INVESTIGATION OF SYMPTOM SEVERITY, SELF-ESTEEM, & SUICIDALITY IN ANXIETY DISORDERS AND OBSESSIVE COMPULSIVE DISORDER

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Abstract

Introduction: Suicide is becoming increasingly a worldwide pressing health concern. Recent emerging studies established that anxiety disorders carry a high suicidal risk independent of possible comorbid depression. On the other hand, suicidal ideations were reported in countless types of research amongst patients with obsessive-compulsive disorder (OCD). Furthermore, low Self-esteem is a known risk factor for numerous negative outcomes; it has been associated with higher levels of anxiety, depression, & suicidality. This study aimed to assess the severity of symptoms in anxiety disorders & OCD and to investigate their relationship with self-esteem and suicidality.

Methods: Forty patients with anxiety disorders and, OCD and 40 matched controls were assessed by Beck's scale for suicidal ideations (BSSI) to determine the intensity of suicidal ideation, & Rosenberg's self-esteem scale (RSES). The severity of anxiety was assessed by Hamilton anxiety rating scale in the anxiety subgroup &Yale-Brown obsessive-compulsive scale was applied to the OCD subgroup to rate the severity of OCD symptoms.

Results: The mean scores of the BSSI were highest among the OCD subgroup, followed by the anxiety disorders subgroup, and lowest among the control group with a statistically significant difference (p=0.001). RSES mean scores were lowest in the anxiety subgroup followed by the OCD subgroup and highest in the control group, the difference between the mean scores of the studied groups was statistically significant (p=0.005). RSES mean scores were negatively correlated with BSSI mean scores, and the results were statistically significant (r =-0.7, p=0.001) i.e., the lower the self-esteem, the higher the suicidality.

Conclusions: Our research replicated findings from earlier studies that proposed the existence of an association between low self-esteem and anxiety disorders. Suicidality was highest among the OCD patients, followed by the anxiety disorders patients, and lowest among the healthy control. Self-esteem was low in the anxiety disorders patients even more than the OCD patients. Low self-esteem has been identified as one of the most crucial risk factors for suicidal ideations which entails further analysis & investigation.

Keywords: Obsessive-Compulsive Disorder. Anxiety Disorders. Suicidal Ideation. Suicide. Risk factors

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Background

Self-esteem can be considered a sort of measure of how much a person values, appreciates, or likes him or herself (1). Its' level is related to positive feelings for oneself and the belief that one is valued by others (2). Self-esteem trait was found to be positively linked with diverse adaptive positive outcomes (3). Self-esteem might serve as a protective feature, as a moderator, or simply a result of emotional well-being(4-8).

Low Self -esteem may be a hazard for multiple undesirable outcomes (9). It has been associated with a tendency to avoid people, increased levels of depression, and anxiety, & decreased quality of life (10). It was also associated with somatic complaints. While the existing research suggests that high esteem may have helpful consequences for the well-being and success of each individual (9))it has also been considered a key buffer against anxiety symptoms (11-13).

Indeed, the relationship between self-esteem and anxiety though has only rarely been studied (14). Cross-sectional research has reported correlations of medium to high statistical power between self-esteem and anxiety (4). Wherever self-esteem is closely linked with anxiety symptoms (9). Anxiety as a trait in particular is constantly related to lower self-esteem (13,15). The effect of self-esteem on consequential anxiety turns out to be stronger than the effect of anxiety on self-esteem (16), demonstrating that the two are strongly correlated.

What's more low esteem is implied as an associated feature of social phobia (17) and many studies have provided evidence to support the link between social phobia and low self-esteem. This isn't surprising at all as at the core of both, social phobia and in the pursuit of self-esteem, lies the setting of goals that authenticate eash person's capabilities (18).

As for OCD, Fava et al. (19) stated that low esteem was one of several possible prodromal symptoms of the disorder, signifying that it may perhaps act as a general vulnerability dynamic for OCD. Ehntholt et al. (20) provided more evidence for this concept, reporting that patients with OCD differed considerably from non-clinical controls on generalized self-esteem measures and that self-esteem and OCD appeared to have a relation independent of the effect of mood. These findings can be discussed concerning current cognitive theories of OCD which feature the development of compulsions to the misappraisal of intrusive thoughts, leading to ineffective and faulty strategies to deal with the intrusions (21).

Suicidality is an alarming global public health problem, that occurs throughout the lifespan and was the fourth leading cause of death in 2019. More than 800,000 people die due to suicide every year. (22). Unfortunately, the relationship between anxiety disorders and suicide has received a humble amount of investigation. Anxiety disorders often co-occur with depression, and this may be masking a risk of suicidality related to anxiety in a specific manner. This higher likelihood of suicide and suicide-related behaviors were seen despite controlling for comorbid depression, stressing the importance of clinicians considering suicidal risk when working with anxiety patients who do not necessarily also have a comorbidity mood disorder. Research has accumulated over history demonstrating that anxiety disorders carry a uniquely high risk of suicide (23). The presence of current anxiety disorders, including panic disorder, social phobia, etc are all associated with higher suicide risk (24-26).

Patients with anxiety disorders demonstrated increased suicidal ideation and rates of self-harm and more frequent suicidal attempts than those without mental health issues (24, 27).

Yet, little is known about predictors of increased risk specifically amongst patients with anxiety (28). There are, however, stronger pieces of evidence that when an anxiety disorder is diagnosed with comorbid mental disorders the risk goes higher (24). For this reason, it is of fundamental importance to realize, investigate and manage the risk factors for suicide among individuals with anxiety disorders predominantly in patients with co-morbid with mental disorders.

The severity of symptoms is also related to suicidal risk in patients with anxiety disorders e.g. anxiety symptom severity is associated with increased suicidal ideation and attempts in patients with PTSD (29).

