SEROPREVALENCE AND CLINICO-EPIDEMIOLOGICAL CORRELATES OF HEPATITIS C INFECTION IN PREGNANCY AT A BOOKING ANTENATAL CLINIC, FEDERAL MEDICAL CENTRE, YENAGOA

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ABSTRACT

BACKGROUND: World health organization estimated that approximately 170 million people are infected with Hepatitis C virus with about 130 million being carriers, three to four million persons are newly infected in each year and more than 350,000 people estimated to die from Hepatitis C-related liver diseases in each year worldwide. The seroprevalence rates of Hepatitis C in pregnancy change as indicated by the endemicity of a given zone with high rates generally among economically constraint countries in Asia and Africa. The general objective is to determine the seroprevalence and clinico-epidemiological correlates of Hepatitis C viral antibodies in pregnancy in Yenagoa. The specific objectives are (1) To find out the seroprevalence of HCV in pregnant women that present in clinic. (2) To identify known risk factors for HCV infections in pregnant women. (3) To make evidence based recommendations on screening protocols for our obstetric population.

METHODOLOGY: This is a descriptive cross sectional study. Two hundred and twenty (220) consecutive healthy pregnant women attending the antenatal booking clinic of the hospital who met the inclusion criteria were recruited into this study after pretest counselling and obtaining consent from them. This was tested for anti HCV antibody with commercially available in vitro diagnostic kits (one step test strips). Data was collected via a structured interviewer administered questionnaire. Data entry and analysis was done using SPSS (statistical package for social sciences) 22 statistical package (SPSS Inc., Illinois, U.S.A). Univariate analysis for categorical variables was performed using chi-square. P value less than 0.05 was taken as being significant.

RESULTS: The mean age of the pregnant women studied was 28.8 years ± 5.2 while the mean parity was 1.20 ± 1.16. 220 pregnant women who came for antenatal booking were recruited into this study. The seroprevalence of Hepatitis C viral (anti-HCV) antibodies is 2.7% (n=6).There was no significant association with respect to a history of jaundice or contact with a jaundiced patient, multiple sexual partners, female circumcision, previous blood transfusion, intravenous drug abuse or sharing of sharps, previous surgery, episiotomies or dilatation and curettage (p>0.05).

CONCLUSION: The seroprevalence of 2.7% of Hepatitis C virus infection may not justify universal screening. However, seropositive pregnant women could be counselled on modification of lifestyle like avoiding excessive alcohol intake and preventing further spread of the disease. Multidisciplinary management with risk based screening, antenatal surveillance and postpartum care of seropositive pregnant women is also advocated.

Key Words: Hepatitis C virus infection, anti-hepatitis C antibodies, Hepatitis in pregnancy.

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INTRODUCTION

World health organization estimated that approximately 170 million people are infected with Hepatitis C virus with about 130 million being carriers, three to four million persons are newly infected in each year and more than 350,000 people estimated to die from Hepatitis C-related liver diseases in each year worldwide.[1] Chronic Hepatitis follows acute Hepatitis C in the majority of patients and has been implicated as the major indication for liver transplantation in the developed countries.[2] HCV infection is a major worldwide public health problem. Most of these cases occur in Africa, which is reported to have the highest HCV prevalence rate.[3]

Historically, Dane found virus-like particles in the serum of patients suffering from type B hepatitis in 1973.[4,5] These particles were designated as the hepatitis B virus (HBV). [6] The hepatitis C virus (HCV) was discovered in 1989 and was quickly established as the major cause of non-A, non-B hepatitis.[7]

Hepatitis C virus (HCV) is a single stranded RNA 9.5 kb flavi virus categorized into 6 distinct but rated HCV genotypes and subtypes with geographical or regional spread. [8] The incubation period is usually 7-8 weeks but may vary from 3-21 weeks. [9] Its long term morbidity and mortality is far greater than its counterpart hepatitis B virus in terms of chronic active hepatitis (70%), cirrhosis (20-30%), hepatocellular carcinoma and liver failure.[10]

