

Dynamics of Psychoactive Substance Use among Pregnant Women in Nigeria

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Abstract

Psychoactive substances could be used for medical and non-medical reasons, but need to be used with caution in pregnancy due to their negative effects on the fetus. Globally and in Nigeria, there are limited studies conducted on the use of, and effects of psychoactive substances by pregnant women probably due to the special population required despite the wide range of psychoactive substances readily available and easily accessible by pregnant women. This study examined the dynamics of psychoactive substance use in pregnancy in Nigeria, the effects on pregnancy and neonates, and critical methods of regulation, intervention, and prevention. The study utilized a narrative review to assess the dynamics in the prevalence, use, and effects of psychoactive substances by pregnant women. The study was synthesized from several research articles assessed through electronic means. Search terms were used either individually, in series, or using truncation where necessary. Studies considered were those conducted in Nigeria and published in the English Language from January 1970 to December 2023. All of the articles fell below the 3rd position on the 8points Oxford Center for Evidence-Based Medicine Scale (OCEMS). Overall, 11 articles were selected from a total of 1260 articles which gave rise to 0.87% selection eligibility criteria. The southwest had the highest distribution of studies on psychoactive substance use in pregnancy 6.0(54.5%), followed by south east 2.0(18.2%) and north central at 1.0(9.1%), and south at 1.0 (0.9%). Studies hierarchy fell in the fourth stage of the 6 points Scottish Intercollegiate Guideline Network Scale (SIGN) for the hierarchy of study types. Psychoactive substance uses in pregnancy in Nigeria fell at the lower half of two standard benchmarks for study types. Most of the studies were predominantly carried out in the southern part of Nigeria. Systematic reviews and meta-analyses, Randomized Controlled Trials, Nonrandomized intervention studies, experiment studies, and Expert opinions on psychoactive substance use in pregnancy in Nigeria were still not available in the country.

Key words: psychoactive substances; pregnancy

Introduction

The United Nations Office for Drugs and Crime (UNODC) has defined New Psychoactive Substances (NPS) as ‘substances of abuse, either in a pure form or a preparation, that are not controlled by the 1961 Single Convention on Narcotic Drugs or the 1971 Convention on Psychotropic Substances, but which may pose a public health threat’ [1]. Definitions of NPS can vary between countries, reflecting pharmacological and structural classifications, and differences in national legislation [2]. By 2018, a total of 892 individual NPS, reported by 119 countries, were being monitored by the UNODC early warning system, and by the end of 2018, over 730 NPS had been notified to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) [3, 4]. The rapid proliferation at which new NPS has emerged on the global drugs market is unparalleled,

and it was estimated that at its peak in 2015, new NPS appeared at a rate of at least one new substance per week [5, 6].

Many studies have focused on the prevalence, knowledge, and attitudes associated with the use of psychoactive substances, and suggest that psychoactive substances are associated with harm in key populations such as adolescents, prisoners, and homeless people, but there are limited studies on the use and effects of psychoactive substances in pregnancy in Nigeria. This study intends to bridge the gap identified. It revealed what has been done, and the extent of research in this area, and provided direction for improvement on the nature and extent of studies. It addressed the statement of question concerning participants, interventions;

comparisons, outcomes, and study design (PICOS Approach), and will serve as the audit trail required to broaden the scope of research in special populations. Without periodic reviews, it will be difficult to understand if progress is made and to proffer in-depth contributions to research done on the use and effects of psychoactive substances in pregnancy. This study examined the dynamics of psychoactive substance use in pregnancy in Nigeria, the effects on pregnancy and neonates, and critical methods of regulation, intervention, and prevention.

Methods

Study area

The study covered psychoactive substances studies originally carried out in Nigeria.

Review question

What is the extent of the use of psychoactive substances in pregnancy and its effects on the fetus?

Study population and types of studies included

All studies that passed the inclusion criteria and were published on Research Gate, PubMed, Academia.edu, and Google Scholar were utilized for the study. A manual search was also conducted for studies that met the inclusion criteria. This ensured the retrieval of relevant studies while focusing on the study objectives.