Suicide & suicide-related behaviors are actually underestimated in OCD patients & received less interest over the past period (30) However many current studies have revealed that OCD, is a risk factor for suicidality (31-34). A systematic review conducted by Albert et., al (35) reviewing sixty-three studies from 2018, included studies that examined factors linked with suicide risk in OCD to cautiously spot predictors of suicidality. Thirty-two studies provided numbers on the association between suicidality and socio- demographic & clinical variables (36-38). The most significant predictors of higher suicide risk were the severity of obsessions & compulsions (39,40), the symptom dimension of unacceptable thoughts (39,41), the presence of comorbid disorder , & a history of suicidality (34,42,43).

The analysis of data pooled from epidemiological studies and prospective cohort studies on nationwide registers confirms that patients with OCD are at higher risk of dying by suicide (44, 45), having a lifetime suicidal ideation (up to ten times that of the general population) and attempting suicide during their lifetime (10 folds more).

Moreover, a literature search in PubMed/Medline databases up to 2019, with sixty-one eligible studies found including OCD patients: investigating suicide attempts; current suicidal ideation, and lifetime suicidal ideation, concluded that one out of ten patients with OCD attempts suicide during his/her lifetime, about one third has current suicidal ideation and about 50% has had suicidal ideation (46).

The current research aims to measure the severity of symptoms in patients with anxiety disorders and OCD and to investigate their association with suicidality and self-esteem.

Methods

Study design: This study was a case-control (cross sectional) study. with a convenient sampling method.

A.Sample size:

The effect size estimated from an earlier study was 1.06, α = 0.05, & power = 0.95. The calculated sample size was forty subjects for each group studied. The sample size calculation was prepared using G*Power software edition 3.1.9.2.

B.Study site:

Participants were recruited from Kasr Alaini Psychiatry Hospital; Faculty of Medicine -Cairo University, from both the in-patient unit and outpatient clinics.

C. Informed Consent:

Informed written consent was taken from each participant after the elucidation of the aim and the details of this work. It was emphasized to the participants that participation in this study is voluntary and that it does not imply direct gain or harm to the participant. They were also told that they were free to depart this study at any time without giving any justification nor will the latter affect the medical service provided in case of patients. In addition, participants were informed that the results of this study could be used as a scientific publication, but their identity will be confidential.

The proposal was approved by the Scientific and Ethical Committee of the Department of Psychiatry of Kasr Al-Ainy. Then the Ethical Committee of Cairo University approved this research in January 2022. Methods were performed following the declaration of Helsinki (Registration number: MS-548-2021).

D. Study participants

Eighty subjects aged 20 to 45 fulfilling the required criteria were included in this research. They were divided into 2 groups.

First Group: Forty patients with an anxiety disorder (GAD, Social Anxiety Disorder, Panic Disorder, Specific Phobias) or OCD, meeting the criteria in DSM-5.

Inclusion criteria: Both sexes, Age: 20-45 years Currently meeting DSM-5 criteria for an anxiety disorder or obsessive-compulsive disorder

Exclusion criteria: Refusing to sign the written consent, Illiterate, clinically having an intellectual disability, or Having no internet access.

➢ **Second Group: Control Group**

Forty healthy individuals with no history of mental or psychiatric disorders were matched with the patients' groups for age, sex, education, and socio-demographic data. They were recruited from medical and paramedical personnel in Kasr Al Ainy hospitals.

The two groups were matched for age, sex, education, and socio-demographic data.

E. Statistical analysis:

Statistical analysis: The statistical data were treated using the statistical package of Social Sciences (IBM SPSS- 22) (47).

F. Procedure:

The patients were interviewed using Kasr Al-Ainy semi-structured psychiatric interview to confirm the diagnoses and exclude comorbidities. Socio-demographic variables and detailed clinical history were collected as well.

Diagnoses were established according to the DSM-5 criteria (17)

· After confirming the diagnoses, the following scales were applied

For the anxiety disorders subgroup (HAM-A, RSES & BSSI).

For the OCD subgroup (YBOC-S , RSES & BSSI).

The second group (control group) was assessed using GHQ-28 (48) in its Arabic version (49) to exclude psychiatric disorders.

· After excluding psychiatric morbidity in the control group, the following scales were applied:

For the control group (RSES and BSSI).

- **The tools of assessment:**

For the patients' group, the following tools were applied: The Hamilton Anxiety Rating Scale (HAM-A) (50). The scale consists of 14 items designed to assess the severity of a patient's anxiety (51). The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (52): is a test to rate the severity of obsessive-compulsive disorder (OCD) symptoms.

For Both Groups: the following tools were applied; Rosenberg self-esteem scale (RSES) (53) to measure global self-worth by measuring both positive and negative feelings about the self. The scale ranges from 0 to 30. A score greater than 25 suggests high self-esteem. A validated Arabic version was used (54). Beck Scale for Suicidal Ideation (BSSI) (55) to measure the intensity, pervasiveness, and characteristics of suicidal ideation. It consists of 19 items, that evaluate three dimensions of suicide ideation: active suicidal intent, specific plans of suicide, and passive suicidal wish. Arabic version was used (56). The time required to finish the assessment for each patient ranged between 1.5-2 hours and for each healthy control between 1-1.5hours.

Results

As illustrated in table 1, there was no statistically significant difference between the patient's group and the healthy control group regarding age (p=0.07). 37.5% (N=15) were males, and 62.5% (N=25) were females. In the anxiety disorders subgroup, 10%(N=2) were males, 90% (N=18) were females. In the OCD subgroup, 35%(N=7) were males and 65%(N=13) were females. There was no statistically significant difference between the three groups regarding gender (p=0.077).

As for the marital status, in the healthy control group, 82.5% (N=33) were single, 17.5% (N=7) & were married. In the anxiety subgroup, 75% (N=15) were single, 20% (N=4) were married and 5% (N=1) were divorced. In the OCD subgroup, 80% (N=16) were single and 20% (N=4) were married. There was no statistically significant difference between the three groups regarding marital status (p= 0.531). As for, education & employment, all participants in the study were employed and educated. However, there was a statistically significant difference between the patient and the control group regarding employment (p=0.024) and education (p=0.017) respectively where participants in the healthy control group were more employed and educated than the patients' group (Table 1).

