

Comorbidity of Obsessive-Compulsive Disorder and Post Traumatic Stress Disorder among Patients with Bipolar

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Abstract:

Background: Obsessive-compulsive symptoms, and Post-traumatic stress disorder are common among patients with bipolar disorders. This comorbid condition complicates the clinical treatment of the disorders, so identifying these individuals is important.

Aim: the study aimed to investigate the comorbidity of Obsessive-compulsive disorder, and Post-traumatic stress disorder among patients with bipolar disorder.

Design: A descriptive exploratory designs was used.

Sample: A sample of convenience of 150 of patients diagnosed as bipolar patients were selected from In and Out patient El-Abbassia Mental Health Hospital and Psychiatry and Addiction Prevention Hospital, El-Manial University Hospitals.

Data collection tools: Sociodemographic and clinical data sheet, Yale Brown obsessive compulsive disorder scale, and the impact of event scale-revised (IES-R) were used to achieve the purpose of the study. A semi structured interview was used to collect the data from the studied sample.

Main findings: Finding of the current study reveals that, most of the studied sample (96%) experiencing OCD symptoms, and 75.3% experience severe PTSD symptoms enough to suppress immune system's function and 14% of them experience symptoms can provide proper diagnosis.

Conclusion: The study concludes that, apparent comorbidity between bipolar disorder (BD) and obsessive-compulsive disorder (OCD), and post-traumatic stress disorder is a common condition in psychiatry and it has important therapeutic implications.

Recommendation: Assess OCD, and PTSD with bipolar patients on admission and during follow up is important for the treatment plan.

Keywords: Comorbidity, OCD, PTSD, Bipolar disorder

Date of Submission: 21-08-2019

Date of Acceptance: 05-09-2019

I. Introduction

Bipolar disorder is a mood disorder characterized by episodes of mania and depression and its symptoms ranges between severe mania and attacks of severe depression, during manic episodes the patient expresses laugh, jokes, and boundless enthusiasm. While people with depression experience depressed mood, sad, discouraged or down in dumps [1].

Bipolar disorders could be described as a cyclic disease in which patients alternate between mania and depression. It is defined by the incidence of at least one manic episode followed by one depressive, and the patient reported returning to normal life in the meantime. Patients are likely to experience psychosis during both manic and depressive episodes, in which patients cannot distinguish between reality and fantasy, and this psychosis characterized by delusions and hallucinations [2].

Bipolar disorder and obsessive-compulsive disorder are chronic psychiatric disorder, in which bipolar disorder characterized by depressive and manic episodes, and OCD is characterized by obsessions and compulsions, the comorbidity of them are common, and the presence of both will develop major complications. The management suppose a challenge since antidepressants medication, first choice of treatment for obsessive compulsive disorder, carry an important risk for bipolar patients [3].

Patients diagnosed as bipolar disorder are at risk of exposure to trauma. As impulsive or unpredictable behavior connected with psychosis or mania, can lead to trauma and traumatic events that happen during manic or hypomanic episodes are more likely to induce symptoms of post-traumatic stress disorder (PTSD) [4]. Bipolar disorder patients are at increased risk of childhood trauma [5], and are risky to have family history with bipolar disorder, which may increase trauma exposure. Childhood abuse has been shown to have occurred in as many as one half of adult patients with bipolar disorder [6], although possible links between childhood trauma and consequent PTSD in those group of patients still unclear.

A history of early trauma may be associated with both the causative factor and the course of bipolar disorder [7], and serious trauma such as physical attack has been associated with poor prognosis [8].

Patients with bipolar disorder commonly have had more than one lifetime anxiety disorder. Indeed, the sum of the lifetime prevalence reported by Nabavi and associates for the Patients with anxiety disorders (panic disorder, generalized anxiety disorder, social anxiety disorder, post-traumatic stress disorder, specific phobia, obsessive compulsive disorder, and agoraphobia) was approximately twice as high (nearly 85%) as that for any anxiety disorder [9].

The Stressful life events, such as; loss, emotional deprivation, grief, interpersonal separations, low self-esteem, and other losses plays an important role on relapse of bipolar disorder [10]. It is well-recognized that stressful life events affect susceptibility, onset, and relapse of bipolar disorder [11].

