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Review Article

Substance Use Disorders Among Psychiatric Inpatients: Prevalence, Pattern and Co-Morbidities

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Abstract

Up to 10.5 million children suffer from epilepsy, one-third of whom develop drug-resistant epilepsy (DRE) requiring surgical treatment. In temporal lobe epilepsy, drug resistance reaches 38% of all cases, and patients with this form of the disease have a higher risk of disability and mortality. The European Commission of the International League Against Epilepsy (ILAE) has identified glial mechanisms of seizures and epileptogenesis as a research priority. The purpose of our study was to conduct a comparative analysis of the level of expression of the cytoskeletal protein glial fibrillar acid protein (GFAP) and the protective protein S100 in children with epilepsy associated with focal cortical dysplasia (FCD). Biopsy material from fragments of the temporal lobe of the brain was retrospectively studied at pathology department of Polenov Neurosurgical Institute, obtained intraoperatively from 16 patients (7 girls, 9 boys) with locally caused EEG aged from two to 17 years, with an average age of 9.5 years. Autopsy material from six patients who died from somatic diseases and had no history of neurological disorders was used as a comparison group. Of these, 2 girls and 4 boys aged from 3 to 14 years, with an average age of 8 years, were observed in our study. We observed a significant increase in the expression of GFAP and S100 in the brain tissue of children with FCD when simile to the comparison group. There were no differences in the expression of GFAP and S100 depending on the gender or age of the patients. The correlation between GFAP and S100 proteins was weak in all regions studied. Thus, in the area of the epileptic focus occur in children, active processes of repair of nervous tissue and the mechanisms for increasing the levels of the studied proteins can serve as potential therapeutic targets in DRE therapy, which will prevent secondary neurodegeneration in these patients.

Keywords: drug-resistant epilepsy; focal cortical dysplasia; children; GFAP; S100

Introduction

Substance use disorders are disorders of global health concern as they are part of the NMDS group of disorders earmarked for attention by the World Health Organization through the mental health gap action programme (mhgap) and they contribute to the global burden of disease. The global annual prevalence of drug use among adult population of 15 – 64 years of age was reported as 5.6%, while in Nigeria, it was 14.4%. Apart from alcohol, cannabis was the most used substance, while cocaine was the least used in Nigeria.[1] In another report, the burden of substance use in Nigeria among students and youths was found to be about 20%. [2]. Prevalence is the number or frequency of existing cases of disease in a defined population at a given point in time. [3]. Substance use disorders refer to conditions arising from the misuse of alcohol, psychoactive drugs, or other chemicals such as volatile substances. These include intoxication, harmful use, dependence, amnestic disorder, substance-induced psychotic disorder etc. [4]. In a cross-sectional study conducted among patients admitted to four public hospitals in South Africa, tobacco and alcohol were the most misused substances and the median age of respondents was 38 years. [5]. In a similar study done on the determinants and prevalence of relapse among admitted patients with substance use disorders in Rwanda, Kabisa and colleagues found that majority of the respondents (84.1%) were males and that poly-substance use, living with peers and hospitalization of less than 3 months were associated with higher rates of relapse. [6] In a study among patients attending an emergency hospital in Egypt, cannabis was found to be the most abused drug, followed by tramadol. Predictors of substance abuse were: younger age (below 30 years), male and being single with unsatisfactory income. [7]

In Nigeria, a lifetime prevalence of 69.2% for substance abuse was found among inpatients admitted to a neuropsychiatric hospital in Northern Nigeria and cannabis was the leading substance of abuse, followed by opioids. [8] In a study done among patients attending three primary care clinics in Benin,

it was reported that males were more likely to use cannabis and tobacco regularly, while widowed respondents more likely to use sedatives and opioid analgesics regularly. [9] In Zaria, the lifetime prevalence of psychoactive substance use among psychiatric outpatients of a tertiary hospital was reported as 29.3%, while that of multiple substance was reported as 17.7% and the commonly used substances were alcohol, cannabis and tobacco. Also, the prevalent co-morbid disorders were schizophrenia and psychotic disorder. [10]

Aim and Objectives

The study aims to determine the 12-month prevalence of substance use disorders among admitted patients at the Mental Health ward of Federal Teaching Hospital, Ido-Ekiti with the following objectives:

-        To determine 12-month the prevalence of substance use disorders among psychiatric inpatients

-        To determine the pattern of substance use among the patients over the 12-month period

-        To determine the prevalence of co-morbid psychiatric disorders among those with substance use disorders

Methodology

The study was designed as a retrospective cross-sectional study among eighty-eight (88) patients admitted into the male and female mental health wards of Federal Teaching Hospital, Ido-Ekiti. Secondary data was collected through the patients' folders over a 12-month period. The diagnoses were made with the tenth edition of the International Classification of Diseases and Related Health Problems, which is a standardized diagnostic manual. Details of patients' socio-demographic qualities, clinical histories, and diagnosis were be obtained. Two resident doctors were employed as research assistants who looked into the Nurses' records of admission for a back-dated period of 12 months starting from the time of ethical approval for the research. This enabled them to obtain the hospital numbers of the patients for adequate retrieval at the medical records unit. A spreadsheet was prepared with the hospital number, necessary sociodemographic qualities e.g age, occupation, average monthly income, clinical history and diagnosis set as columns to be filled. In all, the names of the patients were not recorded so as to maintain their confidentiality. Since the data used is secondary, no harm was done.