Table 2 shows that 50% of the patient's group were diagnosed with OCD (N=20), 15% were diagnosed with GAD (N=6), 12.5% were diagnosed with a social anxiety disorder (N=5), 2.5% got diagnosed with specific phobias (N=1). In the

Table 1: Demographic data of the studied sample.

		Control	Anxiety	OCD	P
Age (years), M ± SD		26.40 ± 2.71	25.60 ± 4.49	25.80 ± 3.98	0.668
Gender, N(%)	**Male**	15 (37.5%)	2 (10%)	7 (35%)	0.077
	Female	25 (62.5%)	18 (90%)	13 (65%)	
Marital Status, N(%)	**Single**	33 (82.5%)	15 (75%)	16 (80%)	0.531
	Married	7 (17.5%)	4 (20%)	4 (20%)	
	Divorced	0 (0.0%)	1 (5%)	0 (0.0%)	
Employment, N(%)	**Unemployed**	0 (0.0%)	2 (10%)	5 (25%)	0.024
	Housewife	0 (0.0%)	1 (5%)	1 (5%)	
	Skilled	0 (0.0%)	2 (10%)	1 (5%)	
	Professional	23 (57.5%)	8 (40%)	8 (40%)	
	Student	17 (42.5%)	7 (35%)	5 (25%)	
Education, N(%)	**Secondary School**	0 (0.0%)	0 (0.0%)	2 (10%)	0.017
	Diploma	0 (0.0%)	3 (15%)	2 (10%)	
	Higher Education	40 (100%)	17 (85%)	16 (80%)	

Chi-square test: ρ<0.05 is significant. OCD: obsessive-compulsive disorder, M±SD: mean ± Standard deviation, N: number

anxiety disorders subgroup, 20% of the patients (N=8) had another comorbid anxiety disorder (Table 2).

As for symptom severity, shown in table 3, in the anxiety disorders sub-group, the mean scores of the Hamilton anxiety rating scale (HAM-A) were (31.1±10) signifying moderate to severe anxiety symptoms in the anxiety subgroup in our study. In the OCD subgroup, the mean scores of the Y-BOCS scale were (21.65±9) showing moderate symptoms (Table 3).

HAM-A: Scores of 17 or less indicating mild anxiety. A score from 18-24 indicating mild to moderate anxiety. A score of 25-30 indicating moderate to severe anxiety.

Y-BOCS: Total scores range from 0-40, with a score of 0-7 indicates subclinical symptoms,8-15 indicates mild symptoms, 16-23 indicates moderate symptoms and 24-31 indicates severe symptoms while d 32-40 indicates extreme symptoms.

As shown in table 4, in the anxiety subgroup, the HAM-A mean scores were 36.5 ± .707 in males and 30.5 ±10.455 in females with a statistically significant difference (p=0.028)where males' mean scores of HAM-A were higher than females' mean scores (Table 4).

In the OCD subgroup, Y-BOCS mean scores were 16.714 ± 5.765 in males and 24.307 ± 9.603 in females with no significant statistical difference (p=0.073)

As shown in table 5, in the anxiety subgroup, the RSES mean scores were 16 ± 2.828 in males and 12.777 ±4.734 in females with no statistically significant difference (p=0.365). However, the BSSI mean scores of males were significantly lower than the BSSI mean scores of females in the same subgroup. (p=0.004) (Table 5).

RSES: Rosenberg self-esteem scale. A score greater than 25 suggests high self-esteem, while scores less than 15 suggest low self-esteem

BSSI: Beck scale for suicidal ideation. The higher the total score, the greater the severity of suicidal ideation. A score of 6 or more has been considered as a cutoff threshold for clinically significant suicidal ideation

As shown in table 6, in the OCD subgroup, RSES mean scores were 16.714 ±4.608 in males and 12.384± 4.941 in females with no significant statistical difference (p=0.072) Also, the BSSI mean scores of males were 7.428 ± 7.590 and 8.153±8.101 with no significant statistical difference (p=0.848) (Table 6).

Figure 1 shows that Mean scores of RSES were significantly lower in the anxiety disorders subgroup than in the control group (p=0.010). RSES mean scores were lowest in the anxiety subgroup=13.1±4.63 followed by the OCD subgroup=13.9 ±5.51 and highest in the control group=17.1±4.77, the difference between the mean scores of the 3 groups was statistically significant (p= 0.005). Self-esteem was lowest among the anxiety disorder patients subgroup (Figure 1).

Figure 2 shows that Mean scores of BSSI were significantly highest in the OCD disorder subgroup (p<0.001) followed by the anxiety disorders subgroup (p= 0.001). The mean scores of the BSSI were highest among the OCD subgroup=7.9±7.7, followed by the anxiety disorders subgroup=5.55 ±7.67 and lowest among the control group=0.05 ±0.3, the difference between the mean scores of the 3 groups was statistically significant (p=0.001). The mean scores of BSSI were significantly higher in the OCD subgroup than in the anxiety disorders subgroup (p<0.001) (p= 0.001) respectively. Suicidal ideations severity was highest among the OCD patients subgroup (Figure 2).

As illustrated in table (7), RSES mean scores were negatively correlated with BSSI mean scores, and the results were statistically significant (r =-0.7, p=0.001)

Table 2: Diagnoses included in the studied sample.

		Number	Anxiety disorders	OCD	Total
Diagnoses	**OCD**	N	0	20	20
	social anxiety	N	5	0	5
	GAD	N	6	0	6
	specific phobia	N	1	0	1
	more than one diagnosis	N	8	0	8
OCD: obsessive-compulsive disorder, GAD: Generalized anxiety Disorder					

Table 3: HAM-A mean scores in the anxiety disorders subgroup & Y-BOCS mean scores in the OCD subgroup.

	Diagnosis	**N**	**Mean**	**Std. Deviation**	**P**
HAMA-A	Anxiety disorders	20	31.1	10.062	0.003
YBOCS	OCD	20	21.65	9.085	0.383
OCD: obsessive-compulsive disorder, HAM-A: Hamilton anxiety rating scale, Y-BOCS: Yale-Brown obsessive-compulsive scale, SD: standard deviation					

Table 4: Gender difference in the HAM-A and YBOCS mean scores in anxiety disorders and OCD subgroups.