The comorbidity of bipolar disorder and obsessive-compulsive disorder has been broadly described. Several studies have explored the cognitive profiles of bipolar disorder and obsessive-compulsive disorder patients, but studies that compare bipolar disorder, and obsessive-compulsive disorder patients in neuropsychological domains still under investigation [12].

Significance of the study:

Clinical studies suggest that obsessive compulsive disorder and bipolar disorder if comorbid together at a higher rate than would be anticipated by chance. Importantly, the presence of bipolar disorder can affect obsessive compulsive disorder symptoms and treatment [13].

Comorbidity between bipolar disorder (BD) and obsessive-compulsive disorder (OCD) is a common disorder among psychiatric patients. In a classic 1860 text French psychiatrist Bénédict Augustin More described patients with comorbidity of symptoms typical of what are now considered BD and OCD [14]. While recent studies have examined the co-occurrence of anxiety and bipolar disorders [15], but those investigations still insufficient [16].

Obsessive-compulsive symptoms are common in patients with bipolar disorders. This comorbidity complicates the clinical treatment of both disorders. The comorbid occurrence of obsessive-compulsive disorder and bipolar disorder, introduce possible etiological mechanisms that could result in this common comorbid condition, discuss current research advances in the area, and propose some clinical principles for managing such patients [17].

It is essential to examine clinical symptoms associated with stressful life events in patients with bipolar mood disorder in the context of psychiatric symptomatology, to develop a better understanding and management strategy against bipolar mood disorder. Stressful life events, which occur more frequently, and are less serious than traumatic experiences meeting the diagnostic criteria for posttraumatic stress disorder (PTSD), cause symptoms of intrusion, avoidance, and hyperarousal, which are similar to those observed in PTSD, in adults and adolescents [18].

Results of this study will increase nurse's knowledge related to comorbidity of bipolar disorder with other psychiatric disorders; this might be incorporated in the future plan of care for such group of patients. In addition, such data may have an impact on the provided care in the way to be cost effective and to decrease the load upon personal and hospital resources. It might also generate an attention and motivation for further researches into this area.

Aim of study

The aim of the study was to investigate the comorbidity of OCD, and PTSD among patients with bipolar disorder.

Research Question:

1. What's the prevalence of OCD among patient with bipolar disorder?
2. What's the prevalence of PTSD among patient with bipolar disorder?
3. Is there a relation between PTSD, OCD and bipolar disorder?

Research Design:

A descriptive exploratory design was utilized for the current study; such design fit the nature of the problem under investigation. Descriptive research is non-experimental research, designed to discover new meaning and to provide new knowledge, where there is very little known about the phenomena of interest it is a fact-finding investigation with adequate interpretation [19].

Setting:

The study was conducted in In-patient and Out-patient departments at El Abbassia Mental Health Hospital (AMHH), and Psychiatry and Addiction Prevention Hospital, El-Manial University hospitals

(1) El Abbassia Mental Health Hospital (AMHH): It is the largest hospital of 5 mental health hospitals throughout Egypt affiliated to the ministry of health (MOH). The hospital consists of (46) departments and (1504) beds, which provides care for patients diagnosed with acute and chronic illness that need institutionalized care. Also the hospital contains about 28 clinics with total number of visitors about 470,928 patients, annually (General Secretariat for Mental Health and Addiction Treatment Egypt, 2018).

(2) Psychiatry and Addiction Prevention Hospital, El-Manial University Hospitals: The hospital consists of 6 inpatient departments male and female and 125 beds. The hospital provides care for all kinds of acute and chronic psychiatric disorders and addiction. The hospital also provides sessions of psychotherapy and chemo therapy, intelligence, memory, and self-confidence tests. Outpatient services are conducted daily from 8 to 1pm. The department receives about 90 new patients per week covering the whole array of diagnoses, with about 400 follow up patients. Males are slightly more represented in the department partially due to the stigma of mental illness that hits females harder. The volume of flow in the child psychiatry outpatient on the average is 90 new patients and 80 patient's follow-up.

Sample:

A Sample of convenience of 150 patients was recruited for the conduction of the current study, according to the following criteria, both sex, aged between 18-55years old and diagnosed with bipolar disorder according to Diagnostic and Statistical Manual (DSM-5) 20] by the treating psychiatrist. Patients with neurological diseases or other psychiatric illnesses, substance abuse were excluded from the study.

