Suicidal Risk in Mood Disorders: Relationship with Cloninger's Temperament and Character

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ABSTRACT

Introduction: Suicide, the most serious complication in patients with mood disorders, is the cause of death in 15 to 25% of untreated patients with mood disorders.

Aim of the Study: To assess suicidal risk in patients with mood disorders through its correlation to the personality profile of those patients.

Subjects and Methods: The cases were selected from inpatients admitted in the Institute of Psychiatry. The sample is a selective one including the first 50 patients admitted at the institute and fulfilling the criteria of bipolar or unipolar mood disorders according to DSM-IV. Patients were diagnosed by SCID-I, personality was assessed TCI-R, and suicidal ideation was assessed using Beck scale for suicide ideation.

Results: Sixty four percent of patients did not have a previous history of suicide, 22% were classified as ideators and 14% with previous suicidal attempts. Correlation of Cloninger temperament and character to Scores of patients in Beck Scale for suicide ideation revealed direct relationship with total scales of personality dimension reaching point of statistical significance with harm avoidance (HAt) (p=0.017) and correlation held with history of suicidality revealed a higher mean scores of HA1 (anticipatory worry and pessimism vs. Uninhibited optimism) among patients with previous suicide attempts with significant statistical difference. Also higher mean scores of RD2 (openness to warm communication versus aloofness) was detected among patients with previous suicide attempts with significant statistical difference.

Conclusion: Suicidal risk in patients with mood disorders is correlated to their personality profiles. Personality assessment in patients with mood disorders is essential to predict risk of suicide in those patients.

key words: Suicide, mood disorders, cloninger's temperament, personality assessment.

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INTRODUCTION

Suicide, the most serious complication in patients with mood disorders, is the cause of death in 15 to 25% of untreated patients with mood disorders. Unrecognized or inadequately treated depression contributes to 50 to 70% of all completed suicides. Suicide, in patients who do not have good social support, tends to occur within 4 to 5 years of the first clinical episode[1].

Suicidal behavior in patients with mood disorder is a state-dependent' phenomenon. Risk factors of suicide in mood disorders include diagnosis of severe depression, prior suicide attempt, comorbid anxiety, substance use, personality disorders and mixed state of depression[2].

Several studies found a higher rate of bipolar II disorder among depressed patients who attempted suicide than among depressed patients who did not attempt suicide[3,4].

One explanation for the high rate of attempted suicide among patients with bipolar II disorder may be that the diagnosis is often missed and consequently patients are ineffectively treated[5].

The immediate recovery phase from depression mixed bipolar states, the premenstrual state and personally significant anniversaries are major risk periods. Concurrent alcohol and substance abuse also increases the risk of suicide[1].

Suicidal impulses and acts should be part of the careful ongoing clinical assessment of patients in all phases of their illness and treatment[6].

AIM OF THE STUDY

This study was done to assess suicidal risk in patients with mood disorders through its correlation to the personality profile of those patients.

SUBJECTS AND METHODS

This study was done at the Institute of Psychiatry, Ain Shams University Cairo, Egypt as a part of a larger study focused on personality dimensions in patients with mood disorders[7]. The sample included all cases admitted to inpatient departments during a period of 6 months. All Cases were diagnosed as bipolar or unipolar mood disorders according to DSM-IVTR. The sample included both males and females. Patients below 18 years or above 50 years old were excluded. Also, euthymic patients were excluded. To keep the sample homogenous all cases of comorbid axis I or III diagnoses were excluded. Structured clinical interview for DSM-IV axis I disorder (SCID-I)[8] was used for all cases to confirm the diagnosis. Temperament and character inventory–revised (TCI-R) was used for personality assessment[9]. Suicidal ideation was assessed using Beck scale for suicide ideation (BSS)[10].

Temperament and character inventory was constructed by Cloninger on 1994. It is a battery of tests designed to assess the seven basic dimensions of personality; 4 temperaments and 3 characters namely novelty seeking, harm avoidance, reward dependence, persistence, self directedness, cooperativeness and self transcendence. Each of the 4 temperaments and the 3 characters have further 4 subscales. The questionnaire is formed of 240 items questionnaire. The mean administration time is 90- 120 minutes. It has a five points scoring (definitely false, mostly or probably false, neither true nor false, mostly or probably true, definitely true. All temperament scales and subscales are shown in (Table 1).

