. Due to their increased risk of developing dental disease due to medication side effects, a lack of interest in self-care, coordination problems, and a negative attitude toward medical professionals, it is equally important to understand how to treat and manage mentally ill patients as it is to treat patients with other systemic diseases [15]. What sets mental illness apart from other systemic disorders, however, is that behavioral treatment can occasionally be just as successful as medication in treating it [16]. The dentist must understand the drugs and their adverse effects, though, because many mentally ill patients need to take systemic medications.

According to the present study, dental students and interns generally lack clarity on mental health. Patterson and Ford [17], Aruna [2], Holzinger *et al.* [18], and Brondani *et al.* [19] have all shown comparable results. This contrasts with the findings of Rasmina *et al.* [20], who found that medical students, interns, and healthcare professionals had a favorable attitude toward people with mental illnesses.

Nearly half of those respondents took mental illness education classes. Research has indicated that while taking classes might enhance participants' perspectives, it has little effect on student and intern patient care [19]. It has been noted that the usage of vignettes gives students a chance to talk about good experiences, including communication, empathy, and relief [20]. Even pupils who did not participate well showed that this teaching approach was successful [20]. Innovation and critical thinking are fostered by students' reflection and conversation [20]. Seminars are said to have an influence on patient-centered treatment and to be both affordable and effective at enhancing attitudes and knowledge [17].

It is difficult and affects social interaction and day-to-day living when mentally sick people are stigmatized. Our findings are consistent with other research showing stigmatization among healthcare professionals [17, 19-22]. Both dentistry and medical students' knowledge, but not their attitudes toward patients, was found to be enhanced by the use of a psychosocial medicine module and seminar [17, 23]. However, Desai *et al.* and Brondani *et al.* found that students' stigmatization was lessened by clinical posting and instructional vignettes [19, 22]. It appears that stigmatization among students is influenced by clinical exposure and experience. People with mental illnesses

may experience negative effects on their self-esteem, attitude, and drive to seek medical attention as a result of prejudice and labeling [23].

It is common for the general public to misunderstand and misinterpret mental illness. Dentists, among other medical professionals, regrettably share the same misconceptions [2]. Globally, mental disease affects 17.6% of the population, according to Steel *et al.* [24]. The public continues to either ignore or avoid talking about mental illness, even though a large percentage of individuals live with one [25].

Continuing education programs for professionals should be implemented, and the dentistry curriculum should incorporate professional and ethical education. To intentionally serve, care for, and lessen the stigmatization of patients, healthcare staff's knowledge and attitude should be strengthened. To enhance the clinical experience, professional education, and training should be fully developed using tried-and-true educational strategies to increase health care and knowledge, reduce stigma, increase assurance during treatment and administration, and make sure that mentally disordered patients and their needs are properly perceived.

## Conclusion

Dental students' and interns' attitudes and knowledge regarding mental illness and mentally ill people were evaluated in the present investigation. The findings demonstrated that gender and level had an impact on attitudes and knowledge and that there was a positive attitude but a dearth of knowledge.

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## References

1. Almutairi AF. Mental illness in Saudi Arabia: an overview. *Psychol Res Behav Manag.* 2015;8:47-9. doi:10.2147/PRBM.S79268
2. Aruna G, Mittal S, Yadiyal M, Acharya C, Acharya S, Uppulari C. Perception, knowledge, and attitude toward mental disorders and psychiatry among medical undergraduates in Karnataka: a cross-sectional study. *Indian J Psychiatry.* 2016;58(1):70-6. doi:10.4103/0019-5545.174381
3. Chung K, Chen E, Liu C. University students' attitudes towards mental patients and psychiatric treatment. *Int J Soc Psychiatry.* 2001;47(2):63-72. doi:10.1177/002076400104700206
4. Chawla JM, Balhara YP, Rajesh Sagar S. Undergraduate medical students' attitude toward psychiatry: a cross-sectional study. *Indian J Psychiatry.* 2012;54(1):37-40. doi:10.4103/0019-5545.94643
5. DeLucia LM, Davis EL. Dental students' attitudes toward the care of individuals with intellectual disabilities: relationship between instruction and experience. *J Dent Educ.* 2009;73(4):445-53.
6. Ramon T, Grinshpoon A, Zusman S, Weizman A. Oral health and treatment needs of institutionalized chronic psychiatric patients in Israel. *Eur Psychiatry.* 2003;18(3):101-5. doi:10.1016/s0924-9338(03)00023-3
7. Tang LR, Zheng W, Zhu H, Ma X, Chiu HF, Correll CU, et al. Self-reported and interviewer-rated oral health in patients with schizophrenia, bipolar disorder, and major depressive disorder. *Perspect Psychiatr Care.* 2014;52(1):4-11. doi:10.1111/ppc.12096
8. Torales J, Barrios I, González I. Problemáticas de salud bucodental en personas con trastornos mentales. *Medwave.* 2017;17(08):e7045. doi:10.5867/medwave.2017.08.7045
9. Yadav T, Arya K, Kataria D, Balhara YP. Impact of psychiatric education and training on attitude of medical students towards mentally ill: a comparative analysis. *Ind Psychiatry J.* 2012;21(1):22-31. doi:10.4103/0972-6748.110944
10. Balon R, Morreale MK, Guerrero AP, Beresin EV, Brenner A, Coverdale JH, et al. Impact of educational experience on attitudes toward mental illness and career choice. *Acad Psychiatry.* 2017;41(3):309-11. doi:10.1007/s40596-017-0686-4