	Sex	**N**	**Mean**	**Std. Deviation**	**P**
HAM_A (Anxiety subgroup)	Male	2	36.500	.7071	0.028
	Female	18	30.500	10.455	
YBOCS (OCD subgroup)	Male	7	16.714	5.765	0.073
	Female	13	24.307	9.603	
ρ<0.05 is significant.					

Table 5: Gender difference in RSES and BSSI mean scores in anxiety disorders subgroup.

	Sex	**N**	**Mean**	**Std. Deviation**	**P**
RSES	Male	2	16.000	2.828	0.365
	Female	18	12.777	4.734	
BSSI	Male	2	.000	0.000	0.004
	Female	18	6.166	7.853	
ρ<0.05 is significant.					

Table 6: Gender difference in RSES and BSSI mean scores in OCD subgroup.

	Sex	**N**	**Mean**	**Std. Deviation**	**P**
RSES	Male	7	16.714	4.608	0.072
	Female	13	12.384	4.941	
BSSI	Male	7	7.428	7.590	0.848
	Female	13	8.153	8.101	
ρ<0.05 is significant.					

i.e., the lower the self-esteem, the higher the suicidality. Moreover, RSES mean scores were positively correlated with age however, the results were not statistically significant (p=0.115).

On the other hand, RSES mean scores were negatively correlated with HAM-A mean scores however the results were also not statistically significant (p=0.302) (Table 7).

As shown in table (8), BSSI mean scores, were negatively correlated with age, and the results were statistically significant (r=- 0.54, p=0.013). Results suggest that the younger the age the higher the suicidality. BSSI mean scores were positively correlated HAM-A mean scores however the results were not statistically significant (r =0.141, p=0.553) (Table 8).

In table 9, The Y-BOCS mean scores were positively correlated with BSSI mean scores, however, the results were not statistically significant (p=0.094).

On the other hand, Y-BOCS mean scores were negatively correlated with the age of OCD patients and their RSES mean scores however the results were also not statistically significant (p=0.303, p=0.076) respectively (Table 9).

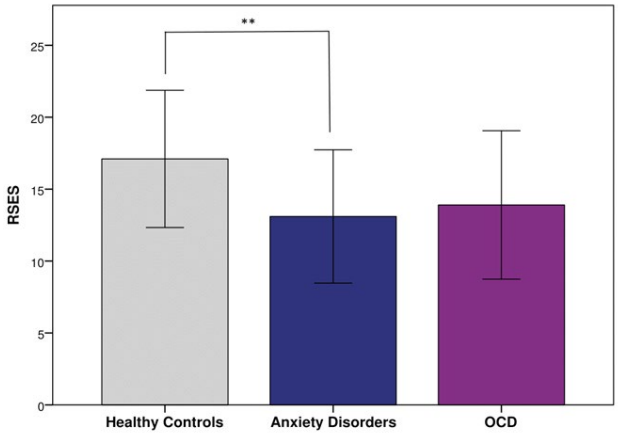

Figure 1: Mean scores of RSES across all groups (**p≤0.01).

Note: RSES: Rosenberg self-esteem scale RSES: Rosenberg self-esteem scale, scores less than 15 suggest low self-esteem.

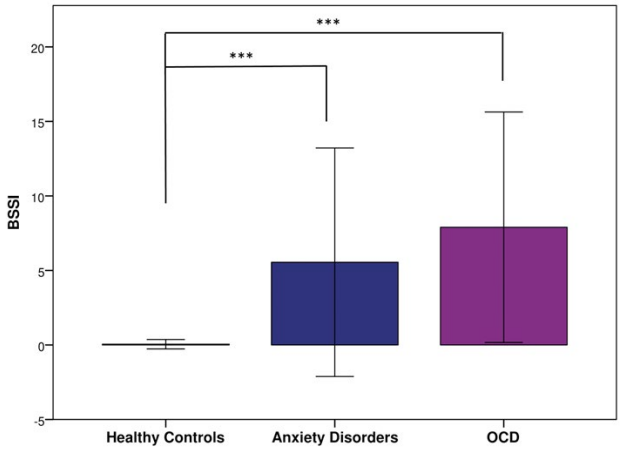

Figure 2: Mean scores of BSSI across all groups (***p ≤ 0.001).

Note: BSSI: Beck scale for suicidal ideation, BSSI: Beck scale for suicidal ideation. The higher the total score, the greater the severity of suicidal ideation.

Table 7: Correlations between mean scores of RSES, BSSI, HAM-A & age of patients in the anxiety disorders subgroup.

Variables		**Age**	**BSSI**	**HAM-A**
RSES	R	0.364	-0.702	-0.243
	P	0.115	0.001*	0.302
ρ<0.05 is significant. RSES: Rosenberg self-esteem scale, BSSI: Beck scale for suicidal ideation, HAM-A: Hamilton anxiety rating scale				

Table 8: Correlations between mean scores of BSSI, RSES, HAM-A & age of patients in the anxiety disorders subgroup.

Variables		**Age**	**BSSI**	**HAM-A**
BSSI	R	-0.543	-0.702	0.141
	P	0.013	0.001	0.553
ρ<0.05 is significant. RSES: Rosenberg self-esteem scale, BSSI: Beck scale for suicidal ideation, HAM-A: Hamilton anxiety rating scale.				

Table 9: Correlation between mean scores of Y-BOCS and BSSI, RSES, and age of patients in the OCD patient's subgroup.

Variables		**Age**	**BSSI**	**HAM-A**
YBOCS	R	-0.242	-0.406	0.384
	P	0.303	0.076	0.094
ρ<0.05 is significant. OCD: obsessive-compulsive disorder, RSES: Rosenberg self-esteem scale, BSSI: Beck scale for suicidal ideation, YBOCS: Yale brown obsessive compulsive scale				

Discussion

The present study aimed at measuring the symptom severity in patients with anxiety disorders and OCD and investigating their association with self-esteem and suicidality.

