Original Article

DENTAL STUDENTS' KNOWLEDGE AND ATTITUDES ABOUT MENTAL ILLNESS

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ABSTRACT

This study aims to evaluate the knowledge and attitude toward mental illness among dental students and interns. To examine dental students' knowledge and attitude about mental disorders, a self-administered questionnaire was designed, tested, and disseminated to dental students and interns through social outlets, participation was voluntary after consenting. A total of 125 dental students and interns participated in the study. Data were statistically analyzed using SPSS. Our results displayed that more than half of the sample attended an educational course about mental illness. Almost 40% of the participants have encountered patients or individuals with mental illness. The results also indicated that there is deficient information but a positive attitude. There was also a lack of knowledge about medications' side effects. Knowledge and attitude were affected by gender and academic level. It also revealed stigmatization among the participants. Our study disclosed the importance of academic education during courses and continuing professional education. This may aid in reinforcement of knowledge since the majority has a positive attitude.

Key words: Dental students, Interns attitude, Knowledge, Mental illness.

Introduction

Mental illness is a debilitating medical condition that could influence one's thoughts, mental state, and behaviors. It has numerous other conditions that are related to it, namely schizophrenia and depression, panic disorder, bipolar disorder, PTSD, eating disorders, and addictive behaviors. The aforementioned conditions can influence people from different age groups and with different backgrounds [1]. Regardless of worldwide spread, the negative attitude toward psychiatric disorders has been consistently reported to be predominant in all parts of the general population [2]. People's attitudes toward mentally ill and psychiatric patients are mostly unfavorable, thus making it more likely for mentally ill individuals to hide their disease and never tell anyone, unless he or she is trustworthy, about their treatment histories to avoid social rejection. People with a mental illness must adapt to the symptoms of the condition they have and also cope with social and self-stigmatization [3]. Unfortunately, many individuals tend to have sensitive and negative views concerning people with mental conditions, most of these perceptions are based on the dominating traditional beliefs that exist. A lot of individuals are biased and discriminating toward people with a mental illness, which in turn affects their quality of life [4]. In a literature review discussing the oral health status of people with mental disabilities, the authors found that oral health status affects these types of patients ' daily life activities negatively. Moreover, their oral health needs were shown to

be greater compared with general society [5]. Since psychiatric tend to abandon their oral health need because insufficient financial resources marked of or psychopathology, including depression, negative side effects, function disruption, Few arranged referrals to the dental clinic, these individuals report a higher number of lost teeth compared with others; and again consume medicine for a longer period. These medications mostly cause xerostomia (dry mouth), leading to an increased risk of caries, gingivitis, periodontitis, and stomatitis [6-8]. Several studies considering the impact of education on people's attitudes toward mentally ill individuals have shown that education may have a positive impact toward alleviating their prejudice; also, understanding patients with special needs can be effective in causing a positive impact on health care providers' confidence in treating these populations as well as their behavior in practice [9-12]. That is why dentists with minimal experience have lesser confidence in treating these patients at their private clinical centers [5]. Such negative attitudes may be injurious not only to patient care but also to society's attitude toward psychiatric disorders if they are present in health professionals. Undergraduate dental students' knowledge, attitude, and awareness regarding mental health and psychiatric disorders are very crucial because they will be part of treating these patients, either directly or indirectly, through the years of their career4]. Stigma and discrimination usually appear in students who lack knowledge, adopt negative attitudes, lack contact, and avoid individuals with a mental illness [13].



Therefore, providing standard dental services to patients with a mental disorder requires that dental students have sufficient knowledge and a positive attitude toward mental disorders. Nonetheless, dentistry students with little knowledge about mental disorders or a negative preconception or attitude can face challenges when communicating with the patient, which in turn can cause incorporation of the patient and failure of the treatment [14]. The importance of this matter in the dental clinic cannot be overlooked. Thus, this study aims at evaluating knowledge and attitude toward mental illness among dental students and interns.

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 ≤ 0.05 were considered statistically significant.

Results and Discussion

The sample size obtained consisted of 125 participants comprising 3rd-, 4th-, and 5th-year students and interns, distributed almost evenly between them. For the total scale, Cronbach's alpha = 0865. Most of the respondents were female (83.2%). **Table 1** summarizes the demographic data.

