Correlation Between Motivations for Suicidal Attempts and Anhedonia among Patients with Psychiatric Disorders

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Abstract

Background: Suicidal attempts have multiple risk factors and motivations and might leads to lethal consequences. The accurate assessment of motivation for suicide may prove useful in describing a pathway for prevention, early detection of suicidal ideations, and management of suicidal attempts. **Aim:** The present study aimed to assess the correlation between motivations for suicidal attempts and anhedonia among patients with psychiatric disorders. **Design:** Correlational design was used in this study. **Sample**: A purposive sample of 88 psychiatric patients with positive history of suicidal attempts who receive a follow-up visit at the psychiatric outpatient clinics, Al Abbassia Mental Health Hospital from January to March, 2020 and met the study inclusion criteria were obtained. **Tools for data collection**:**1)** Patient's Interviewing Questionnaire to assess the demographic data and medical history among psychiatric patients, **2)** Inventory of Motivations for Suicide Attempts, **3)** Social Anhedonia Scale and **4)** Physical Anhedonia Scale. **Results:** This study showed that most studied patients had a moderate level of social and physical anhedonia. The level of education, monthly income, place of residency, and social and physical anhedonia were independent positive predictors of suicidal motivations. In addition, this study showed that there was a positive correlation between the motivation for suicidal attempts domains and anhedonia among psychiatric patients with suicidal attempts understudy (p<0.001). **Conclusions:** The most common motivation for suicidal attempts among psychiatric patients were help-seeking, psychache, burdensomeness, low belongingness, interpersonal influence, and hopelessness. Most psychiatric patients with suicidal attempts understudy had a moderate level of social and physical anhedonia and there was a positive correlation between the motivation for suicidal attempts domains and levels of social anhedonia among psychiatric patients with suicidal attempts. **Recommendations:** Develop and implement a psycho-educational program for psychiatric patients to improve their coping with psychiatric illness, prevent suicidal attempts, management feeling of anhedonia and give them meaning for life to decrease the risk of suicide.

Keywords: Motivation, Suicidal Attempts, Anhedonia, Psychiatric Disorders.

Introduction:

Suicide is a global phenomenon affecting all countries. Suicide is the second leading death worldwide **(Gradus, et al, 2020)**. According to **World Health Organization & Pan American Health Organization (2021)**, most people who die by suicide, approximately 90% suffer from mental disorders. Most of the studies showed that psychiatric disorders like major depression, schizophrenia, mood disorders, substance abuse disorder, anxiety disorder, and eating disorders were significantly associated with suicidal attempts at least once. It's estimated that there is a 25 to 1 ratio between suicidal attempts are complete suicide. An increased risk of suicide has been reported among psychiatric patients and underlying psychiatric disorders are a major risk factor for completed suicide. In several parts of the world, an underlying psychiatric disorder is reported in up to 90% of people who die from suicide.

Suicide was derived from the Latin word (Suicidium), which means to kill oneself. It's the act of intentionally causing one's death. Suicidal behaviors are usually derived into four categories includes 1) suicidal ideation, 2) suicidal threats, 3) suicidal attempt, and 4) complete suicide **(Wasserman, 2020).** Moreover, Suicidal ideation was identified by **Elrefaay& Shalaby, (2019),** as a thought of engaging in behavior intended to end one's life. In addition, certain suicidal attempts may be referred to as suicidal gestures, in which attempts are directed toward the goal of receiving attention rather than actual destruction of self.

According to **Morgan, et al. (2018),** Suicide is the outcome of a process starting with the experiences of unbearable pain or hopelessness, passing from suicidal ideation, and planning to possible para-suicidal behaviors or actual attempts. Suicidal attempts that do not end in death can result in a limitation of one's liberties, hospitalization, disrupted relationships, physical pain, permanent injury, shame, stigma, and anhedonia.

From this perspective, **Abdeen, et al. (2019),** clarified that the ability to experience pleasure is important for human functioning and well-being. The decrease or inability to experience pleasure, also called anhedonia, is common in different sorts of psychopathology, for example, schizophrenia and substance use, but most prominently in depression, where it is one of the two core symptoms. Moreover, **Hawes, (2018),** added that anhedonia refers to the reduction of the ability to experience pleasure associated with emotional damage that further affects social function. Furthermore, **Kaya & McCabe, (2019)** was defined anhedonia as the diminished interest or pleasure in nearly all activities which often clinically presented as decreased motivational drive and consummator pleasure. the study of anhedonia has increased considerably in the last few decades as one of the most important motivations for suicidal attempts. The decrease in the capacity to experience pleasure in physical and social dimensions seems to play an important role in the development of suicidal ideations and attempts.

Anhedonia has been classified by **Ritsner, (2014),** as physical and social anhedonia. Regarding social anhedonia, they categorized it into schizoid indifference, associability, social enjoyment, and indifference toward others. Meanwhile, physical anhedonia was assessed according to the major areas of physical interest including food interest, sexual interest, physical comfort interest, interest in music, interest in hobbies, and the ability to enjoy relaxation& sleep.

As mentioned by **Sehlo, Youssef & El-Gohari, (2021),** a key to reducing suicidal behaviors is to better understand the purpose they serve. However, **May & Klonsky (2013)** found that the decision to attempt suicide may be motivated by many additional reasons including hopelessness, Psychache, escape, burdensomeness, low belongingness, fearlessness, interpersonal influence help-seeking, impulsivity, and lack of problem-solving abilities.

From this perspective, **LeCloux, et al. (2020)** mentioned that reduced fear of death might act as motivation for choosing suicidal behavior. Impulsivity and psychotic symptoms include delusion, hallucinations, hopelessness, and depressive symptoms also act as a motivation for suicidal attempts. Furthermore, **Fulginiti & Frey, (2019)** found that psychiatric patients experience many risk factors that motivate them to commit suicide, including the need to escape from pain, perceived burdensomeness, and the warded belongingness. In a study conducted by **Park, et al. (2018),** they proposed that several motivations for suicide among psychiatric patients involve the presence of crisis, lack of social support, poor coping skills, bullying and social stigma, depressive symptoms, hopelessness, social isolation, impulsivity, anxiety, avoidance, and social isolation.

