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DIPLOMA PROGRAMMES

PREVALENCE AND ASSOCIATED FACTORS OF ALCOHOL USE AMONG PREGNANT WOMEN ATTENDING ANTENATAL AT ZONGO CLINIC, BEREKUM

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2024

DECLARATION

We hereby declare that this submission is our own work towards the Diploma in General Nursing and that, to the best of our knowledge, it contains no material previously published by another person nor material which has been accepted for the award of diploma of the University, except where due acknowledgement has been made in the text.

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I

ABSTRACT

Purpose: The study aims to find out the effects of alcohol abuse among pregnant women attending antenatal at Zongo Clinic, Berekum.

Methodology: An institutional-based descriptive cross-sectional study design was adopted. Simple random sampling technique was used in the selection of the participants during the data collection period. A total of one hundred and ninety-seven respondents were selected. A semi structured questionnaire will be used as the primary method of data collection.

Finding: The results showed that 18 (9.14%) use alcohol during pregnancy. Nearly half of them (44.44%) drank alcohol during pregnancy to boost or increase their appetite for meals. Over twenty percent (27.78%) of the respondents drank alcohol because of they want to be happy or socialize. Vast majority (90.36%) of the respondents agreed that alcohol consumption during pregnancy can affect the child. Most (40.10%) about the effects of alcohol on the fetus. Majority (54.43%) of them received information from health professionals. Regarding prevention of alcohol consumption, A whopping 89.34% of the respondents agreed that labels of alcoholic beverages should warn intake of alcohol during pregnancy.

Conclusion: A significant number of the participants use alcohol during pregnancy as the prevalence of alcohol consumption during pregnancy was 9.14%. Knowledge regarding effects of alcohol consumption on the fetus was high. Respondents gave several reasons for alcohol use such as appetizer.

Recommendation: It is recommended that health education with focus on effects of alcohol use on the fetus be strengthened in Antenatal care units of various health facilities to give more information to pregnant mothers.

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ABBREVIATIONS AND ACRONYMS

ANC	Antenatal Care
AUDIT	Alcohol Use Disorders Identification Test
FAS	Fetal Alcohol Syndrome
FASD	Fetal Alcohol Spectrum Disorder
GSS	Ghana Statistical Service
IUGR	Intrauterine Growth Restriction
T-ACE	Traditional Alcohol Screening Test
TWEAK	Tolerance Worried Eye-Opener Amnesia Cut down
WHO	World Health Organization

ACKNOWLEDGEMENT

They say, for not knowing him that should be left out of academic matters. But we testify to the reality of His existence. Not believing in God is also a belief in its sense. Why then should that belief superimpose on our belief? Leaving Him out of this is a contradiction to our conscience which suggests a failure. Thus, we give all the glory and honor to the Almighty We are very much thankful to Miss Monica Boakye, our research supervisor for her envious guidance, direction, patience and decorum.

Special thanks is also extended to students who participated in this study. We also extend our gratitude to the Holy Family Nursing and Midwifery Training College, Berekum, for granting us the clearance to conduct the study.

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CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Alcohol readily crosses the placenta with fetal blood alcohol levels approaching maternal levels within 2 hours of maternal intake. As there is known safe level of alcohol consumption during pregnancy, and alcohol is a known teratogen that can impact fetal growth and development during all stages of pregnancy (Dejong et al., 2019). Alcohol is a known teratogen, i.e. an agent capable of disturbing the development of an embryo or fetus and cause malformations. Trough disturbance of the fetal development alcohol can cause a spectrum of adverse effects ranging from minor to severe (Skagerström, 2015). However, many women consume alcohol in pregnancy even after learning they are pregnant (Popova et al., 2018).

Globally, approximately 10% of women in the general population consume alcohol in pregnancy, although the European region has the highest rate of consumption (25%) (Popova et al., 2018). Children with Fetal Alcohol Syndrome (FAS) have characteristic facial features (small palpebral fissures, smooth philtrum and thin vermillion border of the upper lip), prenatal and/or postnatal growth retardation, and central nervous system structural and/or functional abnormalities. Partial FAS, Alcohol Related Neurodevelopmental Disorder (ARND) and Alcohol Related Birth Defects (ARBD) are other diagnoses covered by Fetal Alcohol Spectrum Disorder (FASD) (CDC, 2022).

Alcohol is the most used substance by women of childbearing age. Alcohol exposed pregnancies can have serious consequences to the fetus, and the UK has one of the highest

rates of drinking during pregnancy. Alcohol use during motherhood is also a public health concern, linked with potential harms to the woman and child (Gomez et al., 2022).

Alcohol use during pregnancy has been linked to pre term births (PTB), stillbirths, low birth weight (LBW) several birth defects and developmental disabilities known as Fetal Alcohol Spectrum Disorders (FASD) (Peadon et al., 2017). To-date, the World Health Organization recommends that pregnant women should completely abstain from alcohol as no amount of alcohol is considered safe for pregnancy (World Health Organization, 2018). Despite such recommendations Alcohol use among women in Africa is not uncommon (Agiresaasi et al., 2021).

The use of alcohol by women has increased over time, and a large proportion of women in the WHO European Region and the European Union (EU) drink alcohol. The potential harm to the fetus caused by drinking in pregnancy is a public health concern in the Region, particularly as almost half of all pregnancies are unplanned and are, therefore, at higher risk from inadvertent alcohol exposure. Risks from alcohol exposure in pregnancy include miscarriage, preterm birth and fetal alcohol spectrum disorders (Schölin, 2019).

The proportion of women who continue to drink during pregnancy varies between countries. A study showed a high prevalence of alcohol use during pregnancy (ranging from 20% to 80% in Ireland), from 40% upwards in the UK, Australia and New Zealand. High levels of binge drinking during pregnancy was found in Ireland (O'Keeffe et al., 2015).

Alcohol and drugs consumption can interfere with the absorption of nutrients, impairing the quality and quantity of proper nutrient and energy intake, resulting in malnutrition especially of micronutrients (vitamins, omega–3, folic acid, zinc, choline, iron, copper, selenium). When maternal nutritional status is compromised by alcohol and drugs of abuse the supply of essential nutrients are not available for the fetus; this can result in fetal abnormalities like

Intrauterine Growth Restriction (IUGR) or Fetal Alcohol Spectrum Disorder (FASD) (Sebastiani et al., 2018).

A study among four Sub-Saharan African countries (Burundi, Ethiopia, Liberia, and Zimbabwe) reported that the overall prevalence of alcohol use during pregnancy was 22.8%. Alcohol drinking during pregnancy was high among pregnant women in sub-Saharan African countries. The prevalence of alcohol consumption among pregnant mothers was high in Burundi (32.4%) and low in Zimbabwe (3 %%). The proportion of mothers who drink alcohol during pregnancy is higher among older age groups (35–49) years. Additionally, the proportion of alcohol drinking is higher (27.4%) among mothers who hadn't formal educational attainment as compared to mothers who were taking part in formal education. In addition to the aforementioned factors, the proportion of pregnant mothers who drank alcohol was higher among single mothers as compared to married ones (Mulat et al., 2022).

Factors associated with alcohol consumption among pregnant women in Sub-Saharan Africa includes intimate partner violence, null parity, current tobacco smoking and use of other substances like Khat, cocaine, and marijuana during pregnancy, previous alcohol and other substance use when they were not pregnant, and having chronic medical and mental illness were also important predictors of maternal alcohol consumption (Addila et al., 2021b).

A study in South Africa reported that an overall 13% of mothers reported hazardous alcohol use. Recent exposure to intimate partner violence (adjusted odds ratio confidence interval and hazardous tobacco use were significant correlates of hazardous alcohol use. After controlling for potential psychosocial confounders, hazardous alcohol use remained associated with lower infant weight-for-age, height-for-age, and head-circumference-for-age (Myers et al., 2018).

An Ethiopian study revealed that there is an increasing risk of adverse birth outcomes, particularly preterm delivery and low birth weight, with increasing levels of alcohol intake. This result showed that the prevention of maternal alcohol use during pregnancy has the potential to reduce low birth weight and preterm birth. Hence, screening women for alcohol use during antenatal care visits and providing advice with rigorous follow-up of women who used alcohol may save the fetus from the potential risks of adverse birth outcomes (Addila et al., 2021a).

A study conducted in the rural district in Tete, Mozambique reported that the prevalence of alcohol consumption during pregnancy was 85.9%. The survey significantly reveals a high prevalence of alcohol consumption among pregnant women who attended antenatal care in Chitima. Maternal age and religion were the variables that have some significant association with alcohol consumption during pregnancy (Xavier et al., 2022).

A study in the South-Eastern part of Nigeria found that prevalence of alcohol consumption during pregnancy among women in Enugu, South-Eastern Nigeria is high (22.6%) and lack of awareness of harmful effect of alcohol on fetus was a major predictor. The most common brand of alcoholic beverage consumed was stout beer (62.8%) (Onwuka et al., 2016).

Alcohol use generally among women in Ghana is gradually increasing due to the publicity that is given to alcoholic beverages in the media in recent times and this drinking behaviour among the women population sometimes makes it difficult for some women to even quit drinking when they conceive since alcohol is an addictive substance (Michael, 2016).

A recent study in the Bosomtwe district found that 20.4% of pregnant women drank alcoholic beverage of which the most preferred drink was Akpeteshie (36.4%), a locally brewed or distilled alcoholic beverage followed by the liqueurs (Ginseng, Kasapreko - 27.3%). Study participants drank an average of ‘half-tot’ (15 mls) of akpeteshie and ‘one-tot’-30mls of

liqueurs per a drinking session respectively. They usually drank at home and before meals (Adusi-Poku et al., 2018).

