ORIGINAL ARTICLE

Suicidality and its Relationship to Psychological and Sociodemographic Factors among Individuals with Obsessive Compulsive Disorders in Jordan

Feda'a Abed-Alelah Momani[1], Ayman M. Hamdan-Mansour[1], Majd A. Alsoukhni[2]

[1] Department of Community Health Nursing, School of Nursing, the University of Jordan. Amman 11942 Jordan
[2] Research & Policy Team. Center of Excellence for Applied Epidemiology, Global Health Development (GHD and Eastern Mediterranean Public Health Network (EMPHNET)

ABSTRACT

Introduction: Obsessive Compulsive Disorder (OCD) is a chronic mental disorder causing severe social and occupational dysfunction leading to high risk of suicidal ideas and behaviours. The purpose of the study was to investigate the prevalence of suicidality and its relationship to psychological (depressive and anxiety symptoms) and sociodemographic factors among individuals with Obsessive Compulsive Disorder in Jordan. **Methods:** this is a descriptive correlational study. Data was collected using self-reported questionnaire from 90 individuals diagnosed with OCD from outpatient departments receiving care at public and private health institutions in Jordan. Data were collected regarding suicidality, anxiety, and depressive symptoms. **Results:** Suicidal risk was detected in 34.4% % (N= 31) of the individuals with OCD, 90% had mild to severe depressive symptoms, 70% had mild to severe anxiety symptoms. Significant positive correlation found between suicidality, anxiety and depressive symptoms ($p<.05$). Individuals with OCD and suicidality had significantly lower educational level, contamination, trichotillomania, and sexual obsessions. Depressive symptoms and type of OCD were significant predictors for suicidality among individuals known to have OCD. **Conclusion:** Individuals with OCD have high risk for suicidality and should be carefully monitored. Health care professionals in the outpatients' clinics are recommended to actively investigate suicidality risk as part of OCD comprehensive assessment per visit.

Keywords: Obsessive Compulsive Disorder. Suicidality. Anxiety. Depression

Corresponding Author:
Ayman M. Hamdan-Mansour PhD
Email: a.mansour@ju.edu.jo; aymanjabay@gmail.com
Tel: +962796383002

INTRODUCTION

Obsessive Compulsive Disorder (OCD) is recognized as prevalent mental illness mental illness worldwide (1). OCD is the tenth medical condition that causes disability and social impairment for individuals and their families (2). The prevalence of OCD is increasing globally reaching 1.2% over 12 months' period, while the lifetime prevalence is 2.3% (2). Common types of obsessions are dirt/contamination, symmetry /ordering; while, checking, cleaning/washing are considered the most common compulsions (3). Individuals with OCD suffer time strains consumed in performing compulsive behaviors to control or suppress obsessional thoughts (3). The symptoms associated with OCD are found to have greater negative impact on individuals' life causing significant disabilities in social relationships, occupation, academic performance, and quality of life (3). This could have contributed to internalize the problem and thinking solely to manage overwhelming negative consequences of OCD through selecting suicide as one possible solution (4). Suicidality was underestimated among individuals with OCD. Recent studies confirmed that individuals with OCD are at a higher risk of suicide where 10% to 27% of them had at least one suicide attempt (5). Some authors proposed that suicidality is a continuum process that is ranged from suicidal ideation as first level to committed suicide (5).

The literature indicated that OCD has high comorbidity rates in comparison with other psychiatric disorders; the most common ones are anxiety and depression (6). Individuals with OCD invest more energy thinking about the obsessions and performing the compulsions, which may prompt depressive and anxiety symptoms (7). Increased severity of OCD has been connected to more worsening in depressive and anxiety symptoms, which may burden patients and increase their hopelessness and negative feelings, causing suicidal ideation and attempts (8). Therefore, it is important when assessing the relationship between suicidality and OCD is to address the associated depressive and anxiety symptoms.