Suicidal attempts can lead to a devastating effect on patients with psychiatric disorders. It leads to permanent serious or severe injuries, such as organ failure or brain damage, permanent scar or mutilation, organ disability, fractures, and internal bone fixations, in addition to severe psychological disturbances such as post-traumatic stress disorder, grief, anger leads, depression and guilt **(Henderson, et al. 2016).**

According to **Pridmor, Money & Pridmore, (2018)**, the goal of the suicidal risk assessment is to identify factors that increase a patient's level of suicide and to develop a care plan that addresses the patient's safety, and modifiable contributors to suicide risk. Assessment always includes physical and mental status examination, identifying the risk factors and motivation, clues, or cries for help, inquiring about suicidal ideations, and plan. Moreover, **Gold & Frierson, (2020),** added that given the severity and variety of negative outcomes, finding more effective ways to prevent suicide attempts and deaths is essential.

A comprehensive suicidal risk assessment represents the first step in effective suicidal prevention among psychiatric patients. The nursing assessment should explore the psychiatric, social, psychological, and emotional motivations for suicidal attempts and levels of anhedonia in patients with mental disorders **Ftouh, et al. (2017),** Also, an accurate risk assessment for causes and motivation of suicide and anhedonia leading to the development of effective strategies for preventing suicides and suicidal attempts include restricting access to the most common means for suicide, providing social support and supporting follow up care, fighting community stigma, creating social connectedness which protects the psychiatric patients from suicide **(Berardelli, et al. 2018).**

Nurses are the front line in the precaution of suicide. Suicidal prevention is influenced by a nurse's ability to accurately screen, assess, and manage a patient with suicidal risk and motivations to suicide. The nursing role in caring for psychiatric patients with suicidal ideations or attempts is vital in nursing work. In the healthcare setting, nurses are in a unique position to prevent death by suicide. nurses must be well trained in assessment of suicidal potential, the motivations for suicide, levels of loss of interest in life activities (anhedonia), factors that enhance suicidal risk, and know what to do when a patient becomes a suicidal attempt **(Elrefaay, & Soltis-Jarrett, 2020).**

Significance of the Study:

Understanding the psychiatric patient's reasons and motivations for attempting suicide may allow healthcare providers to find other solutions to solve the precipitating problem. Thus, better assessing the motivation for suicidal attempts may improve suicidal prevention and intervention **(Ali, El Masry & Abou, 2018).**

The present study aimed to assess the motivations for suicide and anhedonia among patients with psychiatric disorders and to formulate preventive, therapeutic, and rehabilitative programs to safeguard the patients and diminish the consequences of suicidal attempts or ideations.

Aim of the Study:

The present study aimed to assess correlations between the motivations for suicidal attempts and anhedonia among patients with psychiatric disorders.

This aim was achieved by answering the following questions:

1) What were the motivations for suicidal attempts among patients with psychiatric disorders?

2) What were the levels of social and physical anhedonia among patients with psychiatric disorders?

3) What are the correlations between the motivations for suicidal attempts and anhedonia among patients with psychiatric disorders?

Subjects and Methods:

Research design: descriptive correlational design was used to assess the motivations for suicidal attempts and levels of social and physical anhedonia among patients with psychiatric disorders to be able to implement the needed preventive strategies to maintain psychiatric patients' safety.

Sample Technique: A purposive sample of (88) out of (109) psychiatric patients with positive history of suicidal attempts were obtained from the psychiatric outpatient clinic, Al Abbassia psychiatric hospital from all patients who met the study inclusion criteria and were approved to participate in the current study. The sample size was calculated by this equation developed by **(Goodhue, Lewis & Thompson,2012).**

Sample size equation:
- (n) = [N-1($\Box$2÷$\Box$2)] +p (1−p)
- (n) = Sample size
- N=population size
- d=the error rate is 0.05
- z= the standard score corresponding to the significance level is 0.95 and is equal to 1.96
- p=availability of property and neutral =0.50

Inclusion criteria:
- Age Range: 18-60 years
- Sex: Both Sexes

- Patients who are diagnosed with different psychiatric disorders for at least six months
- Able to read and write
- Written consent from a relative for participation in the study.
- Free from acute psychotic symptoms especially impaired perception and thoughts, or substance misuse disorders
- Positive history of suicidal attempts (confirmed from the patient's chart)

Study Setting:

The present study was conducted in the outpatient clinics, Al Abbassia mental health hospital, from January to March 2020, from all available patients who receive treatment, rehabilitative, and follow up visits for management of their psychiatric illness (e.g., schizophrenia, bipolar affective disorders, personality disorders, substance misuse, major depression etc.) during the study period. Al Abbassia mental health hospital is the oldest and biggest mental health hospital in Egypt, it receives approximately 1500 psychiatric patients monthly. The researchers visited the above-mentioned setting 3 days per week from 9-12 am to collect the data from psychiatric patients who met the study inclusion criteria. The researches met the participants in the outpatient clinics waiting area that accommodate around 50-70 patients daily.

Data Collection Tools:

The data was collected using a self-administered questionnaire that included Four sections following

1) **The first Section: The patient's Interviewing Questionnaire:** Consists of two parts; A) It contains data pertinent to; the patient's age, sex, level of education, occupation, monthly income, and place of residency. B) Data related to the past medical history involved, duration of diagnosis with psychiatric disorders, history of physical chronic illness e.g., DM, HT, etc., history of bullying due to psychiatric disorders, type of psychiatric disorders, family history of suicide, and history of sexual abuse.