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The role of screening for Hepatitis C viral infection among prospective mothers depends largely on the value of knowing that the mother is exposed to predisposing risk facors. It can be argued that such information has no direct implications for either the mother or infant's treatment or for technical aspects of the delivery as presently there are no methods to prevent transmission at birth.[11] Currently, it is difficult if not impossible to justify universal screening of pregnant women for Hepatitis C. However, a selective screening strategy in pregnant women with identifiable risk factors has been advocated and neonates of known HCV positive mothers are tested and followed up.[12,13]

Most cases of acute Hepatitis C virus infection are anicteric and asymptomatic. There is no evidence that Hepatitis C infection is modified during pregnancy. Serum transaminases are not different from that in non pregnant individuals as fewer than 10% display elevated transaminases.[9] In most cases a decrease in ALT has been noted with a rebound post partum. There are however conflicting reports of changes in RNA viral load in pregnancy.[9] Thus, in the absence of systematic screening programs, many infected mothers and infected children are not identified because acute HCV infection usually does not result in symptoms in the short term.[14] Also, available data are inadequate to formulate general patterns of chronic Hepatitis C disease course with pregnancy but it is likely that individual variations in immune reactivity before and during pregnancy have an important role in determining the overall clinical course of the individual patient.[12] There is no evidence in previous studies to suggest preterm delivery, increased number of congenital anomalies, foetal distress, still births and obstetric complications or low birth weight infants.[15]

The seroprevalence rates of Hepatitis C in pregnancy vary according to the endemicity of a given area with very high prevalence rates mostly reported among developing nations in Asia and Africa. Worldwide, the prevalence of detectable antibody to HCV (anti-HCV) is approximately 1% (range 0.1% - 2.4%). [12] Early smaller studies from the United Kingdom found a prevalence of anti-HCV between 4% to 5%, [16] 0.71% was reported from Switzerland, 1% and 0.9% in French and Taiwanese pregnant women respectively. [17,18]

In Africa, environmental, ethnic, ritual, economic and genetic factors can influence the prevalence of HCV. In Egypt, which has the highest number of HCV infections, it was reported that transmission of HCV was related to extensive antischistosomiasis injection campaigns. [19] Seroprevalence rates from Egypt is between 10% and 20%,[20] 4.3% in Kinshasa (Democratic republic of Congo),[21] 1.8% in Cameroon.[22] In Nigeria, 1.6% in Abuja,[23] 1.86% in Benin City[24] while 3.9% was reported by Okusanya et al [25] in Irrua, South South Nigeria.

Whether this recommendation would be adopted by all countries depends on many factors such as cost benefit analysis and budgetary priorities vis-a-viz perceived prevalence. In resource constrained countries, adopting and implementing new preventive measures requires proof of the existence of an infection or disease. [18] Thus seroprevalence for these virus/basic epidemiological data is of great importance for policy making and initiation of screening packages in antenatal care clinics.

OBJECTIVES

The general objective is to determine the seroprevalence and clinico-epidemiological correlates of Hepatitis C viral antibodies in pregnancy in Yenagoa. The specific objectives are (1) To find out the seroprevalence of HCV in pregnant women that present in clinic. (2) To identify known risk factors for HCV infections in pregnant women. (3) To make evidence based recommendations on screening protocols for our obstetric population.

METHODOLOGY

Study Area This study was carried out at the Antenatal clinic of the Federal Medical Centre, Yenagoa, Bayelsa state in the South-south region of Nigeria between 4th September to 28th October, 2016.

Study design: A descriptive cross sectional study.

Inclusion criteria: This included all pregnant women who presented for booking at the antenatal clinic of FMC Yenagoa and gave consent.

Exclusion criteria: This included all pregnant women who declined to participate. Patients who withheld their consent for inclusion in the study.
Those immunised within the last six (6) months

Study population
Out of the 322 patients that came for booking, a total of 220 consecutive healthy pregnant women attending the antenatal booking clinic of the hospital who met the inclusion criteria were recruited into this study after pre test counselling and obtaining consent from them. This was tested for hepatitis C viral antibody.