Eligibility criteria

Inclusion criteria

- Peer-reviewed studies published in English Language
- Studies conducted on the use of Psychoactive substances during pregnancy in Nigeria irrespective of the region between 1970 and 2023
- Studies with no conflict of interest stated
- Studies that provided other information that may help to understand the use and effects of psychoactive substances
- Studies with clearly stated and defined research methods and design

Exclusion criteria

- Studies conducted on the use of psychoactive substances during pregnancy in Nigeria irrespective of the region between 1970 and 2023 without clearly defined period, duration, sample size, and location were discarded
- Studies with methodological flaws
- Studies with incomplete data

Study design

The study was a narrative review of the dynamics of psychoactive substance use and its effects on pregnancy in Nigeria.

Risk of bias

The selected studies were assessed for subject, sample selection, and reporting bias.

Information source

Manual and secondary searches were conducted using PubMed, Research gate, and Google Scholar.

Condition and Domain studied

Studies conducted on psychoactive substances, and articles which described the use in pregnancy in Nigeria.

Prevalence, effects, traction study, and data extraction were done according to the standard reporting protocol for narrative reviews [7].

Data Items and Summary Measures

Data was sought for title of publication, study location, design, sample size, year of publication, inclusion criteria, exclusion criteria, study instrument, level of evidence, and hierarchy of studies. All the articles that met the inclusion criteria and fell within the years under review were selected.

Context

The study covered original studies and articles on psychoactive substances used in pregnancy carried out in Nigeria.

Articles search process

MEDLINE (PubMed), and Google Scholar were searched for studies and articles on the use of psychoactive substances in pregnancy in Nigeria between 1970 and 2023. The search strategy and terms were carried out as presented in Figure 1 as shown below. The primary concept and theme were used individually, in series/strings, and truncated where necessary during the search for articles. Additional words found appropriate and relevant to the title and objective were utilized. A total of 1260 articles were obtained, from 720 MEDLINE and 540 from Google Scholar (secondary search). These articles were assessed for eligibility based on inclusion criteria.

Study period and duration

The study lasted from May to June 2024 and covered peer-reviewed articles published from January 1970 to December 2023.

Ethical approval

Ethical approval is not applicable here as this is a narrative review article. However, only studies with ethical approval were included and utilized in the review process.

Data analysis

The data was summarized with descriptive statistics of frequency and percentages.

Study articles selection process

A total of 1260 articles were obtained, 720 from MEDLINE (PubMed) and 540 from Google Scholar (secondary search). These articles were assessed for eligibility based on inclusion criteria. Overall, 365 studies fell outside the scope of psychoactive substance use in pregnancy and were discarded, giving rise to 11 articles eligible for review.

Data extraction instrument, pilot testing, and data extraction process

The data extraction method was designed by examining the articles, writing out key data represented, and eliminating irrelevant ones based on the title and study objectives. The remaining data was harnessed into one extraction sheet and was pilot-tested for face and content validation using two articles that were not included in the study. The extracted data was arranged logically, and the sheet used to collate data was designed into an appropriate table format for ease of collation of results and analysis. The final instrument was given to an independent assessor to critique by using it on two independent studies before use for data collection.

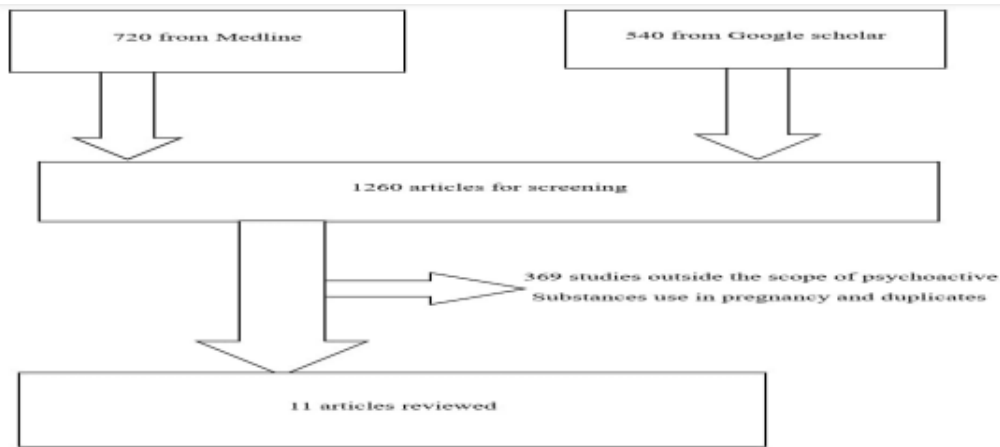


Table 1: Characteristics distribution of selected studies (Evidence-Based Table)