The word “Asram” is a commonly used term in Ghana which applies loosely to any child born with cognitive or physical defects. Initially, the babies are small for gestational age and have difficulty in surviving. “Asram” is attributed by some individuals to an “evil eye” cast on the mother during the period of pregnancy. Some mothers hide their pregnancies from people they believe could harm the foetus who transfer “Asram” by spiritual means. Could drinking these alcohols in pregnancy be associated with “Asram”? It may be that foetal Alcohol Syndrome may clearly be what is being referred to as “Asram” (Adusi-Poku et al., 2018). Alcohol drinking during pregnancy is towering despite the well-established proof of its unfavorable pregnancy results and destitute child improvement. Despite such enormous consequences, there are limited data that explore the extent of alcohol drinking and its associated factors among mothers during pregnancy (Mulat et al., 2022). Given the increasing prevalence of alcohol use during pregnancy, there is a need for understanding factors associated with alcohol use among pregnant women attending antenatal at Zongo Clinic, Berekum.

1.1 Problem Statement

Alcohol is a known teratogen and associated with a range of adverse outcomes for pregnant women and children exposed in utero (Scott & Sher, 2023). Alcohol consumption during pregnancy is a major public health concern due to its noxious effect on both the mother and fetus (Mbadugha et al., 2022). Alcohol exposure in pregnancy is a common and modifiable risk factor for poor pregnancy and child outcomes. Alcohol exposure in pregnancy can cause a range of physical and neurodevelopmental problems in the child including the Fetal Alcohol Spectrum Disorders (FASD) (Peadon et al., 2017).

Given that there is no known safe level of alcohol consumption in pregnancy, the Public Health Agency of Canada, the Centre for Addiction and Mental Health, and Peel Public Health encourage pregnant women to abstain from alcohol during their pregnancy. Specifically, the Family Health Division in Peel Public Health promotes alcohol abstinence prior to and during pregnancy through a continuum of health promotion strategies, including social marketing campaigns and health education to pregnant clients and their families (Kusi et al., 2019).

Alcohol consumption during pregnancy in Ghana cannot be disputed, some pregnant women still consume alcohol even as they become aware of their pregnancy. It still remains a fact that some of those pregnant women who consume alcohol during pregnancy are ignorant about the adverse effect of alcohol on the developing fetus. It was reported that, in the Bosomtwe district of Ghana, 45% of pregnant women did not know about the detrimental effects of alcohol on the fetus (Adusi-Poku et al., 2012).

Anecdotal evidence points out that Odumase in the Sunyani West municipality forms part of the larger communities in Ghana where locally distilled alcohol 'Akpeteshie' is largely produced and alcohol is served mostly during social gatherings within the municipality. Most pregnant women verbalize taking alcohol during book and interactions during antenatal attendance. Little has been done as a nation in taking the step to educating women adequately on the effect of alcohol consumption on the development of the fetus. It is for this reason that, this study will seek to find out the effects of alcohol abuse among pregnant women attending antenatal at Zongo Clinic, Berekum.

1.2 General objective

The main objective of the study will be to find out the effects of alcohol abuse among pregnant women attending antenatal at Zongo Clinic, Berekum.

1.3 Specific Objectives

Objectives of this study will include:

1. to investigate the prevalence of alcohol consumption among the pregnant women.
2. to find out the factors influencing the intake of alcohol among the pregnant women.
3. to determine the knowledge of the pregnant women on the effects of alcohol consumption.

1.5 Operational Definition of Terms

Alcohol consumption: Having a drink containing alcohol during pregnancy or upon pregnancy recognition.

Knowledge: Knowledge refers to one's understanding of the harmful effects of alcohol use during pregnancy and the outcomes on the fetus.

Prevalence: refers to the number of pregnant women who use alcohol before and during pregnancy

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews related literature on the works done by earlier researchers on effects of alcohol abuse amongst pregnant women. The chapter explored a wide range of literature relevant to the topic under study.

2.1 Prevalence of Alcohol Consumption

A study conducted in Japan searched for relationships between maternal alcohol consumption during pregnancy and the risk of congenital malformations. The prevalence of maternal drinking in early pregnancy and until the second/third trimester was 46.6% and 2.8%, respectively. There was no remarkable impact of maternal drinking habit status on the other congenital malformations after adjustment for covariates (Kurita et al., 2021).

A cross-sectional survey in Israel aimed to assess alcohol consumption before and during pregnancy. A convenience sample of 802 pregnant Israeli women completed an anonymous online questionnaire regarding their alcohol consumption during pregnancy. A convenience sample of 802 pregnant Israeli women completed an anonymous online questionnaire regarding their alcohol consumption during pregnancy. The study found that of the sample, 539 (67.2%) women self-reported drinking alcohol in the 2 months prior to learning they were pregnant, and 96 (12%) during their pregnancy. Twice as many (28.1%) reported knowing other women who had consumed alcohol during pregnancy. The study reported a

concerning percentage of pregnant women in Israel acknowledge drinking alcohol near and after conception (Hen-Herbst et al., 2021).

A cross-sectional study was conducted in Brazil to identify alcohol use and the associated factors in pregnant adolescents. A total of 256 pregnant adolescents were selected. Descriptive statistical analysis was performed using the chi-square test and odds ratio. The prevalence of alcohol consumption at some moment in life among the adolescents was 73.8%, with a mean age of onset of 14.20 years, and the prevalence of alcohol use by the adolescents during pregnancy was 32.4%. It is noteworthy that among the adolescents who reported using alcohol at some point in life, there was continuity of the habit during pregnancy in 43.9%. Pregnant women who used alcohol in this pregnancy were in the 3rd trimester of pregnancy (79.5%) were primiparous (68.7%), had no history of abortion (83.1%), did not plan their current pregnancy (91.6%), while 69.9% claimed to use contraceptive methods. Regarding the characterization of alcohol consumption during pregnancy, there is a predominance of first consumption in the private environment (49.3%) and in 50.6% of the cases the offer was made by friends. Regarding the place of current consumption, alcohol was consumed more often in public places (59%) and the most consumed beverage was beer (78.3%). In relation to having a family history of alcohol consumption 75.9% responded affirmatively (Veloso & Monteiro, 2013).

A cross-sectional and exploratory study carried out on a sample of post-partum women in São Carlos, a city in São Paulo State's geographical centre in Southeast Brazil. The aim was to investigate the prevalence of alcohol consumption during pregnancy and its sociodemographic, reproductive and newborn-related factors. Out of 925 women, 818 (88.4%) agreed to participate. Among them, 60 (7.3%) were T-ACE positive, i.e. identified as alcohol consumers (Baptista et al., 2017).

A cross-sectional study was conducted in Tanzania to determine the prevalence and associated factors of alcohol use during pregnancy among women in Dodoma region. 365 pregnant women were randomly selected. Structured questionnaires were used to assess sociodemographic characteristic and alcohol use. The study showed a prevalence of 15.1% out of the 365 women attending antenatal services in Dodoma region. The study concluded that there is a significantly high prevalence of alcohol use during pregnancy in Dodoma, Tanzania. There is a need for public health interventions to address alcohol use particularly targeting women of reproductive age with low socioeconomic status (Mpelo et al., 2018).

A cross sectional study was conducted in Uganda to determine the various forms of alcohol consumption among 420 pregnant women. A three stage stratified cluster sampling approach was used and study participants randomly selected from health facilities of interest. Descriptive statistics was used to estimate the prevalence of various forms of alcohol use. Overall, 99 women (23.6%) reported current alcohol use (any amount). The study concluded that alcohol use (any mount) during pregnancy is high while alcohol dependence, problematic and hazardous drinking is low. Knowledge and attitude were important predictors of alcohol use. While alleviating alcohol use, development partners and relevant government departments should consider communication and other interventions that increase knowledge and risk perception on maternal drinking (Agiresaasi et al., 2021).

A facility-based prospective cohort study was performed among 1778 pregnant women who were booked for antenatal care in selected public health facilities in Gondar town, Ethiopia. Data were collected using the Alcohol Use Disorders Identification Test – Consumption (AUDIT-C) standardized and pre-tested questionnaire. The study found that among women who used alcohol of the study participants, approximately one-fifth (20.57%) reported taking hazardous alcohol during their current pregnancy. Five hundred thirty-eight (95.39%) of the alcohol drinkers used alcoholic beverages in the first trimester, 548(97.16%) and

539(95.57%) consumed in the second and third trimesters, respectively. Regarding the amount of alcohol consumption, 98(17.38%) of the respondents used six or more drinks on one occasion during their current pregnancy. Likewise, most pregnant women (68.62%) consumed one or two standard drinks, 21.10% had three or four drinks, and 10.28% of the participants had five or more standard drinks on a typical day (Addila et al., 2021a).

A secondary data analysis was conducted using the 2016 Ethiopian Demographic and Health Survey data. A total of 1,135 pregnant women were included in the analysis. A mixed multi-level logistic regression analysis was employed to identify the determinant factors of alcohol consumption during pregnancy. The result showed that the prevalence of alcohol consumption during pregnancy was 22.49%. The study concluded that alcohol consumption during pregnancy in Ethiopia was high. Therefore, public health interventions targeting areas with high alcohol consumption are needed for drinking cessation and to prevent poor pregnancy outcomes related to alcohol use (Kassew et al., 2022).

A community-based cross-sectional survey was conducted in Ethiopia to determine the magnitude of alcohol intake within the first three months of pregnancy. A total of 579 pregnant women were found and participated in this study. The Data were entered and analyzed using EPI INFO and STATA version 14. The prevalence of alcohol intake in the first trimester of pregnancy was 58%. The prevalence of alcohol consumption in the first trimester of pregnancy was high in the study area (Gelagay et al., 2022).

