

# Alcohol Use on Sexual Dysfunction among Expectant Mothers: Case Study of Jos South LGA, Plateau State Nigeria

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**Abstract** - A total of 40 expectant mothers (20, 50% drink alcohol, and 20, 50% don't) participated in this case study; mean age of participants was 27.43. Six hypotheses were analyzed utilizing t-test at 0.05 p-values;

The overall prevalence of sexual dysfunction found was 70.0% (those that don't drink alcohol had higher prevalence of 42.5% compared to those that drink 27.5%). Overall prevalence of desire, arousal, vaginal lubrication, sexual satisfaction and orgasm domains was 20.0%, 25.0%, 32.5%, 22.5%, and 27.5% respectively. Result revealed that sexual dysfunction significantly differ among expectant mothers, expectant mothers that don't drink alcohol have higher mean score ( $M = 1.85, SD = 0.366$ ) than those that drink alcohol ( $M = 1.55, SD = 0.510$ );  $t(38) = 2.135, p = 0.039$ . Also, vaginal lubrication significantly differ among expectant mothers, expectant mothers that don't drink alcohol have higher mean score ( $M = 1.55, SD = 0.510$ ) than those that drink alcohol ( $M = 1.10, SD = 0.308$ );  $t(38) = 3.376, p = 0.002$ . However, sexual desire, arousal, satisfaction and orgasm domains did not significantly differ among expectant mothers that drink alcohol and those that don't. Thus, the researchers conclude that the role of alcohol on female sexual dysfunction is unclear. However, pregnancy seems to be an indicator of sexual dysfunction irrespective of the alcohol status of the expectant mother. Therefore, the researchers recommend that sexual functioning of expectant mothers should be assessed during their antenatal visit.

**Keywords:** alcohol use, sexual dysfunction, expectant mothers, Jos South, Plateau, Nigeria

## I. INTRODUCTION

Female sexual dysfunction is prevalent in all populations and cultures globally (Lema, 2012), and Persistent use of alcohol leads to the onset of sexual dysfunction (Peugh, & Belenko, 2001). African-American women were more likely than white women to report at least moderate sexual desire, while, sexually active Latina women were more likely than white women to report at least moderate sexual satisfaction (Huang, Subak, Thom, Van Den Eeden, Ragins, Kuppermann...Brown, 2009). Witting (2008) discovered that women who drank alcohol prior to intercourse had more arousal, lubrication, and orgasm problems than the women who rarely or never used alcohol. Female alcoholics have

problems in producing enough natural lubrication for pain-free sex (Aluko, Olubobokun, Adekunbi, & Nna, 2014). Alcohol consumption increases subjective sexual desire, arousal, and pleasure for many women, although it lowers physiological arousal (Beckman, & Ackerman, 1995). Repressed sexual desire did not correlate with alcohol, but among women with heavy alcohol drinking inhibited orgasm and sexual excitement were mostly reported (Johnson, Phelps, & Cottler, 2004). Absence of orgasm was found among 64% alcoholic women with only 27% of non alcoholic women (Bijil & Vivek, 2007). Contrarily, Kontula, and Miettinen, (2016) discovered that association was not found between moderate alcohol use and frequency of orgasm. Also, McCool-Myers, Theurich, Zuelke, Knuettel, and Apfelbacher (2018) reported that alcohol consumption had an unclear effect on female sexual dysfunction.

Among rural Chinese women, Lau, Cheng, Wang & Yang (2006) found that, 25 % had desire disorders, 26% had arousal disorder, 27% pain disorders and 37% orgasmic disorder. Similarly, among women seeking primary health care in Nigeria, 39% had desire problem, 40% had arousal problem, and 31% had sex pain problem and 55% orgasmic problem (Ojomu, Thacher, & Obadofin, 2007). In a university community in Enugu state, Nigeria, Nwagha, Oguanuo, Ekwuazi, Olubobokun, Nwagha, Onyebuchi, Ezeonu, and Nwadike, (2014) reported the prevalence of 53.3% female sexual dysfunction. Guendler, Katz, Flamini, Lemos and Amarin (2019) reported that decrease in the frequency of sexual activity was found among 64.9% women during pregnancy. The frequency of sexual dysfunction increases with pregnancy rising from 5.7% to 58.8% and pain during intercourse was reported by 45.8%.

