

# Perception and Belief of Pregnant Women on the Effects of Psychoactive Substance use among Pregnant Women attending Antenatal Clinic in Ondo State

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## Abstract

The expansion of psychoactive drug consumption, especially alcohol, has reached women in their fertile age, causing various medical and social challenges in the relation between drug use and mother-child health is associated with many adverse health outcomes. The aim of the study was to assess the knowledge, perception and beliefs of pregnant women on the effect of psychoactive substance use, and to identify the prevalence of psychoactive substance use and reasons why pregnant women use psychoactive substances during pregnancy.

This was a hospital-based descriptive cross-sectional survey carried out in five (5) government owned health facilities in Owo Local Government Area. Multistage sampling was used in selecting 378 pregnant women. The instrument used for data collection was a self-structured questionnaire with a Pearson's Product Moment Coefficient of 0.91 reliability done through test-retest of the instrument. Data was analyzed using descriptive statistics and illustrated using bar charts and frequency tables.

The mean age of the respondents was 35.1 ± 12.12 years. Most of the respondents (68%) were aware of the problems associated with the use of psychoactive substances. The most frequently cited consequences of psychoactive substance use were mental disorders or learning disabilities (38.5%), baby addicted/experiences withdrawal (33.5%), miscarriage or premature birth (28.0%), low birth weight and growth problems (25.7%). Majority of the women were of the opinion that taking alcohol and other psychoactive substances is harmful to their health and their baby's health, all psychoactive substances are harmful during pregnancy and that drinking alcohol during pregnancy can lead to lifelong disabilities in a child. However, many of the women believed that use of some substances enabled them to sleep better during pregnancy, helps to relieve nausea and vomiting in early pregnancy and that taking some substances will help their baby. The most common reasons why women use psychoactive substances mentioned by the respondents were ignorance about the outcome (93.7%), stress (82.5%), husbands' influence (79.6%), addiction (76.2%), and participating in celebrations or social gatherings (73.5%). There was a significant relationship between level of education and usage of psychoactive substances.

In conclusion, the level of psychoactive substance use is high in the study population, perhaps fueled by ignorance, stress, husband's influence, addiction and participating in celebrations or social gatherings. There is a need for the introduction of drug abuse prevention and intervention strategies into maternal and child health services.

**Key words:** Psychoactive substance . Perception . Belief . Pregnant women

## Introduction

Over half of pregnant women are known to be taking prescription or nonprescription (over-the-counter) drugs or use psychoactive (such as tobacco and alcohol) or illicit drugs at some time during pregnancy, and use of drugs during pregnancy is increasing. Psychoactive substance use has become a global issue, and the enormous negative consequences arising from it is of concern to the government of nations, parents, guardian, religious organizations, school authorities, medical personnel and researchers [1]. Psychoactive drugs not only affect the body's central nervous system, they have the ability to change the brain's functionality, and quickly alter mood, perception, and consciousness. These drugs are commonly found in everyday foods and beverages, including chocolate, coffee, and soft drinks, as well as in alcohol and in over-the-counter drugs, such as aspirin, Tylenol, and cold and cough medication in modified quantity. That was the major reason why the government of Nigeria banned the sales of codeine as one of the readily available over the counter cough medication to prevent further abuse by the youths. Psychoactive substance use, until recently, has largely perceived as a male problem and research, as a result, has been broadly androcentric and

insensitive to gender variation. The number of women admitted for dependence is on the increase; globally, alcohol use in women has received the widest attention and women's substance use tends to progress more quickly from first use to addiction [2-4].

Drugs of abuse are classified, as licit and illicit to the legal status of substances, according to its marketing. The legal drugs have allowed the State to be sold and consumed, with or without a prescription, containing psychoactive substances whose production, sale and use are not criminalized. The legal drugs are represented mainly by alcohol, tobacco, caffeine, hallucinogenic plants and psychoactive drugs [5]. The expansion of psychoactive drug consumption, especially alcohol, has reached women in their fertile age, causing various medical and social challenges in the relation between drug use and mother-child health. The habitual use of drugs and the advancement of addiction may lead users to develop illicit activities and including an unplanned pregnancy and undesirable. In addition to all social issues involved, pregnant women drug users constitute a problem for health services, performing fewer prenatal appointments and have a higher incidence of complications and obstetric clinics [5], creating new socio-medical challenges for maternal and child health. Substance use is associated not only with adverse pregnancy outcomes, but with a cascade of health, legal, social, and financial problems that adversely affect the welfare of the mother and child [6].

Complications from drug use are not restricted to pregnant women only, but also to the fetus, since most of these substances cross the placental and haemato-encephalic barrier with no previous metabolization, affecting especially the central nervous system of the fetus, causing cognitive deficits, deformities, abstinence syndromes etc. in the newborn [7]. Not the less, both the carrier and the product are not spared because the damage is in multiple folds; which includes miscarriage, preterm delivery, low birth weight infants,

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placental abruption, neonatal abstinence syndrome, neonatal intensive care unit admissions, and a variety of behavioral and cognitive problems in exposed children [1,6].

