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Research Article

The Prevalence of Alcohol Use among Pregnant Women Attending Antenatal Clinic at Mother and New Born Hospital - University Teaching Hospital, Lusaka. Zambia

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Abstract

Background: Despite the increasing burden of alcohol use disorders and effects of its use, there is very little information on prevalence of alcohol use among pregnant women in the country. The use of alcohol during pregnancy affects both the mother and unborn child. The study investigated the prevalence of alcohol use among pregnant women attending antenatal clinic at Women and New Born Hospital-UTH.

Methodology: This was a cross sectional study which was carried out at Women and New Born Hospital. The inclusion criteria was pregnant women attending antenatal clinic. The exclusion criteria included any non-pregnant women attending clinic. An interviewer administered questionnaire was used to interview the participants.

Results: The study interviewed 48 participants who were attending antenatal clinic at Women and New Born Hospital and demonstrated 36 (62.07%) of participants used alcohol before and 19 (32.76%) of participants used alcohol during their current pregnancy.

Conclusion: The prevalence of alcohol use among pregnant women attending antenatal care at Woman and New Born Hospital was 19 (32.76%).

Keywords: *Alcohol; Pregnant Women; Antenatal Clinic; Mother; New Born Hospital*

Background

Alcohol is a common substance of abuse found in various markets of the world. Evidence suggests that fermented beverages existed as far back as 10000 BC and continued to play an important role in social interactions, politics, religion, medicine and nutrition. However, due to the various effects alcohol has on the body, regulations are put in place for its use. Alcohol can be both beneficial or hazardous, based on the quantity that is consumed. (Hanson, 2012)

Hazards of drinking have been known since ancient times and recently began to be acknowledged as a human health problem. Alcohol use is associated with alcoholism, abuse, tolerance, dependence and various medical consequences. (Prof. David J Hanson, 1997-2019).

Individuals consume alcohol for a variety of reasons including the high it produces, out of curiosity, as a reaction to the social environment, because they see it modelled by others, as part of normal developmental transitions, as a way to cope with stress, as a result of personality characteristics, because it is culturally normalised and because it is accessible (Weber, 2011).

Alcohol consumption varies greatly from country to country across the globe. Variation is seen in the demographics of drinkers, types of drinks consumed and indeed in the quantity. In the USA, the National Survey on Drug Use and Health in 2016 showed that 80.2% respondents had taken alcohol in their lifetime whereas 64.8% had consumed alcohol in the last 12 months. 50.7% had alcohol in the last month. 47.8% had engaged in binge drinking in the past month [1].

According to Zambia Stepwise Survey for Non-Communicable Diseases Risk factors 21.7% of the respondents were current drinkers of alcohol with men comprising 32.0% and women 11.8% (Banda, 2017). Zambia Global School health survey was conducted among students in grades 7 - 10, in 47 schools, in 9 provinces. The survey indicated that 42.6% of the 2257 students who participated had taken alcohol on one or more occasions in the previous 30 days. Children as young as 13 indulged in drinking alcohol and consumption was higher among females (45.5%) than males (38.9%) and in the age group of 16, females (49.9%) drank more alcohol on one or more times than males (35.9%) (Monica., *et al*. 2011).

Drinking alcohol over a long period of time or in large amounts per sitting (binge drinking) has many deleterious effects on the human body. Alcohol can cause disturbance in mood and behaviour and also coordination in the brain leading to accidents. It affects the heart causing cardiomyopathy, arrhythmias, stroke and high blood pressure. It also affects the liver leading to steatosis, alcoholic hepatitis, fibrosis and cirrhosis. It has also been implicated as a risk factor for cancers such as those affecting the head and neck, oesophagus, liver, breast, colon and rectum (NIH, 2012).

The effects, however, are much more pronounced in women as they tend to reach higher Blood Alcohol Concentration (BAC) for the same amount of alcohol taken. This accounts for the differences in body size, food consumption, and other factors that affect alcohol metabolism in the body. One major effect of binge drinking is the implications it has on the systems of the body and as a result pregnancy complications and congenital Birth defects. (Galbicsek, 2018).