2) **The Second Section: Inventory of Motivations for Suicide Attempts (IMSA):** It has been originally developed

by **May & Klonsky, 2013,** in English language and was adopted and translated to the Arabic language by the research to assess the motivations for suicidal attempts among patients with psychiatric disorders. IMSA has (40) items rated on a 5 points Likert scale were (Not at all important) =0, (Somewhat important) =1, (important)=2, (Very important) =3, researchers, and (Most Important) =4. The total score ranged from (54-to 216) where the higher score indicates higher motivation for committing suicide.

IMSA consisted of eleven domains that act as motivations for suicidal attempts including:
1. Hopelessness (2, 6, 37, 44, 45)
2. Psychache (7, 9, 21, 35, 46)
3. Escape (1, 16, 18, 40, 47)
4. Burdensomeness (4, 14, 30, 34, 50)
5. Low Belongingness (10, 19, 31, 38, 51)
6. Fearlessness (3, 17, 29, 32, 52)
7. Interpersonal Influence (11, 15, 36, 39, 53)
8. Help-Seeking (5, 8, 28, 43, 54)
9. Impulsivity (24, 26, 33, 42, 49)
10. Problem-Solving (13, 20, 22, 41, 48)
11. Other items (12, 23, 25, 27)

The internal reliability of IMSA ranged from 0.91 and **the content validity** of the scale was 0.96 as rated by patients with mental disorders understudy which is considered significantly high, coefficient given was 0.94.

3) **The Third Section: Social Anhedonia Scale (SAS):** It has been originally developed by **Eckblad, et al. 1982** in English language and translated to the Arabic language by the researchers to assess the level of anhedonia and lack of interest in social interaction among patients with psychiatric disorders through talking to another's or communication emotional expressions. SAS has (40) items rated on a (2) points Likert scale was, (yes)=1, (No)=2. The total score ranged from (40-to 80), where the higher scores indicated a lower level of pleasure in social interaction and ha higher level of social anhedonia.

was

SAS is composed of Four domains including:
1. Schizoid indifference (7 items)

2. Associability (9 Items)
3. Lack of social enjoyment (17 Items)
4. Indifference toward others (7 items).

Levels of social anhedonia were classified into three levels as follows:
- 40 (Mild social anhedonia)
- > 41 - 66 (Moderate social anhedonia)
- 67-80 (Severe social anhedonia)

The internal reliability of SAS ranged from 0.80 and **the content validity** of the scale was 0.92 as rated by patients with mental disorders understudy which is considered significantly high, coefficient given was 0.89.

4) **The Third Section: Physical Anhedonia Scale (PAS)**: It has been originally developed by **Chapman & Chapman (1978)** in English language and translated to the Arabic language by the researchers to measure the inability to experience pleasure from pleasant physical stimuli such as food, sex, etc. PAS has (61) items rated on a (2) points Likert scale was, (yes)=1, (No)=2. The total score ranged from (61-to 122), where the higher scores indicated higher levels of physical anhedonia.

PAS is composed of six domains including:
1. Food interest (7 items)
2. Sexual interest (6 items)
3. Physical comfort interest (8 items)
4. Interest in music (9 items)
5. Interest in hobbies (10 items)
6. Ability to enjoy relaxation& sleep (21 items)

Levels of physical anhedonia were classified into three levels as follows:
- 61 (Mild physical anhedonia)
- >61-101 (Moderate physical anhedonia)
- 101-122 (Severe physical anhedonia)

The scale's validity, fidelity, and reliability were studied. **The internal consistency and reliability** were determined by a coefficient whose values were 0.87 in the subjects under study. The internal consistency was also studied by the correlation between each item and the PAS total score using the coefficient showed a significant correlation coefficient which ranged from 0.88 to 0.95.

Operational Design

The operational design for this study included the preparatory phase, pilot study, fieldwork, and ethical considerations.

Preparatory phase:

It included reviewing past, current, local, and international related literature, and theoretical knowledge of various aspects of suicidal attempts motivations, and social and physical anhedonia among patients with psychiatric disorders.

Pilot Study:

A pilot study was carried out on (9) psychiatric patients with a positive history of suicidal attempts representing around (10%) of the total sample before conducting the actual study to ensure clarity of the questions, applicability of data collection tools, and time needed to complete them. All subjects who were involved in the pilot study were excluded from the main study sample. The tool was finalized based on the results of the pilot study.

Fieldwork:

Data has been collected for the current study from the psychiatric outpatient clinic, Al Abbassia mental health hospital from January to March, 2020 from (88) psychiatric patients with a positive history of suicidal attempts. Data collection tools were reviewed by a specialized psychiatrist and professor of psychiatric/mental health nursing before the data collection phase. The researchers met each patient individually and introduced themselves; explained the purpose and nature of the study; and ensured the confidentiality of data. Patients were asked for their approval to participate in the study. After that, the questionnaire forms were filled in by the patients and the researchers offered help if they needed it. The questionnaires took about 20-25 minutes. The researchers visited the selected setting 3 days per week from 9-12 am to collect the data from psychiatric patients during their follow-up visit to the previously mentioned setting,

Ethical Considerations:

At the initial interview, each patient was informed about the aim and nature of the study, and the participation would be voluntary.

Hence, every patient had the right to participate or refuse to be included in the work, and they were informed about the right to withdraw at any time without giving any reasons, and without any consequences. The consent for participation was taken written. In addition, the confidentiality of any gathered data was assured.

Administrative Design

An official letter was issued from the dean of faculty of nursing, Ain Shams University, to the director of Al Abbassia psychiatric hospital explaining the aim of the study and requesting their permission for data collection.

Statistical Analysis:

Data entry and statistical analysis were done using SPSS 23.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies for qualitative variables and means and standard deviations and medians for quantitative variables. Qualitative categorical variables were compared variance using the chi-square test. Spearman rank correlation was used for the assessment of the inter-relationships among quantitative variables and ranked ones. Multiple linear regression analysis was used and an analysis of the full regression models was done. Statistical significance was considered at a p-value <0.05.