Suicide is one main public health problem and represents 1.4% of all deaths worldwide (9). In Jordan, suicide

mortality rate is 2.9 deaths per 100,000 populations (10). Those numbers could be under-reported because of Jordanian cultural and societal factors (11). About 92% of the Jordanians are Muslims. In Islam, killing self or causing serious harm to self is considered prohibited, criminal act as well as an indecent demonstration that merits God's anger and discipline (12,13). This may influence the decision to commit suicide fearing religious and societal rejection, however; does not void suicidal ideation and intent. Thus, those registered cases (rates) of suicide may be under-reported for cultural and religious reasons. In addition, connecting that to psychological, social, and cultural factors might enable better understanding of the relationship. Thus, there is a significant need to investigate suicidality and its relationship to psychological and sociodemographic factors among individuals with OCD to propose treatments and interventions that seek to improve well-being and lower the risk of suicide. The purpose of this study was to investigate the prevalence of suicidality and its relation to psychological, depressive and anxiety symptoms, and sociodemographic factors among individuals with obsessive compulsive disorder.

MATERIALS AND METHODS

Design

This is a cross sectional descriptive correlation study data was collected from individuals diagnosed with OCD in Jordan. Data was collected by self-report format. The data collected was regarding suicidality, depressive symptoms and anxiety.

Settings

The sample was recruited from outpatient units of public hospitals (governmental and university affiliated hospitals), and private health institutions and clinics representing the main mental health care sectors providing care for people with mental illnesses in Jordan. The governmental sector was represented by the only two major mental health hospitals. One of them is providing care to acute and chronic illnesses and the other is specialized in the provision of care for patients who have enduring and chronic psychiatric illnesses. In addition, there are about 72 psychiatric and psychological consultation clinics. Also, there is one unit designated to provide psychiatric care for patients directed by the military services and the university affiliated outpatients' units was also targeted and there are two units in Jordan.

Sample and sampling

Multistrategic sampling techniques were used to recruit the participants of the study. Private clinics were first clustered into three groups; north, central and south. Then, 10% of each cluster was selected using simple random technique to ensure variation and representativeness of the subjects. In addition, all outpatient units in public health sector (governmental and university affiliated) were targeted to recruit the participants. A convenience sample of patients diagnosed with OCD from the health care sectors in Jordan; public and private. Inclusion criteria included: 1) patients who are 18 years or above, 2) being diagnosed with OCD according to medical records. Exclusion criteria included: 1) patients who were diagnosed with dual diagnosis (psychoactive substance abuse/dependence (either current or in the past 6 months) except nicotine because substance use interferes with mental and patient's willingness to report their psychological and OCD-related issues, and 2) patients who were comorbid with mental illness that makes them unable to respond to questions of the survey.

Instrument

Suicidality was measured using the Arabic version of Suicide Behaviors Questionnaire – Revised (14). The SBQ-R is a 4-item scale that aims to measure risk for suicide, assessing lifetime suicidal ideation and attempts, number of suicidal attempts in the past-12 months, communication of suicidal ideation to others, and potentiality of suicidal in the future. Respondents range of core is between three and eight where higher score infers greater risk for suicidal behaviors. The cut-off point is 8 for the psychiatric inpatient samples (14). The scale has very good sensitivity (80%) and specificity (91%), good internal consistency ($\alpha = .87$) in recognizing those who are suicidal from adults with psychiatric disorders.

The Arabic version of DSM-V Severity Measure of Depression scale (15) used to measure depression. the scale is adapted from the patients' health questionnaire-9 (PHQ-9) (16). It is a self-rated 9-item scale to measure the severity of depressive symptoms in individuals age 18 years and older. The person in this scale is asked to rate the severity of his/her depression during the last 7 days. Responses are ranged from not at all (0) to nearly every day (3). The total score ranges from 0 to 27. Higher scores infer more severe level of depression.