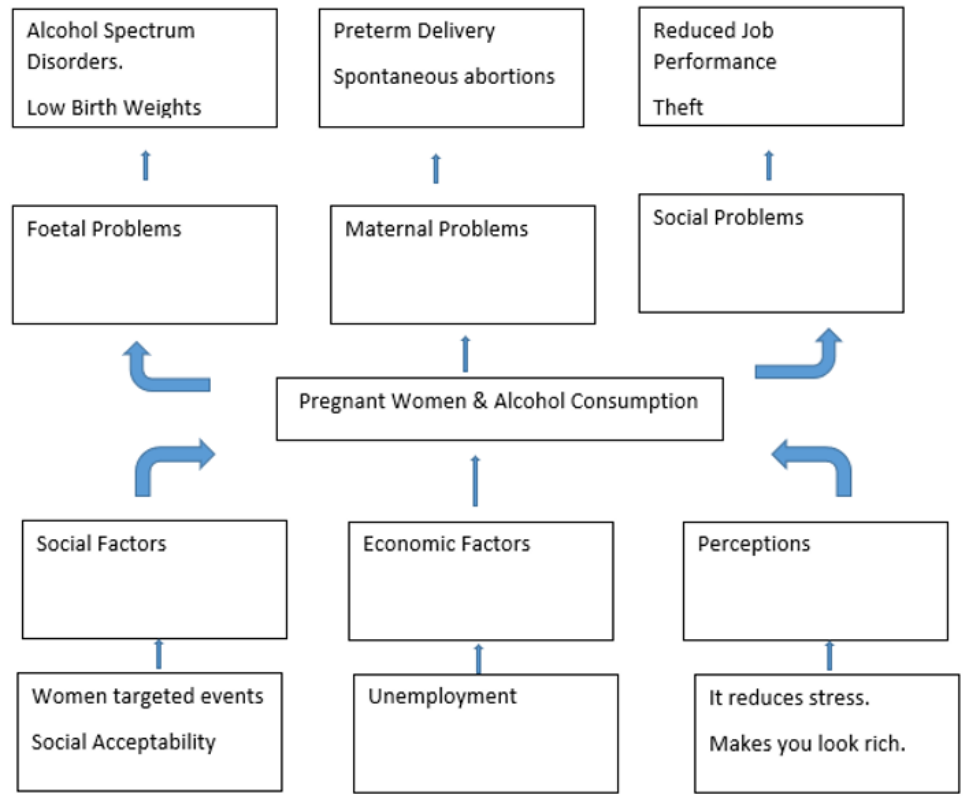
The overall increased concentration of fat in body tissue, females tend to reach a higher alcohol consumption than male drinkers [2,3]. This in turn makes it possible for female drinkers to metabolize alcohol at a much faster than males. (Likashi, Paul, & Jason, 2019).

There is no known safe amount of alcohol in pregnancy. Alcohol has many effects on an unborn child including low birth weight, premature births, miscarriages, birth defects, foetal alcohol spectrum disorders (FAS) and still births. Babies with FAS may have microcephaly and cognitive difficulties including poor memory, attention difficulties, problems with math skills, learning disabilities, speech and language delays, low IQ and poor judgemental skills. The child may experience hyperactivity and behavioural issues in addition to heart, skeletal, kidney, vision or hearing problems (American Addiction Center, 2019).

Problem statement

Zambia has high levels of alcohol consumption among women (Banda, 2017). In addition, we have a large number of youths indulging in alcohol consumption (Ministry of Health, 2004). There is compounded by poor knowledge and late antenatal booking among pregnant women. These factors increase chances of alcohol induced pregnancy complications among women in Zambia.

Conceptual framework



Figure

Justification

There is no published data on prevalence of alcohol use among pregnant women in Zambia, therefore this study would create awareness on the magnitude of the problem of alcohol and its effects on pregnancy. It would also guide preventive interventions to be put in place.

Research question

What is prevalence of alcohol use among pregnant women attending antenatal clinic at Women and New born hospital-UTH?

Objective of the Study

General objective

To determine the prevalence of alcohol use among pregnant women attending antenatal care at women and New born Hospital UTH.

Specific objectives

- To understand the demographics of women attending antenatal clinic at UTH.
- To quantify the prevalence of alcohol use in pregnant women attending.
- To assess levels of knowledge of alcohol drinking and its effects on pregnancy amongst women attending antenatal care at UTH.

Literature Review

In 2014, the World Health Organization reported that alcohol contributed to more than 200 diseases and injury-related health conditions, most notably DSM-IV alcohol dependence, liver cirrhosis, cancers, and injuries. In 2012, 5.1 percent of the burden of disease and injury worldwide (139 million disability-adjusted life-years) was attributable to alcohol consumption. (WHO, 2018).

Globally, alcohol misuse is the fifth leading risk factor for premature death and disability; among people between the ages of 15 and 49, it is the first. In the age group 20 - 39 years, approximately 25 percent of the total deaths are alcohol attributable. (WHO, 2018).

According to National Survey on Drug Use and Health (NSDUH) more than 10 percent of U.S. children live with a parent with alcohol problems, according to a 2012 study. Prevalence of drinking [4,5] 33.1 percent of 15-year-olds report that they have had at least 1 drink in their lives. About 7.7 million people ages 12-2019 (20.3 percent of this age group 20) reported drinking alcohol in the past month (19.8 percent of males and 20.8 percent of females. (NSDUH, 2015).

In a research conducted in the USA the prevalence of Fetal Alcohol Syndrome (FAS) in the United States was estimated by the Institute of Medicine in 1996 to be between 0.5 and 3.0 cases per 1,000. More recent reports from specific U.S. sites report the prevalence of FAS to be 2 to 7 cases per 1,000 and the prevalence of Fetal Alcohol Spectrum Disorders (FASD) to be as high as 20 to 50 cases per 1,000. (Shannon , Charlotte , Svetlana , 2017).