A cross-sectional questionnaire-based study was conducted on consecutive clients attending the antenatal clinic of the University of Teaching Hospital (UNTH), Enugu, Enugu state, Nigeria. This was to determine the prevalence and predictors of alcohol consumption during pregnancy. The study found that 22.6% of the respondents had taken alcohol in the index pregnancy, of which 82.6% took alcohol occasionally while 17.4% took alcohol on regular basis. More than half (53.5%) of the women who drank alcohol occasionally in the index

pregnancy were binge drinkers. The average units of alcohol consumed per week by the regular drinkers of alcohol was 5.3 ± 2.71units (equivalent to 68.9 ± 35.23g of ethanol). The study concluded that the prevalence of alcohol consumption during pregnancy among women in Enugu, South-Eastern Nigeria is high and lack of awareness of harmful effect of alcohol on fetus was a major predictor. There is need for a concerted public health campaign to improve the awareness of harmful effects of alcohol on the fetus (Onwuka et al., 2016).

A descriptive cross-sectional survey was conducted in South East, Nigeria. Simple random sampling was employed to select 248 pregnant women. Data were obtained using structured questionnaires, summarized using descriptive statistics, and presented in tables. The prevalence of alcohol use during pregnancy was 40.3% with beer (48.8%) and palm wine (48.8%) being the major alcoholic beverages taken (Mbadugha et al., 2022).

A prospective cohort study was conducted among pregnant women in Ibadan, Nigeria to assess the prevalence, pattern and predictors of alcohol consumption among pregnant women. Statistical analysis was performed using STATA version 13. Descriptive statistics were used to depict the study participants' sociodemographic, obstetric and lifestyle characteristics by alcohol consumption and tobacco exposure. The study found that the prevalence of pre-pregnancy alcohol consumption and alcohol consumption during pregnancy were 551 (31.7%) and 222 (12.7%), respectively, i.e. (one in every eight pregnancies is exposed to alcohol). Palm wine (52%) and beer (12%) were the most common alcohol consumed among pregnant women. The predictors of alcohol consumption during were pre-pregnancy alcohol use and religion i.e. Muslims were less likely to consume alcohol during pregnancy compared to Christians. The study concluded that alcohol consumption is not uncommon and have been an ongoing but neglected threat to maternal and child health in Nigeria. Alcohol control policy and programmes to prevent the use among pregnant and reproductive-age women in Nigeria should be implemented primarily during antenatal care (Adeoye, 2022).

A cross-sectional descriptive study design was used to conduct a study in Nadowli-Kaleo District, Ghana to assess the prevalence of alcohol consumption among reproductive age women during or in pregnancy. Data was entered into EpiData 3.1 and exported to Stata 12.0 for analysis. Descriptive statistics like percentages and frequencies were calculated and presented in charts and tables. A sample size of 294 reproductive-age women were selected through a multi-stage random sampling method for the study. Data was collected through researchers' developed questionnaire. Descriptive statistics was used for the analysis of data collected. The study found that 184 (62.6%) of the respondents drank alcohol in the last three months before the interview, with majority of them, 131 (71.6%) not ready to stop drinking. most preferred alcoholic beverage consumed was pito, 148 (80.9%). A greater number of the women also indicated that they drank the alcohol daily, 106 (39.3%), followed by some 97 (35.9%) who drank it monthly. Majority of the respondents drank alcohol during occasions like cultural festivals, 81 (44.3%), funerals, 77 (42.1%), and weddings, 61 (33.3%) respectively. Among women who were currently pregnant during this study, many of them reported that they did not consume alcohol in their first trimester, 43 (51.2%) of them (Danyi & Kogi, 2021).

2.2 Factors Influencing the Intake of Alcohol

A cross-sectional study was conducted in Tanzania to determine the prevalence and associated factors of alcohol use during pregnancy among women in Dodoma region. 365 pregnant women were randomly selected. Structured questionnaires were used to assess sociodemographic characteristic and alcohol use. The study showed the pre-pregnancy alcohol use and having relatives who use alcohol were associated with alcohol use. Moreover, other associated factors included low education status, making local brews as a source of income, and not having had complications in previous pregnancies (Mpelo et al., 2018).

A cross sectional study was conducted in Uganda to determine the various forms of alcohol consumption among 420 pregnant women. The study assessed predictors of frequent alcohol use (drinking at least 2 to 3 times a week). Mothers who agreed that 'My Friends and Community would approve of me drinking when pregnant' were more likely to drink 2 to 3 times a week as compared to those who had other responses. Specific knowledge had a bearing on frequent alcohol use during pregnancy. Women were asked to list dangers of alcohol use to the mother and baby during pregnancy. The more dangers they mentioned the more they were likely to drink frequently. Predictors of monthly, weekly and daily binge drinking were estimated. The effect of education on the likelihood of binge category was only significant with respect to women with secondary level and higher education. The odds ratios show that women with primary education were 6.2 times more likely to binge frequently. On the other hand, those with secondary and higher had 16.4 more odds of belonging to the binge category relative to those with no formal education (Agiresaasi et al., 2021).

A comprehensive systematic literature search was done on reasons for alcohol consumption in pregnancy and breastfeeding. Forty- two eligible studies comprising women from 16 countries were included. The study found that most commonly reported reasons of alcohol use in pregnancy were societal pressure and the belief that only "strong" alcohol and alcohol in large quantities is harmful. Other reasons were: a lack of awareness of adverse effects on the fetus; coping with adverse life experiences; consumption based on intuitive decision-making and influenced by personal/peer experiences; belief in the beneficial properties of alcohol; advice from medical practitioners; unwanted or unplanned pregnancy; alcohol dependence; and consumption as a cultural/traditional custom. Reasons for alcohol use during breastfeeding included the belief that alcohol stimulates breast milk production, unclear advice from medical practitioners, unawareness of the risks of infant exposure and to improve mood and celebrate events (Popova et al., 2022).

Institutional based cross-sectional study was conducted among a total of 367 pregnant women. The study aimed to assess the magnitude of alcohol consumption, binge drinking and its determinants among pregnant women residing in Kolfe sub-city, Addis Ababa, Ethiopia. This study revealed that the prevalence of alcohol consumption, binge drinking, and weekly alcohol consumption of four or more units among pregnant women was 39.78%, 3.54% and 4.9%, respectively. Not having formal education, having primary education, being a housewife, having an unplanned pregnancy, having a history of abortion, not having awareness about the harmful effect of alcohol consumption, and not having family social support were determinants of alcohol consumption among pregnant women. The study concluded that there is a high level of alcohol consumption among pregnant women. Interventions to create awareness on the harmful effects of alcohol are needed (Bitew et al., 2020).

A community-based cross-sectional survey was conducted in Ethiopia to determine the magnitude of alcohol intake within the first three months of pregnancy. A total of 579 pregnant women were found and participated in this study. The Data were entered and analyzed using EPI INFO and STATA version 14. The study found that respondents living in rural areas were 6.8 times more likely to drink alcohol in the first three months than respondents living in urban. Compared with women working on the farm, pregnant women who are housewives are 2.24 times more likely to drink alcohol in the first trimester of pregnancy. Compared with pregnant women without a history of stillbirth, pregnant women with a history of stillbirth are twice as likely to drink alcohol in the first trimester of pregnancy (Gelagay et al., 2022).

A descriptive cross-sectional survey was conducted in South East, Nigeria. Simple random sampling was employed to select 248 pregnant women. Data were obtained using structured questionnaires, summarized using descriptive statistics, and presented in tables. The study

found that previous drinking habits before pregnancy and unwanted pregnancy were the major perceived factor influencing their alcohol intake. Educational level was not significantly related to knowledge of alcohol effects on pregnancy (Mbadugha et al., 2022).

A study conducted in Elimina, Ghana sought to find out women's knowledge on alcohol consumption and its effects on the fetus. Snowball sampling was used to identify 200 respondents. Regarding reasons for taking alcohol most stated taking alcohol for fun (59%), alcohol increases their appetite for food (32%) whiles the remaining respondents take it to increase their libido for sex, to make them bold to face certain situations or to make them feel high (Amponsah & Foli, 2019).

2.3 Knowledge on the Effects of Alcohol Consumption

The consumption of alcohol and drugs of abuse among pregnant women has experienced a significant increase in the last decades. Prenatal alcohol exposure is considered one of the major public health challenges (Sebastiani et al., 2018).

A systematic review and meta-analysis was done from January 1970 to January 2019 to evaluate studies reporting alcohol exposure during pregnancy and miscarriage. The review provided evidence that alcohol consumption during pregnancy is associated with a dose-mediated increase in miscarriage risk (Sundermann et al., 2019).

A national cross-sectional survey via computer assisted telephone interview of 1103 women aged 18 to 45 years was conducted in Australian. The study sought to describe the knowledge and attitudes of women of childbearing age regarding alcohol consumption during pregnancy and its effects on the fetus. Participants were randomly selected from the Electronic White Pages. The questionnaire was based on a Health Canada survey with additional questions constructed by the investigators. Descriptive statistics were calculated and logistic regression analyses were used to assess associations with participants' knowledge and attitudes. Of women surveyed, 61.5% had heard about effects of alcohol on the fetus and 55.3% had heard

of Fetal Alcohol Syndrome. Although 92.7% agreed alcohol can affect the unborn child, 16.2% did not agree that the disabilities could be lifelong. Most women agreed that pregnant women should not drink alcohol (80.2%). Overall, 36.7% of respondents nominated neurobehavioural effects (delayed development, low IQ, learning disabilities, brain damage, mental disorders, behavioural problems and Attention Deficit Disorder). Women with higher education levels were more likely to know the effects of alcohol consumption in pregnancy. The study concluded that there is a disjunction between knowledge and attitudes towards alcohol consumption in pregnancy (Peadon et al., 2017).