Anxiety was measured using an Arabic version of DSM-V Severity Measure of Anxiety Scale (15). The DSM-V Level 2-Anxiety-Adult measure composed of 7 items and aims to assess among adults of 18 years or older. Responses are ranged from never (1) to always (5). The higher the score is the greater severity of anxiety. The instrument reliability was above 0.89 for most of the score distribution.

Potential covariates: an author-developed profile was used to obtain sociodemographic and disease related factors that include gender, age, marital status, education level, working status, history of OCD, type of medication, duration of the diagnosis, type of OCD.

Ethical Considerations

Participants' rights for confidentiality, privacy and safety

were securely protected throughout the study. Ethical approval was obtained prior to data collection from the research and ethics committee at the School of Nursing at the University of Jordan and was sought from the targeted institutions. In addition, permission for using the scales were not needed because they are available without permission. Participants who were interested to participate were approached and informed about the study purpose and significance. The competent patients signed the informed consent's form. All participants' questions answered honestly and completely, and they were given full opportunities to ask freely. Moreover, participants were informed that participation in the study is voluntary and they have the right to withdraw at any time. Participants were assured that the data will be used only for the research purposes, and no one will have access to the data. All information kept on the researcher personal computer with a secured password.

Statistical Analysis

Central tendency measures (mean, median) and dispersion measures (SD and range) were used to describe the variables of the study. Pearson correlation used to test the correlation between among variables of the study, and ANOVA used to test differences related to categorical demographic and health related factors. Two-step multiple hierarchal regression analysis used to regress suicide on depression and anxiety on suicide controlling for demographic and heath related factors.

RESULTS

Sample Characteristics

A total number of 100 participants were approached, and 90 participants completed and returned the questionnaire indicating a 90% response rate. Descriptive analysis showed that the mean age of participants was 36.5 years (SD= 11.4). Males accounted for 53.3% (n = 48) of the cases. Most of the participants were either married representing 46.7% (n=42) or single representing 42.2% (n=38) of the cases. The analysis also showed that 41.1% (n=37) of participants were not working and 34.4% (n=31) have full time job. Average mean of personal income was 306.3 JD per month (SD= 222.3). The majority of participants (56.7%, n= 51) holds bachelor's degree and 34.4% (n=31) hold high school degree. More detailed demographic characteristics are shown in Table I.

Regarding disease related factors; the diagnosis duration ranged from 1 to 300 months, with a mean of 45.4 months (SD= 74.7). Most of the individuals (64.4%, n=58) have no family history of OCD, while 41.1% (n=37) had. Most of the patients (83.3%, n=75) were on drug therapy, 21% (n=19) of them were on psychological therapy, and no one used other biological therapies such as electroconvulsive therapy, neurosurgery, plasma exchange/IV immunoglobulin/ maintenance antibiotics, and transcranial magnetic stimulation. The most common types of medications were selective serotonin reuptake inhibitors (SSRI) 40% (n=36), and tricyclic antidepressants 12.2% (n= 11), and 33.3% (n= 30) of individuals were taken more than one type of medications (Table II).

Table I: Demographic characteristics of the sample (N = 90)

Variable		n	%
Gender	Male	48	53.3
	Female	42	46.7
Marital status	Single	38	42.2
	Married	42	46.7
	Divorced	8	8.9
	Widow	2	2.2
Level of Education	Illiterate	3	3.3
	Basic	5	5.6
	High school	31	34.4
	Baccalaureate	51	56.7
Working Status	Not working	37	41.1
	Full time job	31	34.4
	Part-time job	18	20.0
	Retired	4	4.4

The most common OCD types reported were rumination intrusive thoughts (18.9%, n=17), contamination intrusive thoughts (17.8%, n= 16), and sexual intrusive thoughts (16.7%, n= 15). However, 11.1% (n=10) of patients has more than one type of OCD (Table II).