Tools of data collection

1- Socio demographic and clinical data sheet: It is designed by the investigator and it includes personal data, such as patient's age, sex, level of education, marital status, occupation, number of children, residence duration of illness, and number of pervious admissions.

2. Yale Brown OCD Scale [21]

It is a clinician-administered instrument, developed to assess the presence and severity of obsessive-compulsive symptoms. The scale consists of 10 items that quantify the impact of obsessions and compulsions. These 10 items are 5-point Likert-type scales characterizing the time spent on compulsions (item 1), interference from obsessions (item 2), distress associated with obsessions (item 3), resistance to obsessions (item 4), subject's control over obsessions (item 5) and equivalent items for compulsions (items 6–10). The scale has shown good psychometric properties and sensitivity to the therapeutic effects of medication and psychotherapy [22, 23]. The total score is the sum of all- items, total score range from (0-40) from (not at all to exactly so). Total score is divided as follows:

1. Subclinical symptoms of OCD = 0-7
2. Mild acuity OCD = 8- 15
3. Moderate acuity OCD= 16 -23
4. Sever acuity OCD = 24- 31
5. Extreme OCD = 32 -40

3. The impact of event scale-revised (IES-R) [24]:

Is a self-reported questionnaire for assessing the severity of psychological symptoms related to stressful life events. The IES-R has been developed to assess trauma-related symptoms in patients with PTSD. It consists of 22 items, including 8 for intrusion symptoms, 8 for avoidance, and 6 for hyperarousal, which are the 3 major sub-categories of PTSD symptoms. Each of the items is scored from a scale of 0-4, with the higher scores implying greater severity of traumatic symptoms. Therefore, the total score for the IES-R ranges from 0 to 88. The IES-R has been validated, with ensuring internal consistency worldwide [25], the scale, hypothesized that patients with bipolar disorder could perceive PDSs associated with their life events in a manner similar to patients with PTSD and patients with unipolar depression, as reported in our previous study [26]. Internal consistency by using Cronbach's alpha values for the total IES-R was 0.94 [27].

The total score is the sum of all-items, total score range from (0-88) from (not at all to exactly so). Total score is divided as follows: scores that exceed 24 can be quite meaningful. High scores have the following associations.

1. 24 to 32 PTSD is a clinical concern. Those with scores this high who do not have full PTSD will have partial PTSD or at least some of the symptoms (partial PTSD symptoms).
2. 33 to 36: This represents the best cutoff for a probable diagnosis of PTSD (proper diagnosis of PTSD).
3. 37 or more This is severe enough to suppress immune system's functioning.

Procedure

An official permission was granted after the investigator presented the documented papers, and introduced herself to the director of Abbassia Mental Health Hospital and director of Psychiatric Medicine and Addiction Prevention Hospital, El-Manial University hospitals after explaining the aim of the research the investigator obtain participants oral agreement to participate in this study, assessment was carried out by using the selected tools, each participant was interviewed individually in semi- structured interview for about 30-45 min., the questionnaires were read and explained and the choices were recorded by investigator. The data collection took place in the period from march 2018 to December 2018.

Pilot study

A total of 10% of the sample were recruited for the pilot study to examine the clarity and feasibility of the study. All subjects included in the pilot study met the criteria for inclusion, no further modification was done for all utilized tools.

Ethical considerations

All participants who met the inclusion criteria were informed orally that participation in the current study was voluntary and the data collected will be used only for research purpose and anonymity and confidentiality of each participant was protected by allocation of a code number for each response. The participants were informed that they can withdraw at any time during the study without giving reasons. The participants were informed that they can withdraw at any time during the study without giving any reasons.

Statistical analysis

Data were analyzed using statistical package for social (SPSS) version 20. Numerical data were express as a mean, SD qualitative data were expressed as frequency and percentage for statistical relations among different study variables were done by using Pearson correlation test with probability (p- value) > 0.05 indicates non- significant result.

II. Results

It is clear from table (1) that, the studied sample consisted of 150 patients diagnosed with bipolar disorder according to DSM-5 criteria. More than half of the studied sample (53.3 %) were female with mean age (35.5±10.28).