In 2013, of the 72,559 liver disease deaths among individuals ages 12 and older, 45.8 percent involved alcohol. Among males, 48.5 percent of the 46,568 liver disease deaths involved alcohol. Among females, 41.8 percent of the 25,991 liver disease deaths involved alcohol. Among all cirrhosis deaths in 2013, 47.9 percent were alcohol related. The proportion of alcohol-related cirrhosis was highest (76.5 percent) among deaths of persons ages 25 - 34, followed by deaths of persons aged 35 - 44, at 70.0 percent (Johnetal, 2013).

The global prevalence of alcohol use during pregnancy is estimated to be 9.8% in a meta-analysis study. Africa had a prevalence of 10.0% and an incidence of Foetal Alcohol Syndrome of 14.8 per 10000 people. The study also showed that South Africa had one of the highest FAS prevalence at 585.5 per 10000 people (Popova, 2017).

Studies on the prevalence of alcohol consumption in pregnancy in the African region showed 2.6% to 12.6% in Central Africa, 3.4% to 20.5% in Eastern Africa, 5.7% to 14.2% in Southern Africa and 6.6% to 14.8% in Western Africa (Popova, 2016).

Matunga Mpelo., *et al*. showed that the prevalence of alcohol consumption in pregnancy was 15.1% in Dodoma, Tanzania. The study showed that factors associated with alcohol use included having relatives who took alcohol and low education status (Mpelo., *et al*. 2018).

Alcohol prevalence in Lusaka, Zambia was estimated to be 26.3% (43% among males and 17.7% among females). The study also showed that 44% of these consumed an average of 5 or more standard alcoholic drinks in a day (Nzala., *et al*. 2010).

A meta-analysis of alcohol consumption in pregnancy in Zambia estimated the prevalence to be 18.5% (Popova, 2016).

The overall rate of alcohol related disorders increased linearly from 9.3% in 2012 to 18.7% in 2015. (Hammerstien, Paul, & Ncheka, 2017).

Methodology

Study design

A cross sectional study to quantify the prevalence of alcohol use among pregnant women at women and new born hospital.

Study site

The study was conducted at Antenatal clinic at the Women and New Born Hospital, UTH.

Target population

Pregnant women attending antenatal clinic.

Sample size

Data collection was done over a period of 2 weeks. The antenatal clinic at the Women and New Born hospital attends to approximately 40 clients every working day of the week.

The study interviewed every 10th client and the sample size was thus 60 clients.

Sampling method

A convenient sampling method was used in the study to interview women attending antenatal at Women and New Born Hospital at UTH.

Data collection method

The study data was collected by an interviewer based questionnaire (Attached in appendix).

Independent Variable	Dependant Variable
Alcohol Consumption during Pregnancy	Age
	Level of Education
	Occupation
	Consumption of Alcohol
	Age at first consumption
	Reason for alcohol use
	Frequency of Alcohol Consumption
	Family hx of alcoholism
	Number of Antenatal visit
	Children with congenital anomaly

Table: *Showing variables to be considered in the study.*

Data analysis

The data was collected in questionnaires and entered in Microsoft Excel 2016. It was then analysed using Stata Version 14.0. Frequency tables, graphs and charts were used to analyse data. The Chi-square test was used to determine significant relationships between variables.

Data presentation

The data has been presented as frequency tables, graphs and charts to adequately represent the findings.

Ethical consideration

The study was conducted keeping in mind the three principles of bioethics, namely: Respect for Autonomy, Beneficence and Justice.

Written consent about this research was obtained from all competent participants who were chosen at random and volunteer to be part of the study after the process was explained to them in detail. The study posed no health risks to the mother and/or child.

Confidentiality was insured by not using participants' names or any other identifying data, rather study numbers was be used. All the information shared is not be disclosed or shared with anyone who is not part of the study team.

Permission was obtained from the University of Zambia School of Medicine Research and Ethics Committee (UNZASOMREC) through the department of community medicine.

The information obtained was strictly used for the sole purpose of the study which is purely academic and absolute confidentiality will be maintained at all times and all data collected will kept in a secure location at all times.

The research study will contribute to improving the collective medical and public health knowledge for designing of more effective health policies.

