



Knowledge and attitude on the effects of alcohol consumption during pregnancy among the childbearing women residing in the urban and rural areas of Sikkim

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Abstract

Pregnancy, the nine month or so far which a women carries a developing embryo and fetus in a womb is for the most women time of great happiness and fulfillment. Pregnancy outcomes can be influenced by various factors, of which lifestyles behaviors e.g. alcohol consumption is one of them. The baby is in a constant state of growth and development over the entire course of pregnancy, but, consuming alcohol can lead to various health problems to the baby, which can lead to lifelong physical, behavioral and intellectual disabilities. These disabilities are known as Fetal Alcohol Spectrum Disorder (FASD). Hence, the present study aimed to assess and compare the knowledge and attitude on the effect of alcohol consumption during pregnancy among the childbearing women of urban and rural areas of Sikkim. Investigators adopted quantitative non-experimental and comparative descriptive survey design. A total of 300 childbearing women between the age group of 18-45years residing in urban and rural area of Sikkim, were selected through purposive sampling technique as samples. Two tools which were used i.e. Tool 1: Demographic Performa, Personal Lifestyle and Pre- designed Knowledge Questionnaire and Tool 2 consist of 5 point Likert scale for assessing attitude. Validation and reliability of tools were done and found 'r = 1'. Data was collected after getting clearance from IEC and written consent from the sample. Result shows majority 68% and 58.6% of samples has average knowledge in urban and rural areas respectively. Majority 80% and 73.4% of samples has positive attitude on alcohol consumption in pregnancy in the urban and rural areas respectively. There was a significant association between knowledge with selected demographic variables and no association was found between the attitudes with selected demographic variables. The study concluded, that majority of samples have average knowledge and attitude towards the effect of alcoholism during pregnancy was positive. This indicates still there is a need for further improvement of the knowledge about the effect of alcohol consumption during pregnancy among the childbearing women for a complete positive attitude.

Keywords: Alcohol, knowledge, attitude, child bearing women, effects of alcohol, Fetal alcohol spectrum disorder (FASD), fetus

Introduction

Pregnancy is the period of nine months for which a female carries a growing embryo and fetus in her womb is for the most women a time of great happiness and fulfillment. However, during pregnancy, both the mother and the growing fetus face various health risks.^[1] Pregnancy outcomes can be influenced by various factors such as poor nutrition, child spacing, maternal age, lifestyles behaviors (smoking, alcohol consumption, drug abuse, overweight, obesity and poverty) and an inadequate prenatal care.^[2] Maternal alcohol ingestion in pregnancy may have deleterious effects on the Central nervous system and other organ of the developing embryo and fetus, depending on the dose, duration and the developmental stage of the embryo at the exposure^[3].

According to WHO, in the European region, the highest

prevalence of alcohol use during pregnancy was found in Ireland (60%), Belarus (47%), Denmark (46%), United Kingdom of Great Britain (41%) and the Russian federation (37%)^[4].

In India, the percentage of women who consume alcohol are Goa (4.2%), Andaman and Nicobar (2.5%), Madhya Pradesh (1.6%), Karnataka (1.0%), west Bengal (0.8%), Kerala (0.7%), Delhi (0.7%), Andhra Pradesh (0.4%), Gujarat (0.3%), Bihar (0.2%) and Uttar Pradesh(0.2%). In Northeastern part of India, the highest percentage of women who consume alcohol is Arunachal Pradesh (26.3%) and secondly, Sikkim (23%). Others include Assam (6.9%), Manipur (6.1%), Mizoram (5.0%), Nagaland (3.0%) and Meghalaya (2.1%)^[5].

Almost half of the pregnant women (48%) were reported taking alcohol during pregnancy. Of these, 54% consumed

alcohol once in a while, others consumed weekly (38%), and some (8%) daily [6]. Pregnant women lack knowledge regarding the maternal risk factor. Only 42% of women correctly knew maternal risk factors in pregnancy (alcohol, smoking, obesity) [7].

In Nepal, the knowledge about alcohol use during pregnancy was inadequate. Only 26.5% had adequate knowledge and 23.93% had positive attitude towards alcohol consumption [8]. Tribal women and family members perceive alcohol as a part of their routine lives and therefore continue consuming alcohol during pregnancy. The practice

can be attributed to the community's lack of knowledge about the ill effect of alcohol on the newborn [9].