Table (1) frequency distribution of the studied sample according to sociodemographic characteristics (n=150)

Item	No	%
Sex		
Male	70	46.7
Female	80	53.3
Age		
18-	24	16.0
26-	30	20.0
30-	36	24.0
36-	21	14.0
40-55	39	26.0
M±SD = 35.5±10.28		

Table (2) shows that, slightly more than half (52%) of the studied sample were married, and 38% of them were single. Moreover, table (2) reveals that, near three quarters of the studied sample (73.3%) not work, and 55.3% from urban area.

Table (2) frequency distribution of the studied sample according to their socio-demographic characteristics (n=150)

Item	No	%
Marital status		
Single	57	38
Married	78	52
Divorce	10	6.7
Widow	5	3.3
Job		
Work	40	24.7
Not work	110	73.3
Residence		
Rural	67	44.7
Urban	83	55.3

As observed from table (3) that, (40%, 24.7%, and 13.3%) of the studied sample were preparatory school education, can read and write, and illiterate respectively, and only (22%) of them were secondary education.

Table (3) frequency distribution of the studied sample according to educational level (n=150).

Level of education	No	%
University	10	6.7
High school	33	22
Preparatory	50	33.3
Can read and write	37	24.7
Illiterate	20	13.3

Table (4) shows that, more than half of the studied patients (55.3%) were diagnosed as bipolar disorder less than one year, and 44.7% were diagnosed since three years and more. Also, the study results reveals that, 54.6% of the studied patients admitted once to psychiatric hospital.

Table (4): Frequent distribution of the sample according to sociodemographic characteristics (n=150)

Length of disease	No	%
- Less than one year	83	55.3
- One year	28	18.7
- Two years	24	16
- Three years and more	15	10
Number of previous admissions		
- No previous admission	28	18.7
- Once	82	54.6
- Twice	25	16.7
- Three times and more	15	10

Figure (1) reveals that, most of the studied sample (96%) experiencing OCD symptoms as (8.7%, 21.3%, 46.7%, 19.3%) extreme, severe, moderate, and mild symptoms of OCD respectively.

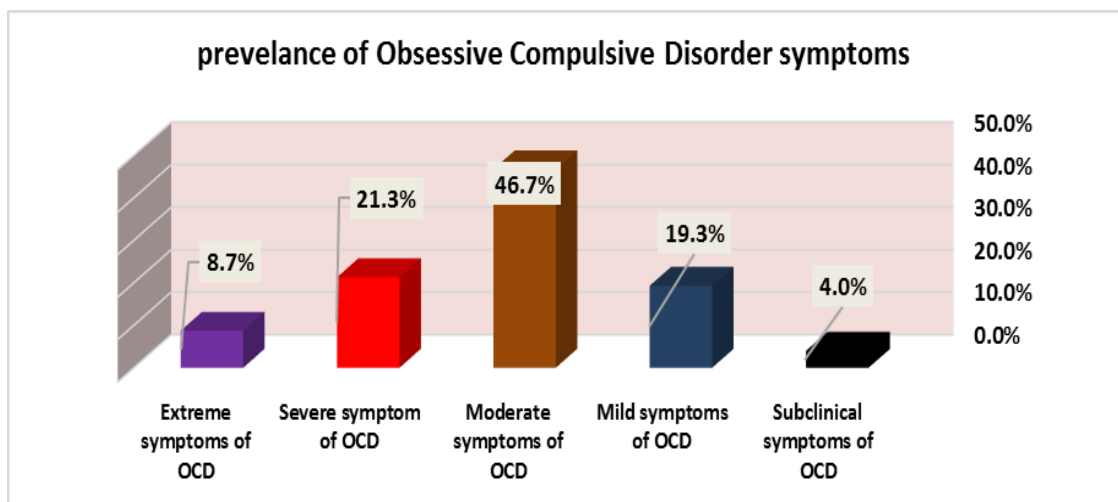


Figure (1) Prevalence of Obsessive-compulsive disorder symptoms among the studied sample (n=150)

Figure (2) shows that, most of the studied sample (75.3%) experience severe PTSD symptoms enough to suppress immune system's function and (14%) of them experience symptoms can provide proper diagnosis, moreover 10.7% of them their symptoms is clinical concern.