Suicide

The mean score on SBQ-R scale was M = 6.7 (SD= 3.7). Among the participants, 34.4% (n= 31) were at risk of suicide while 65.6% (n= 95) were not (SBQ-R < 8).

Table II: Health related characteristics of the sample (N = 90)

Variable		n	%
Family History			
Yes		37	41.1
	Father	6	6.7
	Mother	12	13.3
	Sister	13	14.4
	Brother	4	4.4
	Grandmother	2	2.2
No		53	58.9
Did you receive psychological /medical therapy			
Yes		76	84.4
No		14	15.6
Type of OCD			
Rumination intrusive thoughts		17	18.9
Contamination intrusive thoughts		16	17.8
Sexual intrusive thoughts		15	16.7
Religious intrusive thoughts		11	12.2
Checking		7	7.8
Symmetry/ordering intrusive thoughts		3	3.3
Violent intrusive thoughts		3	3.3
Relationship intrusive thoughts		4	4.4
Body focused intrusive thoughts		2	2.2
Trichotillomania		2	2.2
More than one type		10	11.1

Psychological Characteristics

Analysis of depression showed that more than 90% of the patients were suffering from depressive symptoms (mild to severe) compared to 10 % with no or minimal depressive symptoms. The analysis indicates that more than 70% of the patients were suffering from mild to severe anxiety symptoms compared to 20 % with no anxiety symptoms.

Regarding relationship between psychosocial and sociodemographic variables and suicidality; the analysis using Pearson product moment correlation coefficient (r), showed that suicidality has significant positive correlation with depression (r =.49, p = .000), and anxiety (r =.31, p = .003). However, analysis showed that there was no significant relationship between suicidality and age, income, and duration of diagnosis. This indicates that higher level of anxiety and higher level of depression level are likely to be related to higher tendencies to suicide behaviors (Table III).

Table III: Predictors of suicide among Individuals with OCD (N=90)

Predictors	Suicidality	
	r	p
Age	-.002	.987
Income	-.176	.097
Diagnosis duration	-.035	.746
Number of cigarettes	-.083	.436
Anxiety	.314	.003**
Depression	.497	.000**

Two-step multiple hierarchal regression analysis was conducted to assess prediction power of anxiety and depression for suicidality controlling for demographic characteristics (age, income, gender, educational level, marital status, and working status) and disease related factors (type of OCD, family history of OCD, therapy taking, and duration of diagnosis) among individuals with OCD. The analysis showed that in model 1 which contained the demographic characteristics and disease related factors explained 12% (R2 = .12) of the variance in suicidality among individuals with OCD. The analysis showed that model one was not statistically significant (F 10,89 = 1.8, p =.069). In this model 1, educational status (β = .23, p =.049) was a significant predictor for suicidality, and the type of OCD was marginally non-significant (β=.22 p=.054). While age, income, family history of OCD, gender, marital status, receiving therapy, diagnosis duration, and working status were not significant predictors of suicidality (p > .05).

In model two, psychological variables (anxiety and depression) were added. The inclusion of the psychological variables increased the explained variance from 12% (model 1) to 34% (R2 = .34). This means that 34% of the variation in suicidality are explained by the model 2 in which the psychological factors are examined as predictors controlling for demographic and disease related factors. The R2 change resulted from adding these variables was .20, and that change was statistically significant as the model fit found to be significant (F 12,89= 4.1, p=. < .001). In model two depression (β = .42, p = <.001) and type of OCD (β = -.22, p = .030) were significant predictors of suicidality. The results show that depression is a significant risk factor to suicidality of individuals with OCD, which infers that individuals with OCD with higher score of depression is more likely to develop suicidality than those with lower scores. On the other hand, the educational level variable which was found to be significant predictor in model 1 found to be not significant in model 2 (β = .206, p =.050) (Table IV).

Table IV: Regression of suicidality on depression and anxiety controlling for demographic and health related factors (N=90).