1. Discussion of descriptive data of the study sample

Regarding, education and employment, all participants in the study were employed and educated. However, there was a statistically significant difference between the patient and the control group regarding employment (p=0.024) and education (p=0.017) respectively where participants in the healthy control group were more employed and educated than the patients' group.

Our findings are in line with previous research that reports that OCD causes functional impairment, interference with daily lifestyle, and life satisfaction (57, 58). Our findings are also consistent with the National Comorbidity Survey Replication (NCS-R) study that established that OCD is frequently an impairing disorder, with 65.3% of cases reporting severe role impairment on the Sheehan Disability Scale (59).

Regarding gender difference in the anxiety subgroup, the Hamilton Anxiety mean scores were 36.5 ± .707 in males and 30.5 ±10.455 in females with a statistically significant difference (p=0.028) where males' mean scores of HAM-A were higher than females' mean scores.

Our findings on gender differences in anxiety levels are in contrast with recent research suggesting significantly higher levels of anxiety among women as compared to men (60)(61), however, this can be explained by the small number of males where only 2 males with anxiety disorder were enrolled in the current study though it was a convenient sample yet patients frequenting Kasr AL-Ainy hospital in the morning outpatient clinic are mostly females due to job scheduling conflicts with male patients who prefer evening clinics.

Discussion of comparative data between Group A (anxiety disorders and OCD) and Group B (healthy controls)

Regarding self-esteem

Mean scores of RSES were significantly lower in the anxiety disorders subgroup than in the control group (p=0.010). RSES mean scores were lowest in the anxiety subgroup=13.1±4.63 followed by the OCD subgroup=13.9 ±5.51 and highest in the control group=17.1±4.77, the difference between the mean scores of the 3 groups was statistically significant (p=0.005).

Self-esteem was lowest among the anxiety disorder patients subgroup. This finding is in order with a study conducted by Nguyen et al , in 2019(62) held amongst 1,149 secondary school students in Vietnam which reported an association between lower self-esteem and increased anxiety and suicidal ideation.

Moreover, the available research suggests that high self-esteem has been considered an important buffer against anxiety symptoms. On the other hand, low self-esteem was contributing to a higher anxiety risk (11-13).

Low self-esteem in patients with OCD has been a subject of matter of in other studies. A systematic review by Jaeger et al., (63) where results clarified a generally negative linear relationship between self-esteem and OCD symptoms.

The prior findings were consistent with our findings where the mean score of RSES in the OCD subgroup was 13.9 ±5.51 with a statistically significant difference from the healthy control group. In contrast to our study, Maldonado et al. (2013) research (64), illustrated no significant main effect of OCD vs anxiety disorders on self-esteem in an adolescent sample of patients.

Regarding suicidal Ideations

The mean scores of the BSSI scale were higher in the OCD (7.90 ± 7.73) and anxiety disorders (5.55 ± 7.66) than in the control group (0.05 ± 0.31) and were statistically significant (<0.001). In line with the studies on suicidology, a study investigated the prevalence and the correlates of current suicide risk in an adult sample of OCD patients, suicide risk was found to be highly correlated with the severity of OCD symptoms, especially when there is comorbid disorder (65). A systematic review by Luca et al., 2020 (66) also concluded that more than 1/10 patients with OCD attempt suicide during his/her lifetime, nearly half of all individuals with OCD have suicidal ideation and that the severity of obsessions is the main risk factor for suicide and suicidal behavior in OCD.

Our findings are again in order with a study conducted by Sehlo et al, 2021 (67) reported that 23.3% of the OCD subjects in the study had current suicidal ideations. Also similar to findings from other studies that reported up to 27% (68) increased possibility of current suicidal ideations in patients with OCD. Chaudhary et al. and Breet et al. also reported up to 52% of suicidal ideations among OCD patients despite using different measures for suicide assessment (33, 69).

Correlation between mean scores of RSES and BSSI in both subgroups

In the existing work, self-esteem was negatively correlated to anxiety. These findings replicated the correlation between anxiety and self-esteem and thus are consistent with recent research by Morley and Moran; Millings et al. (11, 12).

Moreover, we found a statistically significant positive correlation between the mean scores of BSSI and the RSES mean scores in both the anxiety (p=0.001) disorders and the OCD subgroup (p=0.004). These findings are supported by other studies that assessed the result of low self-esteem on mental well-being, as a result, low self-esteem has been identified as one of the most important risk factors for suicidal ideation (70, 71).

BSSI mean scores, were negatively correlated with age, and the results were statistically significant (r=- 0.54, p=0.013). Results suggest that the younger the age the higher the suicidality. However, this finding contradicts the results from a study conducted by Petkus et al. (72) that reported that older adults with anxiety disorders were more likely to endorse suicidal ideation compared with younger adults with these disorders. Yet this can be explained by the variability of diagnoses among the anxiety disorder subgroup, also 8/20 patients had more than one anxiety disorder that may carry a potentially higher risk for suicidal ideation.

Nonetheless, the current study has some limitations, including the relatively small sample size, which does not allow the generalization of results. Future studies with a larger population are indeed needed for patients with anxiety disorders and OCD. Moreover, the sample of the present study was a convenience sample of adults with anxiety disorders and OCD. Future studies with random sampling methods on other wider age groups and different cultural contexts are recommended. Another limitation is that the cross-sectional study design which does not permit the detection of links between studied covariates; longitudinal studies on this topic are still required. Also, we did not assess other variables that may be associated with suicidal thoughts and ideations among patients with anxiety and OCD such as comorbid personality disorders, substance abuse, behavioral addictions, or other factors such as a history of childhood trauma, anhedonia, hopelessness, etc...(73)

Despite these limitations, to our knowledge, this study is one of the first few Egyptian studies that has evaluated symptom severity in anxiety disorders and OCD and investigated their relationship with self-esteem and suicidal ideation.