Results:

Table (1) revealed that the mean age of psychiatric patients with suicidal attempts understudy was 34.76±10.57. Most of them were males representing 79.5 %. Also, nearly two-thirds of patients under study were able to read and write. This study's results also showed that most of the psychiatric patients under study were unemployed representing 72.7%, had a monthly income of less than 1200 L. E representing 65.9%, and reside in urban, representing 75%.

Table (2): represented that duration of psychiatric disorders was more than 5 years among 39.8% of patients under study. and 29.5% of them had a positive history of chronic physical illness. Moreover, the current study showed that the entire study sample (100%)

reported a positive history of bullying due to their psychiatric disorders. This table also showed that half (50%) of participants understudy were diagnosed with depression, and nearly a quarter (20.5%) of them were diagnosed with schizophrenia. In addition, 20.5% of patients under study had a positive family history of suicide, and 29.5% had a positive history of sexual abuse.

Table (3) showed that the highest mean score of motivation for suicide domains among patients under study was help-seeking, psychache, burdensomeness, and low belongingness, representing 15.60±2.22, 14.61±2.38, 14.14±2.45, 13.91±2.66 respectively. Moreover, the study, impulsivity, escape, and fearlessness', were the lowest motivation for suicide among patients understudy representing 11.60±3.38, 12.41±3.01, 12.95±2.76 respectively.

Figure (1) illustrated that most psychiatric patients with suicidal attempts understudy had a moderate level of social anhedonia representing 81.8%. Meanwhile, less than one-fifth of them (18.2 %) reported a severe level of social anhedonia.

Figure (2) illustrated the levels of physical anhedonia among psychiatric patients with suicidal attempts understudy. It showed that most psychiatric patients with suicidal attempts understudy had a moderate level of physical anhedonia representing 80.7%. Meanwhile, less than one-fifth (19.3 %.) reported a severe level of social anhedonia.

Table (4) there was a statistically significant relationship between the total score of motivation for suicidal attempts domains and moderate and severe levels of social anhedonia among psychiatric patients with suicidal attempts understudy (p<0.001), where the severe level of social anhedonia was correlated to help-seeking, Psychache, burdensomeness, and low belongingness, representing the following mean score 17.63±1.36, 16.81±2.32, 16.88±2.22, and 16.50±3.06 respectively.

Table (5), there was a statistically significant relationship between the motivation for suicidal attempts domains and moderate and severe levels of physical anhedonia among

psychiatric patients with suicidal attempts understudy (p<0.001) where the severe level of social anhedonia was correlated to help-seeking, psychache, burdensomeness, and low belongingness, representing the following mean score 17.29±1.90, 16.65±2.40, 16.47±2.62, and 16.94±1.60 respectively.

Table (6) Showed that there was a positive correlation between motivation for suicide scale and level of education, monthly income, place of residency, social anhedonia scale, and physical anhedonia Scale with a p-value p<0.05*.

Table (7), there was a statistically significant relationship between total score of motivation for suicide, level of education, monthly income, and residency, where patients who were able to read and write, live in rural areas and have a monthly income from 1200

LE to less than 3000 LE had high motivation for suicidal attempts.

Table (8) displayed that social anhedonia has a statistically significant relationship with gender, level of education, and place of residency (p<0.001**), whereas male patients who can read and write, are unemployed, and live in rural areas have the severe level of social anhedonia.

Table (9): Showed that a highly statistically significant relationship was reported between the level of education, occupation, place of residency, and moderate and severe level of physical anhedonia scale, where 88.2% of patients with severe physical anhedonia were able to read and write, 94.1% were unemployed, and 52.9% reside in a rural area.

Table (1): Frequency distribution of psychiatric patients with suicidal attempts understudy according to their socio-demographic characteristics (n.=88):

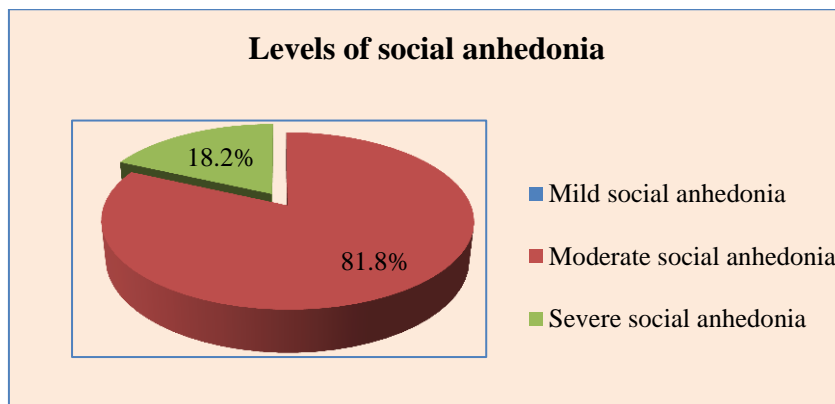| Items	Psychiatric patients with suicidal attempts	
	No.	%
Age (years):		
18-<30	38	43.2
30-<45	34	38.6
45-<60	16	18.2
Mean ± SD	34.76±10.57	
Gender:		
Males	70	79.5
Females	18	20.5
Level of education:		
Read & Write	54	61.4
Basic Education	27	30.7
University Education	7	8.0
Occupational Level:		
Student	6	6.8
Unemployed	64	72.7
Technical Work	18	20.5
Monthly income (L. E):		
Less than 1200	58	65.9
1200 - < 3000	16	18.2
3000-<5000	9	10.2
5000 +	5	5.7
Place of Residency:		
Urban	66	75.0
Rural	22	25.0

Table (2): Frequency distribution of psychiatric patients with suicidal attempts understudy according to their psychiatric history (no. 88):

Items	Psychiatric patients with suicidal attempts	
	No.	%
Duration of psychiatric Disorders:		
Less than one year	24	27.3
From 1-5 years	29	33.0
More than 5 years	35	39.8
History of Chronic Physical Illness e.g., DM, HT, etc.:		
Positive	26	29.5
Negative	62	70.5
History of bullying due to psychiatric disorders:		
Positive	88	100
Negative	0	0
Type of psychiatric disorders:		
Schizophrenia	18	20.5
Depression	44	50.0
Bipolar Affective Disorders	13	14.8
Substance-Induced Schizophrenia	9	10.2
Personality Disorders	4	4.5
Family History of Suicide:		
Positive	18	20.5
Negative	70	79.5
History of Sexual Abuse:		
Positive	26	29.5
Negative	62	70.5