Predictors	Model I		Model II	
	β	p value	β	p value
Age	.008	.948	.017	.879
Gender	.048	.698	.089	.420
Marital status	.045	.695	.106	.301
Working status	-.106	.421	-.033	.775
Level of education	-.235	.049	-.206	.050
Income	-.078	.483	.001	.990
Family history	-.077	.522	-.089	.403
Duration of diagnosis	.087	.504	.060	.605
Taking therapy	.186	.112	.130	.208
Type of OCD	-.222-	.054	-.221	.030
Depression			.415	< .001
Anxiety			.100	.365
R^2	.118	.069	.338	< .001
Adjusted R^2	.085		.293	
R^2 *change*	-		.201	

To examine the relationships between suicidality and the dichotomous demographic variables, the t test analysis showed the following results: no significant differences in suicidality between those patients who have family history of OCD and those who do not (t= .23, p= .98), and between patients who underwent drug therapy, psychological therapy or biological therapy and those who did not (t = .41, p= .24).

To examine the differences in suicidality in relation to working status, type of OCD, types of medication, educational level and marital status, one-way ANOVA was conducted. The analysis showed that there was no significant difference related to working status (F 3,89= 1. 57, p = .202), marital status (F3,89 = 1.25, p = .296) and type of medications (F3,89 = 1.287, p= .284).

Regarding the educational level, there was a significant difference in suicidality (F3,89 = 5.24, p = 0.002). Post hoc comparison was done and the Least Significant Difference (LSD) was used, this analysis is used most commonly after a null hypothesis in an analysis of variance (ANOVA) test is rejected . The analysis showed that those who were in high school (M =8.1, SD = 4.3)

were significantly different (higher mean) from those who were in bachelor degree (M =5.66, SD = 3.03), and those who are illiterate (M= 11.3, SD= 3.05) were significantly different (higher mean) from those who were in basic school degree (M= 5.40, SD=2.50).

Regarding the type of OCD, there was a significant difference in suicidality (F3,89 =2.045, p = 0.03). Using post hoc comparison (LSD), the analysis showed that those who has contamination intrusive thoughts were significantly different (higher mean) (M =8.81, SD =3.74) from those who has symmetry/ordering intrusive thoughts, body focused intrusive thoughts, and those who has more than one type of OCD. Also, those who has Trichotillomania (M= 10.00, SD= 4.24) were significantly different (higher mean) in their suicidality score from those who has symmetry/ordering intrusive thoughts or relationship intrusive thoughts. As well as individuals who has sexual intrusive thoughts (M= 7.40, SD=4.59) were significantly different (higher mean) in their suicidality score from those who has relationship intrusive thoughts.

DISCUSSION

Suicidal risk reported by participants in this study was higher than what was reported in previous comparable studies examining the suicidal risk among outpatients (17). This study found that patients known to have OCD tend to demonstrate a higher level of suicide tendency despite that most of the participants did not reach the clinical levels (17). The results somehow are consistent with previous studies which reported that 6.3% of patients with OCD are at risk of suicidality (18), and others which found 6.4% having suicidal ideation (19). While others reported higher rate 9.1% of suicidality (20). One reason could be related to methodological issues, in this study we have used structured format of interview and medical records has been reviewed, while in the other study individuals have been recruited using internet such as email or social media.

The results of this study are in line with findings obtained from a systematic review which showed that OCD diagnosis was associated with increase in suicidality risk; however, it is obvious that the suicidality rate in this study (34%) is much higher than many other studies. For example, some studies found that up to 46% of patients with OCD are suicidal (19), while others using larger sample of patients with OCD found that 32% of individuals had suicidal plans (21). Investigating the variations in reports should eventually not influence the significant contribution of OCD diagnosis in suicidality and risk for suicide.

