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Study Several Biochemical Parameters into Patient's with Hepatitis B Virus

By Dr. Atheer A. Mehde, Dr. Wesen A. Mehdi & Dr. Amani M. Jasim

Technical College, Iraq

Abstract - Objective: Hepatitis B virus infections is widely seen all through the world. Disorder in the antioxidant system and oxidative stress may play a role in the pathogenesis of chronic liver diseases. The aim of this study was to estimate the oxidant/antioxidant status in patients with HBV positive group, patients with HBV negative and compared to control group.

Material and Methods: Thirty six patients with HBV positive group, Thirty six patients with HBV negative and compared to thirty control group were included in this study. Glutathione, superoxide dismutase (SOD) activities, malondialdehyde (MDA), Vit C, Vit E and albumin levels were measured in all patients and control group spectrophotometrically.

Results: SOD activity, GSH, VitC, Vit E and albumin were significantly lower in patients with HBV positive group when compared to patients with HBV negative and control group. However, MDA levels was increased in each patient group as compared to the control group.

Conclusion: The current study supposed that deficiency of antioxidant barrier may cause oxidative stress in patients with HBV, and may be antioxidant treatment should be useful for these patients.

Keywords : *HBV, antioxidant enzymes, malondialdehyde, vit c and vit e.*

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Dr. Atheer A. Mehde ^α, Dr. Wesen A. Mehdi ^σ & Dr. Amani M. Jasim ^ρ

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Keywords : HBV, antioxidant enzymes, malondialdehyde, Vit C and Vit E.

I. INTRODUCTION

Hepatitis B is inflammation of the liver, which can be caused by viruses, medications, or toxic agents, the infection is usually characterized by the presence of hepatitis B surface antigen [1]. Other markers are used to determine if the virus is active and replicating when it can cause serious liver damage. During the course of HBV, clearance of hepatitis B early antigen (HBeAg) represents a key event; because it implies that the host is no longer immuno tolerant and enters a low replication phase [2]. Age at onset of infection is an important factor affecting the outcome HBV infection. A major world health problem is hyper endemic in South-East Asia and sub-Saharan Africa, being a major cause of morbidity and mortality [3].

Antioxidants are a molecule which can safety interact with free radicals and terminate the chain reaction before vital molecules are damaged. Oxidative

damage has been reported to be involved in several Hepatic diseases [4].

Antioxidant systems neutralizing the harmful effects of the endogenous Reactive Oxygen Species (ROS) products [5]. Under certain conditions, the oxidative or anti-oxidative balance shifts towards the oxidative status as a result of increase in ROS and/or impairment in antioxidant mechanism [6,7].

Superoxide dismutase can be also considered a member of antioxidants mechanisms of cell since it catalyze transformation of highly reactive superoxide anion to the less potent hydrogen peroxide. It plays an important role in protection of cells against oxygen toxicity [8].

Glutathione is involved important cell function including vitamin C metabolism, chelating of copper ions and biotransformation of foreign substances and intermediate oxygen metabolites GSH is synthesized mainly in liver, it is the main of intracellular defense against free radical and electrophilic xenobiotic of hepatocytes [9].

Vitamin E is generally accepted to be lipid-soluble antioxidant in human .the water soluble antioxidant; this vitamin is not synthesized in human. It is also exhibit a number of important physiological activities that are not related to its antioxidants properties, its function are an electron donor for different enzymes in the cells, vitamin E was reported to protected hepatocytes against toxic injury [4]. Many studies recoded elevation in the levels of ALT and AST in HBV patients as a result of body's immune response and damage of hepatocytes due to the infection [10].

The aim of the present study is to determine the role of oxidative stress on hepatic damage in patients with hepatitis B virus HBV infection and correlation the MDA, GSH, SOD, Vitamin C, E albumin and uric acid levels with liver function in sera of patients with HBV infection.

II. MATERIALAND METHODS

The sampling procedure was done in 36 patients (29.53±6.81 years) with HBV positive and 34patients (31.33±5.52) years with HBV negative. None of these patients received antioxidant medicines or foods. Patients were chosen from the patients referred to the Medical City in Iraq. Patients were compared with 30 healthy control subjects were included (mean age 32.5±5.00). All patients were subjected to a detailed

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history taking, thorough clinical examination, and laboratory investigations including liver function test, in addition to lipid peroxidation (the level of lipid peroxidation expressed as malondialdehyde(MDA)), uric acid, Glutathione, vitamin E, vitamin C, superoxide dismutase [SOD] and albumin had been measured in patients with hepatitis B-virus. Blood samples were obtained from the patients and control group, Five ml were collected from each subject by vein puncture, centrifuged at 3000 rpm for 5 min after allowing the blood to clot at room temperature. The serum GPT, GOT, total serum bilirubin, direct serum bilirubin, Uric acid and Albumin levels were measured by spectrophotometric methods supplied by Giese Diagnostic. Plasma malondialdehyde [MDA] was determined according to the modified method of Satoh [11]. Glutathione was estimated by the method of Beutler's method [12]. Superoxide dismutase was determined according to the method of Misra HP and Fridovich I [13]. Ascorbic acid levels were estimated by the method of Tietz [14]. Vitamin E levels were

determined according to a modified of Hashim and Schuttringer [15].

All statistical analyses in studies were performed using SPSS version 17.0 for Windows (Statistical Package for Social Science, Inc., Chicago, IL, USA). Descriptive analysis was used to show the mean and standard deviation of variables. The significance of difference between mean values was estimated by Student-T-Test. The probability $P < 0.05$ = significant, $P > 0.05$ = non-significant. Correlation analysis was used to test the linear relationship between parameters. ANOVA test was used to show the differences between variables of differentiated groups.