Prevalence of sexual dysfunction is high during pregnancy and reaches higher levels in the third trimester in both teenagers and adults age groups. The sexual dysfunction among pregnant teenagers was rated 40.8% in the first trimester, 31.2% in the second and 63.2% in the third trimesters. For pregnant adults, the dysfunction was rated, respectively, 46.6%, 34.2% and 73.3% (Leite, Campos, Dias, Amed, De Souza & Camano, 2009). Cicek, and Gungormus

(2018) reports that sexual dysfunctions among pregnant women were moderate. In another study on the prevalence of sexual dysfunction among expectant women, Monteiro, Lucena, Cabral, Filho, Queiroz and Gonçalves (2016) found that approximately two-thirds of the women (66.7%) showed signs of risk of sexual dysfunction. Within these cases, all sexual dysfunction domains (desire, arousal, lubrication, orgasm, satisfaction, and pain) were found to be statistically significant. Desire, satisfaction and arousal were the domains most affected.

Among pregnant women, prevalence of sexual dysfunction was found to be 87%. The rate of sexual dysfunction was higher in the first (87%) and third (92.6%) trimesters when compared to the second (80.6%) trimester (Küçükdurmaz, Malkoc, Kolus, Amasyal, & Resim, 2016). Recently in a study in Kano state Nigeria, Abdullahi, Abdurrahman, Ahmed, Tukur (2019) found the prevalence of female sexual dysfunction to be 86.0%, with desire disorder as the most prevalent occurring in (91.8%), followed by disorders of lubrication (84.8%), arousal (80.7%), pain (66.4%), orgasm (41.5%) and satisfaction (31.6%). In a study among 300 newly married women in Iran, Alimohammadi, Zarei, and Mirgha fourvand (2018) discovered that 66% of the women had sexual dysfunction. The frequency of sexual dysfunction was 33% for arousal, 31% for pain, 28.7% for desire, 23% for satisfaction, 3% for vaginal lubrication, and 16.3% for orgasm dimensions. About two-thirds of women in their early years of marriage had sexual dysfunction. Among women in a Nigerian gynecological outpatients unit, most (85.6%) respondents had at least one form of sexual dysfunction. The commonest dysfunction was arousal sensation (62.4%) while the least was pain (3.4%) (Ogunbode, Aimakhu, Ogunbode, Adebusoye, & Owonikoko, 2019). Pregnancy appears to be an important causative factor of sexual dysfunction among pregnant women (Monteiro, et al (2016). Similarly, Anzaku, Ogbu, Ogbu, Edem, and Ngwan, (2016) reported that pregnancy is associated with decline in all domains of female sexual response cycle among women during pregnancy in Jos Nigeria.

According to social stress theory of sexual dysfunction emotional and stress-related problems generate elevated risk of experiencing sexual difficulty (Laumann, Paik, & Rosen 1999). Furthermore, the dual control model posits that sexual response depends on a balance between excitatory and inhibitory mechanisms in the brain, and that there is wide variation in individual propensity for both excitation and inhibition (Bancroft & Janssen, 2000). While, the 'New view' of women's sexual problem rejects the notion that sexual experience has a universal set of stages (i. e. desire, arousal, orgasm) and that there is therefore a standard and normative set of dysfunctions. Instead it recognises diseases as socially created labels, views problems as non-medical as well as medical, and seeks to provide a person-centred conceptualisation of sexual difficulties (Tiefer, 1996). Therefore, this present study is based on the New View theory

of women sexual problem; conceptualization of sexual dysfunction among the expectant mothers is person-centred, even though all participants in the study are pregnant women. However, the challenges and experiences that come with pregnancy vary among them depending on the individuals experience or situation.