Sample collection and processing
Five millilitres (5ml) of peripheral venous blood was collected from consecutive subjects in the antenatal booking clinic into plain sterile bottles. Blood samples were centrifuged for ten minutes at 6,000 rpm, serum was obtained and stored at -20^{O}C until used.

Samples were analysed in batches with commercially available in vitro diagnostic kits (one step test strips). The HCV one step test is a qualitative membrane based immunoassay for the detection of antibodies to HCV in serum. The membrane is coated with recombinant HCV antigen on the test line region of the strip. During testing, the serum specimen reacts with the protein A coated particles. The mixture migrates upward on the membrane chromatographically by capillary action to react with recombinant HCV antigen on the membrane and generate a coloured line. A coloured line always appeared at the control line region indicating that proper volume of specimen had been added and membrane wicking had occurred. Tests in which two distinct red lines appeared, one in the control region and another in the test region, was regarded as positive. Tests in which only the control line was distinctly coloured red was recorded as negative while tests in which the control line fails to appear was regarded as invalid and was repeated.

Each sero-positive woman for anti-HCV antibodies had a liver enzyme assay done particularly the serum transaminases (alanine and aspartate transaminase), as these have been shown to increase in active liver disease. The Randox test kit by RANDOX Laboratories Ltd., United Kingdom was used (because this is the standard test kit being utilized by the hospital). Levels above 12 U/L were regarded as elevated for both AST and ALT.

Questionnaire
Women were enrolled and underwent pretest counselling and were administered a structured interviewer- administered questionnaire.

Data analysis
Data was analysed using SPSS (statistical package for social sciences) 22 statistical package (SPSS Inc., Illinois, U.S.A). Univariate analysis for categorical variables was performed using chi-square. P value less than 0.05 was taken as being significant.

Ethical considerations
Approval for the study was obtained from

the ethical committee of the FMC Yenagoa. The study was carefully explained to the patients and their informed consent obtained before being recruited into the study. The rights of patients to participate or not was respected.

RESULTS

A total of two hundred and twenty (220) pregnant women were interviewed.

Table 1: Socio-demographic characteristics of respondents: (N= 220)

Characteristics	Frequency	Percen tages (%)
Age as at last birth day (years)		
10 – 19	9	4.0
20 – 29	110	50.0
30 – 39	93	42.3
40 – 49	8	3.6
Ethnic group/Tribe		
Calabar/AkwaIbom	14	6 .4
Edo	3	1.4
Hausa	2	0.9
Igbo	62	28.2
Ijaw	110	50.0
Isoko/urhobo	12	5.5
Rivers	15	6.8
Yoruba	2	0.9
Religion		
Christianity	213	96.8
Islamic	3	1.4
Traditional African religion	0	0
Others	4	1.8
Respondents occupation		
Business	92	41.8
Public servant	32	14.5
Student	44	20.0
Housewife	9	4.0
Others	43	19.5
Marital status		
Single	14	6.4
Married	202	91.8
Divorced	1	0.5
Others	3	1.4
If married, marriage setting (N = 202)		
Monogamous	33	16.3
Polygamous	169	83.7
Level of education (N = 194)		
None	0	0
Primary	7	3.6
Secondary	151	77.8
Tertiary	36	18.6

The predominant age group was 20-29 years (50.0%). The mean age is 28.8 years ± 5.2. Majority (50.0%) of the respondents were from the Ijaw ethnic group and it is followed closely by the Igbo ethnic group (28.2%). Most (96.8%) of the respondents were Christians. Majority (41.8%) of the respondents were involved in doing business as an occupation. Majority (91.8%) also, of the respondents were married, and most of the marriages were of the polygamous type or setting (83.7%). Most (77.8%) had a secondary education.

Table 2: Awareness, risk factors/transmission mechanisms of Hepatitis B and C viral infections.