III. RESULTS AND DISCUSSION

The mean and standard deviation of GPT, GOT, TSB (total, direct and indirect bilirubin) were showed significant increased in their concentration in patients with HBV positive when compared with patient with negative HBV and also with control, as shown in Table 1.

Table 1 : The mean and standard deviation of GPT, GOT, TSB (total, direct and indirect bilirubin) in patients groups [Patients with HBV positive group, Patients with HBV negative group] and control group

Characteristic	Patient with HBV positive [n=36]	Patients with HBV negative [n=36]	Control [n=30]
GPT [Iu/ml]	48.80±9.31 ^{a,b}	32.30±3.91 ^a	8.3±0.41
GOT [Iu/ml]	50.33±8.89 ^{a,b}	30.80±4.59 ^a	8.10±2.50
TSB [mg/dl]	2.55±0.25 ^{a,b}	1.50±0.16 ^a	0.75±0.11
Direct S.B [mg/dl]	1.52±0.90 ^{a,b}	0.81±0.07 ^c	0.29±0.01
Indirect S.B [mg/dl]	1.08±0.08 ^{a,b}	0.73±0.06 ^c	0.48±0.03

a $p < 0.001$ compared to control group

b $p < 0.001$ compared to patients with HBV negative group

c $p < 0.01$ compared to control group

Table 2 showed mean and standard deviation of serum, MDA, GSH, SOD, vitamin E, vitamin C, Albumin and uric acid, showed significant difference between patients groups [Patients with HBV positive group, Patients with HBV negative group] and control

Group. Serum SOD activity, GSH, vitamin E, vitamin C, Albumin and uric acid were significantly decreased in Patients with HBV positive group when compared with Patients with HBV negative group and control group as shown in Table 2.

Table 2 : Comparison of Different Parameters Related to Oxidative Stress and Antioxidant Defenses Systems) in patients groups [Patients with HBV positive group, Patients with HBV negative group] and control group

Characteristic	Patients with HBV positive [n=36]	Patients with HBV negative [n=36]	Control [n=30]
MDA	6.25±1.32 ^{a,b}	5.58±1.02 ^c	1.98±1.51
GSH	496±121 ^{a,b}	590±115 ^c	620±105
SOD	1.10±0.29 ^{a,b}	1.29±0.26 ^c	1.54±0.41
Vit E	0.88±0.25 ^{a,d}	1.02±0.23 ^c	1.37±0.14
Vit C	0.98±0.30 ^{a,d}	1.20±0.23 ^c	1.68±0.39
Alb	2.79±0.14 ^{a,b}	3.71±0.18 ^c	4.31±0.26
Uric acid	5.11±0.13 ^{e,f}	5.13±0.16	5.30±0.18

a $p < 0.001$ compared to control group

b $p < 0.01$ compared to group 2

c $p < 0.01$ compared to control

d $p < 0.05$ compared to group 2

e $p < 0.05$ compared to control

f $p < 0.05$ compared to group 2

There were a different correlations between GOT, GPT, TSB and other parameters in patients with HBV positive as shown in table 3.

Table 3 : Correlation between GPT ,GOT and TSB with several antioxidants in patients with HBV positive

Characteristic	GOT		GPT		TSB	
	r	p	r	p	r	p
MDA	0.81	0.01	0.77	0.01	0.69	0.01
GSH	-0.75	0.01	-0.80	0.01	-0.75	0.01
SOD	-0.75	0.01	-0.69	0.01	-0.78	0.01
Vit E	-0.68	0.01	-0.71	0.01	-0.68	0.01
Vit C	-0.72	0.01	-0.77	0.01	-0.75	0.01
Alb	-0.69	0.01	-0.70	0.01	-0.66	0.01
Uric Acid	-0.08	N.S	0.04	N.S	0.06	N.S
Age	0.89	N.S	0.05	N.S	0.04	N.S

Antioxidants play a central role in shielding the body from an oxidative insult by superoxide anion radicals peroxides and hydroxyl radicals and. The sensitive balance between the pro- and anti-oxidant forces in the body appears to be very crucial in determining the state of health, wellbeing and longevity [16]. Hepatitis B is one of the diseases that might cause oxidative stress in the affected subject leading to reduction of the antioxidants of the body, SOD in hepatic diseases may be cause free radical formation [17]. Reduction of antioxidant defense of the liver contribute to the role of oxygen radical formation promote the pathological process in the liver [18]. Several of the ROS which have helpful physiological functions are produced incessantly in the individual organism, other than they may be intimidating for normal cell function and reliability when produced in excess. Consequently, aerobic organisms developed protection mechanisms, such as and SOD against the harmful effects of ROS. Several studies have produced confirmation that a good correlation exists between type and severity of disease and antioxidant level in blood, such as cardiovascular diseases, neurological diseases [19]. Over 90% of GSH inflow in systemic circulation is accounted for by the influx of this peptide from the liver [20].

Reduced blood GSH levels have been reported for patients with liver disease of both alcoholic and non-alcoholic etiology [20, 21]. The current study is in agreement with the above results. The primary cause accounting for the decreased blood GSH level in patients with liver diseases is a decreased production in and decreased inflow from the liver [20].

The results in the present study showed that there were statistically significant lower levels of serum SOD, GSH, Vit E, Vit C and albumin among patients with HBV positive group than those of control cases. Since a significant negative correlation between serum GOT, GPT and TSB with SOD, GSH, Vit E, Vit C among

the patients, the current study suggest that the association of plasma SOD, Vit E, Vit C and alb with GPT and GOT may improve the biochemical assessment of liver damage.

