

## Original Research

# A screening of obsessive compulsive disorder in pharmacy students

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**Abstract**

Obsessive-compulsive disorder (OCD) is a mental disorder that causes repeated unwanted thoughts or sensations, or do something over and over again. It is affecting all ages in the world. It is unusual for symptoms to begin after the age of 35 and half of people develop problems before 20. This making university students a target of OCD. This study investigates the prevalence of symptoms of OCD and identifies possible risk factors among pharmacy students of University of Tripoli, Libya. 80 pharmacy students registered in the final academic year 2019/2020 were enrolled in this study. All the participants were females ranging of 22 to 24 years old of a same environmental background. This study is based on a validated questionnaire for screening of OCD as mentioned by the American Psychiatric Association without modification. A total of 63 students have returned the questionnaire (response rate, 78.8%). The study shows that OCD symptom is relatively common among pharmacy students. The most common symptoms are losing something of importance (71%) and checking things over and over or repeat actions many times to be sure they are done properly (63%). Among OCD symptoms, the most common associated trigger factors were stress and phobia which representing 62% of the participated students. This study indicates that pharmacy students are at risk of being susceptible to getting OCD. OCD affects academic performance and quality of student life, therefore, a psychological and health services for university students should be implanted.

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**Keywords:** Libya, obsessive compulsive disorder, pharmacy, prevalence, university students

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**Introduction**

Psychiatric disorder is a syndrome characterized by clinically significant disturbance in an individual's cognitive, emotion regulation, or behavior as result of a dysfunction in psychological, biological, or developmental process underlying mental functioning. Psychological disorders are usually associated with significant distress in social, occupational or other important activities [1]. Among psychiatric disorders is obsessive-compulsive disorder (OCD), depression and anxiety. OCD is a disorder in which people have unpleasant and recurrent ideas, mental images, doubts or impulses that generate anxiety or emotional stress (obsessions). Whereas, compulsions or compulsive rituals are open or covert behaviors that individuals perform

repeatedly in response to an obsession or according to rigid rules, in order to neutralize or reduce anxiety/distress or prevent in (an excessive or unrealistic way) some dreaded event [2, 3]. The estimated lifetime prevalence is usually 2 - 3% [4]. OCD is one of the top 10 diseases contributing to the Global Burdens of Disease. It is related to suicide [5, 6] and with significant impairments in functioning and poorer quality of life [7].

Over the world, OCD is a common disorder that affects adults, adolescents and children. Most people are diagnosed by the age of 20 years or before, typically with an earlier age of onset in boys than in girls, but onset after age 35 does happen. These making university students a target of this disorder. Undergraduate medical students may at high risk for developing OCD. Previous published

studies showed that prevalence of common mental disorders among medical students is higher when compared with the general population of a gender and age matched peers [8]. However, health students in general and medical students specifically are prone to OCD since they are taught that any mistake in term of sterilization and cleanliness could result into infection of various microbes for themselves or others [9]. A recent study reported that OCD symptoms are higher in students applied in medical sciences and are significantly higher in laboratory medicine students when compared to other sciences [10]. To the best of our knowledge, all the previous studies have explored medical students and no previous published studies conducted in Libya for OCD. This study was thus aimed to explore prevalence of OCD symptoms among pharmacy students at University of Tripoli.

### Materials and methods

This study was conducted for screening of OCD symptoms in Pharmacy University students registered in graduation year (final academic year) during the spring semester of 2019. All the participants were of same gender (female), age (22 – 24 years) and environmental conditions and background. The standard questionnaire for screening of OCD as mentioned by American Psychiatric Association was used with no modification [1, 11]. The questionnaire contains 21 questions and each question based on the answer "yes" or "no" for occurrence of each item. Some of questions are related to obsessive thought symptoms and others are concerned with compulsions behaviors that might be experienced by students. This study's document was submitted to the departmental review board at Department of Pharmacology and clinical Pharmacy, Faculty of Pharmacy, University of Tripoli, Libya. The committee provided unconditional approval to this study, agreed to the use of verbal consent and gave this study a registration number: (21-2019). In this study, each student was invited to participate willingly and given an informed consent. During the collection of the questionnaire, confidentiality was maintained. In addition, each participant informed about the objective of the study. Voluntary contribution and the right to withdraw are granted. Moreover, students with any known mental and/or physical diseases were excluded. The questionnaire was distributed hand to hand to the students for two sequential days (February, 2019). In order to get definite data and to avoid any misunderstanding of the terms by the participants. The questionnaire was translated into Arabic to avoid any

misunderstanding of medical terms. Data were analyzed using descriptive statistical measures as frequency distribution, percentage, mean and standard deviation of the mean.