Currently, in various stages of prenatal care is the health care professional to detect consumption of these substances during pregnancy. Early diagnosis favors intervention and creates possibilities for access to specialized treatment services and coping alternatives to the use of drugs of abuse in pregnancy, avoiding maternal and neonatal complications [5]. However, there are deficiencies in the embracement of drug users, because when the social and cultural context in which the individual is inserted is recognized, it becomes possible to identify risk factors that permeate the dysfunctional use of drugs, a fundamental step for the creation of strategies for health teams with families and people in vulnerable situations [7]. Furthermore, women tend to use psychoactive substances to improve mood, increase confidence, reduce tension, cope with difficulties, lose inhibitions, enhance sex and lose weight among others. The key risk factors for women involved in drug use include emotional distress resulting from sexual and physical abuse as well as other related problems [1]. Hence, comprehensive health care to pregnant women requires the study of drug abuse among these women so as to deal with them early and help them adequately in basic care.

Drug abuse in Nigeria in the contemporary time has become one issue that casts a gloomy shadow to the entire Nigerian society. We live in a society where excessive consumption of substances is the order of the day. It is worthy of mentioning that substance abuse cut across ages, socio economic status, race, religion and gender, though recent findings indicate that the use of substance is higher among the males but the trend is on the increase among women. Research findings also indicated that these substances negatively affect the health and behaviors of the users.

Maternal psychoactive substance use can make it harder for a woman to get pregnant, and during pregnancy can cause major health problems for the baby. It is shown that the use of psychoactive substances is associated not only with physical malformations but also disruption of brain development, significant impairments in behavior, attention control and language development, and an increased risk of offending behavior in later life. Mothers who abuse opiates do not usually take care of their own health antenatally, and the infants are often raised in less than ideal family circumstances. In terms of economic cost, it includes the more money required to deal with undesirable effects of the drug abuse, the less money for services and programs that enhances the quality of life. To this end and judging from the problems outlined, this research aims at determining perception and belief of pregnant women on the effects of psychoactive substance use among pregnant women attending Ante-natal Clinic in Owo Local Government.

## Main objective of the study

The main objective of this study is to determine the perception and belief of pregnant women on the effects of psychoactive substance use among pregnant women attending Ante-natal Clinic in Owo Local Government Area, Ondo state.

## Specific objectives of the study

The specific objectives of the study are to:

- ✓ Assess the knowledge of pregnant women on the effects of psychoactive substance use.
- ✓ Determine the perception of pregnant women on the effects of psychoactive substance use.
- ✓ Determine the beliefs of pregnant women on the effect of psychoactive substance use.
- ✓ Identify the reasons why pregnant women use psychoactive substances during pregnancy.

## Research questions

This study seeks to answer the following research questions

- ✓ What knowledge do pregnant women have on the effects of psychoactive substance use during pregnancy?
- ✓ What are the perceptions of pregnant women on the effect of psychoactive substance use?
- ✓ What are the beliefs of pregnant women on the effect of psychoactive substance use?
- ✓ Why do pregnant women use psychoactive substances during pregnancy?

## Theoretical review

This study adopted the constructs in the Theory of Planned Behavior (TPB). The concept was proposed by Icek Ajzen to improve the validity of prediction of behavioral intentions based on the theory of reasoned action by including perceived behavioral control. According to this theory, human behavioral intentions are determined by attitudes, subjective norms and perceived behavioral control [2].

The Theory of Planned Behavior (TPB) is one of the most well-studied and valuable theories for explaining and predicting behaviors. This theory has been applied to a wide variety of health contexts, including eating and drinking behaviors. This theory was proposed by Icek Ajzen to improve the validity of prediction of behavioral intentions based on the Theory of Reasoned Action by adding perceived behavioral control. According to the Theory of Reasoned Action, an individual's intention to perform a behavior is assumed to be the central determinant that the behavior will be performed. The TPB postulates three conceptually independent determinants of intention, including attitude, subjective norms and perceived behavioral control. As a general rule, the more favorable the attitude and subjective norms with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior under consideration [2]. The Theory of Planned Behavior proposes a model about how human action is guided. It predicts the occurrence of a specific behavior provided that the behavior is intentional. Intentions are the precursors of behavior. Although there is not a perfect relationship between behavioral intention and actual behavior, intention can be used as a proximal measure of behavior. This observation was one of the most important contributions of the TPB model in comparison with previous models of the attitude-behavior relationship [2].

## Attitudes

Attitude toward the behavior is a person's overall evaluation of the behavior, which can be either positive or negative. More favorable attitudes towards a behavior should increase behavioral intentions. Attitude construct comprises of two components: beliefs about consequences of the behavior (behavioral beliefs) and the corresponding positive or negative judgments about the behavior (outcome evaluations).