Detection of the increase of MDA levels which is a product of lipid peroxidation in all patient groups indicates that the oxidative stress is increased in HBV infection. Several study reported elevated MDA levels in patients with chronic hepatitis B and C [22, 23]. These findings agree with our findings of a significant elevation of MDA levels in HBV infected patients. Moreover, The result showed a significant positive correlation between serum MDA with GOT, GPT and total bilirubin. One hypothesis has been showed that hydroxyl radicals may react by either hydroxylation or hydrogen abstraction, setting off free-radical chain reactions that subsequently increases MDA concentration [24]. In summary, the present results agree with other studies that have shown increased MDA level and changes in activities of GSH [25]. These findings indicate that the glutathione antioxidant system is imbalanced in hepatocellular damage, and they support the hypothesis that oxidative stress plays an important role in the development of these liver diseases.

In conclusion, serum MDA, GSH and SOD measurements are useful in monitoring hepatocellular damage in patients with HBV positive. Also the present study considered that deficiency of antioxidant barrier may cause oxidative stress in patients with HBV and, so antioxidant treatment should be useful for these patients.

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Sexuality and Hiv/Aids Profiles among Fisher Folk in Kainji Lake Basin

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GJMR-F Classification : WM 611, WC 140



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Sexuality and HIV/AIDS Profiles among Fisher Folk in Kainji Lake Basin

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Abstract - HIV/AIDS is spread through high risk behaviors, fishing communities are among the social groups that are most vulnerable to HIV/AIDS infection because of their lifestyle and the way they conduct their fishing activities. The objective is to examine sexual behavioral practices of fisher folk and HIV/AIDS vulnerability profile in the fisheries sector of Kainji Lake Basin. A two-stage random sampling procedure was used to select 400 respondents for this study. Kainji Lake Basin was stratified into eight strata based on Kainji Lake Management and Conservation Unit (KLMCU) classification. The data were subjected to descriptive, and Mann Whitney U. The findings revealed that only 28.3% of the respondents agreed that they became sexually active between ages between 10 –15. 53.9% had two or more sexual partners. Only 7.0% of the respondents said they have had extra marital sex. 20.2% of the respondents said condom can be accessed in their community. Only 6.5% had use condom in the past 12 months. Mann Whitney values on the significant relationship in the knowledge of sexually transmitted infection across gender of respondents are abstinence for sex, condom use, faithfulness, limited number of sexual partners, avoid sex with prostitute, support for HIV/AIDS were found to have significant influence. 14.0% of the respondents admitted that some cases of HIV/AIDS infection has been around the communities. The study made recommendations to addressing HIV/AIDS in the area.

Keywords : sex, condom, fisher folk, fishing communities, disease and HIV/AIDS.

I. INTRODUCTION

Fisher folk in sub-Saharan Africa are highly vulnerable to HIV/AIDS. A combination of poor health and sanitation, high risk behavior, high mobility within generally isolated area and lack of services renders fisher folk increasingly vulnerable to HIV and other diseases (Allison & Seeley, 2004; Gordon, 2005; Kissing et al 2005). According to Barnett and Whiteside (1996) in United Kingdom among the gay male community, some sexual lifestyles were associated with high risks of contracting the common sexually transmitted diseases. Thus it was that economic, cultural and political elements contributed to the Development of a "risk environment", where certain behaviors became risk behaviors.

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Studies in African countries show that young people often perceive their risk of HIV/AIDS to be low even if they engage in HIV/AIDS risk behaviors, live in areas with high HIV prevalence rates, or are knowledgeable about HIV/AIDS (Barden-O'Fallon *et al.*, 2004; Macintyre *et al.*, 2004; MacPhail and Campbell, 2001; Maswanya *et al.*, 1999; Pettifor *et al.*, 2004; Sarker *et al.*, 2005; Tillotson and Maharaj, 2001). It was observed that one explanation for low perceived HIV/AIDS risk is that youth may exhibit optimistic bias, tending to underestimate risks in general due to a feeling of invulnerability (Macintyre *et al.*, 2004; Moore and Rosenthal, 1991). Eaton *et al.* (2003) noted that individuals who deny the presence of HIV/AIDS in their community have reduced perceived vulnerability to the disease.

Evidence of a relationship between knowing someone with HIV/AIDS and greater perceived risk of HIV/AIDS for people in Africa has, however, been mixed (Barden-O'Fallon *et al.*, 2004; Macintyre *et al.*, 2004; Smith and Morrison, 2006). In many less developed countries, the primary method of HIV/AIDS transmission is heterosexual intercourse (UNAIDS, 2006), and most African know that HIV/AIDS can be transmitted this way (Eaton and Flisher, 2000; Shisana *et al.*, 2005). Some studies in sub-Saharan Africa have found correlations between perceived HIV/AIDS and risk behaviors (Barden-O'Fallon *et al.*, 2004; Maharaj, 2006; Maswanya *et al.*, 1999; Sarker *et al.*, 2005; Shobo, 2007; Ukwuani *et al.*, 2003), while others have not (Adetunji and Meekers, 2001).

It is against this background that the study was designed to examine the sexual behavior and HIV/AIDS profile among fisher folk in the Kainji Lake Basin.

II. METHODOLOGY

Kainji Lake (the biggest manmade lake in Nigeria) was formed as a result of the impoundment of the river Niger by the construction of the Kainji dam at Kainji Island in 1968. Kainji Lake Basin comprises of Niger and Kebbi States with these neighbouring emirates Kontagora, Borgu and Yauri. The basin has 314 fishing communities. Although, there was no record of the total number of the fisher folk around the lake area; it was estimated by Vakily (1995) at 70,000 people living directly or indirect from the Kainji lake fisheries. The sampling procedure was in two stages. Kainji Lake Basin was stratified into to eight strata by Kainji Lake

Management and Conservation Unit. The first stage was the selection of fishing communities considering the following criteria; location in the basin, scale of activities, proximity to services, diversity of fishing activities, composition of communities, landing sites and stable traditional institutions. The second stage of the sampling procedure consisted of selection of 10 respondents by simple random technique giving a total of four hundred (400) respondents. An Interviewer administered questionnaire was used to obtain information on sexual behaviors and HIV/AIDS profiles. Key informants were also used to obtain relevant information. The tools of analysis used include descriptive statistics such as frequency distribution, percentage, charts and mean. Inferential statistics such as Mann Whitney U analysis.