Alcohol exposure is common and modifiable risk factor for poor pregnancy and child outcomes. It can cause a range of physical and neurodevelopment problems in the child including fetal alcohol spectrum disorder (FASD) [10].

Every women hope for safe and healthy pregnancy. However, reported rates of alcohol use among woman have increased in both the rural and the urban areas of Sikkim (Table 1).

Table 1: Percentage of women who consumes alcohol in Sikkim in the year 2015-16 and 2005-06

Women who consumed alcohol in (%)	Urban area (2015-16)	Rural area (2015-16)	Total (%) (2015-16)	Total (%) (2005-06)
Sikkim	22.7	23.1	23	19.2

The level of alcohol consumption among the pregnant women is high. More than half (59.28%) of the women drank alcohol during pregnancy, about (39.40%) drank regularly and 25.79% were binge drinker. Change is required in the attitude of the public and the knowledge and the behavior of the pregnant women [11].

A significant portion of all alcohol consumed globally is unrecorded, India is a major producer and consumer of unrecorded alcohol. In Sikkim, home brewed Chang and Raksi is common. A large population of Sikkim and Northeast of India has a higher rate of unrecorded alcohol consumption due to more than 10 types of traditional prevalence [12].

Indigenous fermented food beverages constitute an integral part of dietary culture of the various ethnical people of Sikkim and Darjeeling. Fermented food beverages have strong ritual importance and deep rooted in the cultural heritage. These beverages are considered to be as nutritious and have high caloric content. In this region there is provision and consumption of appreciable quantities of the alcoholic beverages [13].

Material and Methods

The present study aimed to assess and compare the knowledge and attitude on the effect of alcohol consumption during pregnancy among the childbearing women of urban and rural areas of Sikkim. Investigators adopted quantitative non-experimental comparative descriptive survey design. A total of 300 childbearing women between the age group of 18- 45years residing in urban and rural area of Sikkim, were selected through purposive sampling technique as samples. Two tools were used i.e. Tool 1: Demographic Proforma, Personal Lifestyle, Structured Knowledge Questionnaire and Tool 2 consist of 5 point Likert scale for assessing attitude. Validation and reliability of tools were done and found 'r = 1'. Data was collected after getting clearance from Institutional Ethical committee, administration and written consent from the participants.

Results

Result shows that majority 42.7%and 39% of samples are between the age group of 18-27 years and 28-36 years in urban and rural area respectively. Majority 71% and 64% from urban and rural area respectively was married. Majority 34% and 32.7% had none and 1 living children in urban and rural respectively. Majority 38.6% in urban area

had acquired primary education while majority 32.7% in rural area had secondary level of education. Majority 51.4% and 48.7% from urban and rural area were housewives respectively. Majority 46% and 42% from urban and rural area had no monthly income. Majority 62% and 52.6% from urban and rural area respectively was Hindu by religion as shown in table 1.

Majority 58% from urban area did not drank alcohol, while majority 50.7% from rural area drank alcohol. Majority 76.1% and 72.4% from urban and rural area respectively responded their first alcohol use was at the age of 14-27 year. Majority 52.3% and 40.8% from urban and rural area respectively responded the frequency of alcohol consumption is once a month. Majority 87.1% from rural area responded the amount of alcohol intake is <100ml while majority 42.8% from urban area responded it is 101-200ml. Majority 66% and 62.6% from rural and urban area respectively responded their family drank alcohol. Majority 69.4 and 68.7% from urban and rural area have heard about effects of alcohol on fetus. Majority 53.4% and 40.3% from rural and urban area had heard the information from health professionals as shown in table 2.

The overall components frequency and percentage distribution of knowledge on the effect of alcohol consumption during pregnancy among the child bearing women residing in urban and rural area are shown in table 3. The overall components of frequency and percentage distribution on attitude towards the effect of alcoholism during pregnancy among the child bearing residing in the urban and rural areas are shown in table 4 and table respectively.