Although the prevalence of suicide seems low in magnitude, the threat to life expected with mean score of suicidality is alarming and requires clinical attention. Furthermore, due to cultural and social stigma of declaration of suicidality among patients of this sample, it is expected that suicidality is subjective to underreport. Suicide is prohibited in Islam, and those committing suicide or thinking about it are disgraced making them unable to declare it simply. On the other hand, inability to declare suicidality could also reveal more serious situation that it may appear. In other words, those who have high level of suicidality will probably express their actual suicidality ignoring the religious and cultural consequences, while those who have lower suicidality (intention and thoughts) probably won't declare it at all or will report lower score than it is present.

The study showed that suicidality among individuals with OCD is associated with depression and anxiety. This finding is consistent with previous studies which concluded that depression and anxiety disorders are the most common comorbidities in OCD (6) and contribute to higher suicidal risk (8). Studies concluded that risk of suicide is increasing among patients with higher level of comorbidity of mental illnesses (9). Depressive and anxiety symptoms that may occur are related to high level of distress, suffering and disability in OCD. Therefore, it is necessary to assess the presence of anxiety and depressive symptoms among individuals with OCD to consider those symptoms in the treatment plan to attenuate the risk of suicidality among OCD patients.

Moreover, depressive symptoms were the most predictive of suicidality. The study found that depression was a significant risk factor of suicide, while anxiety was not. This study support previous studies in that severity of suicide among individuals with OCD is increased with depression comorbidity (5). Other has also found that depressive symptoms are prevalent among individuals with OCD (22), and it is a strong predictor of suicide (18). Contrast to our findings, another study found that both anxiety and depressive symptom are predictors of suicidal ideation controlling for demographics characteristics (23).

People with OCD and comorbid depression are at a higher severity level of suicidality than those who are not depression comorbid. Comorbid depression, additionally, predicts early drop-out from mental and pharmacological therapy of OCD causing further risk and higher suicidality rate (24). This has sustained the connection between suicidality and depression among those suffering OCD. Also, the analysis indicates that more than 90% of the individuals with OCD were suffering from mild and moderate to severe depressive symptoms. Previous study showed that 80% of the individuals had depressive symptoms and conclude that individuals with severe to very severe depression had one or more times previous suicidal attempts (25).
The analysis showed that demographic factors such as; age, gender, working status, family history of OCD, smoking, duration of diagnosis, marital status are not

associated with suicide risk and do not make difference in suicidality reports among patients with OCD. The results do partly support previous one that no association found between demographics and suicidality among individuals with OCD (25). On the other hand, the results do contrast others whom found that being a female, unmarried, and unemployed increased suicide risk among patients with OCD (24).

Moreover, in regard to the type of OCD; this study found significant differences among individuals with contamination intrusive thoughts, Trichotillomania and sexual intrusive thoughts. This study confirms previous studies which found that suicidal risk increased to be maximum among individuals with cleanliness and contamination (5). In a previous study, the authors failed to find relationship between compulsive behaviors and suicide when controlling for comorbid depression (26). While other study found that compulsive behaviors could be related to suicidality (27). However, the studies about suicidal risk and trichotillomania are scarce. More studies are needed regarding contamination intrusive thoughts and behaviors in relation to suicidal risk. Many studies found that suicide is sustainable among individuals with higher sexual obsessions and taboo thoughts in general (28). These studies suggested that risk of suicide is increased among those who have taboo thoughts such as; sexual and religious obsessions. People with forbidden thoughts actuate greater embarrassment, shame, and guilt than most different other OCD dimensions (20).

CONCLUSION

The current study demonstrated that suicidality is apparent among individuals with OCD and should be actively investigated as part of OCD comprehensive assessment. Those patients tend to have moderate to severe depressive and anxiety symptoms. The current study found that depression and types of OCD are significant predictors of suicide. When exploring the relationships between suicidality and sociodemographic characteristic, only lower educational level was significantly associated with suicide risk in OCD. Also, high risk of suicide was associated with contamination, trichotillomania and sexual obsessions.

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