**Table (3):** Distribution of motivations for suicidal Attempts among psychiatric patients (no=88):

Domains for Suicidal Attempts	Psychiatric patients with suicidal attempts		
	Mean ±SD	t-test	p-value
Help-Seeking	15.60±2.22	66.059	P<0.001**
Psychache	14.61±2.38	57.596	P<0.001**
Burdensomeness	14.14±2.45	54.119	P<0.001**
Low Belongingness	13.91±2.66	49.144	P<0.001**
Interpersonal Influence	13.24±2.79	44.487	P<0.001**
Hopelessness	13.08±3.29	37.240	P<0.001**
Problem-Solving	13.08±2.81	43.681	P<0.001**
Fearlessness	12.95±2.76	43.995	P<0.001**
Escape	12.41±3.01	38.697	P<0.001**
Impulsivity	11.60±3.38	32.247	P<0.001**
Another item	11.38±1.90	56.291	P<0.001**

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Figure (1): Percentage distribution of the psychiatric patients with suicidal attempts understudy according to their levels of social Anhedonia (no=88):

Figure (2): Percentage distribution of the psychiatric patients with suicidal attempts understudy according to their levels of Physical Anhedonia (no=88):
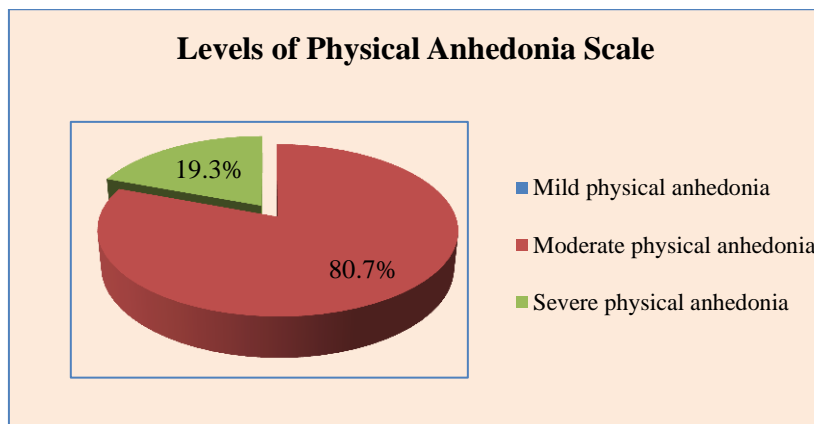
Table (4): Relationship between total score of motivation for suicide and social anhedonia among psychiatric patients under study (n=88).

Domains of motivation for suicidal Attempts	Levels of Social Anhedonia		t-test	p-value
	Moderate Anhedonia	Severe Anhedonia		
	Mean ±SD	Mean ±SD		
Help-Seeking	15.15±2.12	17.63±1.36	-4.453	P<0.001**
Psychache	14.13±2.12	16.81±2.32	-4.518	P<0.001**
Burdensomeness	13.53±2.06	16.88±2.22	-5.794	P<0.001**
Low Belongingness	13.33±2.19	16.50±3.06	-4.840	P<0.001**
Interpersonal Influence	12.65±2.51	15.88±2.53	-4.644	P<0.001**
Problem-Solving	12.29±2.33	16.63±1.93	-6.927	P<0.001**
Hopelessness	12.28±2.91	16.69±2.41	-5.633	P<0.001**
Fearlessness	12.11±2.01	16.75±2.52	-7.963	P<0.001**
Escape	11.44±2.19	16.75±2.29	-8.699	P<0.001**
Impulsivity	10.42±2.28	16.94±2.08	-10.497	P<0.001**
Another item	10.94±1.77	13.31±1.08	-5.137	P<0.001**
The total scone of the IMSA Scale	138.28±8.74	180.75±19.71	-13.433	P<0.001**

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Table (5): Relationship between total score of motivation for suicide and physical *anhedonia* among psychiatric patients under study=88).

Domains of motivation for suicidal Attempts	Levels of Physical Anhedonia		t-test	p-value
	Moderate Anhedonia	Severe Anhedonia		
	Mean ±SD	Mean ±SD		
Help-Seeking	15.20±2.10	17.29±1.90	-3.761	P<0.001**
Psychache	14.13±2.12	16.65±2.40	-4.297	P<0.001**
Burdensomeness	13.58±2.06	16.47±2.62	-4.922	P<0.001**
Low Belongingness	13.18±2.33	16.94±1.60	-6.301	P<0.001**
Interpersonal Influence	12.52±2.52	16.24±1.64	-5.770	P<0.001**
Problem-Solving	12.42±2.25	15.82±3.30	-5.084	P<0.001**
Hopelessness	12.25±2.89	16.53±2.60	-5.576	P<0.001**
Fearlessness	12.06±1.99	16.71±2.37	-8.332	P<0.001**
Escape	11.42±2.19	16.53±2.43	-8.463	P<0.001**
Other items	11.04±1.76	12.76±1.86	-3.587	P<0.002*
Impulsivity	10.52±2.37	16.12±3.26	-8.112	P<0.001**
The total score on the IMSA Scale	140.32±8.77	178.06±22.13	-11.872	P<0.001**

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Table (6): Best fitting multiple linear regression model for motivation for suicide among psychiatric patients under study (n=88).