Finding of the study also shows that urban area has a significant association between knowledge and level of education as χ^2 value (22.93) is more than p-value (12.59) at df=6. In rural area there is association between knowledge and age as χ^2 value (17.85) more than p-value (9.49) at df=4, marital status as χ^2 value is (16.5) more than p-value (12.59) at df =6, level of education χ^2 value (16.06) more than p-value (12.59) at df =6, occupation χ^2 value (20.1) more than p-value (18.31)at df =10,monthly income χ^2 value (14) more than p-value (2.59) at df =6. In urban there is significant association between attitude and demographic variable age as χ^2 value (7.1) is more than p-value (3.84) at df = 1, marital status as χ^2 value (7.9) is more than p-value (7.82)at df =3, level of education as χ^2 value is (198.2) is more than p-value (7.82)at df =3, occupation as χ^2 value

(43.2) is more than p-value (11.07) at $df = 5$, monthly income as χ^2 value (184.4) is more than p-value (7.82) at $df = 3$ and in rural areas there is significant association between attitude and demographic variable age as χ^2 value is (7.1) is more than p-value (5.99) with $df = 2$.

There is a difference in knowledge and attitude of women residing in urban and rural area on the effect of alcohol consumption during pregnancy as the T-value is more than the table value as shown in table 6 and table 7 respectively. Majority 68% and 58.6% from urban and rural area

respectively have average knowledge. 14% and 23.4% from urban and rural area respectively have good knowledge and 18% each from urban and rural area have poor knowledge as shown in Fig 1.

Majority 80% and 73.4% from urban and rural area respectively have positive attitude towards the effects of alcohol consumption during pregnancy. 20% and 26.6% from urban and rural area respectively have negative attitude towards the effects of alcohol consumption during pregnancy as shown in Fig 2.

Table 2: Frequency and percentage distribution of demographic proforma among the childbearing women residing in urban and rural area.

N=300, n=150

Item	Urban Area		Rural area	
	f	(%)	f	(%)
1. Age				
A. 18- 27	58	38	64	42.7
B. 28- 36	59	39	51	34
C. 37-45	33	23	36	23.3
2. Habitat				
A. Urban	150	100	0	0
B. Rural	0	0	150	100
3. Marital status				
A. Married	107	71	96	64
B. Unmarried	38	26	47	31.3
C. Divorced	3	2	4	2.87
D. Widowed	2	1.3	3	2
4. Living children				
A. 0	51	34	13	8.7
B. 1	44	29.3	49	32.7
C. 2	44	29.3	42	28
D. ≥ 3	11	7.4	46	30.7
5. Education				
A. No formal education	33	22	36	24
B. Primary education	58	38.6	48	32
C. Secondary education	41	27.4	49	32.7
D. Higher secondary	18	12	17	11.3
E. Graduate and above	0	0	0	0
6. Occupation				
A. Housewife	9	6	73	48.7
B. Govt. employee	25	16.6	13	8.7
C. Pvt. employee	77	51.4	29	19.3
D. Self -employee	21	14	21	14
E. Daily wages	3	2	2	1.3
F. Others	15	10	12	8
7. Monthly income				
A. <Rs. 1000	16	10.6	29	19.3
B. Rs. 1001- 5000	34	22.9	30	20
C. Rs. 5001- 10000	37	24.9	22	14.7
D. None	63	42	69	46
8. Religion				
A. Hindu	9	6.2	79	52.6
B. Muslim	8	5.4	9	6
C. Christian	27	18	29	19.3
D. Buddhist	22	14.6	33	22
E. Others	0	0	0	0

Table 3: Frequency and percentage distribution of personal lifestyle of childbearing women residing in urban and rural area of Sikkim