Variables	Frequency (%)			Total
	Yes	No	I don't know	
Do you know about C viral infection?	31 (14.6)	182 (85.4)	213 (100.0)	
Can these virus be transmitted from person to person	29 (13.6)	1 (0.5)	186 (86.1)	216 (100.0)
If yes, through which means				
Blood/blood products	15 (51.7)	0 (0)		
Body fluids-urine, saliva	2 (6.9)	0 (0)		
Sexual intercourse	10 (34.5)	0 (0)		
Physical contact with infected person	2 (6.9)	0 (0)		
Total	29 (100.0)	0 (0)		
Can these virus/infection be transmitted from mother to baby	12 (5.5)	0 (0)	206 (94.5)	218 (100.0)
If yes, when				
In utero	2 (16.7)	0 (0)		
During delivery			4 (33.3)	0 (0)
Breastfeeding			1 (8.3)	0 (0)
I don't know	5 (41.7)	0 (0)		
Total	12 (100.0)	0 (0)		
Have you had more than one sexual partner in your life	158 (72.5)	60 (27.4)		218 (100.0)
Does your husband have other sexual partners	6 (2.8)	26 (12.0)	185 (85.3)	217 (100.0)
Have you ever had sexually transmitted infections	31 (14.1)	189 (85.9)		220 (100.0)
Have you ever had blood /blood product transfusion	13 (6.0)	205 (94.0)		218 (100.0)
Do you share razor blades/needles with other people	7 (3.2)	211 (96.8)		218 (100.0)
Have you ever engaged in injecting yourself with Illicit(hard) drugs	3 (1.4)	216 (98.6)		219 (100.0)

Only 31 (14.6%) of the respondents knew hepatitis C as disease or infection. If these virus could be transmitted from person to person, 29 (13.6%) agreed that it could be transmitted from person to person; while 1 (0.5%) said no, that it could not be transmitted from person to person; and 186 (86.1%) did not know. Amongst those that agreed that the virus could be transmitted from person to person, 15 (51.7 %) said it is through blood/blood products; while 10 (34.5%) said it is through sexual intercourse; and 2 (6.9%) said it is through body fluids- urine, saliva and physical contact with infected persons.

Twelve (5.5%) of the respondents said yes, that the virus could be transmitted from a mother to her baby, while 206 (94.5%) did not know if there could be transmission of the viruses from a mother to her baby. Amongst those that said yes, 4 (33.3%) said the infection occurs during delivery; while 5 (41.7%) do not know how the transmission occurs; 2 (16.7%) said it occurs in-utero; and 1 (8.3%) said it occurs during breastfeeding.

Majority (72.6%) of the respondents has had more than one sexual partner in their life. Most (85.3%) of the respondents did not know if their spouses had other sexual partners. Eighty-five point nine percent (85.9%) said they have not had sexually transmitted infections in the past; and 94% of the respondents has not had transfusion of blood and blood products; 96.8% do not share needles/blades with other people; and 98.6% do not inject illicit drugs.

Table 3: Other risk factors/transmission mechanisms of Hepatitis C viral infection.

Variables	Frequency (%)			Total
	Yes	No	I don't know	
Have you had surgery in the past	28 (12.8)	190 (87.2)		218 (100.0)
If yes specify				
Appendectomy	11 (39.3)	0 (0)		
Caesarean section	15 (53.6)	0 (0)		
Ectopic surgery	2 (7.1)	0 (0)		
Total	**28 (100.0)**	**0 (0)**		
Do you have any tattoos? Scarification marks	2 (0.9)	213 (99.1)		215 (100.0)
Were you circumcised	24 (10.9)	196 (89.1)		220 (100.0)
Have you procured an abortion by dilatation and curettage	18 (8.2)	201 (91.8)		219 (100.0)
Have you ever been given episiotomy during delivery	4 (1.8)	216 (98.2)		220 (100.0)
Have you ever had contact with anyone with yellowness of the eyes	0 (0)	219 (100.0)		219 (100.0)
Have you ever had/notice yellowness of your eyes	0 (0)	220 (100.0)		220 (100.0)
Have you ever been treated for liver disease	0 (0)	220 (100.0)		220 (100.0)

Amongst the respondents, 28 (12.8%) has had surgeries in the past; 11 (39.3%) has had appendectomy; while 15 (53.6%); and 2 (7.1%) has had caesarean section and ectopic surgeries respectively.

