

Impulsivity, Aggression and Suicide Risk in Patients with Schizophrenia: A Cross-Sectional Study

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Abstract :-

Background :-Impulsive behaviour is an important part of many psychiatric illnesses like schizophrenia, bipolar disorder, substance abuse , personality disorder etc. but there are not much studies of impulsive behaviour in patients suffering from schizophrenia. It is also considered a an important feature for suicide and aggression in patients of schizophrenia. Impulsive behaviour can lead to troublesome behaviour including violence or self harm. This further becomes a major public health issue because it finally leads to prolonged hospitalization and increased healthcare costs because these patients take a long time to get discharged. Therefore anger, aggression and impulsive behaviour play major role in prognostic outcome in patients with schizophrenia.

Objectives :- To study prevalence and association of impulsivity, aggression and suicide risk in patients with schizophrenia.

Methodology :it is an hospital based study. Type of study is cross sectional. Study population is patients diagnosed with schizophrenia, in the inpatient and outpatient department of Psychiatry, AVBRH, SawangiMeghe, Wardha (DattaMeghe Institute Of Medical Science) - 442001. The sample size has been calculated considering the prevalence of schizophrenia which comes out to be 65 patients. The type of sampling obtained is convenience sampling. Clearance from the ethics committee will be obtained. Informed consent from the patients will be taken. Sociodemographic data of the patients will be collected and the patients will then be subjected to the following questionnaires:

1. Sociodemographic data
2. Positive and negative syndrome scale (PANSS)
3. Barratt impulsiveness scale-11
4. Buss perry aggression questionnaire
5. Becks scale for suicide ideation (SSI)

Results :-After obtaining scores from the above questionnaires, we will be able to determine the prevalence and relationship between impulsive behaviour, aggressive behaviour, and suicidal risk in patients with schizophrenia.

Conclusion :- we will be able to know the prevalence and association of impulsive behaviour, aggressive behaviour and suicidal risk in patients with schizophrenia.

Keywords :-Aggression, Impulsivity, Schizophrenia, Suicide risk.

INTRODUCTION:-

Impulsive behaviour is an important feature of various psychiatric illnesses like schizophrenia, mood disorders, substance abuse and personality disorder. "This is defined as the predisposition towards rapid and random reactions to any kind of stimuli (external or internal) regardless of the poor impact of these reactions on the patient or others" (1). Patients with schizophrenia have been observed to be involved more in violent and self harmacts than patients with any other psychotic illnesses (2). In addition, impulsive behaviour in people suffering from schizophrenia is considered as an important featurefor any kind of substance abuse, as high impulsive behaviour can makes them prone prodromal symptoms that precipitates the onset and duration of schizophrenia. Moreover, these patients involved in any kind of substance abuse have attempted suicidal acts more frequently(3). Impulsive behaviors in psychiatric illness can lead to many complications such as increased risk of violence, difficulty in treatment and lengthens the patient's stay in hospital (4). Moreover, impulsivity is also considered to be associated with like sexual decline. Therefore, impulsive behaviour is considered as an important feature in treating the patients of schizophrenia (3,5).

Aggression is explained as a kind ofbehavior that has intention to harm another person (6). It is important to distinguish aggressive behavior from high-level trait aggression by assessing people who can more easily be involved in both verbal and physical aggression (7). Aggressive behavior is often the result of stressful activities or unhappy situations (8). However, good clinical assessment is a good way to analyse aggressive behaviourin patients suffering from schizophrenia (9).

It has been observed that self harm or suicidal behaviour is main cause of death in people suffering from schizophrenia. . This is provedapproximately 5-10% of patients suffering from schizophrenia die by committingself-harm or suicide. (10). Theseself harming risk factors in people with schizophrenia may differ from those in other psychiatric illnesses. These risk factors can also be altered throughout the course of the disease. The important risk factor for committing suicide in people suffering from schizophrenia are poor social & family support, no future hopes of their illness ,being socially isolated by the people and recurrent

hospitalization requirements (11). These patients are generally afraid of future mental deterioration and over-dependence on treatment, and they may lose faith in treatment (12). Because people with schizophrenia are hospitalized on regular basis, proper assessment of suicidal attempt and management becomes important in inpatient ward and at the time of discharge(13).