## Subjective norms

Subjective norms are a person's own estimate of the social pressure to perform or not perform the target behavior. Subjective norms are assumed to have two components which work in interaction: beliefs about how other people, who may be in some way important to the person, would like them to behave (normative beliefs) and the positive or negative judgments about each belief (outcome evaluations).

## Perceived behavioral control

Perceived behavioral control is the extent to which a person feels able to enact the behavior. It has two aspects: how much a person has control over the behavior and how confident a person feels about being able to perform or not perform the behavior. It is determined by control beliefs about the power of both situational and internal factors to inhibit or facilitate the performing of the behavior (Figure 1).

## Application to the study

The theory proposes a model which measures how human actions are guided. It predicts the happening of a particular behavior provided that behavior

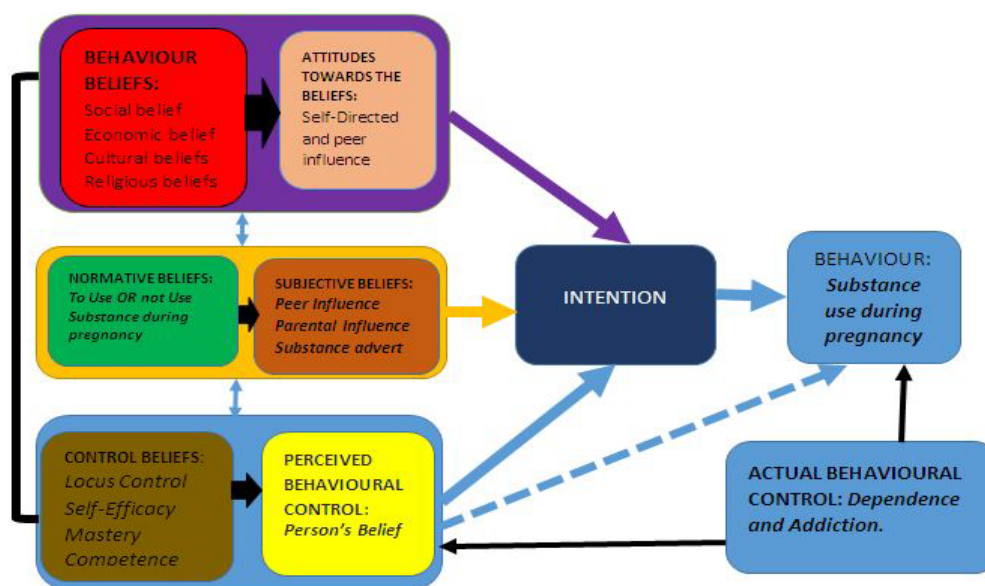


Figure 1. Perceived behavioral control.

is intentional. In other words, the Theory of Planned Behavior is a theory which predicts deliberate behavior, because behavior can be deliberative and planned.

Substance use is based exclusively on an adolescent's decision to engage in the substance specific behaviours. It assumes that human behavior is motivated by intentions. In turn, these decisions are determined by three determinants; namely an individual's attitudes towards a behavior, the subjective norms, and the perceived behavioral control [2]. Social intention, an alternative measure for action suggests an individual to make a conscious judgment or conclusion to execute an action. TPA claims that intentions are affected by women's beliefs regarding the use of psychoactive substances. This presumes that the adolescents hold negative beliefs and perceptions towards psychoactive substance use if the expected benefits of the drug is valued more than the expected cost. By and large, the stronger the intention, the more likely is the person to execute the behavior. For example, socioeconomic background may have impact on the behavior, whether conforming or deviant, it is more likely that the person become economically or socially reinforced. According to TPB, attitude towards the behavior refers to the extent which an individual possesses a positive or a negative feeling about behavior of interest. It entails the consideration of the outcomes of carrying out the behavior. For instance, culture, which is the way a group of people live; may instill values and norms regarding substance use among adolescents and these may be influential in determining student attitude towards substance use. Subjective norms are a person's own estimate of the social pressure to perform the target behavior. Subjective norms are assumed to have two components which work in interaction: belief about how other people, who may be in some way important, would like to behave. In other words, it refers to whether most referents (significant or influential persons such as family members, pastor, best friends) approves or disapproves of their behavior as well as how motivated they are to act in accordance with their expectation [2].

Presuming therefore, pregnant women will feel strong pressure to use substance if they believe rightly or wrongly that important friends and family members endorse their substance use. Another example is the media: an adolescent student may watch a star or celebrity who he or she admires in the media advertising a substance beverage. This student may be motivated to consume the drink that the celebrity is advertising.

Perceived behavioral control signifies an individual's vision about the performance of the behavior [2]. It is mostly guided by self-confidence and esteem. To conclude, the simple assumption of the model is that, the more positive the attitude, supportive subjective norm, and higher the perceived behavioral control, the more likely it is that a person will perform that behavior.