An analytical cross-sectional design was used to conduct a study in Zambia to explore the determinants of alcohol use among pregnant women at George Health Centre. Quantitative data was analyzed using SPSS version 21.0 software. The study findings revealed a high prevalence rate of 40.4% of pregnant women consumed alcohol prior to pregnancy recognition and during pregnancy. A total of 175(68.6%) had knowledge and 80(31.4%) had no knowledge (Simasiku et al., 2022).

A cross-sectional questionnaire-based study was conducted on consecutive clients attending the antenatal clinic of the University of Teaching Hospital (UNTH), Enugu, Enugu state, Nigeria. This was to determine the prevalence and predictors of alcohol consumption during pregnancy. The study found that a total of 135 (35.5%) respondents were aware that alcohol is harmful to the fetus, while 168 (64.5%, 245/380) were unaware. The initial sources of information for this ‘aware group’ were print media (33.3%, 45/135), health professionals (30.4%), electronic media including the Internet (28.9%), or friends/colleagues (6.7%). The study concluded that the prevalence of alcohol consumption during pregnancy among women in Enugu, South-Eastern Nigeria is high and lack of awareness of harmful effect of alcohol on fetus was a major predictor. There is need for a concerted public health campaign to improve the awareness of harmful effects of alcohol on the fetus (Onwuka et al., 2016).

A descriptive cross-sectional survey was conducted in South East, Nigeria. Simple random sampling was employed to select 248 pregnant women. Data were obtained using structured questionnaires, summarized using descriptive statistics, and presented in tables. The study found that majority (59.7%) of the participants had good knowledge of the effects of alcohol consumption in pregnancy while less than half (33.9%) had good knowledge of the effect on the unborn baby. Most (80.2%) of the women knew that alcohol intake has harmful effects on pregnant woman. The known effect was mainly that of spontaneous abortion 172 (69.4%). Knowledge of preterm birth 121 (48.8%), high blood pressure 113 (45.6%), and diabetes in pregnancy 102 (41.1%) were below average while knowledge of other effects was quite lesser (Mbadugha et al., 2022).

A study conducted in Elmina, Ghana sought to find out women's knowledge on alcohol consumption and its effects on the fetus. Snowball sampling was used to identify 200 respondents. The study found that majority (59%) confirmed they were told not to take alcohol during pregnancy and they (57.5%) also confirmed they were aware of the effects of alcohol on the unborn foetus (Amponsah & Foli, 2019).

A cross-sectional descriptive study design was used to conduct a study in Nadowli-Kaleo District, Ghana to assess the knowledge of reproductive age women on the dangers associated with alcohol consumption during or in pregnancy. Data was entered into EpiData 3.1 and exported to Stata 12.0 for analysis. Descriptive statistics like percentages and frequencies were calculated and presented in charts and tables. A sample size of 294 reproductive-age women were selected through a multi-stage random sampling method for the study. Data was collected through researchers' developed questionnaire. Descriptive statistics was used for the analysis of data collected. The findings showed that more than half (56.5%) of the respondents knew that alcohol consumption has some negative effects on human health including the unborn child. Alcohol consumption among women in this study was 62.6%.

The study found that majority (53.1%) of the women have heard about the negative effects of alcohol consumption through the media. Interestingly, (33.2%) and (11.6%) respondents said they knew about the negative effects of alcohol consumption during pregnancy through their personal observations and health workers respectively. The effects of alcohol consumption during pregnancy were mostly described by respondents as low birth weight, (85.8%), and attention deficit disorder, (82.2%) respectively. Also, (64.9%) and (45.3%) of the respondents noted that mental retardation and low intelligence quotient were some of the negative effects of alcohol consumption during pregnancy on the fetus (Danyi & Kogi, 2021).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. This section of the research deals with the description of the study area, study type/design, study population, sample size and sampling technique, data collection tools and techniques, data processing and analyses. Issues on ethical considerations and limitations of the study are also included in this chapter.

3.1 Study Area

The study will be conducted at Zongo clinic, Berekum. Zongo clinic is situated inside Berekum in the Bono Region of Ghana. Zongo clinic is a government owned facility. The major catchment area of the facility is Berekum Municipality. The clinic provides general services and it is National Health Insurance Scheme (NHIS) accredited. Due to the strategic location of the clinic patients from other parts of Berekum visits the clinic. The clinic offers general medical services, antenatal and postnatal services and some laboratory services.

3.2 Study Design

A descriptive cross-sectional study design was adopted. This design has been chosen because of its appropriateness for the purposes of the study. The descriptive survey design is suitable

for describing the way things are. Moreover, cross sectional study design is used to prove or disprove assumptions, not costly to perform, does not require a lot of time, captures a specific point in time and the data can be used for various types of research. It will also allow for the description of the characteristics of the study participants.

3.3 Study Population

The target population for the study were the pregnant women who attended antenatal at Zongo Clinic, Berekum.

3.4 Sampling Technique and Procedure

The selection of the respondents was done on daily basis. Simple random sampling technique was used in the selection of the participants during the data collection period. Thirty numbers were generated using pieces of paper on each day. Respondents who consented to participate in the study were made to randomly draw a number with a draw of an even number qualifying one as a participant of the study.

3.5 Sample Size

A simple random sampling technique will be used to select participants for the study. Participant recruitment will be voluntary. A total of 197 participants will be used for the study.

3.6 Data Collection Tools and Technique

For this study, a questionnaire was used as the primary method of data collection. A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents. Questionnaires provide a relatively cheap, quick and efficient way of obtaining large amounts of information from a large sample of people. Data can be collected relatively quickly because the researcher would not need to be present when the questionnaires were completed. This instrument was developed based on the specific

objectives of the study. All technical terms was explained to the study participants during the data collection.

3.7 Data Processing and Analysis

Microsoft Excel will be used to analyze the data in this study. The findings generated will be then presented using frequency tables, pie charts, bar graphs and narratives.

3.8 Ethical Consideration

Before conducting the survey, written permission will be obtained from the administration of Holy Family Nursing and Midwifery Training College, Berekum. Ethical clearance will be sought from the Zongo Clinic, Berekum to conduct the study. The participants will be informed in detail about the study and they were left to decide on whether to participate or not. This will ensure self-determination and autonomy; so in this study the participation will be completely voluntary. Participants will be asked to indicate their consent to the study by appending their signature the questionnaire. Questionnaires will be anonymous and information gathered will be kept confidential. During the data collection process, the researcher will inform the participants not to write their names on the questionnaires. Participants will be fairly selected; no form of harm and discomfort will be done.

3.9 Limitations of the Study

The limitation of this study will includes the fact that alcohol is generally considered inappropriate for women to consume, the respondents are likely not to disclose their alcohol use, thus under-estimating the true prevalence in the study population. This will be mitigated by isolating the participants and letting them know they would be judged based on the information they will provide.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Presentation of results

4.1.1 Socio-demographic and obstetric characteristics

Results on socio-demographic is presented below. A total of one hundred and ninety-seven respondents participated in the study. Majority of the respondents were aged 20-24 years (44.16%) with the least age group been 15-19 years (7.11%). Regarding the religious background of the respondents, a higher percentage of them (77.16%) indicated Christianity with few of them indicating Islamic religion. A little over one percent (1.02%) indicated religions other than Christianity and Islamic religion. With regards to marital status of the respondents, vast majority indicated that they were married (71.07%) followed by unmarried (27.92%) and divorced (1.02%). Concerning occupation of the respondents, trading (37.56%) was indicated as the most common occupation among respondents with the least common been farmers (8.63%). Pertaining to the level of education, most of them (38.58%) had tertiary education and majority of them were Senior High school leavers and below.

Vast majority (56.35%) of the respondents indicated this was their first time of delivery. A little of over of the respondents (50.76%) had a pregnancy timing of 3rd trimester. A higher percentage of the respondents (83.76%) had never experienced miscarriage. Vast majority (93.91%) of the respondents indicated they had never experienced stillbirth. Few (12.19%) of the respondents indicated they have a history of abortion whiles 87.82% said otherwise.

Table 4.1. 1: Distribution of socio-demographic and obstetric characteristics N =197

Variable name	Category	Frequency	Percentage
Age	15-19	14	7.11
	20-24	87	44.16
	25-29	50	25.38
	30-34	26	13.20
	35-above	20	10.15
Religion	Christianity	152	77.16
	Islamic	43	21.83
	Others	2	1.02
Marital status	Married	140	71.07
	Unmarried	55	27.92
	Divorced	2	1.02
Occupation	Trading	74	37.56
	Farming	17	8.63
	Public/Civil servant	53	26.90
	Unemployed	21	10.66
	Artisans	32	16.24
Educational level	None	4	2.03
	Primary	17	8.63
	Junior High School	37	18.78
	Senior Hight School	63	31.98
	Tertiary	76	38.58
First time of delivery	Yes	111	56.35
	No	86	43.65
Pregnancy timing	First trimester	32	16.24
	Second trimester	65	32.99
	Third trimester	100	50.76
History of miscarriage	Yes	32	16.24
	No	165	83.76
History of stillbirth	Yes	12	6.09
	No	185	93.91
History of induced abortion	Yes	24	12.18
	No	173	87.82

Source: Field data, 2024

4.1.2 Prevalence of Alcohol Consumption

Table 4.1.2 below illustrate information on alcohol use among pregnant women. The results showed that 18 (9.14%) use alcohol during pregnancy whiles 179 (90.86%) do not use alcohol during pregnancy. Out of the 18 (22.78%) respondents who use alcohol during

pregnancy, majority of them (38.89%) prefer beer followed by palm wine/other wine (27.78%), gin/bitters (16.67%), more than one drink (11.11%) and other beverage (5.56%).