N=300, n=150

Ite	Urban area		Rural area	
	f	(%)	f	(%)
1. Do you drink alcohol?				
A. Yes	63	42	76	50.7
B. No	87	58	74	49.3
If yes, what is he age in years of first alcohol use?				
A. 14-27	91	60.66	79	53
B. 28-36	50	33.33	44	30
C. 37-45	9	6	25	17
What is the frequency of alcohol intake?				
A. Once a day	26	17.3	32.5	21.6
B. Once a week	36	24	29.5	19.6
C. Once a month	54	36	49.5	33
D. Once a year	34	22.66	38.5	25.6
What is amount of alcohol intake ?				
A. ≤ 10ml	33.5	22.3	63	42
B. 101ml- 200ml	41.5	27.66	26	17.3
C. 201ml-300ml	25.5	17	22	14.66
D. 301ml-400ml	16.5	11	15	10
E. 401ml- 500ml	16.5	11	12	8
F. ≥ 500ml	16.5	11	12	8
2. Does anyone in your family drink alcohol?				
A. Yes	94	62.6	99	66
B. No	56	37.4	51	34
3. Have you ever hear about the effect of alcohol on the fetus?				
A. Yes	104	69.4	103	68.7
B. No	46	30	47	31.5
If yes, what was the source of information?				
A. Heath professionals	51.2	34.13	64.4	42.9
B. Family members	26.2	17.4	21.4	14.2
C. Peers	23.2	15.46	18.4	12.2
D. Media (TV, radio, newspaper)	39.2	26.1	36.4	24.2
E. Others	10.2	6.8	9.4	6.26

Table 4: Overall frequency and percentage distribution of knowledge on the effect of alcohol consumption during pregnancy among the child bearing women residing in urban and rural area

N=300, n=150

Item	Urban area		Rural area	
	f	(%)	f	(%)
1. How often pregnant mothers should drink alcohol?				
A. Once a day	2	1.3	9	6
B. Once a month	8	5.3	14	4.7
C. Once a year	12	8	13	8.7
D. Do not drink alcohol at all	106	70.6	87	58
E. No idea	22	14.6	27	18
2. Alcohol consumption during pregnancy can directly harm the :				
A. Baby and the mother	105	70	84	56
B. Only the mother	7	4.6	6	4
C. Only the baby	20	13.3	20	13.3
D. Family members	2	1.3	14	9.3
E. No idea	16	10.6	21	14
3. Drinking alcohol during pregnancy can lead to various health problems to baby, EXCEPT				
A. Poor growth	20	13.3	21	14
B. Abnormal facial structure	3	2	16	10.7
C. Diarrhea and vomiting	32	21.3	19	12.7
D. Brain damage	19	12.6	20	13.3
E. No idea	76	50.6	74	49.3
4. The cause of unhealthy unborn baby is				
A. Maternal consumption of alcohol	68	45.3	102	68
B. Maternal infection	24	16	19	12.7
C. Paternal infection	9	6	10	6.7

D. Paternal consumption of alcohol	3	2	2	1.3
E. No idea	46	30.6	17	11.3
5. The safe amount of alcohol a women can consume during pregnancy:				
A. $\geq 49\text{ml}$	13	8.6	23	15.3
B. 50ml- 100ml	7	4.6	4	2.7
C. 101ml- 150ml	2	1.3	5	3.3
D. 151ml- 200ml	3	2	1	0.7
E. $>200\text{ml}$	15	10	6	4
F. No amount is safe	90	60	79	52.7
G. No idea	20	13.3	32	21.3
6. Alcohol is drink which:				
A. Is sour in taste	26	17.3	51	34
B. Is bitter in taste	30	20	10	6.7
C. Contains ethanol	31	20.6	51	34
D. Has various colors	24	16	22	14.7
E. No idea	39	28	16	10.7
7. Alcohol drinking can be avoided by following habit, EXCEPT				
A. Having good company	15	10	25	16.7
B. Having good family	10	6.6	15	10
C. Own will power	52	34.6	22	14.7
D. Lack of realization	50	33.3	37	24.7
E. No idea	23	15.3	51	34
8. The main component of alcohol is				
A. Ethanol	35	23.3	36	24
B. Enymase	5	3.33	8	5.3
C. Dehydrogenase	1	0.6	7	4.7
D. Nicotine	5	3.33	9	6
E. No idea	104	69.3	90	60
9. Alcohol consumption during pregnancy can increase the risk of:				
A. Miscarriage	39	26	29	19.3
B. Death of the baby	30	20	24	16
C. Preterm baby	7	4.66	15	10
D. All of the above	54	36	66	44
E. No idea	20	13.33	16	10.7
10. The correct effect of the alcohol consumption is it :				
A. Slows down the brain function	34	22.66	49	32.7
B. Slows down the renal function	10	6.66	24	16
C. Increase the heart rate	15	10	21	14
D. Decrease the blood pressure	11	7.33	23	15.3
E. No idea	79	52.66	33	22
11. Alcohol beverages contain the maximum amount of alcohol:				
A. Beer	29	19.33	22	14.7
B. Wine	9	6	13	8.7
C. Breezer	7	4.66	14	9.3
D. Vodka	49	32.66	75	50
E. No idea	61	40.66	26	17.3
12. The vital body organ which gets affected the most due to alcohol consumption:				
A. Lungs	5	3.33	14	9.3
B. Liver	92	61.33	98	65.3
C. Heart	5	3.33	16	10.7
D. Kidney	22	14.66	19	12.7
E. No idea	24	16	3	2
13. Factors that affect the mother during pregnancy are;				
A. Alcohol	14	9.33	23	15.3
B. Drugs	13	8.66	13	8.7
C. Smoking	12	8	10	6.7
D. All of the above	87	58	96	64
E. No idea	18	12	8	5.3
14. The symptoms which occur after drinking alcohol:				
A. Slurring of speech	26	17.33	18	12
B. Blurring of vision	15	10	12	8
C. Abnormal gait	25	16.66	20	13.3
D. All of the above	55	36.66	87	58
E. No idea	26	17.33	13	8.7
15. If you see your neighbor who is pregnant and is consuming alcohol regularly, what should be your correct suggestion?				
A. Drink in limited amount	35	23.33	32	21.3