Items	Motivation for suicide scale			t-test	p-value
	Unstandardized Coefficient		Standardized Coefficient		
	β	Std. Error	Beta		
Demographic data: Age (years)	0.12	0.12	0.15	1.92	P >0.05
Gender	0.15	0.12	0.17	1.85	P >0.05
Level of education	1.72	1.12	1.24	3.47	P<0.001**
Occupational Level	0.31	1.82	1.39	0.21	P >0.05
Monthly income	0.14	0.32	0.10	4.47	P<0.023*
Place of residency	1.65	0.59	0.91	3.65	P<0.009*
Social Anhedonia Scale	1.69	0.85	0.66	6.58	P<0.001**
Physical Anhedonia Scale	1.25	0.71	0.64	8.98	P<0.001**

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Table (7): Relationship between socio-demographic characteristics of psychiatric patients with suicidal attempts understudy and their total score of motivation for suicide scale (n=88)

Socio-demographic characteristics	The total score of motivation for suicide scale			
	Mean	SD	T-test	p-value
Age (years): 18-<30	149.63	23.19	2.905	0.060
30-<45	139.68	12.41		*p >0.05*
45-<60	150.81	22.60		
Gender:				0.216
Males	142.81	21.21	1.248	*p >0.05*
Females	139.06	8.16		
Level of education: Read & Write	151.57	23.09	6.048	0.004*
Basic Education	137.26	8.77		*p<0.05*
University Education	136.71	6.73		
Occupational Level: Student	142.17	7.52	2.600	0.080
Unemployed	148.84	22.21		*p >0.05*
Technical Work	137.17	9.42		
Monthly income (L. E): Less than 1200	146.48	19.82	3.564	0.043*
1200 - < 3000	154.06	23.47		*p<0.05*
3000-<5000	136.89	8.99		
5000 +	131.00	12.67		
Place of Residency: Urban	140.95	14.72	9.532	<0.001**
Rural	161.14	25.88		

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Table (8): Relationship between socio-demographic characteristics of psychiatric patients with suicidal attempts understudy and their domains of social anhedonia (n=88).

Socio-demographic characteristic	Levels of social anhedonia (n=88)					
	Moderate social anhedonia (n=72)		Severe social anhedonia (n=16)		Chi-square test	p-value
	No.	%	No.	%		
Age (years) :						
18-<30	29	40.3	9	56.3		
30-<45	30	41.7	4	25.0	1.718	0.424
45-<60	13	18.1	3	18.8		
Gender:						
Males	54	75.0	16	100	5.029	0.025*
Females	18	25.0	0	0		
Level of education:						
Read & Write	39	54.2	15	93.8	8.703	0.013*
Basic Education	26	36.1	1	6.3		
University Education	7	9.7	0	0.0		
Occupational Level:						
Student	6	8.3	0	0.0	4.451	0.108
Unemployed	49	68.1	15	93.8		
Technical Work	17	23.6	1	6.3		
Monthly income (L.E):						
Less than 1200	48	66.7	10	62.5		
1200 - < 3000	11	15.3	5	31.3	3.285	0.350
3000-<5000	8	11.1	1	6.3		
5000 +	5	6.9	0	0.0		
Place of Residency:						
Urban	58	81.7	8	47.1	8.773	0.003*
Rural	13	18.3	9	52.9		

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Table (9): Relationship between socio-demographic characteristics of psychiatric patients with suicidal attempts understudy and their domains of physical anhedonia (n=88).

Socio-demographic characteristic	Levels of physical anhedonia (n=88)					
	Moderate Physical anhedonia (n=71)		Severe Physical anhedonia (n=17)		Chi-square test	p-value
	No.	%	No.	%		
Age (years):						
18-<30	28	39.4	10	58.8	3.928	0.140
30-<45	31	43.7	3	17.6		
45-<60	12	16.9	4	23.5		
Gender:						
Males	54	76.1	16	94.1	2.750	0.097
Females	17	23.9	1	5.9		
Level of education:						
Read & Write	39	54.9	15	88.2		
Basic Education	26	36.6	1	5.9	6.817	0.033*
University Education	6	8.5	1	5.9		
Occupational Level:						
Student	6	8.5	0	0.0		
Unemployed	48	67.6	16	94.1	6.950	0.044*
Technical Work	17	23.9	1	5.9		
Monthly income (L. E) :						
Less than 1200	47	66.2	11	64.7	3.052	
1200 - < 3000	11	15.5	5	29.4		0.384
3000-<5000	8	11.3	1	5.9		
5000 +	5	7.0	0	0.0		
Place of Residency:						
Urban	58	81.7	8	47.1	8.773	0.003*
Rural	13	18.3	9	52.9		

(*) Statistically significant at p<0.05, (**) Statistically highly significant at p<0.001, non-Significant at p >0.05

Discussion:

Suicidality is regarded as the product of the interaction of several risk factors that motivate suicidal ideations and attempts. Assessment of such an array of factors among psychiatric patients is fundamental in the clinical management of suicidal risk. The present study aimed to assess the motivations for suicidal attempts and anhedonia among patients with psychiatric disorders.

This study illustrated that the mean age of psychiatric patients with suicidal attempts was 34.76±10.57, and most of them were males. It can be because the age of onset of psychiatric illness among males was less than the age of onset of psychiatric illness among females. Moreover, females usually receive more social and family support and close supervision than males which lowers the risk of suicidal attempts and minimizes suicidal ideations among females with psychiatric disorders. This study's results were in a harmony with the findings of **Mubarak, et al. (2020),** who found that more than two-thirds of suicidal victims were males aged between 30-40 years. They explained that male patients with suicidal attempts were significantly younger than females.

The present study results illustrated that most psychiatric patients with suicidal attempts understudy were unemployed. It can be due to patients' feelings of boredom, lack of self-worth, lack of life purpose, and feeling of burdensomeness Thus, loss of job and failure to financially support oneself might be seen as a failure to fulfill such responsibilities. These study results were disagreed with by **Sarhan, et al. (2019),** who found that there was no significant relationship between unemployment and suicidal attempts among patients with psychiatric illness, they explained that both employed and unemployed patients were similar in the incidence of suicidal attempts where the risk of suicide may be present in the first several months following job loss. But it fades away after that.