Conclusion

Our study replicated findings from earlier studies that proposed the presence of a relationship between low self-esteem and anxiety disorders. Suicidality was highest among the OCD patients, followed by the anxiety disorders patients, and lowest among the healthy control. Self-esteem was low in the anxiety disorders patients even more than the OCD patients. Low self-esteem has been identified as one of the most crucial risk factors for suicidal ideations which entails further analysis & investigation.

Future Implications: Clinicians should keenly inquire about suicidal thoughts, ideations, and previous attempts when interviewing a patient with OCD and anxiety disorders to prevent fatal consequences.

Acknowledgment

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Authors' contributions statement:

SM, YD, AD, AY conceptualized the study, YD, AD, AY wrote the initial and final manuscripts. YD performed a systematic literature review and provided the theoretical basis for the study. SM, AY, and YD, AD provided insights that contributed to conceptualizing the study. AY performed the statistical study and wrote the methods and results of the initial manuscript. YD and AD interpreted the results and contributed to the discussion. All authors read and approved the final manuscript before submission.

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Availability of data and materials

Data and materials are available upon reasonable request.

Declarations

Ethics approval and consent to participate

The study was approved by the Ethics and Clinical Research Committee of the Psychiatry Department and the Faculty of Medicine, Cairo University, Egypt.

Written informed consent was obtained from each subject. The objectives and aims of the study were clarified to the subjects before the beginning of the study.

Consent for publication

Oral consent from the study subjects was obtained for publication purposes.

Conflicts of interest

All the authors declare that they have no conflicts of interest.

References

Adler and Stewart (2004). Self-esteem. Psychosocial Working Group. Retrieved from http://www.macses.ucsf.edu/research/psychosocial/selfesteem.php

Leary, M. R., & MacDonald, G. (2003). Individual differences in self- esteem: A review and theoretical integration. In M. R. Leary & J.P. Tangney (Eds.), Handbook of self and identity (pp. 401-418). Guilford Press.

Pyszczynski, T., Greenberg, J., Solomon, S., & Schimel, J. (2004). Why do people need self-esteem? A theoretical and empirical review. Psychological Bulletin, 130(3), 435-468.

Lee, A., & Hankin, B. L. (2009). Insecure attachment, dysfunctional attitudes, and low self-esteem predicting prospective symptoms of depression and anxiety during adolescence. Journal of Clinical Child and Adolescent Psychology, 38,219 -231.

Restifo, K., Akse, J., Valle Guzman, N., Benjamin. C., & Dick, K. (2009). A pilot study of self-esteem as a mediator between family factors and depressive symptoms in young adult university students. J Nerv Men Dis ; 197:166-71.

Tambelli, R., Laghi, F., Odorisio, F., & Notari, V. (2012). Attachment relationships and internalizing and externalizing problems among Italian adolescents: age and gender differences. Children and youth services review, 34, 1465-1471.

Laghi, F., Pallini, S., D'Alessio, M., & Baiocco, R. (2011). Development and validation of the efficacious self-presentation scale. Journal of Genetic Psychology, 172, 209-219.

Myers EM, Zeigler-Hill Virgil, Besser Avi, Southard Asshton C & Malkin Mallory L(2013).The status-signaling property of self-esteem: The role of self-reported

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. Psychological Bulletin, 139, 213-240.

Orth, U., & Robins, R. W. (2013). Understanding the link between low self-esteem and depression. Current Directions in Psychological Science, 22(6), 455-460.

Millings, A., Buck, R., Montgomery, A., Spears, M., & Stallard, P. (2012). School connectedness, peer attachment, and self-esteem as predictors of adolescent depression. Journal of Adolescence, 35, 1061-1067.

Morley, T. E., & Moran, G. (2011). The origins of cognitive vulnerability in early childhood: Mechanisms linking early attachment to later depression. Clinical Psychology Review, 31, 1071-1082.

Doron, J., Thomas-Ollivier, V., Vachon, H., Fortes-Bourbousson, M. (2013). And marina Fortes-Bourbousson. "Relationships between cognitive coping, self-esteem, anxiety and depression: A cluster-analysis approach. Personality and Individual Differences, 55(5), 515-520

Roberts, J. E. (2006). Self-esteem from a clinical perspective. In M. H. Kernis (Ed.), Self-esteem issues and answers: A sourcebook of current perspectives (pp. 298 -305). New York, NY: Psychology Press.

Guil, R., Gómez-Molinero, R., Merchan-Clavellino, A., Gil-Olarte, P., Zayas, A. (2019). Facing anxiety, growing up. Trait emotional intelligence as a mediator of the relationship between self-esteem and university anxiety. Frontiers in Psychology, 10, 567.

Manna G., Giorgio F., Sonia I., Como MR., De Santis S. (2016). The relationship between self-esteem, depression and anxiety: Comparing vulnerability and scar model in the italian context. Mediterranean Journal of Clinical Psychology, 4(3), 1-16.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: American Psychiatric Association; 2013.

Lowe, J., & Harris, L. M. (2019). A comparison of death anxiety, intol- erance of uncertainty and self-esteem as predictors of social anxiety symptoms. Behaviour Change, 36(3), 165-179.

Fava GA, Savron G, Rafanelli C, Grandi S (1996). Prodromal symptoms in obsessive-compulsive disorder. Psychopathol; 29: 131-4.

Ehntholt KA, Salkovskis PM, Rimes KA(1999). Obsessive-compulsive disorder, anxiety disorders, and self-esteem: an exploratory study. Behav Res Ther; 37: 771-81

Doron G. Kyrios M, Nedeljkovic M (2008). Sensitivity of self-beliefs in obsessive-compulsive disorder. Depress Anxiety; 25: 874-84.

World Health Organization. (2014, September 4) WHO calls for coordinated action to reduce suicides worldwide..Geneva.

Hawgood J and De Leo D (2008). Anxiety disorders and suicidal behaviour: An update. Curr Opin Psychiatry.; 21: 51-64. DOI: 10.1097/YCO.0b013e3282f2309d.