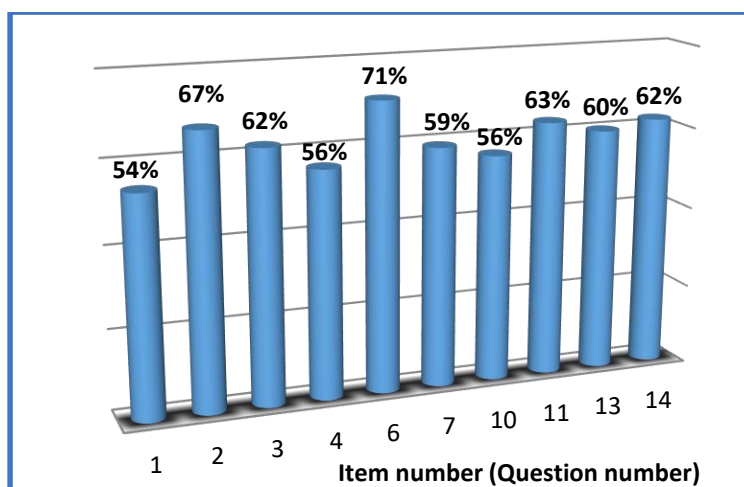
### Results

In this study, 80 students who are registered in the final year of pharmacy during the spring semester of 2019 were participated. All the students were females and aged between 22 and 24 years. The questionnaire was completed by 63 students which representing 79% of response rate. The frequency distribution of the responses for the questionnaire which contains 21 items and the symptoms of obsessive compulsive symptoms among the students are shown in **Table 1**.

Regarding the items that represented obsessing symptoms, the findings revealed that the majority of the students which representing 71% (n = 45) mentioned symptoms of always afraid of losing something of importance. However, 42 students representing 67% were mentioned symptoms of worry excessively about dirt, germs or chemicals, whereas, 39 students representing 62% were mentioned symptoms of constantly worried that something bad will happen because they forgot something important, like locking the door or turning off appliances. On the other hand, common compulsive symptoms among the students were 40 students which representing 63% mentioned symptoms of checking things over and over or repeat actions many times to be sure they are done properly. Moreover, 39 students that 62% mentioned symptoms of experienced changes in sleeping or eating habits and 38 students (60%) were mentioned they keep many useless things because they feel that they cannot throw them away. Furthermore, some of the students (n = 6) that representing 10% were mentioned that during the last year, they use of social substances (alcohol or drugs) resulted in failure fulfill responsibilities with work, school or family. Only seven students (11%) were mentioned that of during the last year, they use of alcohol or drugs which placed them in a dangerous situation, such as driving a car under the influence. The pattern of the most common obsessive-compulsive symptoms is shown in **Figure 1**. In This study, the most common associated trigger factors including stress and phobia which representing 65% of the students followed by social related factors (46%), sign-related factors (45.6%), personal related factors (41.5%), psychological related factors (29%) and over-use of social substance, CNS-stimulants and depressants effects were representing 12.5% (**Table 2**)

**Table 1:** Frequency distribution of Libyan pharmacy students' responses for the questionnaire

Item No.	Are you troubled by the following?	Yes (n)	Answers		
			%	No (n)	%
1	Do you have unwanted ideas, images, or impulses that seem silly, nasty, or horrible?	34	54	29	46
2	Do you worry excessively about dirt, germs, or chemicals?	42	67	21	33
3	Are you constantly worried that something bad will happen because you forgot something important, like locking the door or turning off appliances?	39	62	24	38
4	Do you experience shortness of breath?	35	56	28	44
5	Are you afraid you will act or speak aggressively when you really don't want to?	31	49	32	51
6	Are you always afraid you will lose something of importance?	45	71	18	29
7	Are there things you feel you must do excessively or thoughts you must think repeatedly to feel comfortable or ease anxiety?	37	59	26	41
8	Do you ever experience "jelly" legs?	21	33	41	65
9	Trouble falling or staying asleep, or restless and unsatisfying sleep	25	40	38	60
10	Do you wash yourself or things around you excessively?	35	56	28	44
11	Do you have to check things over and over or repeat actions many times to be sure they are done properly?	40	63	23	37
12	Do you avoid situations or people you worry about hurting by aggressive words or actions?	27	43	36	57
13	Do you keep many useless things because you feel that you can't throw them away?	38	60	24	38
14	Have you experienced changes in sleeping or eating habits?	39	62	24	38
15	<i>More days than not, do you feel...</i>				
	Sad or depressed	23	37	40	63
16	Disinterested in life	16	25	47	75
17	Worthless or guilty	16	25	47	75
18	<i>During the last year, has the use of alcohol or drugs...</i>				
	Resulted in your failure to fulfill responsibilities with work, school, or family?	6	10	57	90
19	Placed you in a dangerous situation, such as driving a car under the influence?	7	11	56	89
20	Gotten you arrested?	10	16	53	84
21	Continued despite causing problems for you or your loved ones?	8	13	55	87