Two (0.9%) of the respondents had tattoo and scarification marks, while most 213 (99.1%) had none. Twenty four (10.9%) of the respondents were circumcised; while 18 (8.2%) had procured abortion by dilation and curettage; 4 (1.8%) has had episiotomy given to them during delivery in the past.

None of the respondents has had contact with anyone with yellowness of the eyes, nor have they had or notice yellowness of their own eyes, nor have they been treated for liver disease in the past.

Table 5: Relevant Clinical Parameters.

Variables	Frequency (%)		Total
	Yes	No	
Presence of jaundice	2 (0.9)	214 (99.1)	216 (100.0)
Presence of right upper quadrant tenderness	2 (0.9)	216 (99.1)	218 (100.0)
Presence of hepatomegaly	2 (0.9)	213 (99.1)	215 (100.0)

Only 0.9% of the respondents agreed that they have had jaundice, right upper quadrant tenderness, and hepatomegaly in the past.

Table 6: The effect of Educational Status on knowledge of Hepatitis C viral infection.

Variable	Educational status			Total	Test/p-value
	Primary	Secondary	Tertiary		
Knowledge of hepatitis C viral infection					
Yes (%)	1 (3.7)	17 (63.0)	9 (33.3)	27 (14.4)	$X^2 = 4.06$
No (%)	6 (3.7)	127 (79.4)	27 (16.9)	160 (85.6)	df = 2
Total	**7 (3.7)**	**144 (77.0)**	**36 (19.3)**	**187 (100.0)**	**p > 0.05**
If these virus/infection can be transmitted from person to person					
Yes	1 (3.8)	15 (57.7)	10 (38.5)	26 (1 3.7)	$X^2 = 7.8$
No	0 (0)	1 (100.0)	0 (0)	1 (0.5)	df = 4
I don't know	6 (3.7)	131 (80.4)	26 (16.0)	163 (85.8)	p> 0.05
Total	**7 (3.7)**	**147 (77.4)**	**36 (18.9)**	**190 (100.0)**	
If you had more than one (multiple) sexual Partner in your life					
Yes	7 (49.0)	112 (78.3)	24 (16.8)	143 (74.1)	$X^2 = 3.5$
No	0 (0)	38 (76.0)	12 (24.0)	50 (25.9)	df = 2
Total	**7 (3.6)**	**150 (77.7)**	**36 (18.7)**	**193 (100.0)**	**p > 0.05**

From the results of X^2 statistics in the table above, educational level was not found to statistically, significantly influence knowledge of hepatitis C viral infection ($p > 0.05$). Educational level was not also found to significantly influence both knowledge of virus/infection transmission from person to person and having more than one sexual partner in life ($p > 0.05$).

Table 7: The seroprevalence of Hepatitis C amongst the different age groups of respondents.

Variables	Frequency (%)	
	Reactive	Non reactive
Age at last birthday (years)		
10 – 19	**0 (0)**	**8 (3.7)**
20 – 29	**6 (100.0)**	**104 (48.6)**
30 – 39	**0 (0)**	**93 (43.5)**
40 – 49	**0 (0)**	**9 (4.2)**
Total	**6 (100.0)**	**214 (100.0)**

All the six reactive cases of HCV was from the 20 – 29 age group with a 100% prevalence in this group.

Table 8: The seroprevalence of Hepatitis C amongst the different parity groups.

Variables	Frequency (%) HCV	
	Reactive	Non reactive
Parity		
Para 0-1	5 (83.3)	118 (55.1)
Para 2-3	0 (0)	53 (24.8)
Para 4-5	1 (16.7)	24 (11.2)
Para 6-7	0 (0)	12 (5.6)
Para 8-9	0 (0)	7(3.3)
Total	**6 (100.0)**	**214 (100.0)**

From the table above, the mean parity is 1.20 ± 1.16. It was observed that respondents with parity of 0-1 had the highest HCV reactive results 5 (83.3).