Table 4.1. 2: Distribution of responses on prevalence of alcohol consumption

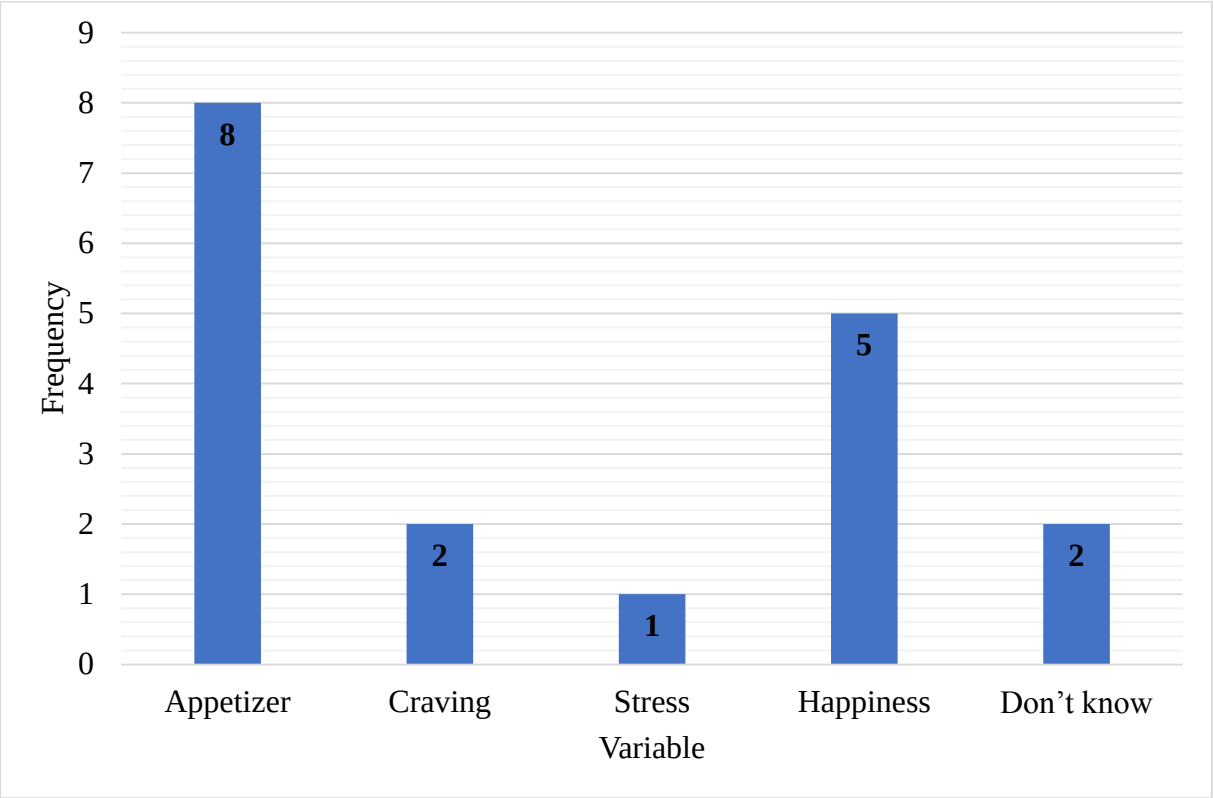
Variable name	Category	Frequency	Percentage
Alcohol use during pregnancy	Yes	18	9.14
	No	179	90.86
	Total	**197**	**100**
Type of alcoholic beverage you consume	Beer	7	38.89
	Palm wine/other wine	5	27.78
	Gin/Bitters	3	16.67
	More than 1	2	11.11
	Others	1	5.56
	Total	**18**	**100**

Source: Field data, 2024

4.1.4 Factors influencing the intake of alcohol

Figure 4.1.1 illustrates the reason for alcohol use among respondents who indicated they use of alcohol during pregnancy. Out of the 18 (9.14%) respondents who use alcohol during pregnancy, nearly half of them (44.44%) drank alcohol during pregnancy to boost or increase their appetite for meals. Over twenty percent (27.78%) of the respondents drank alcohol because of they want to be happy or socialize. A little over ten percent (11.11%) drank alcohol because they crave for it during pregnancy. Same number of respondents indicated they didn't know why they take alcohol during pregnancy. Only (5.56%) of the respondents drank alcohol to reduce life pressure or stress.

Figure 4.1. 1: Respondents reason for alcohol use



Source: Field data, 2024

The analysis of the data provided in Table 4.1.5 focuses on factors influencing the intake of alcohol.

1. Approval from friends and family can contribute to alcohol intake during pregnancy:

- Agree: 82.63%

- Disagree: 11.58%

- Don't know: 5.79%

The data reveals that 82.63% of the respondents were in agreement that approval from friends and family can contribute to alcohol intake during pregnancy. The percentage of disagreement (11.58%) indicates that some respondents had reservations about this suggestion, while a smaller percentage (5.79%) did not know.

2. Low educational status can lead to alcohol intake during pregnancy:

- Agree: 9.47%

- Disagree: 87.89%

- Don’t know: 2.63%

Majority (87.89%) of the respondents disagreed that low educational status can lead to alcohol intake during pregnancy. Relatively low percentage (9.47%) of the respondents agreed that low educational status can lead to alcohol intake during pregnancy. A small percentage (2.63%) of the respondents did not know.

3. Lack of awareness on adverse effects of alcohol on the fetus can contribute to alcohol intake during pregnancy:

- Agree: 93.68%

- Disagree: 4.74%

- Don’t know: 1.58%

A whooping (93.68%) of the respondents agreed that lack of awareness on adverse effects of alcohol on the fetus can contribute to alcohol intake during pregnancy. Only (4.74%) disagreed to the statement whiles just (1.58%) did not know.

Table 4.1. 3: Distribution of respondent's factors influencing the intake of alcohol

Variable name		**Agree**	**Disagree**	**Don't know**
Approval from friends and family	n	157	22	11
	%	82.63	11.58	5.79
Low educational status	n	18	167	5
	%	9.47	87.89	2.63
Lack of awareness on adverse effects of alcohol on the fetus	n	179	8	3
	%	93.68	4.74	1.58

4.1.3 Knowledge on the effects of alcohol consumption

Table 4.1.3 shows respondent's knowledge on the effects of alcohol consumption. Vast majority (90.36%) of the respondents agreed that alcohol consumption during pregnancy can affect the child. Less than half (40.10%) of the respondents had heard about the effects of alcohol on the fetus. Out of those who had heard 79 (40.10%) about the effects of alcohol on the fetus, majority (54.43%) of them received information from health professionals followed by electronic media (16.46%), print media (15.91%), friends (8.86%) and others (5.06%) such as church, spouse. Regarding the amount of alcohol consumption that is safe during pregnancy, majority (61.93%) of the respondents indicated no amount of alcohol is safe during pregnancy. Other respondents considered the safe amount to be once a week (19.80%), 2 to 3 times a week (12.18%).

Table 4.1. 4: Distribution of respondent's knowledge on the effects of alcohol consumption

Variable name	Category	Frequency	Percentage
Alcohol consumption during pregnancy can affect the child	Agree	178	90.36
	Disagree	15	7.61
	Don't know	4	2.03
	Total	**197**	**100**
Heard about the effects of alcohol on the fetus	Yes	79	40.10
	No	118	59.90
	Total	**197**	**100**
Primary source of information on effect of alcohol on the fetus	Print media	12	15.91
	Health professionals	43	54.43
	Electronic media	13	16.46
	Friends	7	8.86
	Others	4	5.06
	Total	**79**	**100**
Which amount of alcohol consumption is safe during pregnancy?	No amount is safe	122	61.93
	Once a week	39	19.80
	2 to 3 a week	24	12.18
	Don't know	12	6.09

	Total	**197**	**100**

Source: Field data, 2024

Table 4.1.4 illustrates the respondent's knowledge on the effects that can be caused by alcohol use during pregnancy. From the results a huge number of the respondents agreed that alcohol use can cause spontaneous abortion (59.30%), miscarriage (59.39%), mental retardation (75.63%), attention deficit disorder (65.48%) and low birth weight (65.48%).

A small number of the respondents disagreed that alcohol use can cause spontaneous abortion (38.19%), miscarriage (34.52%), mental retardation (15.23%), attention deficit disorder (11.17%) and low birth weight (16.24%).

Table 4.1. 5: Distribution on effects that can be caused by alcohol use during pregnancy

Variable name		**Agree**	**Disagree**	**Don't know**
Spontaneous abortion	n	118	76	5
	%	59.30	38.19	2.51
Miscarriage	n	117	68	12
	%	59.39	34.52	6.09
Mental retardation	n	149	30	18
	%	75.63	15.23	9.14
Attention deficit disorder	n	129	22	46
	%	65.48	11.17	23.35
Low birth weight	n	129	32	36
	%	65.48	16.24	18.27

Source: Field data, 2024

CHAPTER FIVE

DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter provides an in-depth look at the major findings that emerged out of the research, comparison of the analyzed data with findings from other literature, conclusion, and recommendations.