Bomyea J, Lang AJ, Craske MG, Chavira D, Sherbourne CD (2013). Suicidal ideation and risk factors in primary care patients with anxiety disorders. Psychiatry Res.; 209: 60-65. DOI: 10.1016/j.psychres.2013.03.017.

Nepon J, Belik S. Bolton J, Sareen J (2010). The relationship between anxiety disorders and suicide attempts: Findings from the national epidemiologic survey on alcohol and related conditions. Depress Anxiety; 279: 791-798. DOI: 10.1002/da.20674.

Lopez-Castroman J, Perez-Rodriguez MDIM, Jaussent I, Alegria AA (2011). European Research Consortium for Suicide (EURECA) distinguishing the relevant features of frequent suicide attempters. J Psychiatric Res.; 45: 619-625. DOI: 10.1016/j.jpsychires.2010.09.017.

Bolton JM, Cox BJ, Afifi TO (2008). Anxiety disorders and risk for suicide attempts: Findings from the Baltimore epidemiologic catchment area follow-up. Depress Anxiety.; 25: 477-481. DOI: 10.1002/da.20314.

Uebelacker LA, Weisberg R, Millman M, Yen S (2013). Prospective study of risk factors for suicidal behavior in individuals with anxiety disorders. Psychol Med.; 43: 1465-1474. DOI: 10.1017/S0033291712002504.

Huang M, Yen C, Lung F (2010). Moderators and mediators among panic, agoraphobia symptoms, and suicidal ideation in patients with panic disorder. Compr Psychiatry.; 51: 243-249.

Kamath P, ,Janardhan Reddy YC, Thennarasu Kandavel T (2007) Suicidal behavior in obsessive-compulsive disorder ; J Clin Psychiatry;68(11):1741-50.

Gupta G, Avasthi A, Grover S,Singh SM (2014). Factors associated with suicidal ideations and suicidal attempts in patients with obsessive compulsive disorder.Asian Journal of Psychiatry.Volume 12;, Pages 140-146.

Angelakis I , Gooding P, Tarrier N Maria Panagioti M (2015). Suicidality in obsessive compulsive disorder (O3CD): a systematic review and meta-analysis Review Clin Psychol Rev Jul;39:1-15.

Chaudhary RK, Kuma P, and Mishra BP(2016) Depression and risk of suicide in patients with obsessive-compulsive disorder: A hospital-based study. Ind Psychiatry J.; 25(2): 166-170.

Brakoulias V, Starcevic V, Belloch A, Brown C, Ferrao YA, Fontenelle LF, Lochner C, Marazziti D, Matsunaga H, Miguel EC, JReddy YC, do Rosario MC , Shavitt RG, Shyam Sundar A, Stein DJ, Torres AR, Viswasam K(2017) Comorbidity, age of onset and suicidality in obsessive-compulsive disorder (OCD): An international collaboration Volume 76, Pages 79-86 Comprehensive Psychiatry.

Albert U, De Ronchi D, Maina G,2 &Pompili M (2019) Suicide Risk in Obsessive-Compulsive Disorder and Exploration of Risk Factors: A Systematic. Review Curr Neuropharmacol. Aug; 17(8): 681-696.

Weingarden H., Renshaw K.D., Wilhelm S., Tangney J.P., DiMauro J (2016). Anxiety and shame as risk factors for depression, suicidality, and functional impairment in body dysmorphic disorder and obsessive compulsive disorder. J. Nerv. Ment. Dis ;204(11):832-839

Khosravani V., Sharifi B.F., Samimi A.M., Jamaati A.R (2017). Early maladaptive schemas and suicidal risk in an Iranian sample of patients with obsessive-compulsive disorder. Psychiatry Res;255:441-448.

Ay R and Erbay LG (2018). Relationship between childhood trauma and suicide probability in obsessive-compulsive disorder. Psychiatry Res;261:132-136.

Balci V and Sevincok L (2010) Suicidal ideation in patients with obsessive-compulsive disorder Psychiatry Research;Volume 175, Issues 1-2, Pages 104-108.

Hung TC, Tang, HS, Chiu CH , Chen YY, Chou KR , Chiou HC, Hsiu-Ju Chang HJ (2010).Anxiety, depressive symptom and suicidal ideation of outpatients with obsessive compulsive disorders in Taiwan.Journal of Clinical Nursing; Volume19, Issue21-22;Pages 3092-3101

Torres AR; Ramos-Cerqueira AA; Ferrão YA; Fontenelle LF; do Rosário MC and Miguel EC(2011) Suicidality in Obsessive-Compulsive Disorder: Prevalence and Relation to Symptom Dimensions and Comorbid Conditions. J Clin Psychiatry ;72(1):17-26

Dold M, Bartova L, Souery D, Mendlewicz J, Porcelli S, Serretti A, Zohar J, Montgomery S and Kasper S(2018). Low comorbid obsessive-compulsive disorder in patients with major depressive disorder - Findings from a European multicenter study. Journal of Affective Disorders.Volume 227, Pages 254-259

Bowen R, Rahman H, Yue Dong L, Khalaj S, Baetz M, Peters E and Balbuena L(2019) Suicidality in People With Obsessive-Compulsive Symptoms or Personality Traits. Front. Psychiatry, Sec. Mood Disorders.https://doi.org/10.3389/fpsyt.2018.00747

Meier SM., Mattheisen M., Mors O., Schendel DE., Mortensen PB., Plessen KJ(2016). Mortality among persons with obsessive-compulsive disorder in denmark. JAMA Psychiatry;73(3):268-274.

Fernández de la Cruz L., Rydell M., Runeson B., D'Onofrio B.M., Brander G., Rück C., Lichtenstein P., Larsson H., Mataix-Cols D (2017). Suicide in obsessive-compulsive disorder: A population-based study of 36 788 Swedish patients. Mol. Psychiatry; 22(11):1626-1632.