The present study results revealed that more than one-third of psychiatric patients with suicidal attempts had a duration of psychiatric disorders more than 5 years. It can explain the fact that prolonged duration of mental illness decreases the capacity to experience pleasure and play an important role in the development of suicidal ideations among patients with psychiatric disorders, in addition to low awareness of depression in our community, the stigma of mental illness, and the poor access to psychiatric service that might hinder patient's help-seeking behavior. This study result was agreed with **Ponce, et al. (2020),** who found that most psychiatric patients with suicidal attempts had a duration of illness ranging between 5-to 7 years. They explained that persistent inability to experience pleasure with a lack of psychosocial rehabilitation was a promising risk marker for suicide.

The current study results revealed that half of the psychiatric patients with suicidal attempts understudy were diagnosed with major depressive disorder. It can be because patients with major depressive disorders experience sadness, feeling down, hopelessness, and anhedonia that act as a motivation for suicidal plans and suicidal attempts. This study result was supported by **Craske, et al. (2019),** who proposed that depressed patients suffer from sadness, low self-esteem, and anhedonia that are associated with suicidal ideations and attempts. This study result was also congruent with the study conducted by **Shahin, et al. (2018),** who found that the most common psychiatric diagnosis among suicide victims were mood disorders and particularly major depressive disorders followed by schizophrenia, anxiety disorder, and substance misuse disorder. They presumed that chronic and severe mental illness are a factor magnifying the motivation for suicide.

Regarding motivation for suicidal attempts among psychiatric patients' understudy, the present study results revealed that the most frequent motivation for suicidal attempts among psychiatric patients was help-seeking, psychache symptoms, burdensomeness, low belongingness, interpersonal influence, and hopelessness. It can be due to the patient's desire to escape from his negative feelings and unresolved psychological, social, physical, and mental problems that precipitated due to lack of proper treatment, rehabilitation, and follow-up services the patients with psychiatric illness after discharge from the hospital. This study

result was supported by **May, & Klonsky, (2013)** who found that suicide may be motivated by many reasons mostly burdensome, escape from the unbearable state of mind, hopelessness, and help to seek. Moreover, **Brådvik, (2018)** suggested that common motivations for suicidal attempts among psychiatric patients including low belonging, fearlessness, impulsivity, and anhedonia make the psychiatric patients have a desire to end these intolerable psychological pain and escape from their stressors through suicidal attempts. Recently **Wang, et al. (2020),** presented their results for motivation of suicide which suggested that suicide can occur due to perceived burdensome, and thwarted belongingness, the first two reasons confer the desire for suicide (e.g., suicidal ideation), and the third reason for suicide was acquired capability and patients believe in his ability to undertake potential lethal self-harm. From this perspective, **Choi, et al. (2020),** indicated that suicidal attempts are caused by many factors that are characterized by reasons related to guilt, failure, and the need to escape to get relief from a terrible state of mind. In Cross studies, internal and interpersonal motivations for suicide were endorsed more frequently than external interpersonal ones. In a study conducted by **Nagy, et al. (2020),** who explained that the suicidal process is influenced by the patient's response to the psychache induced by the diverse risk factors. The patient response is in turn shaped by the specific defense and coping styles, strategies of effective self-regulation, and help-seeking behaviors. They contended that the study of suicidal motivations affords an overall view of the transformation of the psychache according to the patient's mental capacity. Consequently, poor problem solving, hopelessness, and loss of any hope of healing and recovery or of being helped by anyone, a chronic feeling of self-devaluing thoughts arising from minor failure and resulting in chronic feelings of shame, guilt, and frustration, feeling of inadequacy in every personal performance and irritability might motivate the desire for suicide.

A similar finding has been reported in a study conducted by **El-Refaay, Shalaby& Shama, (2019),** who found that suicidal attempts maybe happen to affect others such as

the fantasy of taking revenge or being triumphant in the anticipation of others' grief for the subjective own death. Moreover, suicidal attempts may be motivated by closeness seeking which is a cry for help. Another factor that motivates suicidal attempts is burdensomeness which refers to the intention to free the meaningful others from their unbearable presence, subjective feeling of low self-esteem, emptiness, sadness, low belongingness, and feeling of estrangement from one's community, and /or significant group.

Another study conducted by **Björkenstam, et al. (2020)**, explained that psychiatric illness leads to unsustainable pain and possibly to a strong feeling of impotency for the limitation to personal functioning involving psychache discomfort or pain that the patient can feel. So, overwhelmed that the desires only can interrupt the painful thoughts and feelings. Helplessness is also one of the important motivations for suicide. It refers to the consequent sense of hopelessness, for which the patient has lost hope of healing or feeling any better in the future. Moreover, feelings of vulnerability, self-devaluation caused by chronic pessimism, self-criticism, continuous ruminations, and self-accusation may represent a strategy for regulating and moderating anxiety or unbearable frustrations. Pessimism and self-devaluating thoughts could start from small failures or frustrations and lead to chronic and irresponsible self-criticism.

Regarding social anhedonia among psychiatric patients with suicidal attempts, this study's results illustrated that the majority of psychiatric patients with suicidal attempts had a moderate level of social anhedonia. It can be attributed to the fact that diminished interest or pleasure in social activities and social enjoyment further affects the social functioning which is associated with the reduced subjective experience of emotional stimulation, making it more challenging for patients to cope with their psychiatric disorders or achieve functional recovery, and increase motivational drives for suicidal attempts. This study's results were in a harmony with **Mohamed & Abdelsalam, (2017).** who found that impairment of the ability to experience pleasure in social interaction and lack of interest in social

functioning develop low mood, painful negative emotions, anxiety, social withdrawal and increased suicidal ideations, or attempts associated with reduced ability to experience a pleasure. Moreover, **Trøstheim, et al. (2020)** was also found in their study of social anhedonia that decreased the actual time spent on social activities, avoiding engaging in social activities with family, friends, and significant others and lack of cooperation during simple tasks were strong motivations for suicidal attempts and plan. In addition, **Winer, et al. (2017)** hypnotized in their study that suicide among psychiatric patients was motivated by intrapsychic (reflecting suicidality that is privately hidden, and likely to be identified beforehand) and interpsychic (reflecting suicidality that is public, connected to interpersonal challenges in the presence of others. Also, they found that psychache and hopelessness were the most consistently and strongly endorsed and the most important motivations for suicidal attempts among psychiatric patients.