Pregnancy comes with different challenges and complications depending on the individual. In the course of clinical practice some expectant mothers that drink alcohol reported that alcohol increase their libido whenever they are pregnant while others reported that alcohol does not increase their libido whenever they are pregnant. Therefore, this study is aimed at studying the role of alcohol use on sexual dysfunction among expectant mothers in Jos South Local Government Area of Plateau state Nigeria. Therefore, it is hypothesized that,

1. Sexual dysfunction may significantly differ between expectant mothers that use alcohol and those that don't.
2. Sexual desire may significantly differ between expectant mothers that use alcohol and those that don't.
3. Sexual arousal may significantly differ between expectant mothers that use alcohol and those that don't.
4. Vaginal lubrication may significantly differ between expectant mothers that use alcohol and those that don't.
5. Sexual satisfaction may significantly differ between expectant mothers that use alcohol and those that don't.
6. Orgasm may significantly differ between expectant mothers that use alcohol and those that don't.

## II. METHOD

### *Design/sampling technique*

This study utilized a case study of expectant mothers drawn from a Private Hospital and a Primary Health Care Clinic in Jos South Local Government Area of Plateau state Nigeria. Purposive sampling technique was utilized in selecting participants of interest that participated in this study.

### *Participants*

The total of 40 expectant mothers participated in this case study (20, 50% use alcohol, and 20, 50% don't); the minimum age of participants was 18 while the maximum age was 42 with mean age of 27.43. Majority 34 (85%) of the women were married between 1 and 10 years, only 6 (15%) were married 11 years and above. In terms of religious affiliation, majority 32 (80%) were Christians, only 8 (20%) were Muslims. Most 21 (52.5%) of the expectant mothers were in their third trimester, followed by 12 (30.0%) that were in their first trimester, only 7(17.5%) were in their second trimester.

### Instrument

#### Arizona Sexual Experience Scale (ASEX)

McGahuey, Gelenberg, Laukes, Moreno, Delgado, McKnight, and Manber, (2000) developed the Arizona Sexual Experiences Scale (ASEX), a five-item rating scale that quantifies sex drive, arousal, vaginal lubrication/penile erection, ability to reach orgasm, and satisfaction from orgasm. Possible total scores range from 5 to 30, low scores represent normal sexual function and high scores represent the presence of sexual dysfunction, while extremely low scores could also represent sexual dysfunction (i.e., hyperfunction). The scale was designed to determine whether sexual dysfunction was present and to what degree. Results from Cronbach's alpha analysis indicated that the ASEX demonstrated excellent internal consistency and scale reliability ( $\alpha = .905$ ). The ASEX also demonstrated strong test-retest reliability (for patients,  $r = .801$  and for controls,  $r = .892$  (McGahuey, et al, 2000).

#### FAST Alcohol Screening Test

The development of the FAST questionnaire was based on the belief that the Alcohol Use Disorder Identification Test is an excellent screening instrument but that in busy settings not all of the items are required. The FAST questionnaire is quick to administer, it's a four-item questionnaire. The strength of the inter-correlations between the four items demonstrated good reliability. Chronbach's alpha = 0.77, a measure of test-retest reliability demonstrated high reliability of 0.81 (Hodgson, Alwyn, John, Thom & Smith, 2002).

#### Ethical clearance

The researchers obtained ethical clearance from the Superintendent of the Private Hospital and the Director of Health Jos South LGA, Plateau state Nigeria. However, each participant consented to participate in the study individually. Purpose of the study was communicated to participants, their privacy and confidentiality was ensured. Participants were also informed that they are free to discontinue from the study at anytime they wish as participation is voluntary.

#### Procedure

Participants of interest in this study were drawn from a Private Hospital and a Primary Health Care Clinic in Jos South LGA of Plateau state, Nigeria. Participants of interest were purposively selected, only those that consent to participate were included in the study. Instruments of data collection was administered to participants of interest after their antenatal clinic, the process of data collection lasted for a period of three weeks; data was collected only on antenatal clinic days of the respective hospitals. Participants that met the inclusion criteria were separated into two groups (expectant mothers that use alcohol and those that don't use alcohol). Both Arizona Sexual Experience Scale and FAST Alcohol Screening Test were administered to both groups in order to avoid discrimination and stigmatization of those that use

alcohol. On the FAST Alcohol Screening Test participants that don't drink alcohol responded "Never" to all items which gives the total of "0" point when scoring. However, on the socio-demographic section of the questionnaire, participants responded to the question "Do you drink alcohol Yes/No"