Pellegrini L, Maietti,E, Rucci P, Casadei G, Maina G, Fineberg NA, Albert U(2020) Suicide attempts and suicidal ideation in patients with obsessive-compulsive disorder: A systematic review and meta-analysis. Journal of Affective Disorders;Volume 276, Pages 1001-1021

IBM SPSS-version 22:IBM Corp. IBM SPSS Statistics for Windows [Internet]. Armonk, NY: IBM Corp; 2017. Available from: https://hadoop.apache.org

Goldberg DP and Hillier VF (1979). A scaled version of the General Health Questionnaire. Psychological Medicine;9(1):139-45.

Alhamad A and Al-Faris E (1998). The validation of the general health questionnaire (GHQ-28) in a primary care setting in Saudi Arabia. Journal of Family and Community Medicine;5(1):13.

Hamilton M (1959). The Assessment of Anxiety States by Rating. British Journal of Medical Psychology;32(1):50-5.

Lotfy F (1994). Hamilton Anxiety Rating Scale (HAM-A). Anglo Egyptian Library, Cairo, Egypt.

Goodman WK, Price LH, Rasmussen SA, Mazure C, Fleischmann RL, Hill CL, Heninger GR, Charney DS (1989). The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. Arch Gen Psychiatry.

Rosenberg M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Zaidi U (2015): Psychometric evaluation of Arabic version of Self- Esteem, Psychological Well-being and Impact of weight on Quality of life questionnaire (IWQOL-Lite) in female student sample of PNU. European Medical, Health and Pharmaceutical Journal. 8. 10.12955/emhpj.v8i2.70

Beck AT, Kovasac M, Weissman A. (1979): Assessment of suicidal intention: the Scale for Suicide Ideation. J Consult Clin Psychol. 47(2):343-52.

Ahmed S , Moussa F , Moustafa A , Ayoub DR. Cortisol level in depressed patients and its relation with suicidal risk and anhedonia. 2017. Egypt J Neurol Psychiatry Neurosurg Volume: 53 : (4) 193-199.

Gururaj GP, Math SB, Reddy JY, Chandrashekar CR (2008) Family burden, quality of life and disability in obsessive compulsive disorder: an Indian perspective. J Postgrad Med 54:91-97.

Mortiz S (2008) A review on quality of life and depression in obsessive-compulsive disorder. CNS Spectr 13:16-22.

Ruscio AM, Stein DJ, Chiu WT & Kessler RC(2008) The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. Mol. Psychiatry 15, 53-63.

Zhang, L., Guo, L.X., Li, Y., Zhu, Y.F., Li, Q., Chen, K.J.& Chen, M.J., (2007) The effect of mental education on the mental health of nursing undergraduates in military university. Chinese Journal of Behavioral Medical Science,16 (2), 153-154.

Eisenberg, D., Speer, N., & Hunt, J. (2012) Attitudes and beliefs about treatment among college students with untreated mental health problems. ;Psychatric Services. 63(7), 711-713.

Nguyen DT, Wright E P, Dedding, C, Pham TT and Bunders J (2019) Low Self-Esteem and Its Association With Anxiety, Depression, and Suicidal Ideation in Vietnamese Secondary School Students: A Cross-Sectional StudyFront Psychiatry.; 10: 698.

Jaeger, Tess & Moulding, Richard & Yang, Yoon Hee & David, Jonathan & Knight, Tess & Norberg, Melissa. (2021). A systematic review of obsessive-compulsive disorder and self: Self-esteem, feared self, self-ambivalence, egodystonicity, early maladaptive schemas, and self concealment. Journal of Obsessive-Compulsive and Related Disorders. 31. 100665.

Maldonado, L., Huang, Y., Chen, R., Kasen, S., Cohen, P., & Chen, H. (2013). Impact of early adolescent anxiety disorders on self-esteem development from adolescence to young adulthood. Journal of Adolescent Health, 53(2), 287-292.

Benatti, B., Dell'Osso, B., Shen, H. (2021). Prevalence and correlates of current suicide risk in an international sample of OCD adults: A report from the International College of Obsessive-Compulsive Spectrum Disorders (ICOCS) network and Obsessive Compulsive and Related Disorders Network (OCRN) of the European College of Neuropsychopharmacology. Journal of psychiatric research, 140, 357-363.

Luca, P., Elisa, M. (2020). Suicide attempts and suicidal ideation in patients with obsessive-compulsive disorder: A systematic review and meta-analysis, Journal of Affective Disorders, Volume 276, Pages 1001-1021, ISSN 0165-0327.

Sehlo MG, Youssef UM & El-Gohari HM(2021) Prevalence and risk factors of suicidal ideations among patients with obsessive-compulsive disorder in Egypt ;Middle East Current Psychiatry volume 28, Article number: 9

Beck AT, Steer RA, Beck JS, Newman CF (1993) Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. Suicide Life Threat Behav 23:139-145.

Breet E, Kidd M, McGregor NW, Stein DJ, Lochner C (2019) Suicide ideation and attempts in obsessive-compulsive disorder. Ann Clin Psychiatry 31(3):192-199.

Petkus AJ, Wetherell JL, Stein MB , Chavira DA, Craske MG ,Cathy Sherbourne C(2017) Age Differences in Death and Suicidal Ideation in Anxious Primary Care Patients ; Clinical Gerontologist ;Volume 41, 2018 - Issue 4 ;Pages 271-281.

Bhar S, Ghahramanlou-Holloway M, Brown G, Beck AT (2008). Self-esteem and suicide ideation in psychiatric outpatients. Suicide Life Threat Behav.;38:511-516.

Thompson AH (2010) The Suicidal Process and Self-Esteem ; Journal of Crisis Intervention and Suicide Prevention 31(6):311-6. Institute of Health Economics, Edmonton, Alberta, Canada.

Shahin, Mostafa O, Yomna Alaa Mecdad, Dina Y. Afifi and Doaa R. Ayoub. "Problematic Internet Use and FoMO Association among Adult Patients with Anxiety Disorders and Obsessive-Compulsive Disorder: An Exploratory Research." Clin Schizophr Relat Psychoses 16S (2022). Doi: 10.3371/CSRP.SMYM.092722.