III. RESULTS AND DISCUSSIONS

Majority of the fisher folk (67.7%) were between 15 and 40 years. The fisher folk had an average age of 37 years, while those who were above 40 years made

up 34.1%. The majority of the fisher folk fall within the age groups noted for high HIV prevalence in Nigeria. Correct information on HIV/AIDS is more likely to be obtained from these age groups which are the most sexually active and mostly affected by HIV/AIDS. This age group is the most crucial to agricultural development. This finding corroborates the report of NDHS (2003).

Majority of the respondents (64.2%) are males; almost all of the fisher folk (88.1%) were also married with one or more wives. The rest were either single (11.3%) and divorced (0.3%) and widowed (0.3%). The findings revealed that at least, 50% of the respondents had more than one wife. Informal discussion with key informant revealed that some women may be in second or third marriage as found in the study area. The fluidity of relationship among men and women means that there is an indication of a tendency for sexual continuation, particularly among the married people. Polygamy is a show of wealth among the fisher folk.

Table 1 : Distribution of respondent according to age, sex and marital status

Age	Frequency	Percent
Less than 15	-	-
15-20	24	6.0
21-25	53	13.3
26-30	70	17.6
31-35	70	17.6
36-40	40	11.2
41-45	44	11.1
More than 45	95	23.1
Sex		
Male	257	64.3
Female	143	35.7
Marital status		
Single	50	11.3
Married	145	37.5
Divorced	1	0.3
Widowed	1	0.3
Married with two wives	165	41.3
Married with three wives	33	8.3
Married with more than three wives	5	1.3
Total	400	100

Source : author's work, 2011

Table 2 presents the household size. About 48.5% had 1 – 5 children and 15.0% had above 10 children. These large sizes may be difficult to maintain in view of poverty, types of accommodation not spacious and with little cross ventilation while those who did not specify number of children may be due to their belief. The household size may constitute a veritable source of labor in the study area.

Table 2 : Distribution of respondents according to household size

Number of children	Frequency	percent
1-5	194	48.5
6-10	89	22.3
Above 10	60	15.0
None	57	14.3
Total	400	100

Source : author's work, 2011

Table 3 shows the ethnic composition of the respondents. 50% were Hausa, 0.8% was Urhobo/Ijaw, and 3.8% were Yoruba. The fishing communities composed of diverse ethnic composition. This result is agreed with Oyedipe (1977) on the ethnic composition identified living around the Kainji. The various ethnic groups except the Urhobo/Ijaw and Yoruba are more or less permanent features and contributed to the economy in the study area. A range of languages were spoken in the area. This suggests that HIV/AIDS interventions should take language for communication into account.

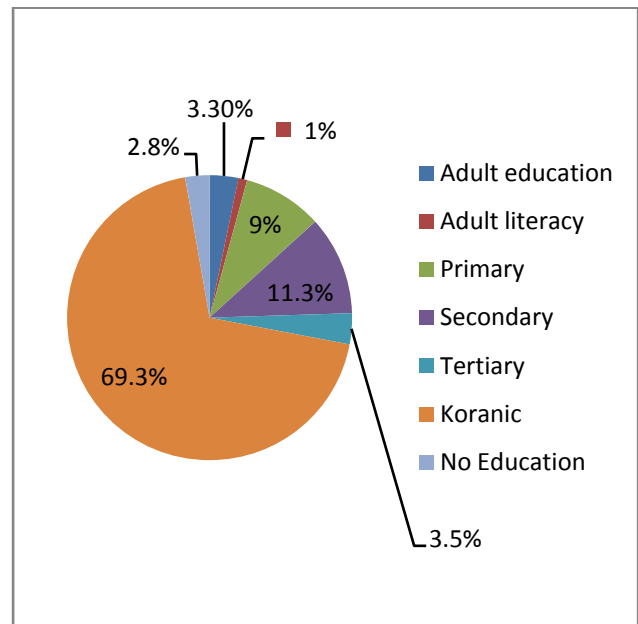
Majority (95.5%) of the respondents were Muslims. This religion allows polygamy. Only 4% of the respondents were Christians. This finding revealed that men could have more than one wife; it is more acceptable for them to have multiple relationships than for women.

Table 3 : Distribution of respondents according to ethnic composition and religion

Ethnic composition	Frequency	Percent
Hausa	200	50.0
Bussawa	67	16.8
Lopawa	66	16.5
Kamberi	49	12.3
Urhobo/Ijaw	3	0.8
Yoruba	15	3.8
Religion		
Islam	382	95.5
Christianity	16	4.0
Tradition	2	0.5
Total	400	100

Source : author's work, 2011

Pie chart below presents the education qualification of the respondents. 3.5% of the respondents have tertiary education while about 71% had no western education. The level of western education among the respondents is very low. Many of the fisher folk expressed no interest in the western education but are more interested in sending their children to Quaranic School within and outside the study area. The low level of western education may affect the knowledge of HIV/AIDS increasing the ignorance of the people on HIV/AIDS and also limits the job opportunities available to the people restricting to intra occupational activities. It is evident that education levels need to be improved among the fisher folk.