Results and Analysis

Characteristic	Frequency	Percentage (%)
Age (Years)		
< 20	2	3.45
20 - 25	8	13.79
26 - 30	15	25.86
30 - 40	33	56.90
Marital Status		
Single	4	6.90
Married	54	93.10
Divorced	0	0
Widowed	0	0
Separated	0	0
Level of Education		
Primary	7	12.07
Secondary	17	29.31
Tertiary	34	58.62
Occupational Background		
Unemployed	25	43.10
Formal Employment	26	44.83
Self-Employment	7	12.07
Occupational Background of Spouse		
Unemployed	2	3.45
Formal Employment	41	70.69
Self-Employment	15	25.86
Family Income per month (ZMK)		
< 500	4	6.90
501 - 750	2	3.45
751 - 1000	6	10.34
> 1000	46	79.31

Table 1: *Demographics of participants.*

Characteristic	Frequency	Percentage (%)
Consumed Alcohol Before		
Yes	36	62.07
No	22	37.93
Frequency of Alcohol use		
Never	23	39.66
Longer than month	21	36.21
Monthly	6	10.34
weekly	6	10.34
Daily or almost daily	2	3.45
Number of drinks in a typical sitting		
Not Applicable	24	41.38
One or Two	12	20.69
Three or Four	10	17.24
Five or Six	7	12.07
Seven or Nine	3	5.17
Ten or More	2	3.45
Frequency of six or more drinks		
Never	41	70.69
Longer than month	3	5.17
Monthly	8	13.79
Weekly	4	6.90
Daily or almost daily	2	3.45
Unable to stop drinking		
Never	38	65.52
Longer than month	10	17.24
Monthly	8	13.79
weekly	2	3.45
Daily or almost daily	0	0
Unable to fulfill expectations		
Never	50	86.21
Longer than month	0	0
Monthly	6	10.34
weekly	2	3.45
Daily or almost daily	0	0
Frequency of Early Morning Drink (Eye Opener)		
Never	58	100
Longer than month	0	0
Monthly	0	0
weekly	0	0
Daily or almost daily	0	0

Feeling of Guilt in the past year		
Never	42	72.14
Longer than month	4	6.90
Monthly	6	10.34
weekly	6	10.34
Daily or almost daily	0	0
Unable to Recall previous night events		
Never	53	91.38
Longer than month	1	1.72
Monthly	4	6.90
weekly	0	0
Daily or almost daily	0	0
Injuries as a result of Drinking		
Never	54	93.10
Longer than month	3	5.17
Monthly	1	1.72
weekly	0	0
Daily or almost daily	0	0
Concern or advice by Medical		
Non-Medical personnel to cut down		
No	44	75.86
Yes, but not in past year	4	6.90
Yes, during the past year	10	17.24
Age of first alcohol use (years)		
< 20	3	5.17
20 - 25	1	1.72
2 6- 30	19	32.76
30 - 40	10	17.24
> 40	1	1.72
Not Applicable	24	41.38
Reason to Start alcohol Use		
Peer Pressure	9	15.52
Curiosity	8	13.79
Felt like	5	8.62
Influence of an Adult	6	10.34
Others	6	10.34
Not Applicable	24	41.38

Table 2: *Showing alcohol use.*

Characteristic	Frequency	Percentage
Family History of alcohol problems		
Yes	18	31.03
No	40	68.97
Had unprotected sex under the influence of alcohol		
Yes	15	25.86
No	43	74.14
Sexually Taken advantage of (By another or you of other)		
Yes	1	1.72
No	56	98.28
Taken any other drugs (legal and Illegal)		
Yes	1	1.72
No	57	98.28
Which Drug		
Tobacco	1	1.72
Marijuana	0	0
Cocaine	0	0
Fentanyl	0	0
Codeine	0	0
Mushrooms	0	0
Ecstasy	0	0
Not applicable	57	98.28

Table 3: *Showing social aspects of alcohol use.*

Characteristic	Frequency	Percentage
First Pregnancy		
Yes	9	15..52
No	49	84.48
Number of Biological Children		
1	16	27.59
2	20	34.48
3	2	3.45
4	6	10.34
5 or more	2	3.45
Not Applicable	12	20.69

Number of antenatal visits this pregnancy		
1	5	8.62
2	3	5.17
3	9	15.52
4	38	65.52
5 and above	3	5.17
Alcohol use during current pregnancy		
Yes	19	32.76
No	39	67.24
Alcohol use in previous pregnancy		
Yes	7	12.07
No	41	70.69
Not applicable	10	17.24
Thought about alcohol use being harmful to both mother and unborn child		
Agree	51	87.93
Disagree	4	6.90
I don't know	2	3.45
Depends on Type and Amount	1	1.72
Knowledge on congenital anomalies		
Knowledge	11	18.97
No knowledge	47	81.03
Place where you learnt about congenital anomalies		
Antenatal	1	1.72
Local clinics	1	1.72
Hospital visits	1	1.72
Campaigns against alcohol use	2	3.45
Others	6	10.34
Not applicable	47	81.03
Do you follow antenatal medical advice?		
Yes	58	100
No	0	0
How often and long do you adhere to advice?		
Trimester	1	1.72
Entire pregnancy	23	39.66
Pregnancy and breast feeding	25	43.10
Ever since without fail	9	15.52

Table 4: *Showing pregnancy and alcohol use.*

Relationship between variables

Level of Education	Alcohol Use		Total
	Yes	No	
Primary	1 (1.72%)	6 (10.34%)	7 (12.07%)
Secondary	11 (18.97%)	6 (10.34%)	17 (29.31%)
Tertiary	24 (41.38%)	10 (17.24%)	34 (58.62%)
Total	36 (62.07%)	22 (37.93%)	58 (100%)

Table 5: *Relationship between level of education and alcohol use.*

Among 34 (58.62%) respondents that had acquired tertiary education, 24 (41.38%) used alcohol.