### III. RESULT

Table 1: Prevalence of Sexual Dysfunction among Expectant Mothers

	Normal sexual functioning	Sexual dysfunction	Total (n=40)
<b>Overall prevalence of sexual dysfunction</b>			
Those that drink alcohol	9(22.5%)	11(27.5%)	20
Those that don't drink alcohol	3(7.5%)	17(42.5%)	20
Total	12(30.0%)	28(70.0%)	40
<b>Desire</b>			
Those that drink alcohol	15(37.5%)	5(12.5%)	20
Those that don't drink alcohol	17(42.5%)	3(7.5%)	20
Total	32(80.0%)	8(20.0%)	40
<b>Arousal</b>			
Those that drink alcohol	15(37.5%)	5(12.5%)	20
Those that don't drink alcohol	15(37.5%)	5(12.5%)	20
Total	30(75.0%)	10(25.0%)	40
<b>Vaginal Lubrication</b>			
Those that drink alcohol	18(45.0%)	2(5.0%)	20
Those that don't drink alcohol	9(22.5%)	11(27.5)	20
Total	27(67.5%)	13(32.5%)	40
<b>Sexual Satisfaction</b>			
Those that drink alcohol	18(45.0%)	2(5.0%)	20
Those that don't drink alcohol	13(32.5%)	7(17.5%)	20
Total	31(77.5%)	9(22.5%)	40
<b>Orgasm</b>			
Those that drink alcohol	16(40.0%)	4(10.0%)	20
Those that don't drink alcohol	13(32.5%)	7(17.5%)	20
Total	29(72.5%)	11(27.5%)	40

Result of table 1 showed that the overall prevalence of sexual dysfunction was 28(70.0%), with expectant mothers that don't drink alcohol having higher prevalence of 17(42.5%) compared to those that drink alcohol with prevalence of 11(27.5%). Based on the different domains of ASEX scale, expectant mothers that drink alcohol 5(12.5%) have higher prevalence of sexual desire dysfunction. In relation to arousal domain expectant mothers that drink alcohol 5(12.5%) and those that don't drink 5(12.5%) have similar prevalence of sexual arousal dysfunction. Those that don't drink alcohol 11(27.5%) have higher prevalence of vaginal lubrication dysfunction. Similarly, 7(17.5%) of those that don't drink

alcohol have higher prevalence of sexual satisfaction dysfunction. Also, expectant mothers that don't drink alcohol 7(17.5%) have higher prevalence of orgasm dysfunction.

Table 2: Independent t-test for the difference of Sexual Dysfunction between Expectant Mothers that drink Alcohol and those that don't

Group	Mean	Standard deviation	t	df	P-value
Those that drink alcohol	1.55	0.510			
			2.135	38	0.039
Those that don't drink alcohol	1.85	0.366			

An independent t-test was conducted to determine whether sexual dysfunction significantly differ among expectant mothers that drink alcohol and those that don't. There was a significant difference in the mean scores for those that don't drink alcohol (M = 1.85, SD = 0.366) and those that drink alcohol (M = 1.55, SD = 0.510) conditions;  $t(38) = 2.135, p = 0.039$ . These results suggest sexual dysfunction significantly differ among expectant mothers, expectant mothers that don't drink alcohol have higher mean score than those that drink alcohol.

Table 3: Independent t-test for the difference of Sexual Desire between Expectant Mothers that drink Alcohol and those that don't

Group	Mean	Standard deviation	t	df	P-value
Those that drink alcohol	1.25	0.444			
			-0.777	38	0.442
Those that don't drink alcohol	1.15	0.366			

An independent t-test was conducted to determine whether sexual desire significantly differ between expectant mothers that drink alcohol and those that don't. There was no significant difference in the mean scores for those that drink alcohol (M = 1.25, SD = 0.444) and those that don't (M = 1.15, SD = 0.366) conditions;  $t(38) = -0.777, p = 0.442$ . These results suggest sexual desire did not significantly differ between expectant mothers that drink alcohol and those that don't.