Table 9: The seroprevalence of Hepatitis C amongst the different Gestational Age groups.

Variables	Frequency (%)	
	Reactive	Non reactive
GA (In weeks)		
1 – 12	4 (66.7)	34 (15.9)
13– 24	0 (0)	91 (42.5)
25 - 40	2 (33.3)	89 (41.6)
Total	**6 (100.0)**	**214 (100.0)**

The respondents with a booking gestational age of between 1 – 12 weeks (First trimester gestation), had the highest 4 (66.7%) reactive results to HCV, hence they had the highest prevalence of HCV.

Table 11: The seroprevalence of Hepatitis C amongst those with history of past surgical operations and history of more than one (multiple) sexual partner.

Variables	Frequency (%)	
	Reactive	Non reactive
History of past surgery		
Yes	0 (0)	28 (13.1)
No	6 (100.0)	186 (86.9)
Total	**6 (100.0)**	**214 (100.0)**
Type of surgery		
Caesarean section	0 (0)	15 (7.0)
Appendectomy	0 (0)	11 (5.1)
Ectopic surgery	0 (0)	1 (0.5)
Never had surgery	6 (100.0)	187 (87.4)
Total	**6 (100.0)**	**214 (100.0)**
History of more than one (multiple) sexual partners		
Yes	4 (66.7)	155 (72.4)
No	2 (33.3)	59 (27.6)
Total	**6 (100.0)**	**214 (100.0)**

Amongst those with past surgical history, none of the respondents with past surgical history were reactive to HCV test.For those respondents with history of more than one sexual, 4 (66.7%) were reactive to HCV infection.

Table 12: The relationship between having more than one sexual partner and the seroprevalence of Hepatitis C viral infection.

Variables	Having more than one sexual partner			
	Yes (%)	No (%)	Total	Test/p -value
HCV				
Reactive	4 (66.7)	2 (33.3)	6 (2.7)	$X^2 = 0.11$
Non- reactive	155 (72.8)	58 (27.2)	213 (97.4)	df = 1
Total	**159 (72.6)**	**60 (27.4)**	**219 (100.0)**	**p>0.05**

There was no association between respondents with more than one sexual partner and Seroprevalence of Hepatitis C viral infection.

Table 13: The seroprevalence of Hepatitis C amongst those with history of tattoos/scarifications, and circumcision.

Variables	Frequency (%)	
	Reactive	Non reactive
Presence of tattoo/scarifications		
Yes	0 (0)	2 (1.0)
No	6 (100.0)	207 (99.0)
Total	**6 (100.0)**	**209 (100.0)**
History of Circumcision		
Yes	1 (16.7)	22 (10.3)
No	5 (83.3)	192 (89.7)
Total	**6 (100.0)**	**214 (100.0)**

From the table above, there was zero percent reactive results for HCV test amongst the respondents that had tattoos/scarifications. Amongst those that were circumcised, 16.7% had positive HCV test.

Table 14: Results of Laboratory Investigations.

Variables	Frequency (%)		Total
	Reactive	Non reactive	
Result of HCV antibodies	6 (2.7)	214 (97.3)	220 (100.0)

Two point seven percent were reactive for Hepatitis C

All anti-HCV antibody seropositive pregnant women had normal serum aspartate aminotransferase (AST: normal <12U/L), alanine aminotransferase (ALT: normal <12U/L), and alkaline phosphatase values (ALP: normal, 9-35U/L).

DISCUSSION

This is a hospital based study to determine the seroprevalence of Hepatitis C virus-specific antibodies (anti-HCV antibodies) in an urban population of pregnant women and to evaluate the clinico-epidemiological correlates of risk factors in this group.