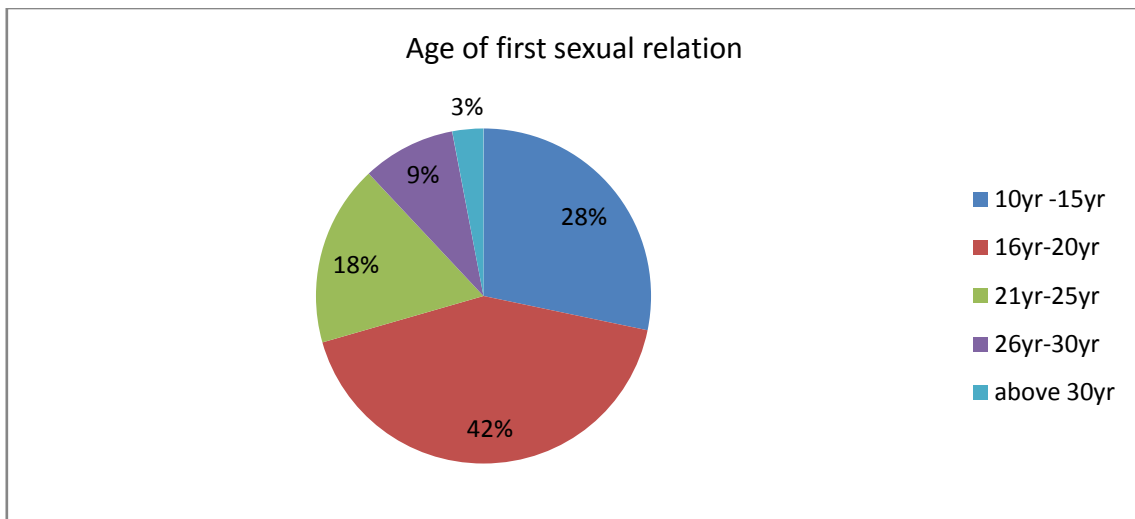


Source : fieldwork 2011

Pie chart distribution of educational attainment among the respondents

IV. SEXUALITY AMONG FISHER FOLK

The pie chart depicts the sexual behavioral practices. Only 28.3% of the respondents agreed that they became sexually active between ages between 10 –15 while 42.3% for 16 – 20. Majority of the respondents had their first sexual intercourse in that age bracket. These age groups have been identified as the most sexually active group in any society. This means that no matter how low the prevalence of HIV is, once it enters this group, it can spread at geometric rate unless steps are taken to check the rate increase considering the fact that population is always high in areas noted for poverty.



Source : fieldwork 2011

Pie chart showing the age of first sexual relation among respondents

V. NUMBER OF SEXUAL PARTNERS AND COHABITATION

Table 5 shows that 34.8% of the respondents had one sexual partner while 53.9% had two or more sexual partners. Only 11.3% said they have never had sexual relations. The reason given by a respondent was that is taboo that anyone as a fisherman who goes into sexual relation outside marriage will be eaten up by a crocodile in the course of his fishing activities. This taboo may be a factor that supports child/early and intergenerational marriages which are very common in fishing communities and depriving especially the women their rights thereby increasing poverty.

38% of the respondents had been living with at least a partner for 1-10 years while 47% for more than 15

years. 42.0% of the respondents had premarital experience while 58.0% said they had no premarital experiences. This may be true considering the early marriage that is a common phenomenon among the fisher folk. 38.5% had between 1 – 4 partners. The implication of early marriage which characterizes the area may be the depriving factor for the women unequal rights to resources which may gives rise to unequal power relation and form a recipe for rapid divorce, early sexual activities, HIV/AIDS, early motherhood and vicious cycle of poverty thereby limiting the contribution of the women to agricultural development in the area for improved living condition.

Table 5 : Distribution of respondents according to number of sexual partners and year of cohabitation

Number of partners	Frequency	Percent
1	139	34.8
2	100	25.0
3	39	9.8
Above 3	77	19.1
no sexual relations	45	11.3
Co-habitation year		
Less than 1	-	-
1-5	78	19.4
6-10	75	18.8
11-15	59	14.8
More than 15	188	47.0
Number of partners before marriage		
Between 1 and 4	154	38.5
Between 5 and 9	9	2.3
Over 10	5	1.3
None	232	57.9
Total	400	100

Source : Author's work 2011

VI. EXTRA MARITAL AFFAIRS AND PUSH FACTORS

Table 6 presents information on extra marital affairs and push factors to sexual behavioral practice. Only 7.0% of the respondents said they have had extra marital sex. The little percentage of respondents involved extra marital might have been a contributing factor to HIV/AIDS prevalence because majority are non – condom use respondents thereby exposing them to HIV/AIDS infections in the area. 81.2% claimed that they never did. The push factors to engaging in extra marital relationship found are as follows; only 1.8% of the respondents said for vengeance, while 1.5% said for long separation and meeting an old partner. According to a key informant, this is mostly common among men because of the daily cash income accruable to them while for the women it may be for the biting lack of basic needs and gain of material wealth for their upkeep. This act may reduce human dignity causing a decline in rate of economic and agricultural, deteriorating the living condition of the people and exposing them to opportunistic infection in the area.