11. Poreddi V, Thimmaiah R, Math SB. Attitudes toward people with mental illness among medical students. *J Neurosci Rural Pract.* 2015;6(3):349-54. doi:10.4103/0976-3147.154564
12. Malla A, Shaw T. Attitudes towards mental illness: the influence of education and experience. *Int J Soc Psychiatry.* 1987;33(1):33-41. doi:10.1177/002076408703300105
13. Siu BW, Chow KK, Lam LC, Chan WC, Tang VW, Chui WW. A questionnaire survey on attitudes and understanding towards mental disorders. *East Asian Arch Psychiatry.* 2012;22(1):18-24.
14. Ha J, Hong S. Survey on knowledge level, perception, and attitudes of dental hygiene students toward mental disorders in Korea. *Indian J Sci Technol.* 2016;9(43):402-6. doi:10.17485/ijst/2016/v9i43/105016
15. Boyle C, Koburunga S. Dental care for adults with mental health problems. *Dent Nurs.* 2012;8(8):482-6. doi:10.12968/denn.2012.8.8.482
16. Thoma N, Pilecki B, McKay D. Contemporary cognitive behavior therapy: a review of theory, history, and evidence. *Psychodyn Psychiatry.* 2015;43(3):423-61. doi:10.1521/pdps.2015.43.3.423
17. Patterson S, Ford P. Dentistry students' views about mental illness and impact of a targeted seminar on knowledge and attitudes: a mixed-method study. *J Ment Health Train Educ.* 2014;9(3):190-202. doi:10.1108/JMHTEP-05-2014-0013
18. Holzinger A, Lettner S, Franz A. Attitudes of dental students towards patients with special healthcare needs: can they be improved? *Eur J Dent Educ.* 2020;24(2):243-51. doi:10.1111/eje.12490
19. Brondani M, Alan R, Donnelly L. The role of an educational vignette to teach dental students on issues of substance use and mental health disorders in patients at the University of British Columbia: an exploratory qualitative study. *BMC Med Educ.* 2021;21(1):360. doi:10.1186/s12909-021-02767-9
20. Rasmina V, Hafeeq B, Uvais NA, Sreeraj VS. Attitudes of dental interns towards mental illness. *Int J Med Public Health.* 2019;9(1):28-30. doi:10.5530/ijmedph.2019.1.7
21. Riffel T, Chen SP. Exploring the knowledge, attitudes, and behavioural responses of healthcare students towards mental illnesses—a qualitative study. *Int J Environ Res Public Health.* 2019;17(1):25. doi:10.3390/ijerph17010025
22. Desai R, Panchal B, Vala A, Ratnani IJ, Vadher S, Khania P. Impact of clinical posting in psychiatry on the attitudes towards psychiatry and mental illness in undergraduate medical students. *Shanghai Arch Psychiatry.* 2019;32(3):1-7. doi:10.1136/gpsych-2019-100072
23. Hofmann M, Harendza S, Meyer J, Drabik A, Reimer J, Kuhnigk O. Effect of medical education on students' attitudes toward psychiatry and individuals with mental disorders. *Acad Psychiatry.* 2013;37(6):380-4. doi:10.1007/BF03340073
24. Steel Z, Marnane C, Iranpour C, Chey T, Jackson JW, Patel V, et al. The global prevalence of common mental disorders: a systematic review and meta-analysis 1980-2013. *Int J Epidemiol.* 2014;43(2):476-93. doi:10.1093/ije/dyu038
25. Murthy RS, Khandelwal S. Undergraduate training in psychiatry: world perspective. *Indian J Psychiatry.* 2007;49(3):169-74. doi:10.4103/0019-5545.37316