Ethical Approval

An ethical consideration and approval was obtained from the Health Research and Ethics Committee of the Federal Teaching Hospital, Ido-Ekiti to proceed with the study.

Data Analysis

Data will be analyzed using the Statistical Package for Social Sciences software (SPSS) version 23.

Results

Prevalence Of Substance Use Disorders

Figure 1: Shows the 12-month prevalence of substance use disorders among the psychiatric inpatients. Thirty-four patients (38.6%) were managed for substance use disorder within the period being studied, while fifty-four patients (51.4%) had no diagnosis of substance use disorder.

Pattern Of Substance Use Among Those with Substance Use Disorders

Table 1: Shows the pattern of substance use among the patients with substance use disorders. It is pertinent to note that substances were used singly or in multiples among patients in the study. Nineteen patients (55.9%) used cannabis singly, two patients (5.9%) used cigarette, cannabis in addition to inappropriate use of codeine, while two patients (5.9%) used pentazocine inappropriately. Cannabis was the most abused substance as 26 patients (76.5%) used cannabis in total.

Prevalence Of Co-Morbid Psychiatric Disorders Among Those with Substance Use Disorders

Figure 2: Shows the prevalence of co-morbid psychiatric disorders among those with substance use disorders. Three patients (8.8%) had no psychiatric disorders, twelve patients (35.3%) had schizophrenia, while nineteen patients (55.9%) had psychotic disorder.

Discussion

Prevalence Of Substance Use Disorders

The prevalence of substance use disorder was found to be 38.6% in this study. This was lower than a prevalence of 69.2% in a similar study among Psychiatric inpatients in Sokoto. [8] The difference in values may be in the methodology as the prevalence in this study was within a 12-month period, while that in Sokoto was a lifetime prevalence. Also, reports have shown that there's a higher rate of substance use and misuse among dwellers of Northern part of Nigeria than those in the Southwest. [10] However, Jatau and colleagues, in a systematic review reported a prevalence of 14.4% among the general population and 20.9% among community youths in the country. [2]

Pattern Of Substance Use Among Those with Substance Use Disorders

Cannabis was the most used single substance in this study and in terms of combination, cannabis, alcohol and tobacco were the most combined in different patterns. This is in line with a previous study that reported cannabis as the commonest substance of abuse in the country. [2] Also, Bakare and Isah reported cannabis as the commonest substance of abuse among in patients with substance use disorders in Sokoto. [8] However, alcohol was found as the commonest substance of abuse among respondents in a similar study conducted by Dapap and colleagues among the attendees of the accident and emergency of a tertiary hospital in Jos, Nigeria. [11] The difference in findings may be due to the difference in the clinical departments used in

both studies. The pattern of combination of substances in this study was in line with a similar study in Zaria, Nigeria. The similarities may be due to the fact that the two legal substances illicitly used in Nigeria are tobacco and alcohol, while cannabis is the commonest and cheapest illegal psychoactive substance being used in Nigeria. [10] In essence, the use of substance in the society is affected by availability, affordability, and accessibility.[4]

Prevalence Of Co-Morbid Psychiatric Disorders Among Those with Substance Use Disorders

This study shows that schizophrenia and other psychotic disorders were the two co-morbid psychiatric disorders among those diagnosed with substance use disorder. Studies have shown that prior use of cannabis and or tobacco increase the risk for psychosis in later life. [4] Findings from this study appears to be in keeping with the latter point as cannabis was the most used single substance and was also largely used in combination with tobacco by a significant number of patients. At the neurochemical level, this may not be farfetched as both cannabis and tobacco result in high elaboration of dopamine in the nucleus accumbens and other brain regions, resulting in higher propensity for psychosis. [12] Also, schizophrenia as a diagnosis may lead to the use of psychoactive substances owing to a response to symptoms like hallucination commanding its use or the patient trying to find a way to eliminate or suppress the voices. Previous studies done in Nigeria have reported schizophrenia and psychosis among the prevalent psychiatric disorders occuring in patients with substance use disorders. [4] [12]

Limitation

This study is a cross-sectional hospital-based study and the findings may not totally the reveal the real proportion and pattern of substance use and abuse in the community. Also, the study was done with secondary data from case notes, hence the possibility of some missing data.

Conclusion

Substance use disorder is of a great public health concern as it traverses the biological, psychological and social paradigms considered in the aetiology, management and prognosis of psychiatric disorders. Necessary public policies can help in curtaling its spread in the society.

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