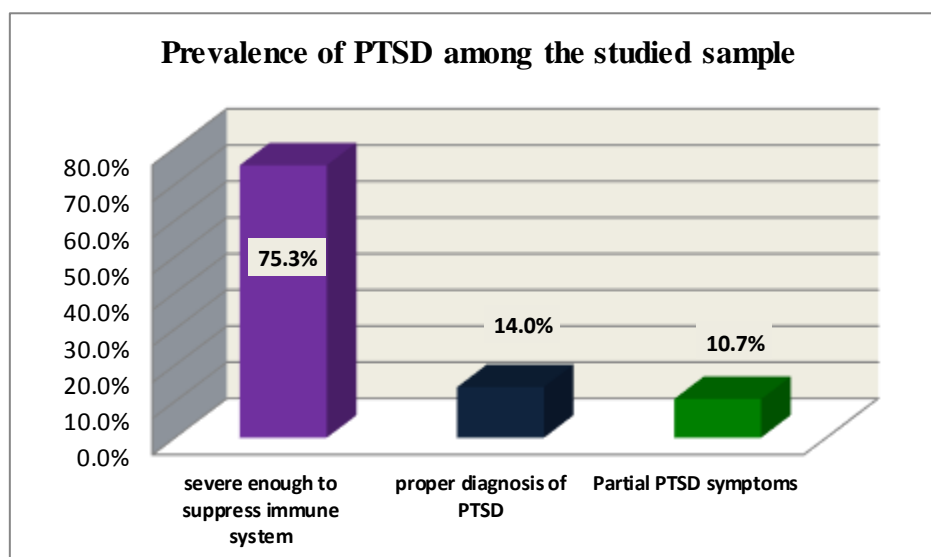


Figure (2) Prevalence of PTSD among the studied sample (n=150).

Table (5) revealed that, there is statistically significant correlations between having children and occupation and OCD level among the studied sample where $r = (0.17, \text{ and } 0.18)$ at $p = (0.038, \text{ and } 0.02)$ respectively. In addition, there were statistically significant correlations between educational level and level of stressful life events where $r = (0.16)$ at $p = (0.04)$. Meanwhile, there are no statistically significant correlation were detected in relation to other mentioned variables.

Table (5) relation between sociodemographic characteristics of the studied sample and obsessive-compulsive disorder symptoms, and stressful life events:

Sociodemographic characteristics	Obsessive compulsive symptoms		Stressful life event	
	r	p-value	r	p-value
- Age	0.71	0.38	0.16	0.04
- Gender	0.069	0.39	0.03	0.63
- Marital status	0.008	0.92	0.10	0.19
- Children	0.17*	0.03	0.14	0.07
- Occupation	0.18*	0.022	0.08	0.31
- Educational level	0.08	0.33	0.16*	0.04
- Residence	0.04	0.6	0.004	0.96
- Length of disease	0.128	0.12	0.14	0.08
- Previous admission	0.08	0.28	0.13	0.96

Significant ≤ 0.05

It's clear from table (6) that, there is statistically significant correlations between level of OCD, and Post traumatic stress disorder symptoms among the studied sample where $r = (0.357)$ at $p = (0.000)$.

Table (6) relation between obsessive compulsive disorder symptoms, and PTSD symptoms among the studied sample.

Item	Obsessive compulsive symptoms	
	r	p-value
- Post-traumatic stress	0.357*	0.000

Significant ≤ 0.05

III. Discussion

Results of the current study showed that, mean age of the studied sample was thirty-five years with 10 years for standard deviation, with no statistically significant correlation in relation to OCD symptoms and PTSD symptoms, and that is may be related to the criteria for inclusion that predetermined by the researcher as the bipolar disorder is commonly affected this age group. Moreover, the results can be related to the different age group in patients with bipolar disorder show no effect in experiencing OCD, and PTSD symptoms.

The study results in the same line with a study done by, Berkol, et al. [28] who founded that, the mean age was 39.3 ± 9.6 . Also, Subramaniana, et al. [29] who founded that, the mean age of the sample was (37.7 ± 9.7) years. Also, the study was contradicted with, Nuñez, et al. [30] who reported that, the mean age (\pm SD) of the bipolar patients was $43.6 (\pm 14.1)$ years.

The study results revealed that, more than half of the studied sample were females, with no statistically significant correlation in relation to OCD symptoms and PTSD symptoms, this may be explained as, women are unique in experiencing bipolar disorder course and presentation due to the impact of the reproductive cycle, particularly postpartum, but also during the premenstrual phase of menstrual cycle, peri-menopause, and menopause. The results may also interpreted as there's no difference between male and female with bipolar disorder in experiencing OCD, or PTSD.

