Impulsive behavior and its correlates among patients with schizophrenia in a tertiary care psychiatry setting in Mansoura

Mostafa Amr*, Hanan Elsayed, Ibtihal M.A. Ibrahim

Psychiatry Department, MansouraFaculty of Medicine, Mansoura University, Mansoura, Egypt

A B S T R A C T

Background and objectives: Impulsive behavior has been repeatedly identified as a major problem in schizophrenia. Our objective was to examine the possible demographical and clinical correlates for impulsive behavior in patients with schizophrenia.
Methods: Fifty-eight patients with schizophrenia and Seventy-seven healthy controls were recruited. Sociodemographic data were collected and they were subjected to the Barratt Impulsiveness Scale (BIS), Positive and Negative Syndrome scale (PANSS), and Trauma Assessment for Adults—Brief Revised Version (TAA).
Results: Correlations between impulsive behavior and psychosocial variables were examined. A significant association between level of impulsive behavior and severity of psychopathological symptoms was observed (P = 0.0001). Young age (P = 0.001), male patients (P = 0.0001) and those with history of childhood sexual or physical abuse (P = 0.0001), were more impulsive. Linear regression (step wise) analysis model showed that male sex (P = 0.001), positive symptoms (P = 0.006), and childhood physical abuse (P = 0.001) were significant associations.
Conclusion: Male gender, positive symptoms as well as history of physical and sexual abuse before 18 years of age are important predictors for high levels of impulsive behavior in schizophrenia patients.

© 2016 Elsevier B.V. All rights reserved.

1. Introduction

Impulsivity can be defined as 'a predisposition toward rapid unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions to themselves or others' (Moeller et al., 2001). Impulsive behavior in the mentally ill can lead to increased risk of violence, complications during admission for treatment and lengthened hospital stays (Hoptman et al., 2014). Impulsive behavior has been repeatedly identified as a major problem in schizophrenia. Many studies have shown its important role in the etiology of substance use, aggression, violence, and suicide in schizophrenia (Ouzir, 2013).

Patients with schizophrenia often display behavioral problems that suggest impaired impulse control (Nolan et al., 2011). They often engage in violent acts more frequently than general population (Hodgins, 2008; Sariaslan et al., 2015). This greater impulsivity may interfere with patient's decision making process and in turn may be manifested by aggression towards self or others (Spivak et al., 2003).

To the best of our knowledge this is the first study addressing this issue in the developing countries. However, whether the degree of impulsive behavior is consistent across cultural boundaries has yet to be examined. The present study examines the possible demographical and clinical, correlates for impulsive behavior in those patients. We hypothesized that the participants with schizophrenia would have greater levels of impulsive behavior than the controls and would record different sets of predicting factors for impulsive behavior. The study also reports descriptive data on the frequency of impulsive behavior in patients with schizophrenia compared to a normal sample.

2. Subjects and methods

Fifty-eight schizophrenia patients were recruited from Mansoura Psychiatry Department during the last week of their hospitalization after considerable stabilization. They were recruited during the period from May 2014 to May 2015 after having an written consent. Thirteen patients refused to join the study; two of them were highly suspicious and uncooperative and the others were lacking the motivation and interest in participation.

* Corresponding author at: Psychiatry Department, Mansoura University, Mansoura University Hospital, El Gomhoria Street, Mansoura, Dakahlia 35516, Egypt.

E-mail address: mostafapsy@yahoo.com (M. Amr).

Seventy-seven healthy controls were recruited from healthy subjects who visited the Mansoura University Hospital (MUH). They were excluded if they are having any acute or chronic medical disease, current Psychiatric disorder or substance abuse, or family history of mental disorder or substance abuse. They underwent a psychiatric interview according to the guidelines of the Structured Clinical Interview for DSM-IV TR Axis I Disorders (First et al., 2001), and a diagnosis was established according to the DSM-IV-TR criteria. Exclusion criteria included: substance dependence or abuse in the past month, IQ < 70, organic brain diseases, systemic diseases and head trauma. All participants provided informed consent and the study was approved by research ethical committee.

3. Measures

Sociodemographic data were collected including: age, marital status, education (below secondary, above secondary school), income where satisfactory income means sufficient enough to satisfy living needs of the family (e.g accommodation, food, transportation, clothes, costs of education & health care) (Amr et al., 2012), employment status well as the clinical characteristics of the patients, such as the duration of illness in years, type of schizophrenia, past history of substance abuse, and type of medications (typical and atypical antipsychotics).