## Materials and Methods

The study adopted a hospital-based descriptive cross-sectional survey design. The study was carried out in five (5) government owned health facilities in Owo Local Government Area. Owo is a city in Ondo State of Nigeria. Between 1400 and 1600 AD, it was the capital of a Yoruba city-state. The local government has a population of 222,262, based on 2006 population census. Owo is situated in south-western Nigeria, at the southern edge of the Yoruba Hills, and at the intersection of roads from Akure, Kabba, Benin City, and Siluko. Owo is situated halfway between the towns of Ile Ife and Benin City. The present-day city is an agricultural center involved in the growing and trade of yams, cassava, maize, okra, peppers, cocoa, and cotton. There are, however, other meaningful commercial activities in the town, including but not limited to: timber and sawmilling, Soya bean processing plants and block making industries. The town is dotted with branches of some of the foremost banks like, First Bank Plc, Wema Bank Plc, Skye Bank Plc, Enterprise Bank Ltd. (formerly Omega Bank Plc), etc. The city is now witnessing a dramatic change due to expansion of its road network, particularly dualisation of the main road beginning from Emure junction up to Iyere exit. A new ultra-modern market is now open in Owo. The town of Owo is home to Achievers University. The target population were pregnant women attending antenatal clinic in selected health facilities in Owo Local Government Area of Ondo State.

The sample size was determined using the single population formula

$$n = Z^2 pq/d^2$$

Where;

n=the desired sample size

Z=1.96 at a confidence interval (CI) of 95%

p=0.438, at 43.8% known prevalence of psychoactive substance use

$$q=1-p=0.825$$

d=desired margin of error tolerated at 5%=0.05

$$n = (1.96^2 \times 0.438 \times 0.562) / (0.05^2) = 221.9 = 378.25$$

Therefore, an estimated sample size of 378 was used for the study.

The researcher adopted a Multistage sampling technique in selecting the study participants. In the first stage, random sampling was used in selecting five (5) primary health centers namely-Comprehensive Health Center, Emure Ile Owo, Basic Health Center, Oke Okogbon, Owo, Comprehensive health center Oke Mapo Owo, Basic Health Center, Ijebu Owo and Basic Health Center, Idahsen Owo. In the second stage, the sample size will be

proportionally allocated to each selected health center based on the estimated number of ANC attendees for the previous six months. Convenience sampling technique was used in selecting the participants for the study.

A self-structured questionnaire was the instrument of data collection., and the first section contained information on socio-demographic characteristics of the respondents, the second section contained information about knowledge of the effects of psychoactive substance use during pregnancy, the third section contained information on pregnant women's perception of the effects of psychoactive substance use, the fourth section contained information on pregnant women's beliefs on psychoactive substances and the fifth section contained information on usage of psychoactive substances among pregnant women. Face and content validity technique was used to ascertain the validity of the research instrument.

### Reliability of research instrument

The reliability of the instrument was determined by test re-test method. The instrument was subjected to test of reliability by administering the questionnaire to a trial group of 20 pregnant women not used in the main study but equivalent to the pregnant women in their characteristics and this was repeated after two weeks among the same women and subjected to Pearson's Product Moment Coefficient Formula with a coefficient index of 0.91.

### Method of data collection

The researcher and five (5) research assistants distributed copies of the questionnaire to the respondents and explained to them how to complete it. Copies of the questionnaire were distributed to the participants through various unit heads. The participants were informed of the voluntariness of participating in the study, and their confidentiality was assured by the absence of identifiers on the questionnaire. The questionnaires were filled and collected immediately.

### Method of data analysis

Data was analyzed using descriptive statistics (frequencies, means and standard deviations) and illustrated using bar charts and frequency tables.

Chi-square was used in analyzing the relationship between variables. The Statistical Package for Social Sciences (IBM SPSS) version 21.0 was used for data analysis.

## Results

The Table 1 below shows sociodemographic characteristics of the respondents. The mean age of the respondents was 35.1 ± 12.12 years. Of the 378 participants, 234 (61.9%) were within the ages of 25 and 44 years; 217 (57.4%) of the respondents were Christians while 161 (42.6%) were Muslims. The majority, 323 (85.4%) were married while only 51 (13.5%) were single. Majority, 318 (84.1%) had at least secondary school education. 153 (40.5%) of the respondents were traders followed by farmers 68 (18%), civil servants 60 (15.9%), artisans 28 (7.4%), and housewives, 21 (5.6%) others accounted for 47 (12.4%).

In another development, the Table 2 shows the respondents' responses on their knowledge of the effects of psychoactive substance use in pregnancy. Majority of the respondents (71.4%) were of the opinion that use of psychoactive substances is harmful during pregnancy and 257 (68%) were aware of the problems associated with the use of psychoactive substances. Of the two hundred and fifty seven participants who were aware of the problems associated with the use of psychoactive substances during pregnancy, most frequently cited consequences of psychoactive substance use in pregnancy were mental disorders or learning disabilities (38.5%), baby addicted/experiences withdrawal (33.5%), miscarriage or premature birth (28.0%), low birth weight and growth problems (25.7%), behavioural problems (19.8%), brain damage (12.1%) and fetal alcohol syndrome (4.7%)

The respondents views on the perceived effects of psychoactive substance use in pregnancy revealed that the majority of them were of the opinion that taking alcohol and other psychoactive substances is harmful to their health (Mean=3.6) and to their baby's health (Mean=3.7) and that all psychoactive substances are harmful during pregnancy (Mean=3.7). However, a significant proportion of the women were of the opinion that drinking alcohol during

Table 1: Sociodemographic characteristics of the respondents.