**Figure 1:** Pattern of the most common OCD among Libyan pharmacy students

**Table 2:** Factors related to OCD among Libyan pharmacy students

<b>Sign-related factors for the Libyan pharmacy students</b>	<b>Answers</b>			
	<b>Yes (n)</b>	<b>%</b>	<b>No (n)</b>	<b>%</b>
<b>Are you troubled by the following?</b>				
Do you experience shortness of breath?	35	<b>56</b>	28	<b>44</b>
Do you ever experience “jelly” legs?	21	<b>33</b>	41	<b>65</b>
Trouble falling or staying asleep, or restless and unsatisfying sleep	25	<b>40</b>	38	<b>60</b>
Have you experienced changes in sleeping or eating habits?	39	<b>62</b>	24	<b>38</b>
More days than not, do you feel sad or depressed	23	<b>37</b>	40	<b>63</b>
<b>Average</b>	28.6	<b>45.6</b>	34.2	<b>22.8</b>
<b>Social related factors for the Libyan pharmacy students</b>				
Are you afraid you will act or speak aggressively when you really don't want to?	31	<b>49</b>	32	<b>51</b>
Do you avoid situations or people you worry about hurting by aggressive words or actions?	27	<b>43</b>	36	<b>57</b>
<b>Average</b>	29	<b>46</b>	34	<b>54</b>
<b>Personal related factors for the Libyan pharmacy students</b>				
Do you wash yourself or things around you excessively?	35	<b>56</b>	28	<b>44</b>
Do you keep many useless things because you feel that you can't throw them away?	38	<b>60</b>	24	<b>38</b>
More days than not, do you feel disinterested in life	16	<b>25</b>	47	<b>75</b>
More days than not, do you feel worthless or guilty	16	<b>25</b>	47	<b>75</b>
<b>Average</b>	26.3	<b>41.5</b>	36.5	<b>58</b>
<b>Over-use of social substance factors</b>				
<i>During the last year, has the use of alcohol or drugs:</i>				
Resulted in your failure to fulfill responsibilities with work, school, or family?	6	<b>10</b>	57	<b>90</b>
Placed you in a dangerous situation, such as driving a car under the influence?	7	<b>11</b>	56	<b>89</b>
Gotten you arrested?	10	<b>16</b>	53	<b>84</b>
Continued despite causing problems for you or your loved ones?	8	<b>13</b>	55	<b>87</b>
<b>Average</b>	7.75	<b>12.5</b>	55.25	<b>87.5</b>
<b>Stress and phobia related factor</b>				
Do you have unwanted ideas, images, or impulses that seem silly, nasty, or horrible?	34	<b>54</b>	29	<b>46</b>
Do you worry excessively about dirt, germs, or chemicals?	42	<b>67</b>	21	<b>33</b>
Are you constantly worried that something bad will happen because you forgot something important, like locking the door or turning off appliances?	39	<b>62</b>	24	<b>38</b>
Are you always afraid you will lose something of importance	45	<b>71</b>	18	<b>29</b>
Are there things you feel you must do excessively or thoughts you must think repeatedly to feel comfortable or ease anxiety?	37	<b>59</b>	26	<b>41</b>
Do you have to check things over and over or repeat actions many times to be sure they are done properly?	40	<b>63</b>	23	<b>37</b>
<b>Average</b>	39.5	<b>62.6</b>	23.5	<b>37.3</b>
<b>Psychological related factor</b>				
15 More days than not, do you feel sad or depressed	23	<b>37</b>	40	<b>63</b>
16 More days than not, do you feel disinterested in life	16	<b>25</b>	47	<b>75</b>
17 More days than not, do you feel worthless or guilty	16	<b>25</b>	47	<b>75</b>
<b>Average</b>	18.3	<b>29</b>	44.6	<b>71</b>
<b>CNS-Stimulants and depressants effects</b>				
<i>During the last year, has the use of alcohol or drugs:</i>				
18 Resulted in your failure to fulfill responsibilities with work, school, or family?	6	<b>10</b>	57	<b>90</b>
19 Placed you in a dangerous situation, such as driving a car under the influence?	7	<b>11</b>	56	<b>89</b>
20 Gotten you arrested?	10	<b>16</b>	53	<b>84</b>
21 Continued despite causing problems for you or your loved ones?	8	<b>13</b>	55	<b>87</b>
<b>Average</b>	7.75	<b>12.5</b>	55.25	<b>87.5</b>