Pearson chi square = 7.8869 and p value = 0.019.

The p value hence rejects the null hypothesis, showing there is a relationship between level of education and alcohol use among pregnant women.

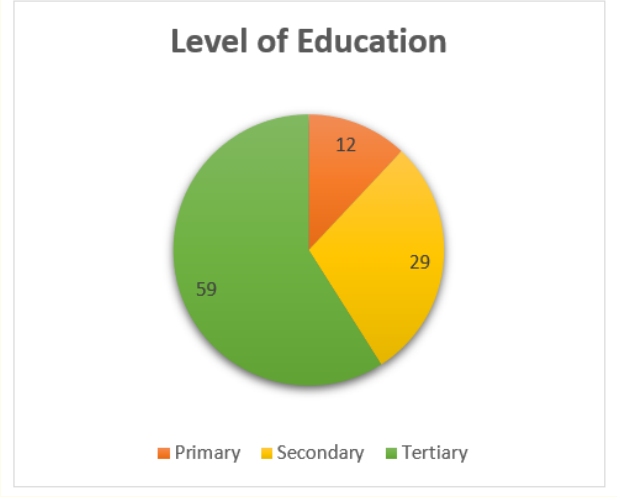


Figure 1: *Level of education.*

Alcohol Use	Occupational Background			Total
	Unemployed	Formal	Self	
Yes	15 (25.86%)	16 (27.59%)	5 (8.62%)	36 (62.07%)
No	10 (17.24%)	10 (17.24%)	2 (3.45%)	22 (37.93%)
Total	25 (43.10%)	26 (44.83%)	7 (12.07%)	58 (100%)

Table 6: *Relationship between occupational background and alcohol use.*

The results show out of 36 (62.07%) respondents that used alcohol 15 (25.86%) were unemployed, 16 (27.59%) had formal employment and 5 (8.62%) ran their own business.

Pearson chi squared = 0.3090 and p value = 0.857.

The p value hence shows poor evidence against the null hypothesis and cannot be rejected.

Family Income	Alcohol Use		Total
	Yes	No	
< 500ZMK	3 (5.17%)	1 (1.72%)	4 (6.90%)
501 - 750ZMK	0 (0)	2 (3.45%)	2 (3.45%)
751 - 1000ZMK	3 (5.17%)	3 (5.17%)	6 (10.34%)
> 1000ZMK	30 (51.72%)	16 (27.59%)	46 (79.31%)
Total	36 (62.07%)	22 (37.93%)	58

Table 7: *Relationship between alcohol use and family monthly income.*

Out of 36 participants who used alcohol, 30 had higher than 1000ZMK income and 3 had less than 500ZMK income per month.

Frequency of alcohol use	Advice from another individual			Total
	No	Yes > 1	Yes < 1	
Never	23 (39.66%)	0 (0%)	0 (0%)	23 (39.66%)
Longer than a month	14 (24.14%)	4 (6.90%)	3 (5.17%)	21 (36.21%)
Monthly	3 (5.17%)	0 (0%)	3 (5.17%)	6 (10.34%)
Weekly	4 (6.90%)	0 (0%)	2 (3.45%)	6 (10.34%)
Daily/almost daily	0 (0%)	0 (0%)	2 (3.45%)	2 (3.45%)
Total	44 (75.86%)	4 (6.90%)	10 (17.24%)	58 (100%)

Table 8: *Relationship between frequency of alcohol use and concerned advice to participant.*

14 (24.14%) out of 58 participants had been advised by family and or a medical personal, who were concerned, on their drinking.

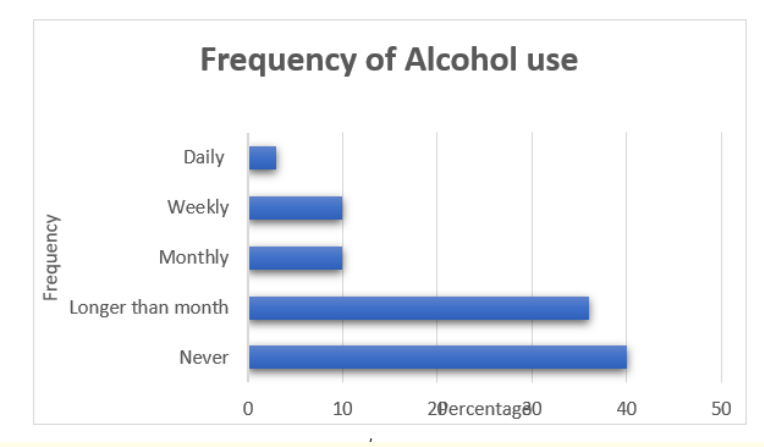


Figure 2: *Frequency of alcohol use.*

Age of first consumption (years)	Family history of alcohol problems		Total
	Yes	No	
Not applicable	2 (3.45%)	22 (37.93%)	24 (41.38%)
< 20	1(1.72%)	2 (3.45%)	3 (5.17%)
21 - 25	0	1(1.72%)	1 (1.72%)
26 - 30	10 (17.24%)	9 (15.52%)	19 (32.76%)
31 - 40	5 (8.62%)	5 (8.62%)	10 (17.24%)
> 40	0	1 (1.72%)	1 (1.72%)
Total	18 (31.03%)	40 (68.97%)	58 (100%)