5.1 Discussions

5.1.1 Prevalence of alcohol consumption

This study found the prevalence of alcohol consumption during pregnancy to be 9.14%. A similar study conducted by Adeoye (2022) in Nigeria reported that prevalence of alcohol consumption during pregnancy was (12.7%). This was higher than what was revealed in the current study. Contrary, a study in Ghana by Adusi-Poku et al. (2018) in the Bosomtwe district found that 20.4% of pregnant women drank alcoholic beverage during pregnancy. This finding is not consistent with the current study where only 9.14% of the respondents indicated the use of alcohol during pregnancy. In terms of maternal alcohol ingestion comparing the findings from Nigeria (Ibadan) and the two districts in Ghana, it can be seen that, pregnant women consuming alcohol in Port Harcourt was relatively higher compared to findings from the current study.

Out of the 18 (9.14%) respondents who use alcohol during pregnancy, majority of them (38.89%) preferred beer. This finding is consistent with the study conducted by Veloso and Monteiro (2013) in Brazil. They reported that the most consumed beverage was beer (78.3%). This is because beer is one of the most easily accessible alcoholic beverages in the country and hence the high consumption.

5.1.2 Factors influencing the intake of alcohol

From the research findings out of the 18 (9.14%) respondents who use alcohol during pregnancy gave the following reasons for it use increase their appetite for meals (44.44%), happiness or socialize (27.78%), craving (11.11%), don't know (11.11%) and reduce life pressure or stress (5.56%). Consistently, Amponsah and Foli (2019) reported that regarding reasons for taking alcohol most stated taking alcohol for fun (59%) and alcohol increases their appetite for food (32%).

The current study found that 82.63% of the respondents were in agreement that approval from friends and family can contribute to alcohol intake during pregnancy. In the same way, Agiresaasi et al. (2021) reported that mothers who agreed that 'My Friends and Community would approve of me drinking when pregnant' were more likely to drink 2 to 3 times a week as compared to those who had other responses.

In the current study, majority (87.89%) of the respondents disagreed that low educational status can lead to alcohol intake during pregnancy. Contrary, Mpelo et al. (2018) found that associated factors to alcohol use in pregnancy included low education status, making local brews as a source of income, and not having had complications in previous pregnancies. However, the current finding is in line with the study conducted by Mbadugha et al (2022), they reported that educational level was not significantly related to knowledge of alcohol effects on pregnancy.

A whooping (93.68%) of the respondents agreed that lack of awareness on adverse effects of alcohol on the fetus can contribute to alcohol intake during pregnancy. Correspondingly, Popova et al. (2022) found that most commonly reported reasons of alcohol use in pregnancy were societal pressure and a lack of awareness of adverse effects on the fetus. Additionally, Bitew et al. (2020) reported that not having awareness about the harmful effect of alcohol

consumption, and not having family social support were determinants of alcohol consumption among pregnant women.

5.1.3 Knowledge on the effects of alcohol consumption

The study found that vast majority (90.36%) of the respondents agreed alcohol consumption during pregnancy can affect the child. This finding is consistent with a study conducted by Peadon et al. (2017) where it was found that 92.7% of the participants agreed alcohol can affect the unborn child. The current study found that less than half (40.10%) of the respondents had heard about the effects of alcohol on the fetus. Similar study on knowledge regarding FAS among women of childbearing age conducted in Australia through a cross-sectional survey by Peadon et al. (2017) found that more than half of the One thousand one hundred and three (61.5%) women who participated in the study have heard about effects of alcohol on the fetus. The proportion of the respondents who have heard about who have heard about effects of alcohol on the fetus in this study, suggest that significant number of women of child bearing age have some information concerning FAS in Australia compared to Ghana more specifically Sunyani Dumase. This may be due to programmes such as awareness creation and education campaigns regarding FAS in Australia compared to Ghana where much has not been achieved in awareness-creation/health education campaigns concerning effects of alcohol on the fetus. The facility where the current study was conducted has no information on effects of alcohol on the fetus such as posters which would have helped in communicating to pregnant women who attend ANC about the effects of alcohol on the fetus.

Findings from this study on primary source of information revealed majority (54.43%) of them received information from health professionals followed by electronic media (16.46%), print media (15.91%) and friends (8.86%). A similar study on alcohol consumption during pregnancy among clients attending the antenatal clinic of the University of Teaching Hospital (UNTH), Enugu, Enugu state, Nigeria found that found that a total of 135 (35.5%)

respondents were aware that alcohol is harmful to the fetus, while 168 (64.5%, 245/380) were unaware. The initial sources of information for this 'aware group' were print media (33.3%, 45/135), health professionals (30.4%), electronic media including the Internet (28.9%), or friends/colleagues (6.7%).

From the results of the current study a huge number of the respondents agreed that alcohol use can cause spontaneous abortion (59.30%), miscarriage (59.39%), mental retardation (75.63%), attention deficit disorder (65.48%) and low birth weight (65.48%). Similarly, a study by Mbadugha et al. (2022) among pregnant women in South East, Nigeria found that most (80.2%) of the women knew that alcohol intake has harmful effects on pregnant woman. The known effect was mainly that of spontaneous abortion 172 (69.4%). Additionally, Danyi and Kogi (2021) conducted a study in Ghana to assess the knowledge of reproductive age women on the dangers associated with alcohol consumption during or in pregnancy. The study revealed that the effects of alcohol consumption during pregnancy were mostly described by respondents as low birth weight, (85.8%), and attention deficit disorder, (82.2%) respectively. Also, (64.9%) and (45.3%) of the respondents noted that mental retardation and low intelligence quotient were some of the negative effects of alcohol consumption during pregnancy on the fetus.

5.2 Conclusion

A significant number of the participants use alcohol during pregnancy as the prevalence of alcohol consumption during pregnancy was 9.14%. Knowledge regarding effects of alcohol consumption on the fetus was high among the study participants. However, there was lack of detailed information respondents had heard on the effects alcohol consumption on the fetus. Respondents gave several reasons for alcohol use such as increase their appetite for meals, happiness and craving. Suggestions made for preventing alcohol use during pregnancy were

highly agreed by respondents indicating a positive outcome can result if these interventions are put in place.

5.3 Recommendations

1. It is recommended that health education with focus on effects of alcohol use on the fetus be strengthened in Antenatal care units of various health facilities to give more information to pregnant mothers.
2. Alcohol screening tests such as TWEAK, AUDIT and Brief Interventions (BI) should be made an integral part of antenatal care services in all health facilities.
3. The religious organizations should integrate health talk relating to effects of alcohol use in pregnancy to help educate pregnant women on the risk it poses to themselves and the unborn baby when they use alcohol.
4. The Ministry of Health, Ghana should entreat all alcohol beverage producing companies to make sure labels on these beverages warn intake of alcohol during pregnancy.

REFERENCES

Abetew, M. M., Alemu, A. A., Zeleke, H., Ayenew, A. A., Aynalem, F. G., Kassa, G. M., & Khajehei, M. (2022a). Alcohol consumption and its determinants among pregnant women in Gozamin district, Amhara, Ethiopia, 2020. *SAGE Open Medicine*, *10*, 20503121221130904. https://doi.org/10.1177/20503121221130903

Abetew, M. M., Alemu, A. A., Zeleke, H., Ayenew, A. A., Aynalem, F. G., Kassa, G. M., & Khajehei, M. (2022b). Alcohol consumption and its determinants among pregnant women in Gozamin district, Amhara, Ethiopia,.*SAGE Open Medicine*, *10*, 20503121221130904. https://doi.org/10.1177/20503121221130903

Addila, A. E., Azale, T., Gete, Y. K., & Yitayal, M. (2021a). Determinants of hazardous alcohol use among pregnant women attending antenatal care at public health facilities in Gondar town, Northwest Ethiopia: A nested case-control study. *PLOS ONE*, *16*(7), e0253162. https://doi.org/10.1371/journal.pone.0253162

Addila, A. E., Azale, T., Gete, Y. K., & Yitayal, M. (2021b). The effects of maternal alcohol consumption during pregnancy on adverse fetal outcomes among pregnant women attending antenatal care at public health facilities in Gondar town, Northwest Ethiopia: A prospective cohort study. *Substance Abuse Treatment, Prevention, and Policy*, *16*(1), 64. https://doi.org/10.1186/s13011-021-00401-x

Addila, A. E., Bisetegn, T. A., Gete, Y. K., Mengistu, M. Y., & Beyene, G. M. (2020). Alcohol consumption and its associated factors among pregnant women in Sub-Saharan Africa: A systematic review and meta-analysis' as given in the submission system. *Substance Abuse Treatment, Prevention, and Policy*, *15*(1), 29. https://doi.org/10.1186/s13011-020-00269-3

Adeoye, I. A. (2022). Alcohol consumption and tobacco exposure among pregnant women in

Ibadan, Nigeria. *BMC Psychiatry*, *22*, 570. https://doi.org/10.1186/s12888-022-04210-9

Adeyiga, G., Udofia, E. A., & Yawson, A. E. (2017). Factors Associated with Alcohol Consumption: A Survey of Women Childbearing at a National Referral Hospital in Accra, Ghana. *African Journal of Reproductive Health*, *18*(2), Article 2. https://www.ajrh.info/index.php/ajrh/article/view/185

Adusi-Poku, Y., Bonney, A. A., & Antwi, G. D. (2018). Where, when and what type of alcohol do pregnant women drink? *GHANA MEDICAL JOURNAL*, *47*(1).

Adusi-Poku, Y., Edusei, A. K., Bonney, A. A., Tagbor, H., Nakua, E., & Otupiri, E. (2012). Pregnant Women and Alcohol Use in the Bosomtwe District of the Ashanti Region-Ghana. *Afr J Reprod Health*, *16*(1), 55–60.