Table 1: Showed temperaments and characters scales and subscales description:

Item	Subscale 1	Subscale 2	Subscale 3	Subscale 4
Novelty seeking(NS)	Exploratory anxiety/ Stoic Rigidity	Impulsiveness Reflection	Extravagance/ Reserve.	Disorderliness/ Regimentation
Harm Avoidance (HA)	Anticipatory worry& pessimism/ Uninhibited optimism	Fear of uncertainty.	Shyness with strangers.	Fatigability & Asthenia
Reward Dependence (RD)	Sentimentality.	Openness to warm communication/ aloofness.	Attachment	Dependence
Persistence (P)	Eagerness of effort/ laziness	Work hardened/ spoiled	Ambitious/ underachieving	Perfectionist/ pragmatic
Self-Directedness(SD)	Responsibility/ Blaming.	Purposefulness/ Lack of goal direction.	Resourcefulness	Enlightened second nature.
Cooperativeness (CO)	Social Acceptante/ Social Intolerance	Empathy/ social disinterest.	Helpfulness/ Unhelpfulness.	Compassion/ revengefulness.
Self- transcendence (ST)	Self-Forgetful/ self conscious experience.	Transpersonal identification/ Self-Differentiation.	Spiritual acceptance/ Rational materialism	NB. Self transcendence has only 3 subscales

NB: there is a fifth subscale for cooperativeness which is pure hearted conscience versus self-serving advantage

The BSS is a fully structured instrument that is self-administered on paper or on computer. The BSS contains 21 items scored on a 3-point Likert scale from 0= not present to 2 = maximum severity of suicidal ideation. The severity of suicidal ideation is calculated by summing the ratings all items. There is no dichotomous cutoff score defining high risk, but increasing scores reflect increasing suicidal ideation and risk.

Before start of any procedure an informed consent was taken from all patients or their legal guardians. Data was subjected to statistical analysis using SPSS version 12. Level of significance was detected at p = 0.05. Tests used included means, standard deviation, percent, Independent sample t-test, Pearson chi square test X2, One way ANOVA test and Spearman correlation (r) test.

RESULTS

The sample consisted of 24 male patients (48%) and 26 female patients (52%). The mean age of each of the studied group is demonstrated (Table2).

Table 2: Patients Distribution in the studied groups according to gender:

	Bipolar Disorder	Major depressive
Male	14	10
Female	21	5
Total	35	15
Mean age ± SD	32.02± 8.60	35 ± 9.86

As shown in (Table 3), Cloninger's temperaments were correlated to axis I diagnosis which revealed higher mean scores of novelty seeking (NS), harm avoidance (HA),

reward dependence (RD) and cooperativeness (C) with patients with major depressive disorder but not reaching the point of statistical significance except for harm avoidance (HA). On the other hand, higher mean scores of persistence (PS), self directedness (SD) and self transcendence (ST) were found with patients with bipolar mood disorder but also not reaching the point of statistical significance except for self transcendence (ST).

Table 3: Mean scores of temperament and character in correlation to axis I diagnosis.

Temperament	BMD Mean ±SD	MDD Mean ±SD	P-value
NS	88.9± 19.9	97± 15.7	0.17
HA	90.6±23.8	109.8±22.6	0.01
RD	105.3± 22.8	107.5± 22.5	0.760
PS	139.2±30.3	130.3± 25.8	0.326
SD	135.9± 32.2	130± 22.8	0.520
C	130.4±27.9	133.1±17.5	0.728
ST	85.1±19.9	73.7±13.9	0.048

P value is significant at ≤ 0.05

Seven patients (14%) had a previous history of attempted suicide. While patients classified as suicide ideators constitute 22% of the sample (n=11) and patients without previous history of suicide constitute 64% of the sample (n=32) (Figure 1).

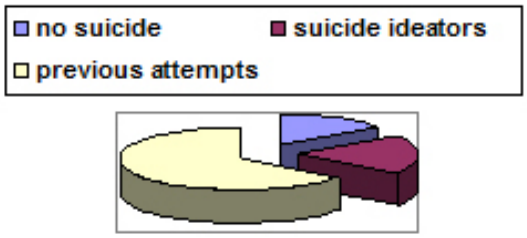

Figure 1: Showed rate of suicides.