Table 9: *Correlation of age of first alcohol use and family history with alcohol problems.*

18 (31.03%) out of the 58 participants acknowledged a family history of having problems with alcohol use. Out which a majority of 10 (17.24%) first used alcohol between ages of 26 and 30 years.

P value = 0.028, hence rejecting the null hypothesis showing a relationship between age of first alcohol use and family history of alcohol problems.

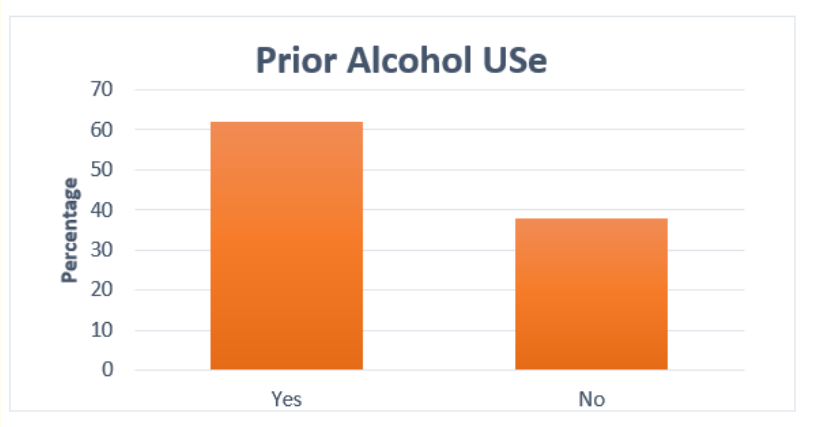


Figure 3: *Prior alcohol use.*

Alcohol use	Alcohol use during current pregnancy		Total
	Yes	No	
Yes	16 (27.59%)	20 (34.48%)	36 (62.07%)
No	3 (5.17%)	19 (32.76%)	22 (37.93%)
Total	19 (32.76%)	39 (67.24%)	58 (100%)

Table 10: *Correlation between participants who use alcohol and those who used in current pregnancy.*

Out of 36 (62.07%) of participants who used alcohol, 16 (27.59%) used alcohol during their current pregnancy.

Pearson chi square = 5.8839 and p value = 0.015.

The p value hence rejects the null hypothesis, showing there is a relationship between participants who have used alcohol and those that used it in current pregnancy.

Alcohol use in current pregnancy	Consumption of alcohol can be harmful to both mother and child				Total
	Agree	Disagree	Don't know	Depends	
Yes	13 (22.41%)	4 (6.90%)	2 (3.45%)	0 (0%)	19 (32.76%)
No	38 (65.52%)	0 (0%)	0 (0%)	1 (1.72%)	39 (67.24%)
Total	51 (87.93%)	4 (6.90%)	2 (3.45%)	1 (1.72%)	58 (100%)

Table 11: *Comparison of knowledge of harms of alcohol use and alcohol use in pregnancy.*

19 (32.76%) participants used alcohol in their current pregnancy with 13 (22.41%) being aware to the consumption of alcohol being harmful to both the mother and unborn baby.

Figure 4: *Alcohol use during pregnancy.*

Discussion

Discussion of the findings and the implication for the health care system

The discussion of the findings is based on the research analysis of the responses from 58 respondents who accessed antenatal care at Women and New Born Hospital, UTH. The study purpose was to determine the prevalence of alcohol consumption among pregnant women attending antenatal care at the hospital. The outline of the discussion consists of the characteristics of the sample, discussion of variables used in the study, implications of findings, limitation of findings and conclusion.

Characteristics of the sample

The sample consisted of 58 women attending antenatal clinic at Women and New Born hospital UTH. The participants were randomly selected over a period of 2 weeks.

Demographic data

In terms of age distribution, the majority 33 (56.90%), of the respondents were aged between 30 and 40 years, 15 (25.86%) were aged between 26 and 30, 8 (13.97%) were aged between 20 and 25 and 2 (3.45%) less than 20 years of age (Table 1). The higher percentage of age group between 30 and 40 years can be attributed to the fact that the household population in Zambia has a greater number of younger than older people (CSO, 2007).

The majority of the respondents were married 54 (93.10%) and a few who were single, 4 (6.90%) (Table 1). This higher proportion of married women can be attributed to the age group of the participants.