The study results incongruent with, Tonguç, et al. [31] who founded that, females comprise 64% of the study population. Also, Nuñez, et al. [30] stated that, 58.3% of the participants consisting were females and 41.7% were males. Moreover, Jalnapurkar, et al. [32] who indicated that women are more likely than men to have a comorbid PTSD, and OCD (44.8% versus 34.2%).

The study results revealed that, slightly more than half of the studied sample were married, with no statistically significant correlation in relation to OCD symptoms and PTSD symptoms this may be related to marriage can act as a stressful life event and precipitate the onset or relapse of bipolar disorder. Poor marital adjustment can also lead to onset or relapse of bipolar disorder. Moreover, OCD can be evoked by marriages and family life and financial burdens, and social life suffers. Household chores pile up or get distributed unevenly, causing resentment on the part of those who carry the heavier burden as well as feelings of inadequacy and shame for the person, also, it seems that being married or single has no effect in experiencing OCD or PTSD, symptoms.

The study results revealed that, two third of the studied patient can read and write and have preparatory school education, with statistically significant correlation with PTSD symptoms. Meanwhile, the study results showed that, there were no statistically significant correlation in relation to OCD symptoms. Moreover, this may be explained by, there's no difference between educated and non-educated patients in relation to experiencing OCD, but it seen that education has an effect among patient in experiencing PTSD.

Similarly, a study by, El-Sayad, [33] revealed that, 32.1% of the patients reported to have a preparatory level of education, compared to 12.6% had university level. In addition, a study by Negash, et al. [34], stated that, educational level did not have a significant influence among patients with bipolar disorder. In three studies, however, low education levels had a significant impact on the prevalence of bipolar disorder.

In the same line with, Rabie, et al. [35] who revealed that, a higher educational level in the bipolar disorder and obsessive compulsive than patients with bipolar disorder without obsessive compulsive.

Regarding occupation, near three quarters of the studied sample are not work, with statistically significant correlation with OCD symptoms, meanwhile no statistically significant correlation in relation to PTSD and that might contribute to being hospitalized many times, in addition to social stigma they may faced in the community that makes then unable to find job, also, job related difficulties are common, and patients with bipolar disorder tend to have higher rates of absenteeism from work compared with working individuals without bipolar disorder. The study results in agreement with, Nuñez, et al. [30] who found that, 68.3% of the patients were unemployed.

In the same line with, Rabie, et al. [35] who revealed that, higher rates of unemployment and greater functional impairment were found among patients of bipolar disorder and obsessive-compulsive patients

Regarding experiencing obsessive compulsive symptoms among the studied sample the results reported that, most of them suffers from OCD ranging from mild to severe, this may be explained by, OCD is accompanied by stressful thought If the stress persists, it may result in the recession of anxiety and the emergence of the depressive symptoms of bipolar disorder, so the rhythm of emotion becomes difficult to reverse and may result in release disinhibition, which manifests as the manic symptoms of bipolar disorder.

The study in the same line with, Rowland, &Marwaha, (2018) [36], who, founded that, a strong link between bipolar disorder and obsessive-compulsive disorder. It has been estimated that between 10 to 35% of people with bipolar disorder also have obsessive compulsive disorder. The result is supported by a study done by Kazhungil, et al. [37] who indicated that, the prevalence of obsessive-compulsive disorder in patients with bipolar disorder was 35.5%

In the same context with, Rabie, Shorub, et al. [35] who stated that high rates of obsessive-compulsive symptoms among patients with bipolar disorder (38.7%). This is in agreement with a systematic review of 64 articles that studied the range of lifetime comorbidity. It included results of three population-based studies, reported lifetime prevalence rates of comorbid obsessive compulsive in bipolar disorder patients ranging between 11.1% and 21% [38].

This study confirms the high incidence of obsessive-compulsive symptoms in bipolar disorder patients. It also revealed a higher educational level in the bipolar disorder and obsessive compulsive than patients with bipolar disorder without obsessive compulsive. Higher rates of unemployment and greater functional impairment were found among patients of bipolar disorder and obsessive-compulsive patients [35].