Another recent study was conducted by **Yang, et al. (2020)** about differential effects of state and trait social anhedonia on suicidal ideation, they illustrated that low level of pleasure and interest in social activities, associability, and schizoid indifference or indifference toward others seems to be highly correlated to suicidal ideations or attempts. However, social anhedonia was significantly related to the risk of suicidal attempts or complete suicide among patients with psychiatric disorders. Moreover, **Winer, et al. (2016),** was also conducted a study titled mapping the relationship between anxiety, anhedonia, and depression and they found that social anhedonia was highly related to suicidal attempts due to reduced life enjoyment and happiness, diminished subjective desire, interest and anticipation of pleasant events. They explained that anhedonia has sometimes been considered a static-like symptom in response to stress.

Regarding physical anhedonia among psychiatric patients with suicidal attempts understudy, the current study illustrated that most psychiatric patients with suicidal attempts had a moderate level of physical anhedonia. It can be explained due to impairment in the psychiatric patient's ability to experience representative pleasurable physical stimuli such as food, sex, physical comfort, exercise, interest in music, interest in hobbies, and ability to enjoy relaxation and sleep. However, physical anhedonia and lack of interest to enjoy physical comfort might increase the risk of suicidal ideations and attempts. This study result was in a harmony with **Billones, Kumar, & Saligan, (2020),** who assert that loss of pleasure in physical stimuli (physical anhedonia) was associated with increased motivation for suicide whereby the patient lacks the interest in the instinctual drivers as basic physiological needs for life which followed by persistent desire to terminate one's life. Moreover, **Favril, et al. (2020)**, was ascertained in their study about mental disorders and the risk of suicide attempts in prisoners that most psychiatric patients with suicidal attempts showed at least moderate to severe physical anhedonia. They reported that patients uniformly reported a higher level of both physical and social anhedonia during both early and chronic stages of illness which mean that physical anhedonia is prevalent with both negative and positive symptoms of psychiatric disorders including lack of physical comfort, loss of interest in food, sex, practicing hobbies, exercising, etc.

Regarding the correlation between the motivation of suicide and social anhedonia, the present study results reported that there was a positive correlation between the motivation for suicidal attempts and moderate and severe levels of social anhedonia among psychiatric patients with suicidal attempts, where the severe level of social anhedonia was correlated to help-seeking, psychache symptoms, burdensome, and low belongingness. It could be attributed to psychiatric patients' inability to adapt effectively to psychosocial stressors of their illness in absence of social support, symptoms of psychiatric illness e.g., delusions, hallucinations, hopelessness, and impulsivity which in turn motivate the patients to plan for suicide as a negative coping with their illness and to escape from negative feelings & emotions. That result was in a harmony with **Craske, et al. (2019)** who found a highly statistically significant correlation between social anhedonia, negative emotions, and

suicidal attempts. Moreover, they explained that a lack of ability to experience pleasure from social and interpersonal interactions is related to affiliated tendencies, loneliness, and social interaction anxiety that conversely led to the development of suicidal ideations and suicidal commitments.

The current study results revealed that there was a statistically significant relation between anhedonia and type of psychiatric illness. These study results were agreed by **Ducasse, et al. (2021)** who explained that social anhedonia is elevated in a significant portion of major depressive cases and is a key marker that distinguishes clinical symptoms of depression. In addition, anhedonia has been linked to other psychopathologies including schizophrenia, psychosis, borderline personality disorders, and substance-induced schizophrenia. Hence anhedonia is a promising trans-diagnostic trait for research on the psychological determinant of psychiatric illness

Conclusions:

On the light of the current study results, it can be concluded that:

- The most common motivation for suicidal attempts among psychiatric patients were help-seeking, psychache, burdensomeness, low belongingness, interpersonal influence, and hopelessness.
- Most psychiatric patients with suicidal attempts understudy had a moderate level of social anhedonia.
- The majority of psychiatric patients with suicidal attempts understudy had a moderate level of physical anhedonia.
- There was a positive correlation between the motivation for suicidal attempts and moderate and severe levels of social anhedonia among psychiatric patients with suicidal attempts.

Recommendations:

Based upon the results of the current study, the following recommendations were suggested:

- Develop and implement a psycho-educational program for psychiatric patients to improve their coping with psychiatric illness, prevent suicidal attempts,

management feeling of anhedonia and give them meaning for life to decrease the risk of suicide.

- Conduct further studies to investigate the caregiver's and nurses' role in the implementation of the needed basic and maximum precautions for prevention of suicidal attempts and maintaining patient safety.
- Designing programs to reduce social inequity and social discrimination against psychiatric patients who are unemployed, indebted, or socially isolated; and fostering good mental health skills to promote resiliency and address the psychosocial needs of those exposed to stress and adversity.
- Provision of social and psychological rehabilitation for psychiatric patients' prior discharge in order to prepare them for social reintegration, management of stigma against mental illness and antibullying behaviors to minimize the levels of anhedonia and improves the psychiatric patient's social interaction.

Limitation of the study:

The current study has some limitations that can be improved in the future researches involve:

- Small sample size of patients with psychiatric illness resulting in reduced the statistical power of generalizability of results. Future researches should be conducted on larger sample of psychiatric patients with the same inclusion criteria to assess the correlation between anhedonia and other motivations for suicide.
- The present study conducted on adult psychiatric patients without investigating the levels of anhedonia and motivations of suicide among pediatrics and elderly patients with psychiatric illness. Future researches need to be conducted to assess the motivations of suicide and levels of anhedonia among psychiatric patients from other age groups.

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