Regarding education, the majority 34 (58.62%) had attained tertiary education, 17 (29.31%) secondary and 7 (12.07%) had attained primary education. 25 (43.10%) were unemployed, 26 (44.83%) were under formal employment and 7 (12.07%) were self-employed. 15 (25.86%) of the spouses were self-employed, 41 (70.69%) were under formal employment and 2 (3.45%) being unemployed. Majority of the participants, 46 (79.31%) had an income of more than 1000ZMK per month.

Alcohol use

The study showed that over 62% of the participants consumed alcohol before and nearly 38% having not used alcohol. Among those that used alcohol, the highest frequency of use was 36% and was for over a period of months. However, over 10% of the participants used alcohol monthly or weekly and 3% using it more frequently than a week or daily. 12 (21%) of the participants took one or two drinks and 10 (17%) took three to four drinks per typical day of drinking. However, some participants also had more than the above stated number of drinks such as 7 (12%) taking five or six, 3 (5%) taking seven or nine and 2 (3%) of the participants took ten or more per setting.

8 (14%) of the participants took 6 or more drinks on a monthly basis whereas 4 took it on a weekly basis and 2 being daily or almost daily.

Among 34 (58.62%) respondents that had acquired tertiary education, 24 (41.38%) used alcohol (p value = 0.019), therefore there is a significant relationship between level of education and alcohol use among pregnant women. It showed that the women with higher levels of education used more alcohol than others.

18 (31.03%) out of the 58 participants acknowledged a family history of having problems with alcohol use. Out which a majority of 10 (17.24%) first used alcohol between ages of 26 and 30 years (P value = 0.028). This showed a significant a relationship between age of first alcohol use and family history of alcohol problems.

Out of 36 (62.07%) of participants who used alcohol, 16 (27.59%) used alcohol during their current pregnancy (p value = 0.015), showing there is a relationship between participants who have used alcohol prior and those that used it in current pregnancy [6-43].

Conclusion

The study sought to determine the prevalence of alcohol use among pregnant women attending antenatal care at Women and New Born hospital UTH.

The study comprised of various aspects such as demographics, alcohol use history both during and before pregnancy and, the aspects of antenatal care that affect alcohol use during pregnancy.

The study findings quantified the prevalence of alcohol use and revealed that 36 (62%) of the participants did take alcohol and 19 (33%) took alcohol during their current pregnancy. This was despite a large number of participants being aware that alcohol use can be harmful to both the mother and unborn child.

The demographics of the women attending antenatal clinic were obtained and analysed. This aided to show any correlation between the various variables and the use of alcohol during pregnancy.

Though women were aware of the harmful effects of alcohol, many used it during their pregnancies and before. Despite having attended many ante natal sessions for their current pregnancy, many women continued the use of alcohol.

Limitations of the Study

- The study only targeted 60 pregnant women and only 58 were interviewed due to resource and time constraints. This may not represent the larger population of pregnant women attending antenatal care. The time period of research was very short hence restricting the size of the study.
- The study sample cannot be generalized to the entire province or nation even though the burden of alcohol use is a national concern.
- The difference in understanding terms made communication not as efficient as it can be.

Recommendations

- Provide a larger study to assess the prevalence of alcohol use in pregnant women. This would increase the knowledge and allow for policy making changes to be implemented.
- Health education talks about the harmful effects of alcohol during pregnancy should be added to health promotion programs.

Appendix

Consent form

[To be read out by the researcher before the beginning of the interview/test. A copy of the form will be signed by the respondent].

Dear Participant,

Thank you for taking part in this research study. Your input will add significant value to the research project titled Alcohol Consumption among Pregnant Women Attending Antenatal Clinic at Women and New Born Hospital. This research is conducted by JEEVAN KUMAR JOY SATHYA (Student No: 14051915) for my course DPH 6024.

Please be advised that you may choose not to participate in this research study and would you wish to withdraw at any stage, you have the full right to do so and your action will not be of any disadvantage to you in any way.

Your participation in this research will be through an interview and will be arranged to ensure minimal disruption to your schedule. The information obtained will be treated as confidential; pseudonyms will be used in identifying respondents or participants when necessary.

The project is expected to be completed by, 2019.

Participants Signature

Researcher's Signature

Date

Date

Should you have any questions, my contact details are below:

Joy Sathya Jeevan Kumar,

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Questionnaire

Thank you for participating in this study. Kindly indicate your opinion by circling an option and filling in the blanks.