Variable	Description	Frequency	Percentage (%)
Age	15-24	84	22.2
	25-34	232	61.4
	35-44	62	16.4
	Total	378	100
Religion	Christianity	217	57.4
	Muslim	161	42.6
	Traditional Religion	0	0
	Total	378	100
Marital status	Single	51	13.5
	Married	323	85.4
	Divorced	0	0
	Separated	0	0
	Widowed	4	1.1
	Total	378	100
Educational status	Tertiary	127	33.6
	Secondary	191	50.5
	Primary	56	14.8
	No Formal education	4	1.1
	Total	378	100
Occupation	Housewife	21	5.6
	Civil servant	60	15.9
	Traders	153	40.5
	Farmers	68	18
	Artisans	28	7.4
	Others	47	12.4
	Total	378	100

**Table 2:** Respondents' responses on their knowledge of the effects of psychoactive substance use in pregnancy.

Variable	Frequency	Percentage (%)
Use of psychoactive substances is harmful during pregnancy		
Yes	270	71.4
No	108	28.6
Total	378	100
Aware of the problems associated with the use of psychoactive substances		
Yes	257	68
No	121	32
Total	378	100
*Problems associated with the use of psychoactive substances during pregnancy (n=257)		
Fetal Alcohol Syndrome	12	4.7
Low birth weight and growth problems	66	25.7
Brain damage	31	12.1
Baby addicted/experiences withdrawal	86	33.5
Mental disorders or learning disabilities	99	38.5
Behavioural Problems	72	28
Miscarriage or premature birth	51	19.8
Others	17	6.6

**Table 3:** The respondents views on the perceived effects of psychoactive substance use in pregnancy.

Statement	SA	A	U	D	SD	Total	Mean
Taking of alcohol and other psychoactive substances is harmful to my health	107 (28.3)	109 (28.8)	73 (19.3)	68 (18.0)	21 (5.6)	378 (100)	3.6
Taking of alcohol and other psychoactive substances is harmful to my baby's health	118 (31.2)	122 (32.3)	68 (18.0)	59 (15.6)	11 (2.9)	378 (100)	3.7
All psychoactive substances are harmful during pregnancy	108 (28.6)	129 (34.1)	73 (19.3)	38 (10.1)	30 (7.9)	378 (100)	3.7
Drinking alcohol during pregnancy can lead to lifelong disabilities in a child	97 (25.7)	102 (27.0)	83 (22.0)	55 (14.6)	41 (10.8)	378 (100)	3.4
I won't consider quitting smoking and reducing alcohol intake because of my pregnancy	60 (15.9)	78 (20.6)	73 (19.3)	105 (27.8)	62 (16.4)	378 (100)	3.1
Overall	98 (25.9)	108 (28.6)	74 (19.7)	65 (17.2)	33 (8.7)	1890 (100)	3.5

pregnancy can lead to lifelong disabilities in a child (Mean 3.4). Furthermore, very few of the women were of the opinion that they would consider quitting smoking and reducing alcohol intake because of my pregnancy (Mean=3.1). Overall, more than half 206 (54.9%) of the respondents had positive perceptions (Grand Mean=3.5) on the effects of psychoactive substance use in pregnancy (Table 3).

Also the pregnant women's beliefs regarding the effects of psychoactive substance use during pregnancy. Overall, the women held positive beliefs on the effects of psychoactive substance use in pregnancy (Grand Mean=2.2). However, the women believed that use of some substances enabled them to sleep better during pregnancy (Mean=2.7), some substances helps to relieve nausea and vomiting in early pregnancy (Mean=2.2), and taking of some substances will help my baby (Mean=2.2) (Table 4).

The prevalence of psychoactive substance use among respondents. One hundred and seventy-three (45.8%) of the study participants reported lifetime use of at least one psychoactive substance while 86 (49.7%), 54 (31.2%), 48 (27.7%), 27 (15.6%), 8 (4.6%), and 6 (3.5%) reported lifetime use of alcohol, sedatives/sleeping pills, stimulants (e.g. Kola-nut), opioids (e.g. Tramadol), tobacco (e.g. Cigarette) and marijuana respectively. Others (2.3) reported use of other substances including inhalants. None of the women reported any lifetime use of cocaine and hallucinogens, or any other form of psychoactive substance.