B. Don't drink at all	103	68.66	97	64.7
C. Encourage her to drink	0	0	6	4
D. Ignore her	4	2.66	8	5.3
E. No idea	8	5.33	7	4.7
16. If you are a regular drinker and you found out that you have conceived, what should you do?				
A. Stop drinking	56	37.33	67	44.7
B. Take medical help	38	25.33	22	14.7
C. Talk to peer and family	18	12	9	6
D. All of the above	27	18	47	31.3
E. No idea	5	3.33	5	3.3

Table 5: Overall components frequency and percentage distribution of attitude towards the effect of alcoholism during pregnancy among the child bearing residing in the urban areas

N=300, n=150

Item	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
1. I believe alcohol consumption is not good for mother during pregnancy.	0	1.3	4	38	61.3
2. I think alcohol consumption can affect the health of the mother.	0	0.6	6	31.3	60
3. I think alcohol consumption can affect the health of the baby.	0	0.6	4.6	35.3	57.3
4. I think alcoholic drink does not contain nutritious content which is not helpful for women during pregnancy.	0	2.6	5.3	40.6	49.3
5. I think alcohol consumption can make difficulty in conceiving.	13.3	12	18	31.3	25.3
6. I accept that drinking alcohol during pregnancy results in having unhealthy baby, hence I ensure I should not drink during pregnancy.	11.3	13.6	8.66	44	23.3
7. I believe lactating should not drink alcohol.	17.33	6	20.66	32.66	23.3
8. I feel drinking alcohol should be completely banned during pregnancy.	12.66	13.3	26	29.66	29.3
9. I believe will power can avoid alcohol drinking habit.	14	9.3	15.3	37.3	24
10. I believe drinking alcohol during pregnancy is sin.	16.6	29.3	24.6	13.33	16
11. I think alcohol drinking enhances good habit.	18	11.33	18	35.5	17.6
12. I think drinking habit is a lifelong disease, it cannot be cured.	15.3	8	20.6	29.3	22.4
13. I think alcoholic drink relieves pain.	20	21.3	10	35.3	13.3
14. I think alcoholic drink relieves stress.	7.3	41.33	14	24.6	12.7
15. I think alcoholic drink are pleasant and bring wellness to life.	14.6	14	18.6	30	17.3
16. I think alcohol makes me fashionable and trendy.	18	16	22.6	22.6	20.6
17. I think drinking alcohol helps me escape from the feelings of despair and sadness.	8.6	35.33	16.3	28.66	12
18. I believe drinking helps me facilitate a feeling of belongingness to a group.	18.66	21.33	19	24	16.7
19. I believe my culture does not see anything wrong having alcohol during pregnancy.	11.3	22.66	18.6	31.3	16
20. I believe drinking alcohol is a part of rites and rituals.	19.33	12.66	26	25.3	18.7