Table 1. Demographic Sample – Responses abo	out Encountering Mentally Ill Individuals	and Attending Courses
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Variable	Ge	nder	T ()
Variable ———	Male	Female	1 otal
]	Level	
3rd year	7(5.6)	23(18.4)	30(24)
4th year	4(3.2)	24(19.2)	28(22.4)
5th year	8(6.4)	34(27.2)	42(33.6)
Intern	2(1.6)	23(18.4)	25(20)
	Have you ever encountered	a patient with a mental illness?	
Yes	7(5.6)	42(33.6)	49(39.2)
No	12(9.6)	58(46.4)	70(56)
Not Sure	2(1.6)	4(3.2)	6(4.8)
Any pre	evious contact with individuals	with a mental illness beyond the	caregiver
Yes	8(6.4)	32(25.6)	40(32)
No	11(8.8)	50(40)	61 (48.8)
Not Sure	2(1.6)	22(17.6)	24 (19.2)
	Have you attended an educat	ional course about mental illness	?
Yes	12(9.6)	43 (34.4)	55 (44)
No	9(7.2)	61(48.8)	70 (56)

Variable	Completely agree (%)	Agree (%)	Slightly agree (%)	Slightly disagree	Disagree (%)	Completely disagree
A mentally ill person is more likely to harm others than a normal person.	20 (16)	26 (20.8)	43 (34.4)	16 (12.8)	17 (13.6)	3 (2.4)
Mental disorders would require a much longer period of time to be cured than other general diseases would.	19 (15.2)	48 (38.4)	32 (25.6)	9 (7.2)	15 (12.0)	2 (1.6)
It may be a good idea to stay away from people who have a psychological disorder because their behavior is dangerous.	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 person with a psychological disorder should have a job with only minor responsibilities.	5 (4.0)	22 (17.6)	42 (33.6)	19 (15.2)	22(17.6)	15 (12.0)
Mentally ill people are more likely to be criminals.	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)
I am afraid of what my boss, friends, and others will think if I were diagnosed with a psychological disorder.	11 (8.8)	40 (32.0)	32 (25.6)	20 (16.0)	11 (8.8)	11 (8.8)
Individuals diagnosed as mentally ill suffer from its symptoms throughout their life.	14 (11.2)	37 (29.6)	38 (30.4)	16 (12.8)	11 (8.8)	9 (7.2)
People who once received psychological treatment are likely to need further treatment in the future.	10 (8.0)	39 (31.2)	35 (28.0)	19 (15.2)	16 (12.8)	6 (4.8)
It might be difficult for mentally ill people to follow social rules such as being punctual or keeping promises.	8 (6.4)	27 (21.6)	38 (30.4)	25 (20.0)	19 (15.2)	8 (6.4)
I would be embarrassed if people knew that I engaged with a person who once received psychological treatment.	6(4.8)	14(11.2)	32(25.6)	21(16.8)	25(20.0)	27(21.6)
I am afraid of people who are suffering from a psychological disorder because they may harm me.	4(3.2)	6(4.8)	29(23.2)	26(20.8)	27(21.6)	33(26.4)
A person with a psychological disorder is less likely to function well as a parent.	3(2.4)	17(13.6)	42(33.6)	28(22.4)	23(18.4)	12(9.6)
I would be embarrassed if a person in my family became mentally ill.	3(2.4)	8(6.4)	15(12.0)	19(15.2)	31(24.8)	49(39.2)
I believe that a psychological disorder can never be completely cured.	4(3.2)	11(8.8)	23(18.4)	18(14.4)	34(27.2)	35(28.0)
Mentally ill people are unlikely to be able to live by themselves because they are unable to assume responsibilities.	4(3.2)	12(9.6)	35(28.0)	35(28.0)	24(19.2)	15(12.0)
Most people would not knowingly be friends with a mentally ill person.	6(4.8)	29(23.2)	36(28.8)	28(22.4)	20(16.0)	6(4.8)
The behavior of people who have psychological disorders is unpredictable.	8(6.4)	31(24.8)	55(44.0)	18(14.4)	9(7.2)	4(3.2)
A psychological disorder is unlikely to be cured regardless of treatment.	3(2.4)	14(11.2)	25(20.0)	33(26.4)	32(25.6)	18(14.4)
I would not trust the work of a mentally ill person assigned to my work team.	1(0.8)	7(5.6)	25(20.0)	49(39.2)	27(21.6)	16(12.8)
A mentally ill person is more likely to harm others than a normal person.	57(45.6)	7(5.6)	30(24.0)	12(9.6)	10(8.0)	9(7.2)

 Table 2. Attitude of Dental Students toward Mental Illness

As shown in **Table 2**, more than half of the respondents (46.4%) had never encountered a patient with a mental

illness. Likewise, 40% had not had previous contact with individuals with a mental illness beyond their capacity as a