Table 4: Independent t-test for the difference of Sexual Arousal between Expectant Mothers that drink Alcohol and those that don't

Group	Mean	Standard deviation	t	df	P-value
Those that drink alcohol	1.30	0.470			
			.330	38	0.744
Those that don't drink alcohol	1.35	0.489			

An independent t-test was conducted to determine whether sexual arousal significantly differ between expectant mothers that drink alcohol and those that don't. There was no significant difference in the mean scores for those that drink

alcohol (M = 1.30, SD = 0.470) and those that don't (M = 1.35, SD = 0.489) conditions;  $t(38) = 0.330, p = 0.744$ . These results suggest sexual arousal did not significantly differ between expectant mothers that drink alcohol and those that don't.

Table 5: Independent t-test for the difference of Vaginal Lubrication between Expectant Mothers that drink Alcohol and those that don't

Group	Mean	Standard deviation	T	df	P-value
Those that drink alcohol	1.10	0.308			
			3.376	38	0.002
Those that don't drink alcohol	1.55	0.510			

An independent t-test was conducted to determine whether vaginal lubrication significantly differ among expectant mothers that drink alcohol and those that don't. There was significant difference in the mean scores for those that drink alcohol (M = 1.10, SD = 0.308) and those that don't (M = 1.55, SD = 0.510) conditions;  $t(38) = 3.376, p = 0.002$ . These results suggest vaginal lubrication significantly differ among expectant mothers, expectant mothers that don't drink alcohol have higher mean score than those that drink alcohol.

Table 6: Independent t-test for the difference of Sexual Satisfaction between Expectant Mothers that drink Alcohol and those that don't

Group	Mean	Standard deviation	t	df	P-value
Those that drink alcohol	1.10	0.308			
			1.934	38	0.061
Those that don't drink alcohol	1.35	0.489			

An independent t-test was conducted to determine whether sexual satisfaction significantly differ among expectant mothers that drink alcohol and those that don't. There was no significant difference in the mean scores for those that drink alcohol (M = 1.10, SD = 0.308) and those that don't (M = 1.35, SD = 0.489) conditions;  $t(38) = 1.934, p = 0.061$ . These results suggest sexual satisfaction did not significantly differ between expectant mothers drink alcohol and those that don't.

Table 7: Independent t-test for the difference of Orgasm between Expectant Mothers that drink Alcohol and those that don't

Group	Mean	Standard deviation	T	df	P-value
Those that drink alcohol	1.20	0.410			
			1.050	38	0.300
Those that don't drink alcohol	1.35	0.489			

An independent t-test was conducted to determine whether orgasm significantly differ among expectant mothers that drink alcohol and those that don't. There was no significant difference in the mean scores for those that drink alcohol (M = 1.20, SD = 0.410) and those that don't (M = 1.35, SD = 0.489)

conditions;  $t(38) = 1.050$ ,  $p = 0.300$ . These results suggest orgasm did not significantly differ between expectant mothers that drink alcohol and those that don't.

#### IV. DISCUSSION

Finding of this study revealed that sexual dysfunction significantly differ between expectant mothers, expectant mothers that don't drink alcohol have higher mean score than those that drink alcohol. Supporting findings of hypothesis one, result of table 1 showed that the overall prevalence of sexual dysfunction among the study participants was 70.0%, with expectant mothers that don't drink alcohol having higher prevalence of 42.5% compared to those that drink alcohol with prevalence of 27.5%. Leite et al (2009) reported that prevalence of sexual dysfunction is high during pregnancy. Also, Monteiro et al (2016) found that two-thirds of expectant mothers in their study showed risk of sexual dysfunction. Cicek, and Gungormus (2018) reported moderate sexual dysfunction among pregnant women. Findings by Leite et al (2009), Monteiro et al (2016) and Cicek and Gungormus (2018) explain why expectant mothers that don't drink alcohol had higher mean score and prevalence than those that drink alcohol. This implies that pregnancy is a likely factor that predicts sexual dysfunction among women.