The seroprevalence of anti-HCV antibodies in our obstetric population was 2.7%. This prevalence is lesser than the 4.3% and 3.9% reported in a similar population in University of Port Harcourt Teaching Hospital and Irrua State Teaching Hospital respectively [25,26]. However, it is higher than 1.6% reported in Abuja [23]. It is also lesser than 4.3% in Kinshasa (Democratic republic of Congo) [21]. It is much higher than 0.71% reported from Switzerland [17] and 0.8% in a London multiethnic antenatal population [18]. It is however much lower than the seroprevalence rates of 10% and 20% in Egypt.[20]

Age is a known risk factor for hepatitis C infection with seropositivity being reported to increase until 40 years and then decline over time. The seroprevalence of anti-HCV antibodies in this study was found exclusively in the 20-29 year age group with 100% seroprevalence, no linear relationship was observed between age and anti-HCV antibody seropositivity. This was comparable with findings from Irrua[25] and Switzerland where the highest age specific prevalence was in women of age 25-29 years [17], coupled with the fact that the highest prevalence of infection occurs among individuals of the reproductive age group [27]. However, it was at variance with findings from other epidemiological studies [10]. Findings from our study may have been due to a lower number of subjects in the younger and older age groups. This may also have occurred by chance.

The seroprevalence rates were highest among the Ijaw women. This is not surprising because majority (50.0%) of the subjects were from the Ijaw ethnic group which is the major ethnic group in this environs. The prevalence of anti-HCV antibodies was more in nulliparous and primiparous females with a mean parity of 1.20 ± 1.16 in this study. This can be explained by the increased rate of multiple sexual partners (72.5%) in the past seen in our nulliparous and primiparous women as compared to our multiparous women. This finding was supported by Alegbeleye et al in Port Harcourt.[28] It is common reasoning that anti-HCV prevalence would have been higher in multiparous women because of repeated risk of exposure to contaminated surfaces and

instruments during delivery.[25] However, this was not the case in this study where the prevalence is higher in nulliparous and primiparous women.

The highest prevalence rate for anti-HCV antibodies was in the first trimester. This was comparable with findings by Okusanya et al [25] who observed that the third trimester in pregnant women had the highest prevalence rate. However, in this study, first trimester also topped the highest prevalence equally with third trimester.

Furthermore, in this study, notable risk factors such as intravenous drug use, blood transfusion, liver disease in our nulliparous and primiparous women respectively, were not associated with HCV. None of the seropositive subjects had a history of blood transfusion. This may have been due to the aversion to receiving blood among our people. In Nigeria, illicit (hard) drugs including narcotics are strictly under control and attract severe sanctions thus limiting availability and or accessibility. This is why it's not surprising that as low as 1.4% of the women alluded to have taken illicit drugs in this study. Also, the poor economic situation may preclude the majority of our women of reproductive age from having access to these drugs even if they will dare the law.[29] Tattooing/scarifications (0.9%) did not also contribute to anti-HCV antibody seropositivity. This was not surprising as it is a cultural practice in this environment and the use of unsterilized instruments are facing out gradually. . There was no surgical risk factor to anti-HCV antibody seropositivity in this study.

All anti-HCV antibody seropositive pregnant women had normal serum aspartate aminotransferase, alanine aminotransferase and alkaline phosphatase values. This was supported by the fact that fewer than 10% of women display elevated transaminases.[9] There was however no elevation or change in liver enzymes in our study.

Universal screening for HCV in pregnancy is currently not recommended because no changes in care would reduce the risk of vertical transmission which is thought to be low (5-6%) in the absence of HIV; antivirals are expensive, contraindicated in pregnancy and no post-exposure prophylaxis has been shown to be effective.[30] Thus, screening of asymptomatic pregnant women for HCV infection is not cost effective.[31]

With a seroprevalence of 2.7% for anti-HCV antibodies from this study, routine antenatal screening of asymptomatic women without risk factors will not be viable in a resource poor setting such as ours, as universal screening would present cost constraints.

CONCLUSION

The seroprevalence of 2.7% of Hepatitis C virus infection may not justify universal screening. However, seropositive pregnant women could be counselled on modification of lifestyle like avoiding excessive alcohol intake and preventing further spread of the disease. Multidisciplinary management with risk based screening, antenatal surveillance and postpartum care of seropositive pregnant women is also advocated.

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