The Barratt Impulsiveness Scale (BIS) (Patton et al., 1995); validated to Arabic (Agoub, 2005) was used to quantify impulsive behavior. It is a self-report assessment which relies mainly on subjects' recall of behaviors or attitudes. It contains 30 items measuring three aspects of impulsive behavior:

(1) Motor impulsivity (tendency to act impulsively).
(2) Cognitive impulsivity (lack of cognitive persistence with an inability to tolerate cognitive complexity).
(3) Non-planning impulsivity (lack of sense of the future).

General psychopathology was assessed using the Scales for the Assessment of Positive and Negative Syndrome Scale (PANSS). It is a semi-structured interview schedule, which was adapted to assess psychotic symptoms. The scale constitutes 30 items that are arranged as seven positive symptom subscale items (P1-P7); seven negative symptom subscale items (N1-N7);composite score (positive scale score minus negative scale score); 16 general psychopathology symptom items (G1-G16) and three depression/anxiety symptoms (G1-G3,G6), each item rated from 1 (absent) to 7 (extreme) (Emsley et al., 1999; Kay et al., 1987).

Trauma Assessment for Adults—Brief Revised Version (TAA) (Cusak et al., 2004) in its Arabic form (Amr et al., 2012). The TAA is a 13-item questionnaire that has been used successfully to screen for traumatic experiences with a variety of populations, including those with severe mental illness. Five items were selected as being directly related to the purpose of our study. Two items assessed whether the participant had ever been assaulted either with or without a weapon. The other three items were specifically related to sexual abuse:

- "Did you ever have sexual contact with anyone who was at least 5 years older than you before you reached the age of 13",
- "Before you were age 18, has anyone ever used pressure or threats to have sexual contact with you?", and
- 'At any time in your life, whether you were an adult or a child, has anyone used physical force or threat of force to make you have some type of unwanted sexual contact? When the participants answered "yes" to any categories of sexual or physical abuse they were considered as victims, thereby constructing a binary variable.

4. Statistical analysis

All statistical tests were carried out using the Statistical Package for the Social Science (SPSS), version 17.0. Data analysis was conducted in three phases. Initially, comparisons of demographic characteristics and impulsive behavior assessment between the schizophrenia and control groups with illustration of the clinical variables of the patients were conducted using Mean ± Standard deviation (SD) and frequency (Number-percent). Additionally, two analytical approaches were applied in our study. Spearman correlation coefficient test was used to assess relationships between the impulsive behavior and different clinical variables. Linear regression models were created using the forward stepwise method to identify clinical variables that could be predictors of impulsive behavior.

5. Results

We recruited Fifty-eight schizophrenia inpatients (42 males and 16 females) with mean age 30.36 ± SD 3.66, 65.5% were married, 67.2% were employed, 77.6%were educated above secondary school education and 89.7% were classified into the unsatisfactory group. No statistical significant difference was found between control and patients with regards to demographic characteristics (see Table 1).

63.8% of our patients reported history of abuse. Diagnosis with paranoid type of schizophrenia represented 75.9% of our sample whereas undifferentiated type of schizophrenia represented 24.1%. More than half of the patients reported intake of typical antipsychotic medications (56.9%) (See Table 2).

Table 1
Socidemographic characteristics of the sample.

Socio demographic characters		Schizophrenia n = 58 No (%)	Control n = 77 No (%)	p value
Gender	Male	42(72.4%)	48 (62.3%)	0.2
	Female	16 (27.6%)	29 (37.7%)	
Marital status	Single	38 (65.5%)	47 (61.04%)	<0.001
	Married	20 (34.5%)	30 (38.96%)	
Income	satisfactory	6 (10.3%)	7 (9.1%)	<0.001
	unsatisfactory	52 (89.7%)	70 (90.9%)	
Education	below secondary	13 (22.4%)	29 (37.7%)	0.058
	above secondary	45 (77.6%)	48 (62.3%)	
Employment	Unemployed	19 (32.8%)	20 (25.97%)	0.39
	Employed	39 (67.2%)	57 (74.03%)	

Table 2
Clinical characteristics of schizophrenic patients.

History of physical or sexual abuse	Negative	No (%)	21(36.2%)
	Positive	No (%)	37(63.8%)
Type	Paranoid	No (%)	44(75.9%)
	Non-paranoid	No (%)	14(24.1%)
Antipsychotic Drugs	Typical	No (%)	33(56.9%)
	Atypical	No (%)	25(43.1%)
Duration of illness (years)	Mean ± SD		4.86 ± 1.97
positive symptom subscale	Mean ± SD		26.52 ± 7.57
Negative symptom subscale	Mean ± SD		20.59 ± 7.34
General psychopathology symptom	Mean ± SD		47.00 ± 13.25
Total PANSS	Mean ± SD		94.10 ± 19.34

PANSS = Positive and Negative Syndrome Scale; SD = standard deviation.