Table 6: Overall percentage distribution of attitude towards the effects of alcoholism during pregnancy among the child bearing residing in the rural areas

N=300, n=150

Items	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
1. I believe alcohol consumption is not good for mother during pregnancy.	14	8.66	3.33	25.33	48.7
2. I think alcohol consumption can affect the health of the mother	37.5	6.66	2.66	35.33	38.7
3. I think alcohol consumption can affect the health of the baby.	12.6	10.7	4.66	36.66	35.3
4. I think alcoholic drink does not contain nutritious content which is not helpful for women during pregnancy	14	10	9.33	38.66	28
5. I think alcohol consumption can make difficulty in conceiving	13.3	12	18	31.33	25.3
6. I accept that drinking alcohol during pregnancy result in having unhealthy baby hence I ensure I should not drink during pregnancy	11.3	13.66	8.66	44	23.3
7. I believe lactating mother should not drink alcohol	17.3	6	20.66	32.66	23.3
8. I feel drinking alcohol should be completely banned	12.7	13.33	26	29.66	23.3
9. I believe will power can avoid alcohol drinking habit	14	9.3	15.33	37.33	24
10. I believe drinking alcohol during pregnancy is sin	16.7	29.3	24.6	13.33	16
11. I think alcohol drinking enhances good habit	18	11.33	18	35.33	17.6
12. I think drinking habit is a lifelong disease, it cannot be cured	15.3	8	20.7	29.3	22.7
13. I think alcoholic drink relieves pain	20	21.33	10	35.33	13.3
14. I think alcoholic drink relieves stress	7.33	41.33	14	24.66	12.7
15. I think alcoholic drink are pleasant and bring wellness to life	14.7	14	18.66	30	17.3
16. I think alcohol makes me fashionable and trendy	18	16	22.66	22.6	20.7
17. I think drinking alcohol helps me escape from the feelings of despair and sadness	8.6	35.33	16.3	28.66	12
18. I believe drinking helps me facilitate a feeling of belongingness to a group	18.7	21.33	19.3	24	16.7
19. I believe my culture does not see anything wrong having alcohol during pregnancy	11.3	22.66	18.7	31.33	16
20. I believe drinking alcohol is a part of rights and rituals.	19.3	12.66	26	23.33	18.7

Table 7: Difference in knowledge of the child bearing residing in urban and rural area

Urban area			Rural area			df (∞)	T- Test
Total score	χ_1	SD	Total score	χ_2	SD		
7346	48.9	9.42	7788	51.9	11.4	1.96	43.76

N=300, n=150

Table 8: Difference in attitude of the child bearing residing in urban and rural area.

Urban area			Rural area			df (∞)	t- test
Total score	χ_1	SD	Total score	χ_2	SD		
10185	67.4	23.66	11439	76.26	15.88	1.96	67.76