Result of the second hypothesis showed that sexual desire did not significantly differ between expectant mothers that drink alcohol and those that don't. However, result of table 1 showed that the overall prevalence of sexual desire dysfunction was 20.0% with expectant mothers that drink alcohol having higher prevalence of 12.5% compared to those that don't with prevalence of 7.5%. Earlier, Johnson et al (2004) reported that repressed sexual desire did not correlate with alcohol. Findings of hypothesis three showed that sexual arousal did not significantly differ between expectant mothers that drink alcohol and those that don't. The prevalence of 25.0% was found for sexual arousal dysfunction, expectant mothers that drink alcohol have prevalence of 12.5%, and similarly those that don't drink alcohol have prevalence of 12.5%. Beckman, and Ackerman, (1995) reported that alcohol consumption lowers physiological sexual arousal in women, although it increases subjective sexual desire arousal and pleasure for many women. Result of the fourth hypothesis revealed that vaginal lubrication significantly differ among expectant mothers that drink alcohol and those that don't, expectant mothers that don't drink alcohol have higher mean score and prevalence than those that drink alcohol. Result of table 1 showed that majority 27.5% of those with vaginal lubrication dysfunction were expectant mothers that don't drink alcohol. Only 5.0% of those that drink alcohol had vaginal lubrication dysfunction. The overall prevalence of vaginal lubrication dysfunction was 32.5%. Abdullahi et al (2019) found prevalence of 84.8% lubrication dysfunction among women. Guendler et al (2019) reported that decrease in the frequency of sexual activity was found among 64.9% women during pregnancy. While the frequency of sexual dysfunction increases with pregnancy rising from 5.7% to

58.8%. Monteiro et al (2016) discovered that among two-third women all sexual dysfunction domains (desire, arousal, lubrication, orgasm, satisfaction, and pain) were statistically significant.

Result of the fifth hypothesis showed that sexual satisfaction did not significantly differ between expectant mothers that drink alcohol and those that don't. However, overall prevalence of sexual satisfaction found was 22.5% out of which 17.5% prevalence was found among expectant mothers that don't drink alcohol with only 5.0% prevalence among expectant mothers that drink alcohol. McCool-Myers, et al (2018) had earlier reported that alcohol consumption had an unclear effect on female sexual dysfunction. Finally result of the sixth hypothesis suggests that orgasm dysfunction did not significantly differ between expectant mothers that drink alcohol and those that don't. Similarly, Kontula, and Miettinen, (2016) did not find association between moderate alcohol use and frequency of orgasm. Contrarily, Bijil and Vivek (2007) reported that absence of orgasm was found among 64% alcoholic women with only 27% of non alcoholic women. McCool-Myers et al (2018) conclude that alcohol has an unclear effect on female sexual dysfunction. Thus, conclusion by McCool-Myers et al (2018) explains why expectant mothers that drink alcohol did not have higher prevalence of sexual dysfunction in all domains of ASEX than expectant mothers that don't drink alcohol. Furthermore, Leite et al (2009); Monteiro et al (2016); Küçükduymaz et al (2016) and Ogunbode et al (2019) reported higher prevalence of female sexual dysfunction among pregnant women. Also, the New View of women sexual problem rejects the notion that sexual experience has a universal set of stages (i. e. desire, arousal, orgasm). The theory recognizes disease as socially created labels and views problems as non-medical as well as medical, also conceptualization of sexual difficulty is person-centred (Tiefer, 1996). This implies that since sexual difficulty is person-centred other factors should be considered in future studies among pregnant women beyond alcohol.

#### V. CONCLUSION

Findings of this study showed that sexual dysfunction significantly differ among expectant mothers with expectant mothers that don't drink alcohol having higher mean score than those that drink alcohol. Similarly, vaginal lubrication significantly differ among expectant mothers, expectant mothers that don't drink alcohol have higher mean score than those that drink alcohol. However, sexual desire, sexual arousal, sexual satisfaction and orgasm domains did not significantly differ between expectant mothers that use alcohol and those that don't. Thus, the researchers conclude that the role of alcohol on female sexual dysfunction among pregnant women is unclear. However, pregnancy seems to be an indicator of sexual dysfunction irrespective of the alcohol status of the expectant mother. Therefore, the researchers recommend that sexual functioning of expectant mothers should be assessed during their antenatal visit.

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