One in four, 89 (23.5%) of the respondents reported current use (within the last 3 months) of at least one psychoactive substance. Alcohol was the most currently used substance with 34 (38.2%) reporting use. This was closely followed by mild stimulants (e.g. Caffeine, kola nut) reported by 23 (25.8%), sedatives/sleeping pills reported by 21 (23.6%) of the women. Opioids (narcotic analgesic) was reported by 7 (7.9%), while tobacco was reported by 3 (3.4%)

each. Some of the women reported the used of inhalants (e.g. Shisha). None of the women reported current use of marijuana, cocaine, and hallucinogens or any other psychoactive substance (Table 5).

The responses on the reasons why women use psychoactive substances. The most common reasons mentioned by the respondents were ignorance about the outcome (93.7%), stress (82.5%), husbands' influence (79.6%), addiction (76.2%), and participating in celebrations or social gatherings (73.5%). Others were immaturity (61.9%), to relieve nausea and vomiting (57.4%), to relieve pain during pregnancy (52.9%), irresponsibility (56.1%), and peer pressure (53.2%). The least mentioned were helps to eat better (47.1%) and cultural beliefs (33.6%) (Figure 2).

**Test of hypothesis**

Ho1: There is no significant relationship between knowledge of the effects and psychoactive substance use.

The result from Table 6 below showed that there is significant relationship between knowledge of the effects and the use of psychoactive substances (P < 0.05). Those with poor knowledge were more likely to report a lifetime use of at least one psychoactive substance.

Ho 2: There is no significant relationship between maternal age and psychoactive substance use.

The result from Table 7 showed that there is significant relationship between maternal age and the use of psychoactive substances (P < 0.05). Younger women were more likely to report a lifetime use of at least one psychoactive substance.

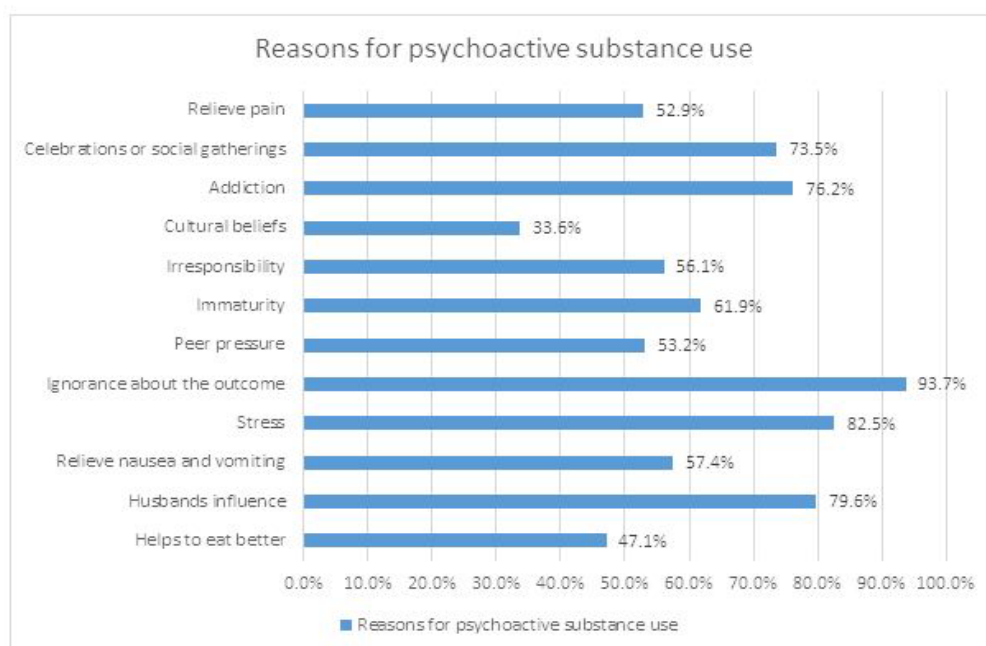
Ho 3: There is no significant association between marital status and psychoactive substance use.

**Table 4:** Pregnant women's beliefs regarding the effects of psychoactive substance use during pregnancy.

Statement	SA	A	U	D	SD	Total	Mean
Use of some substances helps me sleep better	88 (23.3)	72 (19.0)	106 (28.0)	61 (16.1)	51 (13.5)	378 (100)	2.7
Taking of some substances will help my baby	58 (15.3)	86 (22.8)	91 (24.1)	82 (21.7)	61 (16.1)	378 (100)	2.2
My culture allows women to take alcohol and other substances during pregnancy.	78 (20.6)	114 (30.2)	42 (11.1)	83 (22.0)	61 (16.1)	378 (100)	2
Some substances helps to relieve nausea and vomiting in early pregnancy.	28 (7.4)	77 (20.4)	87 (23.0)	99 (26.2)	87 (23.0)	378 (100)	2.2
Use of psychoactive substances help to improve appetite during pregnancy	59 (15.6)	91 (24.1)	30 (7.9)	105 (27.8)	93 (24.6)	378 (100)	2