Table 6 : Distribution of respondents according to extra marital affairs and push factors

Extra marital sex	Frequency	Percent
Yes	28	7.0
No	325	81.2
No answer	47	11.8
Number of partners outside wives		
Between 1 and 4	23	5.7
Between 5 and 9	5	1.5
Over 10	-	-
None	372	92.8
Extramartial sex factors		
Vengeance	7	1.8
Routine	-	-
Long separation	6	1.5
Meeting an old partner	6	1.5
Checking fecundity	1	0.3
Just the need for a change	6	1.5
Need for money	2	0.5
None	372	92.5
Total	400	100

Source : author's work 2011

VII. KNOWLEDGE OF CONDOM AND ITS AVAILABILITY

Table 7 presents the knowledge of condom and it uses. Majority (84.5%) of the respondents have heard of condom while 15.5% said they had no knowledge of condom. Incredibly, it was observed that few of the respondents said they don't know how it looks like; the fact that there is high level of awareness has not

translated to increase in knowledge especially the female condom which even a medical officer admitted she has not seen how much more the fisher folk in the area. 39.8% of the respondents perceived condom to be a commodity for young people only while 33.5% agreed that it promotes sexual misbehavior and immorality in any society. Only 18.4% said it protects against AIDS. 5.0% feel that it reduces the level of pleasure and satisfaction obtained during sexual intercourse which corroborates the findings of Oswatt and Matsen (1993) in their survey reported that about 8% of their respondents with multiple partners use condom during sexual intercourse while about 90% do not use condom and Strider and Beaman (1989) reported that majority of sexually active persons do not use condom because of the following reasons: Spontaneous sexual response, decreased pleasure for self and partner, they are inconvenient and uncomfortable and decrease feeling.

20.2% of the respondents said condom can be accessed in their community while 79% said it cannot be accessed. Only 6.5% had use condom in the past 12 months. The non availability of condom in some communities may contribute to non-use of condom and additional cost of accessing condom from the nearby town may also discourage apart from the reasons given by the respondents. The religion of the people might have also contributed to the level of acceptance of the contraceptive in the area. Thus, interventions should not only address the issue of commodity availability and access but seriously link the risk exposed to by fisher folk in the midst of unsafe sex practices.

This result is capable of fuelling the spread of sexually transmitted infections, HIV and unwanted pregnancies which may have direct or indirect impact on the living conditions of the fisher folk in the area.

Table 7: Distribution of respondents according to condom use and its availability

Heard of condom	F	%
Yes	338	84.5
No	62	15.5
Uses of condom		
Contraception	35	8.8
Prevention of AIDS	140	35.0
To avoid STDs	69	17.3
Contraceptive, prevention of AIDS & to avoid STDs	32	8.0
I don't know	124	31.0
Perception of use condom		
Promotes sexual misbehavior and immorality	134	33.5
Protects against AIDS		
Does not protect 100%	74	18.4
Reduces pleasure	52	13.0
Can cause disease	20	5.0
Something for young people only	1	0.3
	119	39.8
Access to condom in the village		
Yes	81	20.2
No	316	79.0
I don't know	3	0.8
Ever used condom during sex		
Yes	38	9.4
Never	355	88.8
I can't remember	7	1.8
Condom in the past 12 months		
Yes	26	6.5
No	374	93.5
Total	400	100

Source : author's work 2011

VIII. NON USE OF CONDOM

Table 8 presents the respondents non use of condom, 35.3% of the respondents were living with partner while 21.3% said they trust partner. Both formed the major reasons for not using condom, a key informant said that there is high level of promiscuous activities going on around some of the fishing communities.

2.3% of the respondents said that they use condom for some occasional partners in the course eking their livelihood activities. This result support the finding of Thompson *et al.* (1996) that respondents' perception on the use of condom is that they perceive condom as ineffective, and interfering with pleasure and also support the works of Akande 1994 that majority of sexually active persons do not use condom during intercourse, condom use was not perceived as necessary in sexual encounters involving a regular partners and Singh, Porterfield, Thilakavathi, Shepard, Mawar, Divekar and Bollinger (1997) and Baggaley *et al.* (1997) that respondents who were sexually active do not

use condom and some inconsistently use condom with causal partners. There is a high level of knowledge about the condom and its protective role against infections.

Table 8 : Distribution of respondents according to condom usage and reasons

Condom usage	Frequency	Percent
Contraception	5	1.3
With some occasional partners	9	2.3
With all occasional partners	6	1.5
During all sexual relations	10	2.5
When condom is available	4	1.0
Don't use condom	366	91.5
Reason for not using condom		
Not sold in the village	96	14.1
Difficult to find	2	0.5
Too expensive	1	0.8
Partner refused	8	2.0
Hate condoms	11	2.8
Living with partner	141	35.3
Trust partner	85	21.3
Partner didn't insist	15	3.3
See no point in use it	41	10.3
Total	400	100

Source : author's work 2011

IX. PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS IN THE FISHING COMMUNITIES

Table 9 presents the most common sexually transmitted diseases known. Majority (76.1%) of the respondents said they know gonorrhoea while 5.8% said Syphilis. 31.0% of the respondents associate the symptom of the diseases to burning sensation when urinating while 28.0% claimed they don't know. The low knowledge in STDs may be due to lack of health facilities, and poorly staffed health centres result to misinformation on health – related matters and access to health information is also limited in view of lack of access roads especially during the rainy season. Thus respondents resort to the services of traditional medicine men and visiting of patent medicine store for treatment thereby exposing them to other risky infections. The prevalence of sexually transmitted diseases may be predisposing factors towards HIV infection and behavior patterns is likely to increase risk of infection in line with UNAIDS (1998c).