caregiver. Fifty-six percent of the respondents had not attended any educational programs on the management of mentally ill individuals. Almost three-quarters (71.2%) of the respondents agreed that mentally ill persons are more likely to harm. Almost one-third (31.2%) of respondents agreed that they are afraid of people suffering from a psychological disorder, and 40.8% agreed that it is a good idea to stay away from them. The majority of the sample (62.6%) disagreed that mentally ill people are more likely to be criminals. More than half of the respondents (55.2%) agreed that persons with a psychological disorder should have a job with only minor responsibilities. Concerning trusting the work of mentally ill individuals, 73.6% disagreed. Almost 30 percent (30.4%) of the respondents slightly agreed that the mentally ill suffer from its symptoms throughout their life, and 29.6% of respondents slightly agreed that the psychological disorder is recurrent. Also, 31.2% of respondents agreed that they were likely to need further treatment once they received psychological treatment, but 66.4% of the sample disagreed that a psychological disorder can never be completely cured. Most of the sample (79.2%) expressed that they would not feel embarrassed if a family member became mentally ill. More than half of the sample (58.4%) agreed that it is difficult for mentally ill people to follow social rules, and 44% slightly agreed that the behavior of people who have psychological disorders is unpredictable. The knowledge of dental students and interns about some mental illnesses and medications' side effects is presented in **Table 3**.

Table 3. Knowledge of Dental Students about Mental Diseases and Medications Side Effects

Variable		No	Not sure	
	n(%)	n(%)	n(%)	
Psychotropic medications frequently reduce salivary secretion, leading to dry mouth (xerostomia).	50(40.0)	14(11.2)	61(48.8)	
Psychotropic medications may cause sialorrhoea.	25(20.0)	24(19.2)	76(60.8)	
Antipsychotic drugs have no interaction with epinephrine.		22(17.6)	35(28.0)	
Patients with schizophrenia show worse dental health than the general population, which makes them a high-risk group for dental disease.		11(8.8)	16(12.8)	
Negative symptoms of the underlying disease (schizophrenia), such as apathy or the inability to initiate and maintain the behavior, reduce the ability and motivation to maintain oral hygiene.		8(6.4)	13(10.4)	
Psychotic patients may present with pain delusions difficult to distinguish from other pain.		54(43.2)	62(49.6)	
Pain delusions may result in unnecessary treatment.	40(32.0)	14(11.2)	71(56.8)	
Psychotic patients may present with dental anxiety.	94(75.2)	2(1.6)	29(23.2)	

The independent samples *t*-test and ANOVA analysis testing are presented in **Tables 4, 5, and 6**. Scheffe post hoc indicated that males were more likely to believe that the disease is recurring; on the contrary, females were more likely to agree on the presence of anxiety among psychotic patients at p = 0.001 and p = 0.003, respectively. Concerning the level, 3rd-year students significantly demonstrated that they had encountered patients with a mental illness and were more ashamed by the label of a "psychological disorder." They were also more likely to believe the effect of psychosis

on motivation and oral hygiene and that pain illusion causing overtreatment. Likewise, 3rd-year students believed that psychotic patients may present with dental anxiety more than others. On the other hand, 4th-year students were more likely to continue attending dental education on mental illness management. Fifth-year students were more inclined to stay away from those with psychotic diseases and avoid trusting the work of an individual with a mental illness. Both interns and 5th-year students were more likely to know about the side effects of xerostomia and sialorrhea.

Table 4. Independent Samples t-test of Analysis of the Association between Gender and Knowledge

Variable	Gender	Ν	Mean	Std. Deviation	Т	Sig. (2-tailed)
A psychological disorder is recurrent.	Male	21	3.38	1.161	2 2 4	.020
	Female	104	2.71	1.188	2.304	
Psychotic patients may present with dental anxiety.	Male	21	1.90	.995	2 212	026
	Female	104	1.39	.793	2.213	.030

Variable		Sum of Squares	Df	Mean Square	F	Sig.
Have you ever encountered a patient with a mental illness?	Between Groups	4.825	3	1.608		
	Within Groups	35.383	121	.292	5.500	.001
	Total	40.208	124		-	
Have you attended an educational program about - mental illness?	Between Groups	6.346	3	2.115		
	Within Groups	24.454	121	.202	10.466	.000
	Total	30.800	124		_	
It may be a good idea to stay away from people who have a psychological disorder because their behavior is dangerous.	Between Groups	26.340	3	8.780		
	Within Groups	165.660	121	1.369	6.413	.000
	Total	192.000	124		_	
	Between Groups	23.531	3	7.844	_	
The term "psychological disorder" makes me feel embarrassed.	Within Groups	193.269	121	1.597	4.911	.003
	Total	216.800	124		_	
I would not trust the work of a mentally ill person – assigned to my work team.	Between Groups	12.389	3	4.130		
	Within Groups	139.611	121	1.154	3.579	.016
	Total	152.000	124		-	

Table 5. ANOVA Summary Results Between and Within Groups in Relation to Educational Level