N=300, n=150

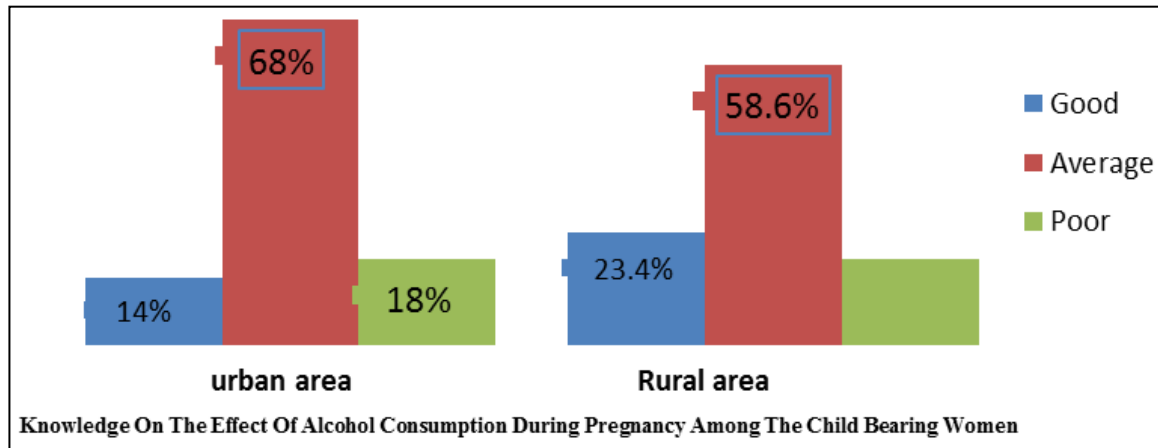


Fig 1: Bar graph representing the knowledge of the childbearing women on the effects of alcohol on pregnancy

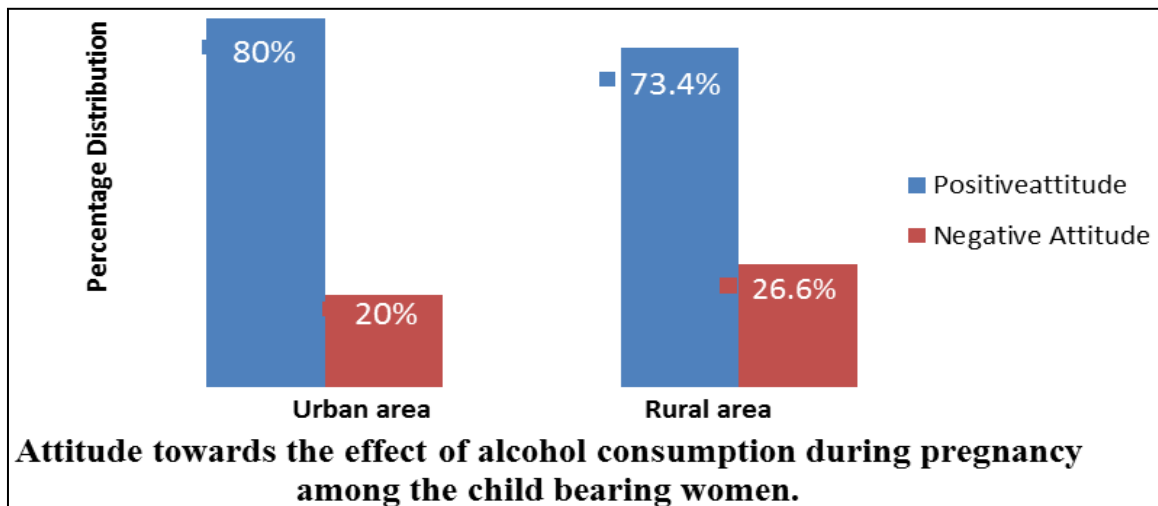


Fig 2: Bar graph showing the attitude of the childbearing women towards the effects of alcohol consumption during pregnancy

Discussion

This present study finding shows that majority 42% and 50.7% woman from urban and rural area respectively drank alcohol. This results contradicts the findings recorded on NFHS 2015-2016, where the alcohol consume were 22.7% and 23.1% in urban and rural area respectively [5]. Majority 76.1% and 72.4% of respondents had started taking alcohol at the age of 14-27 years. This result was supported by the study conducted by Sunil K Pandey and D. Dutta among the north east state where the findings shows, most of the samples started consuming alcohol at the age between 15-30 years [14]. 7.9% and 18.4% women from urban and rural area respectively took alcohol regularly which contradicts the finding conducted in South Nigeria

where 39.0% drank alcohol on a regular basis.[15] Majority 70.6% and 58% of women from urban and rural area respectively agreed women should not drink alcohol at all during pregnancy. This is supported by study conducted among Danish women where 24% spontaneously assumed that pregnant women should abstain from alcohol intake.[16] Majority 14% and 23.4% from urban and rural area had good knowledge, which contradicts the findings of the study conducted by R Gautam and P. Koirala where 12.24% had adequate knowledge [17].

Conclusion: Knowledge among the population was average but the attitude was positive towards the effect of alcoholism during pregnancy. This indicates there is need

for the implementation of the intervention planned to provide adequate knowledge and to improve their knowledge further about the alcohol and its effect on pregnancy that will directly help to prevent hazardous effect on the unborn child.

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