Agiresaasi, A., Nassanga, G., Maina, G. W., Kiguli, J., Nabiwemba, E., & Tumwesigye, N. M. (2021). Various forms of alcohol use and their predictors among pregnant women in post conflict northern Uganda: A cross sectional study. *Substance Abuse Treatment, Prevention, and Policy*, *16*(1), 3. https://doi.org/10.1186/s13011-020-00337-8

Amponsah, I. K. V., & Foli, B. (2019). *Study on the knowledge of women on the effect of alcohol consumption on the fetus in Elmina-Ghana*.

Baptista, F. H., Rocha, K. B. B., Martinelli, J. L., Avó, L. R. da S. de, Ferreira, R. A., Germano, C. M. R., & Melo, D. G. (2017). Prevalence and factors associated with alcohol consumption during pregnancy. *Revista Brasileira de Saúde Materno Infantil*, *17*, 271–279. https://doi.org/10.1590/1806-93042017000200004

Bitew, M. S., Zewde, M. F., Wubetu, M., & Alemu, A. A. (2020). Consumption of alcohol and binge drinking among pregnant women in Addis Ababa, Ethiopia: Prevalence and determinant factors. *PLOS ONE*, *15*(12), e0243784.

https://doi.org/10.1371/journal.pone.0243784

Breunis, L. J., Wassenaar, S., Sibbles, B. J., Aaldriks, A. A., Bijma, H. H., Steegers, E. A. P., & Koch, B. C. P. (2021). Objective assessment of alcohol consumption in early pregnancy using phosphatidylethanol: A cross- sectional study. *BMC Pregnancy and Childbirth*, *21*(1), 342. https://doi.org/10.1186/s12884-021-03804-7

CDC. (2022, November 4). *Alcohol Use During Pregnancy*. Centers for Disease Control and Prevention. https://www.cdc.gov/ncbddd/fasd/alcohol-use.html

CDC. (2024, January 18). *Data & Statistics*. Centers for Disease Control and Prevention. https://www.cdc.gov/ncbddd/fasd/data.html

Da Pilma Lekettey, J., Dako-Gyeke, P., Agyemang, S. A., & Aikins, M. (2017). Alcohol consumption among pregnant women in James Town Community, Accra, Ghana. *Reproductive Health*, *14*(1), 120. https://doi.org/10.1186/s12978-017-0384-4

Danyi, A., & Kogi, R. (2021). *Diverse Journal of Multidisciplinary Research*. *3*(3).

Dejong, K., Olyaei, A., & Lo, J. O. (2019). Alcohol Use in Pregnancy. *Clinical Obstetrics and Gynecology*, *62*(1), 142–155. https://doi.org/10.1097/GRF.0000000000000414

Duko, B., Bedaso, A., Wolka, S., Tantu, T., Wolde, D., & Ayano, G. (2022). The Prevalence of Alcohol Consumption Among Pregnant Women in Ethiopia: A Systematic Review and Meta-Analysis. *Maternal and Child Health Journal*, *26*(9), 1800–1810. https://doi.org/10.1007/s10995-021-03286-1

Effective Interventions and Strategies to Prevent Alcohol-Exposed Pregnancies. (n.d.).

Gelagay, A. A., Worku, A. G., Bashah, D. T., Tebeje, N. B., HailuGebrie, M., Yeshita, H. Y., Cherkose, E. A., Lakew, A. M., Dachew, B. A., Tariku, A., Ayana, B. A., Bikes, G. A., & Belew, A. K. (2022). Prevalence and associated factors of alcohol intake in the first trimester of pregnancy in Dabat district, northwest Ethiopia. *Discover Social Science and Health*, *2*(1), 11. https://doi.org/10.1007/s44155-022-00015-z

Gomez, K. U., Goodwin, L., Chisholm, A., & Rose, A. K. (2022). Alcohol use during pregnancy and motherhood: Attitudes and experiences of pregnant women, mothers, and healthcare professionals. *PLOS ONE*, *17*(12), e0275609. https://doi.org/10.1371/journal.pone.0275609

Hasin, D. S., Shmulewitz, D., & Keyes, K. (2019). Alcohol use and binge drinking among U.S. men, pregnant and non-pregnant women ages 18-44: 2002 to 2017. *Drug and Alcohol Dependence*, *205*, 107590. https://doi.org/10.1016/j.drugalcdep.2019.107590

Hen-Herbst, L., Tenenbaum, A., Senecky, Y., & Berger, A. (2021). Pregnant women's alcohol consumption and knowledge about its risks: An Israeli survey. *Drug and Alcohol Dependence*, *228*, 109023. https://doi.org/10.1016/j.drugalcdep.2021.109023

Interventions to reduce alcohol consumption during pregnancy. (n.d.).

Kassew, T., Liyew, B., Tarekegn, G. E., Wondie, M., Alamneh, T. S., Asnakew, S., & Shumet, S. (2022). Spatial distribution and determinants of alcohol consumption among pregnant women in Ethiopia: Spatial and multilevel analysis. *PLOS ONE*, *17*(12), e0279405. https://doi.org/10.1371/journal.pone.0279405

Kurita, H., Motoki, N., Inaba, Y., Misawa, Y., Ohira, S., Kanai, M., Tsukahara, T., & Nomiyama, T. (2021). Maternal alcohol consumption and risk of offspring with congenital malformation: The Japan Environment and Children's Study. *Pediatric Research*, *90*(2), Article 2. https://doi.org/10.1038/s41390-020-01274-9

Kusi, M., Gayle, E., & Caprara, R. (2019). *Effective Interventions to Prevent Alcohol-Exposed Pregnancies: A Rapid Review of the Literature*.

Latuskie, K. A., Andrews, N. C. Z., Motz, M., Leibson, T., Austin, Z., Ito, S., & Pepler, D. J. (2019). Reasons for substance use continuation and discontinuation during pregnancy: A qualitative study. *Women and Birth*, *32*(1), e57–e64. https://doi.org/10.1016/j.wombi.2018.04.001

Mbadugha, C. J., Arinze, J. C., Odoh, N. C., Obiekwu, A. L., Omotola, N. J., & Okafor, C. J. (2022). Prenatal Alcohol Intake and Knowledge of its Effect: A Survey of Pregnant Women Attending a General Hospital in South East, Nigeria. *Nigerian Journal of Medicine*, *31*(2), 174. https://doi.org/10.4103/NJM.NJM_151_21

Meurk, C. S., Broom, A., Adams, J., Hall, W., & Lucke, J. (2014). Factors influencing women's decisions to drink alcohol during pregnancy: Findings of a qualitative study with implications for health communication. *BMC Pregnancy and Childbirth*, *14*(1), 246. https://doi.org/10.1186/1471-2393-14-246

Michael, H. (2016). Knowledge of fetal alcohol syndrome among pregnant women in the Hohoe Municipality. *University of Ghana*.

Mpelo, M., Kibusi, S. M., Moshi, F., Nyundo, A., Ntwenya, J. E., & Mpondo, B. C. T. (2018). Prevalence and Factors Influencing Alcohol Use in Pregnancy among Women Attending Antenatal Care in Dodoma Region, Tanzania: A Cross-Sectional Study. *Journal of Pregnancy*, *2018*, 8580318. https://doi.org/10.1155/2018/8580318

Mulat, B., Alemnew, W., & Shitu, K. (2022). Alcohol use during pregnancy and associated factors among pregnant women in Sub-Saharan Africa: Further analysis of the recent demographic and health survey data. *BMC Pregnancy and Childbirth*, *22*(1), 361. https://doi.org/10.1186/s12884-022-04694-z

Myers, B., Koen, N., Donald, K. A., Nhapi, R. T., Workman, L., Barnett, W., Hoffman, N., Koopowitz, S., Zar, H. J., & Stein, D. J. (2018). Effect of Hazardous Alcohol Use During Pregnancy on Growth Outcomes at Birth: Findings from a South African Cohort Study. *Alcohol: Clinical and Experimental Research*, *42*(2), 369–377. https://doi.org/10.1111/acer.13566

Nykjaer, C., Alwan, N. A., Greenwood, D. C., Simpson, N. A. B., Hay, A. W. M., White, K. L. M., & Cade, J. E. (2014). Maternal alcohol intake prior to and during pregnancy

and risk of adverse birth outcomes: Evidence from a British cohort. *Journal of Epidemiology and Community Health*, *68*(6), 542–549. https://doi.org/10.1136/jech-2013-202934

O'Keeffe, L. M., Kearney, P. M., McCarthy, F. P., Khashan, A. S., Greene, R. A., North, R. A., Poston, L., McCowan, L. M. E., Baker, P. N., Dekker, G. A., Walker, J. J., Taylor, R., & Kenny, L. C. (2015). Prevalence and predictors of alcohol use during pregnancy: Findings from international multicentre cohort studies. *BMJ Open*, *5*(7), e006323. https://doi.org/10.1136/bmjopen-2014-006323

Onwuka, C. I., Ugwu, E. O., Dim, C. C., Menuba, I. E., Iloghalu, E. I., & Onwuka, C. I. (2016). Prevalence and Predictors of Alcohol Consumption during Pregnancy in South-Eastern Nigeria. *Journal of Clinical and Diagnostic Research : JCDR*, *10*(9), QC10–QC13. https://doi.org/10.7860/JCDR/2016/21036.8449

Ordinioha, B., & Brisibe, S. (2015). Alcohol consumption among pregnant women attending the ante‐natal clinic of a tertiary hospital in South‐South Nigeria. *Nigerian Journal of Clinical Practice*, *18*(1).