**Table 5:** Respondents reported current use (within the last 3 months) of at least one psychoactive substance.

Variable	Frequency	Percentage (%)
Used any form of psychoactive substance before		
Yes	173	45.8
No	205	54.2
Total	378	100
*Psychoactive substances previously used (n=173)		
Tobacco	8	4.6
Alcohol	86	49.7
Sedatives (sleeping pills)	54	31.2
Mild stimulants (e.g. caffeine, kola nut)	48	27.7
Opioids (e.g. codeine, morphine, tramadol etc.)	27	15.6
Marijuana (cannabis)	6	3.5
Cocaine	0	0
Others (e.g. inhalants like shisha)	4	2.3
Used any form of psychoactive substance during current pregnancy		
Yes	89	23.5
No	289	76.5
Total	378	100
*Current use of psychoactive substances used (n=89)		
Tobacco	3	3.4
Alcohol	34	38.2
Sedatives (sleeping pills)	21	23.6
Mild stimulants (e.g. caffeine, kola nut)	23	25.8
Opioids (e.g. codeine, morphine, tramadol etc.)	7	7.9
Marijuana (cannabis)	0	0
Cocaine	0	0
Others (e.g. inhalants like shisha)	5	5.6



**Figure 2.** Test of hypothesis.

**Table 6:** Chi-square analysis on the relationship between knowledge of the effects and psychoactive substance use.

Knowledge of the effects of psychoactive substance use	Usage of psychoactive substance		Total	df	X2	P-value
	Yes	No				
Good	100 (38.9%)	157 (61.1%)	257	1	15.21	0.0001*
Poor	73 (60.3%)	48 (39.7%)	121			
Total	173	205	378			

\*Significant at  $\alpha=0.05$ **Table 7:** Chi-square analysis on the relationship between maternal age and psychoactive substance use.

Maternal age	Usage of psychoactive substance		Total	df	X2	P-value
	Yes	No				
15-24	43 (51.2%)	41 (48.8%)	84	2	13.97	0.00092*
25-34	115 (49.6%)	117 (50.4%)	232			
35-44	15 (24.2%)	47 (75.8%)	62			
Total	173	205	378			

\*Significant at  $\alpha=0.05$ **Table 8:** Chi-square analysis on the relationship between marital status and psychoactive substance use.

Marital status	Usage of psychoactive substance		Total	df	X2	P-value
	Yes	No				
Married	85 (39.2%)	132 (60.8%)	217	1	8.93	0.0028*
Unmarried	88 (54.7%)	73 (45.3%)	161			
Total	173	205	378			

\*Significant at  $\alpha=0.05$ 

The result from Table 8 showed that there is significant relationship between the respondent's level of education and the use of psychoactive substances ( $P=0.0028$ ).

## Discussion

Substance use during pregnancy is a major public health issue and a social policy concern. In this current study, the majority (71.4%) were of the opinion that the use of psychoactive substances is harmful during pregnancy. This supports the assertions of Esposito, et al. [8] that majority of women knew that alcohol exposure, smoking, passive smoking and obesity were maternal risk factors during pregnancy. This finding is higher than that reported by Ordinioha et al. [9]. Many of the women (68.0%) appeared familiar with specific outcomes related to psychoactive substance use during pregnancy. The most frequently cited consequences included mental disorders or learning disabilities (38.5%), baby addicted/experiences withdrawal (33.5%), miscarriage or premature birth (28.0%), low birth weight and growth problems (25.7%). Indeed, the results indicate that the majority of women knew that psychoactive substance use were maternal risk factors during pregnancy.

In this current study, the participants had positive perception of the effects of psychoactive substances during pregnancy. Majority of the women were of the opinion that taking alcohol and other psychoactive substances is harmful to their health and their baby's health, all psychoactive substances are harmful during pregnancy and that drinking alcohol during pregnancy can lead to lifelong disabilities in a child. These findings are inconsistent with the findings of Ordinioha, et al. [9] where the respondents were of the opinion that although 92.7% agreed alcohol can affect the unborn child, 16.2% did not agree that the disabilities could be lifelong.

The women believed that use of some substances enabled them to sleep better during pregnancy, relieve nausea and vomiting in early pregnancy and that taking some substances will help my baby. Concurrently, the women reported many reasons for the use of these substances. These included ignorance about the outcome, stress, husbands' influence, addiction, and participating in celebrations or social gatherings. This was in accordance with

the report of pregnant women in Iran that their consumption of illicit drugs were associated with their positive traditional attitude to it. Other reasons were immaturity, to relieve nausea and vomiting, to relieve pain during pregnancy, irresponsibility, and peer pressure (53.2%). There are misconceptions in the general public that taking of some substances e.g. alcohol was to help in the development of their babies. This shows that a woman's partner, her family, and her friends all could act either as strong supporters of the woman's efforts not to use psychoactive substances or as negative influences by pressuring them to drink. This is comparable to the findings of Ordinioha, et al. [9] where societal tolerance and unlimited access to the free alcoholic beverages offered during social and religious functions are the other important reasons for the high proportion of alcohol consumption recorded among the respondents of this study. This ignorance was probably responsible for the persistent use of the alcoholic drinks during pregnancy.