BACKGROUND / RATIONALE:-

Every year, 8 million people worldwide commit suicide, making it a public health problem. Impulsive behaviour is considered to be an important feature in causation of suicide & aggression, is not extensively studied in patients with schizophrenia. Working in this area, we can assess the prevalence and association of impulsive behaviour, aggressive behaviour, & suicidal risk in patients suffering from schizophrenia.

AIM :-To assess prevalence of impulsivity, aggression and suicide risk in patients of schizophrenia.

OBJECTIVES :-

1. To evaluate the association between impulsivity, aggression and suicide risk in patients of schizophrenia.
2. To assess the prevalence of impulsivity, aggression and suicide risk in patients of schizophrenia.

MATERIAL AND METHODS :-

Study design :- The type of study is cross-sectional study. It is an hospital based study

Study place :- Department of psychiatry, AVBRH, Sawangimeghewardha

Duration of study :- 2020-2023

Study population :-Patients diagnosed with schizophrenia, in the Inpatient and outpatient departments of Psychiatry, AVBRH, SawangiMeghe, Wardha.

Inclusion criteria:-

1. Patients diagnosed with schizophrenia according to study criteria of the International classification of disease (ICD-10)
2. Patients within age group of 18 to 65 years old.
3. Patients who agree to give informed consent in written.

Exclusion criteria:-

1. Patients who are not ready to give informed consent in written.
2. Patients who are acutely ill or not able to cooperate with the study.
3. Patients who have history of developmental delay or any other major organic brain pathology.
4. Patients who had past history of head injury.

Sample size :- 65

Type of sampling:-it is a Convenience sampling

$$\text{Formula used :- } n = \frac{(2 \alpha/2)^2 \cdot P \cdot (1-P)}{d^2}$$

Where, $2\alpha/2$ is the level of significance at 5% i.e 95%

confidence interval = 1.96

$$P = \text{prevalence of schizophrenia} = 1.5\% = 0.015$$

$$D = \text{desired error of margin} = 3\% = 0.03$$

$$\begin{aligned} \text{Therefore } n &= \frac{1.96^2 \times 0.015 \times (1-0.015)}{0.03^2} \\ &= 63.06 \\ &= 65 \end{aligned}$$

METHODOLOGY :

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Tools to be used:-

1. **Sociodemographic data** :- This is a simple dimension form used in any kind of study. It mainly contains patient's basic details like name, gender, age, caste, religion, literacy, occupation, marriage, place of residence, employment status. etc. This clinical sheet data also contains variables such as age of occurrence and duration of illness, etiology, and previous history of treatment, if any.
2. **Positive and Negative Symptoms Syndrome Scale (PANSS)** :- This is a score of 30 points and 7 points. It is considered a carefully defined and operational approach that evaluates positive, negative, and other symptoms based on semi-formal clinical interviews and other informal sources. Of the 30 items, seven were grouped into a positive scale that evaluated features in addition to the normal mental state. The seven elements were grouped

into negative scales that assessed features that were absent in a normal mental state. The remaining 16 elements form a general psychopathology level that determines the overall severity in patients of schizophrenia. It has an internal reliability of 0.79 to 0.83.

3. **The Barratt Impulsiveness Scale:** - The Barratt Impulsivity Scale-11 is an important questionnaire which is designed to analyse the formation of personality / behavior of impulsivity and is used to boost our understanding of this construction and its relationship to other clinical phenomena for 50 years.

4. **Buss Perry Aggression Questionnaire :-** This is one of the most commonly used tools for assessing aggression. It contains 29 groups of subjects divided into 4 features , including: -

- ❖ Physical aggression (PA)
- ❖ Verbal aggression (VA)
- ❖ Anger (A)
- ❖ Hostility (H)

5. **Becks Scale for Suicide ideation :** - it is a 21-point scale that assesses the current intensity of attitudes, behavior and plans toward suicide. It examines the onset and numbers of the suicidal ideation, the sense of control towards the suicide attempt, then the restrictions and the way of the plan in relation to the planned attempt. This scale is suitable for both outpatient and inpatient care, can be done through interviews or self-reporting, and requires some training from the interviewer.

Statistical analysis:-

Data will be analysed using SPSS software using appropriate statistical tools. According to the scores obtained by the tools applied, CHI SQUARE TEST and ANOVA TEST will be applied to see the association between impulsivity, aggression and suicide risk. Descriptive analysis will be used for obtaining socio-demographic data of the patients. Continuous variables will be calculated by mean and standard deviation. Categorical variables will be calculated by frequency and percentage.