Demographics

1. Age (years)

1. <20
2. 20-25
3. 26-30
4. >30

2. Residence.....

3. Marital status
    1. Single
    2. Married
    3. Divorced
    4. Separated
4. Level of education
    1. Primary
    2. Secondary
    3. Tertiary
5. Occupational background
    1. Student
    2. Unemployed
    3. Formal employment
    4. Self employed
6. Spouse's occupational background
    1. Student
    2. Unemployed
    3. Formal employment
    4. Self employed

7. Family income per month
    1. < 500
    2. 500 - 750
    3. 751 - 1000
    4. > 1000

Questions on alcohol consumption

1. Have you ever taken alcohol
    1. Yes
    2. No
2. How often do you have a drink containing alcohol?
    1. Never
    2. Monthly or less
    3. 2 - 4 times a month
    4. 2 - 3 times a week
    5. 4 or more times a week
3. How many drinks containing alcohol do you have on a typical day when you are drinking?
    1. 1 or 2
    2. 3 or 4
    3. 5 or 6
    4. 7 - 9
    5. 10 or more
4. How often do you have six or more drinks on one occasion?
    1. Never
    2. Less than monthly
    3. Monthly
    4. Weekly
    5. Daily or almost daily
5. How often during the past year have you found that you were not able to stop drinking once you had started?
    1. Never
    2. Less than monthly
    3. Monthly
    4. Weekly
    5. Daily or almost daily

6. How often during the past year have you failed to do what was normally expected of you because of drinking?
    1. Never
    2. Less than monthly
    3. Monthly
    4. Weekly
    5. Daily or almost daily
7. How often during the past year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
    1. Never
    2. Less than monthly
    3. Monthly
    4. Weekly
    5. Daily or almost daily
8. How often during the past year have you had a feeling of guilt or remorse after drinking?
    1. Never
    2. Less than monthly
    3. Monthly
    4. Weekly
    5. Daily or almost daily
9. How often during the past year have you been unable to remember what happened the night before because you had been drinking?
    1. Never
    2. Less than monthly
    3. Monthly
    4. Weekly
    5. Daily or almost daily
10. Have you or has someone else been injured as a result of your drinking?
    1. No
    2. Yes, but not in the past year
    3. Yes, during the past year
11. Has a relative, friend, or a doctor or other health care worker been concerned about your drinking or suggested you cut down?
    1. No
    2. Yes, but not in the past year
    3. Yes, during the past year

12. Have you ever consumed alcohol?
    1. Yes
    2. No
13. At what age did you start consuming alcohol?
    1. Less than 10 years
    2. 10 - 15 years
    3. 16 - 20 years
    4. 20 - 30 years
    5. > 30 years of age
14. Why did you start consuming alcohol?
    1. Peer Pressure
    2. Curiosity
    3. Because you felt like it (bored)
    4. Influence of an adult
    5. Others
15. Do you have a history of alcohol or drug problems in your family?
    1. Yes
    2. No
16. Have you ever had unprotected sex while under the influence of alcohol?
    1. Yes
    2. No
17. Were you ever sexually taken advantage of while under the influence of alcohol?
    1. Yes
    2. No
18. Have you ever sexually taken advantage of someone else while they were under the influence of alcohol?
    1. Yes
    2. No
19. Have you ever consumed illegal drugs or abused legal ones?
    1. Yes
    2. No
20. If you answered yes to previous question, please specify all the drugs that you have taken.
    1. Marijuana
    2. Cocaine

3. Fentanyl
4. codeine
5. Mushrooms
6. Ecstasy
7. Heroin
8. others

Knowledge on pregnancy complications and congenital abnormalities

21. Is this your first child?
    1. Yes
    2. No
22. If no to question 20, how many biological children do you have before?
    1. 1
    2. 2
    3. 3
    4. 4
    5. 5 or more
23. How many antenatal visits did you attend?
    1. 1
    2. 2
    3. 3
    4. 4 and above
24. Have you taken any alcohol during this pregnancy?
    1. Yes
    2. No
25. Have you taken alcohol during your other pregnancies?
    1. Yes
    2. No
26. Consumption of alcohol can be harmful to both the mother and the unborn child
    1. Agree
    2. Disagree
    3. I don't know
27. Do you know about congenital anomaly?
    1. Yes
    2. No

28. If yes to question 26, When did you learn about the congenital anomalies?
    1. Antenatal
    2. Local clinic
    3. Hospital visits
    4. Campaigns against alcohol use
    5. Others
29. Did you follow the medical advice?
    1. Yes
    2. No
30. If yes to the above, how often did you adhere to the advice?
    1. During a trimester of pregnancy only
    2. Entire pregnancy only
    3. Pregnancy and breastfeeding period
    4. Followed advice ever since without fail

Time frame

ACTIVITY	MONTHS					
	1	2	3	4	5	6
SUBMISSION OF PROJECT PROPOSAL TO SUPERVISOR						
SUBMISSION TO ETHICS COMMITTEE						
DATA COLLECTION						
DATA ANALYSIS						
HANDING IN REPORT						

Budget

Budgetary estimate

	ITEM	UNIT OF MEASURE	QUANTITY	UNIT COST (ZMW)	TOTAL (ZMW)
1.	UNZASOMREC	-	-	300	300
2.	Stationary	-	-	100	100
3.	Printing and Binding of Report	-	-	200	200
4.	Miscellaneous	-	-	-	50
Total					1350

Table 1.0: *Showing budgetary estimate of the study.*

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