Correlation of Cloninger temperament and character to Scores of patients in Beck Scale for suicide ideation revealed direct relationship with total scales of personality dimension reaching point of statistical significance only with harm avoidance (HA) and its subscales; HA1 (anticipatory worry and pessimism versus uninhibited optimism) and HA2 (fear of uncertainty). However, there was statistically significant indirect relation between Beck suicidal ideation scale and ST2 (transpersonal identification versus self-differentiation) (Table 4).

Table 4: Correlation of Cloninger temperament and character to Beck scale for suicide ideation.

Temperament	R-value	P-value
NS	0.096	0.507
HA	0.336	0.017
RD	0.035	0. 808
PS	0.070	0.631
SD	0.046	0.749
C	0.000	0.998
ST	-0.131	0.363
HA1	0.349	0.013
HA2	0.329	0.02
ST2	-0.355	0.012

P value is significant at ≤ 0.05

Comparison between temperament and character and history of suicidality revealed a higher mean scores of HA1 (anticipatory worry and pessimism versus uninhibited optimism) among patients with previous suicide attempts. Also, higher mean scores of RD2 (openness to warm communication vs. Aloofness) among patients with previous suicide attempts with significant statistical difference.

Higher mean score of novelty seeking (NS), harm avoidance (HA) and self directedness (SD) were found with suicidal ideators and higher mean score of self transcendence (ST) was found among suicidal attempters but not reaching the point of statistical significance. Patients without history of suicidal attempts were higher in reward dependence (RD), persistence (PS) and cooperativeness (C) but also not reaching the point of statistical significance (Table 5).

Table 5: Comparisons of suicide and temperaments.

Temperament	No S (n 32) Mean±SD	Ideators (n 11) Mean±SD	Attempters n (n 7) Mean±SD	All cases (n 50) Mean±SD	F.value	P.value
NS	89.3±20.5	95.2±18.2	94.4±12.9	91.3±19	0.484	0.619
HA	90.8±27.6	109.7±16.5	100.9± 13.1	96.4± 25	2.65	0.081
RD	108.8±25.4	96.2±13.4	108.2±16	105.9±22.5	1.35	0.267
PS	138.9±32.6	130.9±25.4	134.2±15.3	136.5±29	0.325	0.724
SD	132.9±34.9	136.5±17.1	135.7±19.3	134.1±29.6	0.067	0.935
C	131.8±29	129.2±16	131.6±19.6	131.22±25.1	0.045	0.956
ST	83.2±20	75.2±15.1	84±19.9	81.7±18.9	0.657	0.523
HA1	30.3±8.6	37.2±5.4	35.8±8.2	32.6±8.4	3.65	0.034
RD2	34.3±5.2	31.9±8.2	39.9±5.2	37.7±6.7	6.91	0.002

No S: No history of suicide N: Number of patients SD: Standard deviation P value is significant at ≤ 0.05

DISCUSSION

Higher mean scores of HA1 (anticipatory worry and pessimism versus uninhibited optimism) were found among patients with previous suicide attempts and ideators. (Table4 and 5). Higher scorers on HA1 subscale (anticipatory worry and pessimism versus uninhibited optimism) are usually pessimistic worriers who tend to anticipate harm and failure[9]. Also, these patients have difficulties getting over humiliating and embarrassing experiences and they tend to ruminate about these experiences for long periods of time that's why they attempt suicide[2].

Patients with previous history of suicide attempts had more scores of HA2 (fear of uncertainty). It seems that certainty whatever its painfulness is more tolerable than uncertainty that's why patients with high fear of uncertainty tried suicide to get rid of these feelings.

There was an indirect relation between suicide attempt and ST2 (transpersonal identification versus self differentiation) (Table 4). It means that patients having more identification and more feelings of similarities with other people are more socially supported and they feel they are not alone in their stress that's why they do not attempt suicide.

Statistically significant higher mean scores of RD2 (openness to warm communication versus aloofness), were found among patients with previous suicide attempts (Table 5). It means the more the patients are opened to warm communication with others the more they get interpersonal problems and frustrations.

Previous studies also found low scores of reward dependence (RD) among suicide attempters. This finding is opposite to high scores of reward dependence (RD) found in the current study although not statistically significant[11].