Flow chart of the study process

Results

Reference	Title	Location	Design	Year of Publication	Sample Size	Inclusion	Exclusion	Study Instrument
[8]	Substance use and sexual cognitive orientation as predictors of academic performance among pregnant adolescents in Nigeria	North east	Cross-sectional study	2023	400	Pregnant Adolescents 15 to 19 years Students	Non pregnant adolescents Non students	Questionnaire
[9]	Use of substance and non-prescription drugs by pregnant Nigerian Women	South east	Cross-sectional study	2003	1160	Pregnant women registered in antenatal clinic	Non pregnant women	Questionnaire
[10]	Psychoactive substance use and psychiatric morbidity among pregnant women attending an ante-natal clinic in Benin City, Nigeria	South south	Cross-sectional Descriptive	2018	395	Psychiatric pregnant women 16 to 49 years	Participants who declined and cannot communicate in English Language	Questionnaire
[11]	Alcohol consumption and tobacco exposure among pregnant women in Ibadan, Nigeria	South west	Prospective cohort study	2022	1745	Women ≤20 weeks' gestation, aged ≥18 years, and women without severe medical complications	Pregnant women > 20 weeks gestation, with severe medical complications	Interviewer administered questionnaire
[12]	Psychosocial Correlates of Psychoactive Substance Use among Pregnant Women	South west	Descriptive Cross-sectional study	2018	130	Pregnant women who gave consent	Women who presented in labor or with hyperemesis gravidarum	Questionnaire
[13]	Psychoactive substance use in pregnancy: a cross-sectional study in Enugu Nigeria	South east	Cross sectional	2020	205	Consenting pregnant women attending antenatal clinic	Not stated	Questionnaire

[14]	Perception and Belief of Pregnant Women on the Effects of Psychoactive Substance use among Pregnant Women attending Antenatal Clinic in Ondo State	South west	Descriptive cross-sectional study	2021	378 my	pregnant women attending antenatal clinic	Not stated	Structured questionnaire
[15]	Prevalence and consumption pattern of kola nut among pregnant women in Ibadan metropolis	South west	Cross-sectional study	2023	478	Consenting pregnant women attending antenatal care	Women who were unable to communicate in any of the common languages, children under 15 years	Structured questionnaire
[16]	Self-Medication in Pregnancy and Associated Psychopathological Symptoms of Antenatal Nigerian Women	South west	cross-sectional hospital-based exploratory	2020	277	Pregnant women in good physical condition attending antenatal clinic, willing to spend about 8 minutes for the study	non-pregnant women, pregnant women experiencing ill health, and those who expressed a lack of time	Questionnaire
[17]	Medication and Substance Use among Pregnant Women in a Nigerian North Central Community, Kwara State, Nigeria	North central	Longitudinal cross-sectional study	2017	200	All pregnant women resident in the community	Pregnant women who could not give adequate response to the questions and did not consent to participate	Semi-structured questionnaire
[18]	Prevalence of Substance abuse by Pregnant women attending Traditional Birth Attendant (TBA) clinics in a Semi-urban region in South-West Nigeria	South west	Cross-sectional study	2023	220	Pregnant women attending Traditional Birth Attendant clinics	Non pregnant women	Questionnaire

Table 2: Regional focus of psychoactive substance uses in pregnancy studies in Nigeria.

s/n	Geopolitical zones	Number of studies n (%)	Study focus
1	North east	1.0 (9.1)	Substance utilization and evaluation of effect
2	North west	0.0 (0.0)	Nil
3	North central	1.0 (9.1)	Substance
4	South east	2.0 (18.2)	Prevalence and pattern of psychoactive substance utilization
5	South south	1.0 (9.1)	Prevalence and pattern of psychoactive substance use
6	South west	6.0 (54.5)	Prevalence, consumption pattern and effect
7	Mid west	0.0 (0.0)	Nil
8	North	0.0 (0.0)	Nil
	Total	11.0 (100)	