Table 6. Association of Sample Educational Level with Knowledge Using ANOVA Test

Variable		Sum of Squares	Df	Mean Square	F	Sig.
Psychotropic medications frequently reduce salivary secretion, leading to dry mouth (xerostomia).	Between Groups	21.555	3	7.185		
	Within Groups	69.773	121	.577	12.460	.000
	Total	91.328	124			
	Between Groups	7.696	3	2.565		
Psychotropic medications may cause sialorrhoea.	Within Groups	75.504	121	.624	4.111	.008
-	Total	83.200	124			
Patients with schizophrenia showed worse dental _ health than the general population, which makes them a high-risk group for dental disease.	Between Groups	4.683	3	1.561		
	Within Groups	57.205	121	.473	3.302	.023
	Total	61.888	124			
Negative symptoms of the underlying disease (schizophrenia), such as apathy or the inability to -	Between Groups	14.452	3	4.817		
	Within Groups	66.700	121	.551	8.739	.000
ability and motivation to maintain oral hygiene.	Total	81.152	124			
	Between Groups	21.862	3	7.287		
Psychotic patients may present with pain delusions difficult to distinguish from other pain.	Within Groups	92.170	121	.762	9.567	.000
	Total	114.032	124			
Pain delusions may result in unnecessary	Between Groups	7.898	3	2.633		
treatment.	Within Groups	104.710	121	.865	3.042	.032
treatment.	Total	112.608	124			
	Between Groups	9.541	3	3.180		
Psychotic patients may present with dental anxiety.	Within Groups	79.659	121	.658	4.831	.003
-	Total	89.200	124			

Along with the increased prevalence of mental illness, there is an increased chance of such patients presenting to dental clinics. Moreover, the connection between oral and mental health has been established in the literature. Thus, awareness and understanding of the physical, emotional, and financial burden of those disorders become imperative for dental workers. Despite the importance of this issue, only a few studies have explored it.

Mental illness can range from a slight, unnoticeable trait to

severe, life-altering disease, requiring medical attention and treatment. The dentist is one health professional who must often deal with mentally ill patients. Mentally ill individuals have a greater risk of developing a dental disease due to the side effects of medications, lack of interest in self-care, difficulties with cooperation, and a negative attitude toward health care workers; thus, knowing how to treat and manage such patients is as important as knowing how to deal with those with other systemic diseases [15]. Mental illness differs, however, from other systemic diseases in that it does not always have to be treated with drugs, as behavioral therapy can sometimes be just as effective [16]. Nonetheless, many mentally ill patients require the use of systemic medications, so it is the dentist's responsibility to be aware of the medications as well as their side effects.

The current study demonstrated there is a general confusion about mental health among dental students and interns. This result is similar to that reported by Patterson and Ford (2014), Aruna (2016), and Holzinger *et al.* (2019) [17-20]. This is in contrast to Rasmina *et al.* (2019) and Rishi and Taylor (2019), who reported a positive attitude among interns, medical students, and health care workers toward mentally ill individuals.

Nearly half of the respondents attended educational courses about mental illness. Studies have shown that attending courses can improve participants' points of view; however, it does not improve patient care among students and interns [20]. The use of vignettes is reported encourage students to provide an opportunity and to discuss positive experiences, such as empathy, reassurance, and communication [21]. This educational method demonstrated effectiveness even among students who did not participate effectively [21]. Students' reflection and discussion promote innovation and critical thinking [21]. Seminars are reported to be inexpensive yet effective in knowledge acquisition and to improve attitude, and they have their impact on patient-centered care [17].

The stigmatization of mentally ill individuals presents a challenge and has an impact on daily life and social interaction. Similar to our results, several studies have indicated stigmatization among health care workers [17, 20-23]. It has been reported that using a psychosocial medicine module and seminar improved knowledge but not attitude toward patients among both dental and medical students [17, 24]. On the other hand, Desai *et al.* and Brondani *et al.* reported that clinical posting and educational vignettes reduced the stigmatization among students [20, 23]. It seems that clinical exposure and experience play a role in stigmatization among students. The discrimination and labeling of mentally ill persons may affect self-esteem negatively, attitude, and motivation to seek health care [24].

In the general population, mental illness is often misperceived and misjudged. Unfortunately, some health care professionals, including dentists, carry the same misperceptions [2]. According to Steel *et al.*, 17.6% of the population worldwide suffer from mental illness [2, 25]. Despite the high number of people who live with a mental illness, the subject of mental illness is still either ignored or avoided by the public [26].

Professional and ethical education should be introduced in the dental curriculum and implementation of continuing education courses for professionals. Health care workers' knowledge and attitude should be reinforced so that they will consciously serve, care, and reduce patients' stigmatization. Professional education and training should be actively developed to meliorate clinical experience using reported educational strategies to increase awareness and health care, reduce stigma, enhance confidence during treatment and management, and promote the appropriate perception of mentally ill patients and their needs.

Conclusion

The present study was designed to assess the knowledge and attitude of dental students and interns about mental illness and mentally ill individuals. The findings indicated a positive attitude but deficient information, and attitude and knowledge were affected by both level and gender.

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