This study found lifetime and current prevalence of psychoactive substance use among pregnant women to be 45.8% and 23.5% respectively. This is consistent with the findings of Ajogbon, et al. [1] in Southwestern Nigeria where 45.4% of the respondents had used at least one psychoactive substance in their lifetime and 16.9% were current users. The drastic reduction in the prevalence of any drug use from 45.8% lifetime to 23.5% current use, may be a reflection of the fact that most pregnant women are likely to stop drug use when aware of being pregnant [1]. This reduction may also be due to their awareness of the deleterious effects of drug use to the unborn child. Alcohol was the most commonly used substance in this study followed by mild stimulants (e.g. caffeine, kola nut), sleeping pills and opioids or narcotic drugs (e.g. codeine, morphine, tramadol etc.). 27.7% of the respondents reported lifetime use of stimulants, while 25.8% reported current use. The use of kola nut is common in Nigeria but more in men than women, so it is not surprising to find some pregnant women using it. Pain medications especially tramadol had been used by 15.6% of the women in their lifetime and 7.9% using currently. This may represent the emergence of another drug of dependence which may be acceptable to pregnant women [1]. The findings from this study raise the novel and exciting possibility that pregnant women abuse a lot of substances and drugs during pregnancy in the developing world as their counter-parts in the developed world. The habit of using drugs, both illicit and licit, during pregnancy, may be underreported due to "guilty feelings" of the pregnant

women, who, anticipating a possible repression and disapproval by the healthcare professional, may deny or underreport her drug use.

The women had many reasons for the use of the substances. These included things like ignorance in 93.7% of the women, to help relieve stress in 82.5%; their husbands wanted them to take in 79.6%; participating in celebrations or social gatherings in 73.5% of the women; the relief of nausea and vomiting in 57.4% of the women; and to improve their appetite and help them eat better in 47.1%; amongst other reasons. About 11.7% of the women, however, had no reason for taking the substances. All women taking kolanuts did so to control the nausea and vomiting associated with early pregnancy. The taking of alcohol, as erroneously believed, was to help in the development of their babies. Positive association was observed between the level of education of the respondents and the use of psychoactive substances ( $P < 0.05$ ). Women with lower level of education were more likely to use psychoactive substances. Conversely women with higher level of education were least likely to use any form of psychoactive substance. This finding agrees with the findings of Peadon, et al. [10] where with higher education levels were more likely to know the effects of alcohol consumption in pregnancy.

### Implications to nursing

The nurse is an essential professional in primary health care to perform and/or follow up the pregnant woman during prenatal care, and therefore professionals who perform prenatal must be trained to detect the use of these substances and to know how to adequately assist these pregnant women, supporting them in their desire to overcome addiction, and not merely judging or orienting regarding the implications of drug use for the woman and the fetus.

The nurse, as a member of the health team and as coordinator of the nursing staff, is qualified to perform the greeting of the pregnant women users of drugs of abuse and must prepare the nursing staff and community health workers to deal with this phenomenon in the community, aimed at the promotion of assistance to health and harm reduction.

### Limitations of study

- ✓ The first is that this study is a cross-sectional survey. Therefore, the directionality of the association between the independent variables and the different outcomes of interest cannot be determined.
- ✓ The second limitation is that data was collected by self-administered questionnaires and the answers could lead to overestimation or underestimation of perceptions and behaviors.

### Conclusion

The level of psychoactive substance use is high in the study population, perhaps fueled by ignorance, stress, husband's influence, addiction and participating in celebrations or social gatherings. Behavioral change communication is required to change the attitude of the public. There is also need to offer pregnant women and those planning a pregnancy information and care at every point of contact with the health system.

### Recommendations

In line with the study findings, the following are recommended:

- ✓ Obstetricians should increase the time dedicated to providing information about these very important topics for the health of women and unborn children.
- ✓ There is a need for the introduction of drug abuse prevention and intervention strategies into maternal and child health services.
- ✓ Health talk rendered to pregnant women should include talk on drug abuse in pregnancy, highlighting the risks of the drug use on the pregnant woman and the fetus.

- ✓ Obstetricians should be sensitized on drug abuse in pregnancy in our environment and to train other health care workers who provide care in the antenatal clinics.

### Suggestions for further studies

- ✓ Future studies should focus on exploring additional factors predisposing to substance use among women in their reproductive years and providing appropriate interventions.
- ✓ Research is needed to study certain categories of psychoactive substance abusers with aim of identifying the specific reasons that made the women engage in these activities and based on specific drugs and also ways to proffer solution to them based on the findings.
- ✓ Additional research is needed to better understand the effect of increased knowledge of the effects of psychoactive substance use among women of reproductive age on the use of psychoactive substances.

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