Table 9 : Distribution of respondents according to knowledge of sexually transmitted diseases and symptoms

Apart from HIV/AIDS	Frequency	Percent
Yes	359	89.8
No	41	10.3
Sexually transmitted diseases		
Gonorrhoea	304	76.1
Chancres	6	1.5
Syphilis	23	5.8
Herpes	1	0.3
Gonorrhoea & Syphilis	66	16.5
Symptom of Sexually transmitted diseases		
Abdominal pain	69	17.3
Vaginal discharge	27	6.8
Burning sensation when urinating	124	31.0
Sores on private part	55	13.8
Sores on private part	2	0.5
Abdominal pain & Vaginal discharge	11	2.8
Vaginal discharge & Sores on private part	112	28.0
I don't know		
Total	400	100

Source : author's work 2011

Table 10 presents the Mann Whitney values on the significant relationship in the knowledge of sexually transmitted infection across gender of respondents in the study area. Among the variables under study, abstinence for sex, condom use, faithfulness, limited number of sexual partners, avoid sex with prostitute, limited number of sexual partner, disclose HIV/AIDS status, action on people living with HIV/AIDS sources of information, support for HIV/AIDS to mention few as

shown in the table were found to have significant influence on sexually transmitted infection and differently perceived across gender. However channel of first hear

of HIV/AIDS, most affected in the village, estimated number, and disclosed HIV status, were not found to be significant across gender.

Table 10: Mann Whiney test for knowledge of sexually transmitted infection among respondents in the study area across gender

Knowledge type	Gender	Mean Rank	Wilcoxon W	Mann Whitney	Assymp sign	Outcome
Abstinence from sex	male	214.75	25010.000	14714.000	0.000	Significant
	female	174.9				
Condom use	male	219.39	23817.000	13521.000	0.000	Significant
	female	166.55				
Faithfulness	male	216.16	24646.000	14350.000	0.000	Significant
	female	172.35				
Limited number of sexual partners	male	225.97	22126.500	11830.500	0.000	Significant
	female	154.73				
Avoid sex with prostitute	male	210.13	26197.000	15901.000	0.000	Significant
	female	183.20				
Avoid sex with persons having many partners	male	225.95	22131.500	11835.500	0.000	Significant
	female	154.77				
Avoid sex with homo-sexuals	male	237.15	19251.500	8955.500	0.000	Significant
	female	134.63				
Avoid unscreened blood transfusion	male	229.83	10838.00	21134.000	0.000	Significant
	female	147.79				
Avoid unsterilized injection	male	219.63	32756.000	13460.00	0.000	Significant
	female	166.13				
Avoid kissing	male	224.67	22461.000	12165.000	0.000	Significant
	female	157.07				
Avoid mosquito bites	male	228.06		11293.000	0.000	Significant
	female	150.97				
Seek protection from traditional healer	male	224.17	22412.500	12116.500	0.000	Significant
	female	156.73				
Chance of getting AIDS	male	162.68	41807.500	8654.500	0.000	Significant
	female	268.48				
High chance of getting AIDS	male	218.76	23979.500	13683.500	0.000	Significant
	female	167.69				
Disclosed HIV positive status	male	185.44	47659.000	14506.000	0.000	Significant
	female	227.56				
Tested positive to HIV	male	187.81	48267.000	15114.000	0.002	Significant
	female	223.31				
Cases of HIV in the village	male	193.36	49693.500	16540.500	0.002	Significant
	female	213.33				
Level of infection in the village	male	191.65	48871.000	16231.000	0.007	Significant
	female	213.50				
Estimated number	male	204.37	27678.000	17382.000	0.082	Not significant
	female	193.55				
Most affected in the village	male	197.40	50139.000	17754.000	0.608	Not significant
	female	201.85				
Actions on PLWHA	male	20719	26951.500	16655.500	0.044	Significant
	female	188.47				
Confirm if someone in good health	male	234.84	19845	9549.000	0.000	Significant
	female	138.78				
Channel of first heard of HIV/AIDS	male	202.83	28073	17777.500	0.251	Not significant
	female	196.32				
Days per week of information	male	242.24	17945	7649.500	0.000	Significant
	female	125.49				
Sources of information	male	161.73	41563	8410.500	0.000	Significant
	female	270.19				
Support for HIV/AIDS	male	217.37	23935	13782.000	0.000	Significant
	female	168.56				
Language for HIV/AIDS information	male	209.87	25864	15711.500	0.000	Significant
	female	182.14				

Talk openly about HIV/AIDS	male	180.68	46433	13280.500	0.000	Significant
	female	236.13				
Rate access to HIV/AIDS information	male	225.69	22196	11900.	0.000	Significant
	female	155.22				

Source : Author's work 2011

X. HIV/AIDS PROFILE IN THE FISHING COMMUNITIES

Table 11 shows HIV/AIDS profile. Majority (82.5%) of the respondents said there are no cases of HIV/AIDS in the communities while 16% said there were cases of HIV/AIDS recorded. Among the cases recorded, 95% of the respondents said the people affected were both men and women which are young people. The result has serious implications on rural productivity since they fall within the productive group in the society.

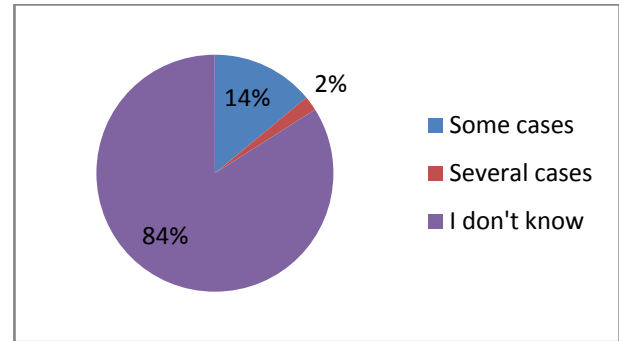
Table 11 : Distribution of respondents according to HIV/AIDS profile

HIV/AIDS Profile	Frequency	Percent
Infected	64	16
Not infected	330	82.5
Don't know	6	1.5
People mostly affected		
Men	9	2.3
Women	24	6.0
Young people	38	9.5
Migrant	3	0.8
Mobile group	10	2.5
I don't know	79	79.0
Total	400	100