The study results revealed that, most of the studied sample suffering from post-traumatic stress symptoms ranges between severe enough to affect immune system and presence for proper diagnosis of PTSD. This may be due to that, bipolar disorder can affect patient's ability to function and, in turn, that patient's quality of life, specifically, the varying emotional ups and downs related to bipolar disorder affect a person's lifestyle and behavior, and his/her perception to the stressful life events. The study results in the same line with, Subramaniana, et al. [29] who indicated that, stressful life events as a precipitating factor were noted in 298 episodes (37.7% of all episodes of bipolar disorder).

In accordance to, Sam, et al. [39] who stated that, Nearly 70% of the patients with bipolar disorder experienced stressful life events within one month prior to the relapse. This suggests a rather stable and high prevalence of stressful life events during the pre-onset period of relapse of bipolar disorder.

In the same context, Subramanian, et al. [29], El Kissi et al. [40], and Hosang, et al. [41] who indicated that, financial loss or problems, illness of family member, unemployment in self or family member, and family conflicts were the most frequently reported stressful life events implicated in the relapse of bipolar disorder. This finding is concurrent with the existing global literature.

In agreement with, Johnson, [42] who conclude that, certain factors such as interpersonal dependency, introversion, and obsession have been found to increase the risk for relapse after a negative stressful life events, whereas interpersonal events, interpersonal dependency, and the interaction of these two factors have been found to predict higher symptom severity scores and faster relapse in patient with bipolar disorder. In addition, female gender and cognitive vulnerability can predict depressive symptoms after negative stressful life events.

The study results is supported by Sato, [43] who reported that, the stressful life events severely affect onset; clinical exacerbation, including relapse; and prognosis of bipolar disorder, only a few studies have investigated how the patients are distressed by them, and to what extent they experience psychological symptoms with intrusive or unpleasant memories of such events.

The study results indicated that, there were statistically significant correlation between OCD symptoms and PTSD among patient with bipolar disorder, this may be explained by, that traumatic events result in primarily psychological symptoms; namely, "repeated and unwanted re-experiencing of the event, hyperarousal, emotional numbing, and avoidance of stimuli (including thoughts) which could serve as reminders for the event, also OCD, PTSD problems begin with the individuals' thought appraisal. An individual is required to interpret and/or make meaning of the traumatic event and/or the thoughts immediately following the traumatic event

In agreement with, Nabavi , et al. [44] Meta-analysis pooled prevalence of lifetime comorbidity of OCD symptoms, PTSD in bipolar disorder was 42.7% (95% CI 37.5-48.0) with high heterogeneity. It should be noted that a higher prevalence rate of comorbidity is mainly due to the fact that some individuals have had multiple identified anxiety disorder conditions.

In the same line with, Rachman, [45] who reported that, the more stressful the external cues, the greater the frequency of intrusive/obsessional thoughts, the greater the distress the individual will likely feel. These stressful situations may be traumatic and/or aversive, which may provide evidence for the link between trauma and OCD. Also, he suggested a similar theory for compulsions (specifically, compulsive checking), and compulsions occur when an individual believes he/she has a special responsibility to prevent unwanted events from occurring [46].

IV. Conclusion.

The study results conclude that, most of patient with bipolar disorder experience PTSD symptoms ranging from severe enough to suppress immune system's function and symptoms enough to provide proper diagnosis. Moreover, majority of the studied sample are experiencing OCD symptoms ranging from extreme symptoms of OCD to mild symptoms of OCD, there were statistically significant correlation between OCD symptoms and PTSD among patient with bipolar disorder. Middle age group, female patient, low educational level, and unemployment were common among patients with bipolar disorder.

V. Recommendations

In the light of these results:

1. Assess OCD, and PTSD with bipolar patients on admission and during follow up.
2. Assess OCD, and PTSD with bipolar patients is important for the treatment plan.
3. Replication of the study using a larger sample to generalize the results

Limitation of the study

1. The investigator faced many difficulties in assembling health statistics related to bipolar disorder in Egypt.
2. Patients were not all motivated and more effort was paid to make them actively participated in the study.

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Eman Mohamed Ibrahim Mohamed. " Comorbidity of Obsessive-Compulsive Disorder and Post Traumatic Stress Disorder among Patients with Bipolar " .IOSR Journal of Nursing and Health Science (IOSR-JNHS), vol. 8, no.05 , 2019, pp. 07-16.