Table 3: Assessment of psychoactive substance use in pregnancy studies in Nigeria based on Oxford Center for Evidence-Based Medicine's Levels of Evidence from Highest to Lowest [19]

s/n	Level of evidence	Definition	n (%)
1	1A	Systematic review of RCTs	0.0 (0.0)
2	1B	Individual RCT	0.0 (0.0)
3	2A	Systematic review of cohort studies	0.0 (0.0)
4	2B	Individual cohort studies, low-quality RCT	6.0 (54.5)
5	2C	Ecological studies	
6	3A	Systematic review of case-control studies	2.0 (18.2)
7	3B	Individual case control studies	3.0 (27.3)
8	4	Case series, poor quality cohort and case control studies	0.0 (0.0)
	Total		11.0 (100.0)

Table 4: Assessment of psychoactive substance use in pregnant women studies based on the Scottish Intercollegiate Guidelines Network for hierarchy of Study Type [20]

s/n	Study types according to hierarchy	n (%)
1	Systematic review and Meta-analysis	0.0 (0.0)
2	Randomized Controlled Trials	0.0 (0.0)
3	Nonrandomized intervention studies	0.0 (0.0)
4	Observational studies	11.0 (100)
5	Non experimental studies	0.0 (0.0)
6	Expert opinion	0.0 (0.0)
	Total	11.0 (100.0)

Table 5: Periodic distribution of psychoactive substance uses in pregnancy articles

s/n	Period of publication of study	Number of articles published n (%)
1	< 2000	0.0 (0.0)
2	2001 – 2010	1.0 (9.0)
3	2011 – 2020	5.0 (45.5)
4	2021 - 2023	5.0 (45.5)
	Total	11.0 (100.0)

Discussion

The distribution of the studies revealed a high incidence of observational studies in the country. All studies were carried out within the last three decades as shown in Tables 1 and 5. Although pregnant women have been using psychoactive substances such as alcohol, tobacco, cannabis, opioids, and cocaine, the extent and pattern of use have varied significantly over time and across different cultures. The study suggested a skewed distribution of cited articles to the southern part of the country as shown in Table 2. Studies have shown that there is a higher rate of psychoactive substance use in the south and a higher attendance of antenatal clinics by pregnant women in the southern part of the country. This was followed closely by the north-central and northeast parts of Nigeria. Overall, studies on psychoactive substance use in pregnancy are very limited due to the special population required for the study (pregnant women), and the negative effects of psychoactive substances on both the mother and the fetus. Related studies indicated that substance use during pregnancy increases the chances of stillbirth and low birth weight in newborns [21,22]. Other studies indicated that about five percent of women use varying psychoactive substances during pregnancy [21,23,24]. The prevalence of above 40% was reported in northern Nigeria [25].

There has been no review article describing the use and effects of psychoactive substances in pregnancy in Nigeria. All studies on psychoactive substance use in pregnancy in Nigeria till January 2001 fell within the lower half of two standard benchmarks for the hierarchy of study types namely: Oxford and Scottish benchmarks for the hierarchy of clinical studies. Most of the studies on psychoactive substance use in pregnancy in Nigeria were carried out in the southern part of Nigeria. Despite the report of several studies on the use of psychoactive substances in pregnancy within Nigeria [26,27], review studies on the subject were lacking. This could be attributable to a lack of interest in this area, or poor documentation. This study described the dynamics of studies on the use

of psychoactive substances in pregnancy in Nigeria provided an overview of the prevalence and effects of psychoactive substance use in pregnancy and on the fetus, and made comparisons with Oxford and Scottish benchmarks for the hierarchy of clinical studies to fill the gap, and documented information for intervention and policy formation.

Conclusion

The distribution of studies showed a high incidence of observational studies in the country. There has been a growing incidence of psychoactive substance use in pregnancy in hospitals within the last two to three decades. The evidence level of psychoactive substance use in pregnancy within the country remains limited. Most of the psychoactive substance use in pregnancy studies in the country was predominantly recorded in the southern part of the country, followed by the northern axis. The study fell short of the Oxford and Scottish benchmarks for the hierarchy of study, an indication of the limited studies conducted in this special population (pregnancy). No systematic review and meta-analysis of Randomized Clinical Trials, non-randomized intervention studies, Randomized Clinical Trials, and narrative reviews were recorded.

Limitations of the study

Some articles relevant to the study may have been left out due to search and search terms limitations. Some limitations associated with varying levels of bias may have existed in the primary studies which escaped elimination and may have affected the outcome of the study. There may be other better ways of presenting the tables. However, these formats were chosen for simplicity and clarity of purpose.

Conflict of Interest

The author has none to declare.

Grant/Sponsorship

None

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