EXPECTED OUTCOMES/RESULTS:

The relationship between impulsive behaviour, aggressive behaviour and suicidal risk is well documented based on multiple studies. At the end of this study, we will be able to determine the prevalence and relationship between impulsive behaviour, aggressive behaviour and suicidal risk in patients with schizophrenia.

ETHICAL OR OTHER IMPLICATIONS:-

1. All participants will be guaranteed confidentiality. Participants must provide consent in written prior participating in the process. Participants will explained about their ability to withdraw their consent at any time and thus we can exclude them from the study.
2. Participants will be provided a safe environment where they can openly speak about their condition.

3. Participants will be clearly explained the purpose of the study and the sample will be selected voluntarily.
4. Ethical clearance to be obtained from the Institutional ethical committee.

LIMITATIONS :-

1. The design of the study is cross sectional.
2. The sample size is not too large. Thus less people will be studied.
3. The study will be conducted in a hospital so it will only include the patients from one centre only.

DISCUSSION:-

Silverman, Berman, Sanddal et al., (2007b) gave their contribution in studying the nomenclature of suicide. The range of suicidal behaviors without fatal outcomes, such as suicidal ideations, communication, and behavior changes, and is sometimes referred to as "suicidality" or "suicide related behaviors" (14).

Van Orden, Witte, Cukrowicz, et al., (2010) provided quality of suicidal attempts. According to them, suicidal acts as a result of impulsive behaviour & aggressive behaviour should have the below mentioned features :-

Should be done by patient only in order to harm himself ;

Intention to die should be present ;

Death should not be the result (15).

Giegling, Olgiati, Hartmann et al., (2009) studied impulsivity and suicidal behavior and identified impulsive behaviour as a related factor & common risk factor for attempting suicide. Many studies have proved the association between increased level of impulsive behaviour and a high probability of suicidal ideation or suicide attempts. But many authors believe that impulsive behaviour is a feature of non-fatal suicidal acts, others report high levels of impulsivity in those who die as a result of the suicidal act (16).

Asberg, Nordstrom, and Traskman-Bendz et al., (1986) suggested that low serotonin levels distinguish clinical samples of suicide attempts from non-suicide attempts and are related with fatal suicidal acts after the psychiatric disease has been treated. Although the link between aggression and suicide completion remains unclear (17).

Brent, Bridge, Johnson et al., (1996) studied relationship between family transmission of suicidal behavior & aggression (18). Family history of suicidal acts and attempts have proved to be reoccurring in further generations.

Doihara, Kawanishi, Yamada et al., (2008) studied the relation between aggression and suicidal act. They tried to compare serious suicide attempts with healthy individuals and found that the severity of the symptoms of aggressive behaviour was higher in the medically serious suicide attempters group than normal healthy individuals (19).

Black, Bell, Hukbert et al., (1988) Another study was done to look at individuals with personality disorders (mostly irritable and impulsive) along with depressive disorder were seen to be at increased risk for more frequent and severe suicidal behaviours than those with major depressive disorder (20).

Richard, Olie JP, Gourevitch R et al., (2009) Studied about the stigma related to people suffering from schizophrenia. They noticed that people suffering from schizophrenia are seen harmful and dangerous by the people of the society and because of this same reason people try to separate these patients from the society and this is also the main reason of aggressive behaviour in people suffering from schizophrenia. Though the occurrence of aggressive behaviour is different in males and females. According to them, the occurrence of aggressive behaviour six to eight times in males and eight to ten times in females suffering from schizophrenia(21).

Meltzer HY, Alphs L, Green AI et al., (2003) studied about the treatment of impulsive behaviour, aggressive behaviour and suicidal risk in patients suffering from schizophrenia. They found that atypical antipsychotics were found to be very effective in these patients. But the best result were seen with the use of clozapine. Clozapine showed anti-suicidal result. Reports proved that decrease in suicidal risk with clozapine treatment was around 85% with very low occurrence of agranulocytosis. Supportive therapies like cognitive therapy has been proved efficacious in some of the studies(22). Studies on schizophrenia and related issues were reported by Behereet. al. (23), Ghogareet. al. (24) and Modiet. al (25). Studies reported by Patel et. al (26) and Shukla et. al. (27) were reviewed.

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