Ornoy, A., & Ergaz, Z. (2010). Alcohol Abuse in Pregnant Women: Effects on the Fetus and Newborn, Mode of Action and Maternal Treatment. *International Journal of Environmental Research and Public Health*, *7*(2), 364–379. https://doi.org/10.3390/ijerph7020364

Peadon, E., Payne, J., Henley, N., D'Antoine, H., Bartu, A., O'Leary, C., Bower, C., & Elliott, E. J. (2017). Women's knowledge and attitudes regarding alcohol consumption in pregnancy: A national survey. *BMC Public Health*, *10*(1), 510. https://doi.org/10.1186/1471-2458-10-510

Popova, S., Dozet, D., Akhand Laboni, S., Brower, K., & Temple, V. (2022). Why do women consume alcohol during pregnancy or while breastfeeding? *Drug and Alcohol Review*,

41(4), 759–777. https://doi.org/10.1111/dar.13425

Popova, S., Lange, S., Probst, C., Gmel, G., & Rehm, J. (2018). Global prevalence of alcohol use and binge drinking during pregnancy, and fetal alcohol spectrum disorder. *Biochemistry and Cell Biology*, *96*(2), 237–240. https://doi.org/10.1139/bcb-2017-0077

Popova, S., Lange, S., Shield, K., Mihic, A., Chudley, A. E., Mukherjee, R. A. S., Bekmuradov, D., & Rehm, J. (2016). Comorbidity of fetal alcohol spectrum disorder: A systematic review and meta-analysis. *The Lancet*, *387*(10022), 978–987. https://doi.org/10.1016/S0140-6736(15)01345-8

Ruisch, H. (2020). *Gene-environment interactions in disruptive behaviors* [University of Groningen]. https://doi.org/10.33612/diss.136546089

Schölin, L. (2019). *Prevention of harm caused by alcohol exposure in pregnancy*.

Scott, S., & Sher, J. (2024). Effect of alcohol during pregnancy: A public health issue. *The Lancet Public Health*, *8*(1), e4–e5. https://doi.org/10.1016/S2468-2667(22)00318-8

Sebastiani, G., Borrás-Novell, C., Casanova, M. A., Pascual Tutusaus, M., Ferrero Martínez, S., Gómez Roig, M. D., & García-Algar, O. (2018). The Effects of Alcohol and Drugs of Abuse on Maternal Nutritional Profile during Pregnancy. *Nutrients*, *10*(8), 1008. https://doi.org/10.3390/nu10081008

Simasiku, V., Zulu, C., & Mwanza, J. (2022). Determinants of Alcohol Use among Pregnant Women at George Health Centre in Lusaka District, Zambia. *EAS Journal of Nursing and Midwifery*, *4*(4), 146–152. https://doi.org/10.36349/easjnm.2022.v04i04.009

Skagerström, J. (2015). *Alcohol consumption during pregnancy: Prevalence, predictors and prevention* (Vol. 1470). Linköping University Electronic Press. https://doi.org/10.3384/diss.diva-122375

Sundermann, A. C., Zhao, S., Young, C. L., Lam, L., Jones, S. H., Velez Edwards, D. R., &

Hartmann, K. E. (2019). Alcohol Use in Pregnancy and Miscarriage: A Systematic Review and Meta-Analysis. *Alcoholism, Clinical and Experimental Research*, 10.1111/acer.14124. https://doi.org/10.1111/acer.14124

Tsang, T. W., Kingsland, M., Doherty, E., Wiggers, J., Attia, J., Wolfenden, L., Dunlop, A., Tully, B., Symonds, I., Rissel, C., Lecathelinais, C., & Elliott, E. J. (2022). Effectiveness of a practice change intervention in reducing alcohol consumption in pregnant women attending public maternity services. *Substance Abuse Treatment, Prevention, and Policy*, *17*(1), 63. https://doi.org/10.1186/s13011-022-00490-2

Veloso, L. U. P., & Monteiro, C. F. de S. (2013). Prevalence and factors associated with alcohol use among pregnant adolescents. *Revista Latino-Americana de Enfermagem*, *21*, 433–441. https://doi.org/10.1590/S0104-11692013000100020

World Health Organization. (2018). *Global status report on noncommunicable diseases 2014.* World Health Organization.

Xavier, S. P., José, J. M., Cote, N. D., Xavi, R., & Victor, A. (2022). *Prevalence and factors associated with alcohol consumption among pregnant women attending antenatal care in a Rural District in Tete, Mozambique* [Preprint]. In Review. https://doi.org/10.21203/rs.3.rs-2186259/v1

Young, B., Lewis, S., Katikireddi, S. V., Bauld, L., Stead, M., Angus, K., Campbell, M., Hilton, S., Thomas, J., Hinds, K., Ashie, A., & Langley, T. (2018). Effectiveness of Mass Media Campaigns to Reduce Alcohol Consumption and Harm: A Systematic Review. *Alcohol and Alcoholism*, *53*(3), 302–316. https://doi.org/10.1093/alcalc/agx094

APPENDICES

QUESTIONNAIRE

Dear Respondent,

This questionnaire is designed to collect data on the topic: ‘‘prevalence and associated factors of alcohol use amongst pregnant women attending antenatal clinic (ANC) at Kwatire Government Hospital, Sunyani Odumase’’

You are kindly requested to answer the questions below by indicating a tick or writing the appropriate answered when needed. Confidentially will be observed therefore your name will not be disclosed in this research. **Write or Tick [√]** the appropriate box that corresponds to your choice concerning each statement. Please answer the questions as frank and possible. The outcome of this research will be used to enrich the training programs of nurses and midwives in our health institutions.

Section A: Socio-Demographic and Obstetric Characteristics

1. Age

   a. 15-19 [] b. 20-24 [] c. 25-29 [] d. 30-34 [] e. 35-39 [] f. 40-44 []

2. Religion

   a. Christianity [] b. Islamic [] c. Others (specify)……

3. Marital status

   a. Married [] b. Unmarried [] c. Divorced []

4. Occupation

   a. Trading [] b. Farming [] c. Public/Civil servant [] d. Unemployed [] e. Artisans []

5. Educational level

a. None [] b. Primary [] c. Junior High School [] d. Senior High School [] e. Tertiary []

6. Is this your first time of going to deliver a child?

   a. Yes [] b. No []

7. Pregnancy timing

   a. First trimester [] b. Second trimester [] c. Third trimester []

8. History of miscarriage

   a. Yes [] b. No []

9. History of stillbirth

   a. Yes [] b. No []

10. History of induced abortion

    a. Yes [] b. No []

11. Number of children

    a. Yes [] b. No []

Section B: Prevalence of alcohol consumption

12. Do you drink alcohol beverage? (If No, go to item 17)

    a. Yes [] b. No []

13. Alcohol use during pregnancy

    a. Yes [] b. No []

14. Type of alcoholic beverage you consume

    a. Beer [] b. Akpeteshie [] c. Palm wine/other wine [] d. Pito [] e. Gin/Bitters []

    f. More than one of the listed beverges g. Others (specify):

    …….

Section C: Knowledge on the effects of alcohol consumption

15. Alcohol consumption during pregnancy can affect the child

    a. Agree [] b. Disagree [] c. Don't know []

16. Have you heard about the effects of alcohol on the fetus?

    a. Yes [] b. No []

17. Indicate your primary source of information on effect of alcohol on the fetus

    a. Print media [] b. Health professionals [] c. Electronic media [] d. Friends [] e. other (specify): …….

18. Which amount of alcohol consumption is safe during pregnancy?

    a. No amount is safe []

    b. Once a week []

    c. 2 to 3 a week []

    d. Don't know []

19. Which of the underlisted effects can be caused by alcohol consumption during pregnancy?

i. Spontaneous abortion	a. Yes []	b. No []	c. Don't know []
ii. Miscarriage	a. Yes []	b. No []	c. Don't know []
iii. Mental retardation	a. Yes []	b. No []	c. Don't know []
iv. Attention deficit disorder	a. Yes []	b. No []	c. Don't know []
v. Low birth weight	a. Yes []	b. No []	c. Don't know []

Section D: Factors influencing the intake of alcohol

20. Which of the underlisted is your **MAIN** reason for alcohol use during pregnancy?

    a. Appetizer []

    b. have never had complications in previous pregnancies []

    c. Crave for it []

    d. Unwanted or unplanned pregnancy []

e. Life pressure/stress []

f. Easily available/accessible []

g. Socialize/happiness []

h. Don’t know []

21. Approval from friends and family can contribute to alcohol intake during pregnancy

    Agree [] b. Disagree [] c. Don’t know []

22. Low educational status can lead to alcohol intake during pregnancy

    Agree [] b. Disagree [] c. Don’t know []

23. Lack of awareness on adverse effects of alcohol on the fetus can contribute to alcohol intake during pregnancy

    Agree [] b. Disagree [] c. Don’t know []

NATIONAL CATHOLIC HEALTH SERVICE (DIOCESE OF SUNYANI)
HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE
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Our Ref. .....

Your Ref. .....

Date .....August 14, 2024.....

The In - Charge
Zongo Clinic
Berekum
Bono Region

Dear In - Charge

PERMISSION TO CONDUCT RESEARCH

I wish to introduce to you the under-listed names of final year students of the college;

1. Addai Eunice Acheampong
2. Fiademagbe Eyram Pamela
3. Gyapong Rosemary

As part of the pre-requisite for award Diploma Registered Midwifery, they have to conduct a research on the topic;" **Prevalence and associated factors of Alcohol use among pregnant women attending Antenatal at Zongo Clinic".**

I would be grateful if you could grant them any support they may need to accomplish the work.

Thank you.

Yours sincerely

.....
Ms. Monica Boakye
Supervisor
For: Principal

Website: nmtcberekum.edu.gh **E-mail.** nmtcberekum@yahoo.com, nmtcberekum@gmail.com