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## Discussion

The present study was conducted in order to determine the Obsessive Compulsive Disorder is a disorder of the brain and behavior. It causes severe anxiety in those affected, it involves both obsessions and compulsions that take a lot of time and get in the way of important activities the person values. This study selected to explore the prevalence of symptoms suggestive of OCD and to identify the possible risk factors among the university pharmacy students at University of Tripoli. To the best of our knowledge, this is the first study in Libya and one of the few studies worldwide assessing OCD among pharmacy students. Almost, all the previous studies have specifically been done on medical students. In this study, the participants have all been of the same gender, age and almost similar conditions with free of any physical illness and neurological conditions. It is mainly carried out on the final graduation year students to minimize individual variations among the participants. This study revealed that OCD symptom is relatively common among the pharmacy university students and the most common obsession and compulsion symptoms are of losing something of importance (71%) and checking things over and over or repeat actions many times to be sure they are done properly (63%). These findings are in congruent with the previous published study carried out in Thailand by Phusanti and Kusalaruk [12] which reported that the most common obsession and compulsion among medical students in Ramathibodi hospital are losing something valuable (75.1%) and repeatedly asking for reassurance (61.1%). Another study carried out in Iraq by Taher and others [9] reported that 29.6% of medical students have extremely or a lot of times check things more often than necessary and 19.4% of the students have to wash or clean themselves simply because they feel they were contaminated [9]. However, in our study showed 67% of the students were mentioned symptoms of worry excessively about dirt, germs or chemicals, whereas 62% of the students were mentioned symptoms of constantly worried that something bad will happen because they forgot something important, like locking the door or turning off appliances. Furthermore, 60% of the students were mentioned they keep many useless things because they feel that they cannot throw them away. In a study carried in Iraq by Taher and collaborators reported that 28% of medical students mentioned that they avoid throwing things away because they afraid they might need them later [9]. Moreover, 40% of the students were mentioned symptoms of they had trouble falling or staying asleep, or restless and unsatisfying sleep. This

finding is in consistent with other studies which reported that people have sleep problems which may associated with risk of development of OCD [13, 14].

Stressful life event and phobias may precipitate or predispose individuals to development of OCD symptoms. In a previous study by Torres and his associates [15] showed that prevalence of OCD is higher in medical students than in the general population and is associated with depressive symptoms. Another study among Iraqi undergraduate medical students by Taher and others [9] found that worry and stress are the most prevalent items with 25% and 23.7%, respectively. In our study, the most common associated trigger factors included are stress and phobia which represented by 62.6%. This may have associated with high academic pressure, more courses, assignments, examinations and graduation projects that leading to tension and stressful life. Other factors such as social related factors (46%), sign-related factors (45.6%), personal related factors (41.5%), psychological related factor (29%) and over-use of social substance, CNS-stimulants and depressants (12.5%) were noticed in pharmacy university students. These findings indicated those factors have a clear impact on mental health and could lead to the development of mental disorder like OCD in our case. Additional factor that may have contributed to the obtained findings is unusual current situation of the country (instability after revolution 2011 till now) that still ongoing over the last ten years that has caused some people being refugees. Also the poor and unstable security situation of the country with bad quality of people life (stressful factors) are all a few of many predisposing factors for OCD susceptibility.

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## Conclusion

This study shows that pharmacy students are in risk of being susceptible to OCD and it is of stress- and phobia-related factor that may make students more vulnerable to the illness. The occurrence of OCD affects academic performance and quality of student life. Thus, a psychological support and medical services are suggested for Libyan university students.

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## Conflict of Interest

The authors declare that no conflict of interest with regard to this work.

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