However the results of the current study were not in accordance with Bulik et al.[12] who found statistically significant higher mean scores of persistence (Pt) and self-transcendence (ST) in addition to lower scores of self-directedness (SD) among patients with history of suicide attempts. Also, these results were on the contrary from data reported by Joffe et al.[13] who found lower scores of self-directedness and cooperativeness among patients with history of suicide attempts. But these differences may be due to methodological differences as in the first study the subjects were heterogeneous group of major depression patients with anorexia nervosa, bulimia nervosa and major depressive disorders. While in the second study the subjects were only patients with major depressive disorder and some of them were euthymic patients with history of previous major depressive disorder.

Similar to Grucza et al.[14] the current study found high novelty seeking scores in patients with past suicide attempts and suicide ideators, however this difference was not statistically significant (Table 5). This controversie may be due to limited size sample in the current study in comparison to Grucza et al.[14] (132 patients).

The controversies between studies are not only related to differences in methodological approaches but also related to differences in the cultural concepts about suicide[15].

Similar to other studies harm avoidance has been reported to be elevated in subjects with major depression[9,16–18]. Harm avoidance (HA) might be a trait characteristic that differentiates between patients with major depression and bipolar disorder. This finding has extremely important clinical implication as it can be used to differentiate between patients with unipolar and bipolar major depression. On the other hand and in regard to bipolar patients, the current study found higher mean scores of self transcendence (ST). These findings were supported by other western studies[19–21].

CONCLUSION

A careful and systematic exploration of personality dimensions in patients with mood disorder helps clinicians to identify patients at high suicide risk. The findings of the current study suggest that high harm avoidance (HA), high RD2 (openness to warm communication versus aloofness and low self transcendence (ST) are personality traits and characters associated with suicide attempts and suicide ideation. Cloninger's psychobiological model might be helpful to distinguish between potentially suicidal and non suicidal patients with mood disorders. A successful, acute and long-term treatment of these patients substantially reduces the suicidal behavior even in this high-risk population. Studying personality profiles will help in assessing suicidal risk and planning treatment. The findings of the current study suggest that clinicians should be more vigilant for the effect of certain personality dimensions on suicide in patients with mood disorders.

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الملخص العربى

المخاطرة بالإنتحار لدى مرضى الإضطرابات الوجدانية: العلاقة مع أبعاد كلونينجر للشخصية

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يعتبر الإنتحار من أشد المضاعفات النفسية للإضطرابات الوجدانية و يمثل نسبة ١٥-٢٥٪ من حالات الوفيات لدى المرضى الذين لا يتلقون أى علاج. و لذلك جاءت هذه الدراسة لتحديد علاقة الإنتحار لدى مرضى الإضطرابات الوجدانية بأبعاد الشخصية التى وضعها كلونينجر. تعد هذه الدراسة جزءً من دراسة أكبر بمركز الطب النفسى جامعة عين شمس عن أبعاد الشخصية لدى مرضى الإضطرابات الوجدانية. حيث تم إختيار عدد ٥٠ حالة من مرضى الإضطرابات الوجدانية. تم تقسيم عينة المرضى إلى مجموعتين. شملت المجموعة الاولى ١٥ مريض بالإكتئاب الجسيم و شملت المجموعة الثانية ٣٥ مريض بالإضطراب الوجدانى ثنائى القطب و تم تطبيق مقياس كلونينجر لأبعاد الشخصية و مقياس بيك للإنتحار على كل المرضى ثم وضعت كافة البيانات فى برنامج للتحليل الإحصائى. و أشارت النتائج إلى وجود محولات إنتحار سابقة فى ١٤٪ من الحالات و وجود أفكار إنتحارية فى ٢٢٪ من الحالات لإرتفاع معدل تجنب المخاطر و معدل الإعتماد على المكافأة عند مرضى المحاولات الإنتحارية كما تبين وجود علاقة عكسية بين الإنتحار و السمو الذاتى . و قد تشابهت هذه النتائج مع بعض الدراسات الغربية كما إختلفت مع بعضاً منها و تبين أن الفروق ترجع إلى وجود فروق فى الطرق البحثية و فروق ثقافية ذات علاقة بالإنتحار. و ترجع أهمية هذه النتائج إلى إمكانية إستعمال مقياس بيك و ابعاد كلونينجر لتوقع الحالات الأكثر تعرض للإنتحار لعمل الخطة العلاجية المناسبة لهم.