Source : author's work 2011

XI. HIV/AIDS RECORD IN FISHING COMMUNITIES

The pie chart shows that 14.0% of the respondents admitted that some cases of HIV/AIDS infection has been around the communities while 84.0% said they don't know. Although many of the respondents said they don't know of cases of HIV/AIDS in the villages. The implication of percentage of cases of HIV/AIDS recorded may diminish household livelihoods and renders more of them vulnerable to future collapse of household assets and reduced capacity to employ sustainable livelihood strategies to escape from poverty as explained by Masanjala (2007). The finding corroborates Bain (1998), Hemrich and Topouzis (2000) that fishing communities are among the most vulnerable occupational groups and in line with Garcia and de Levia Moreno (2003) that it is in these areas that vast majority of the world's 100 fisheries dependent people and work. The inability of the respondents to ascertained status of HIV/AIDS prevalence is not far fetch from stigma on such community from other neighboring communities.



Source: author's work 2011

Pie chart distribution of HIV/AIDS profile in Kainji Lake Basin

XII. AVAILABLE INCENTIVES ON PEOPLE LIVING WITH HIV/AIDS

Table 12 presents the interventions to the people living with HIV/AIDS (PLWHA), only 4.5% of the respondent said that the PLWHA have access to retroviral drug while 14.0% for health care services which are far away from some of the fishing communities. 4.5% of the respondents said rejection/stigmatization, a key informant said that people stylishly avoid victims. Therefore, it is obvious that rejection/stigmatization may still be an obstacle to contend with in the area, a result synonymous to what NPC (2004b) reported that there is high level of HIV/AIDS related stigma and discrimination towards PLWHA in the general population in Nigeria (NPC, 2004b).

58.4% of the respondents said that people with multiple health problems may be suspected to be living with HIV/AIDS in the communities while 28.8% said they don't know except it was confirmed from the hospital. It is observed that many of the fisher folk in the area may have difficulty accessing general health services, let alone treatment for opportunistic infections because of the distance to the designated health centres/hospital. A visit to one of the designated centres within Kainji lake basin gave general record but no reliable quantitative data on the prevalence of HIV/AIDS in fishing communities does exist. It is important to note that in Niger state, one of the States that formed Kainji lake basin presently have about 300,000 people live with the virus thus making the State one of the States with high number of people living with HIV/AIDS (The trumpet, 2011) a local newspaper. With this information one may consider the several people were likely to be HIV positive as against the picture recorded in figure 8 above. These assumptions were based on their

knowledge of HIV/AIDS transmission, lack of preventive measures, high levels of unprotected sexual intercourse and other opportunistic infections found in the area.

The general perception of health official was that people should visit the designated centres for testing. This did not reflect the views of the fisherfolk

who felt that little effort was made to get workers to reach them. The inability of health officials to visit may be due to remoteness and concern at the danger of travelling over un-made roads or by boat. This may help explain why little or no support had been provided to assist fisher folk in the area.

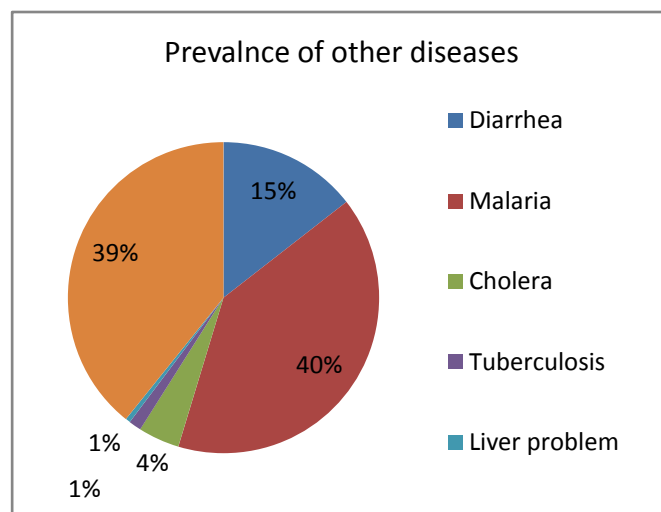
Table 12: Distribution of respondents according to available incentives for people living with HIV/AIDS (PLWHA) and HIV/AIDS infection confirmation

Actions on PLWHA	Frequency	Percent
Provision of retroviral drugs	19	4.8
Health care services	56	14.0
Investment opportunities	-	-
Stigmatization/Rejection	19	4.8
Combination of provision of retroviral drugs and stigmatization/rejection	2	0.5
I don't know	304	76.0
Confirmation of HIVAID		
By asking the person if he or she has some health problems	234	58.4
By asking him or her if he or she has many sexual partners		
By asking him or her if he or she has ever had sex with prostitutes or those who patronise prostitutes	32	8.0
By asking him or her if he or she have ever had a blood transfusion	16	4.0
I don't know	3	0.8
	115	28.8
Total	400	100

Source : author's work 2011

XIII. OTHER OPPORTUNISTIC INFECTIONS IN THE FISHING COMMUNITIES

Figure 5 shows that apart from sexually transmitted diseases, there are other diseases. Most (95.2%) of the respondents acknowledged that there are other prevalent diseases found in the area. 40.3% of the respondents identified malaria, 39.3% identified diarrhea malaria and cholera as the major diseases. This finding is not surprising for malaria because according Triumphet (2011) reported that 60% of complaints of ill health in the hospital across Niger State are on malaria and 30% of admissions are malaria related problems. This is in consonance with the statement that the dynamic interaction between malaria and HIV as documented in the medical literature as found in Abu-Raddah, et al 2006; Laufer and Plowe, 2007; Reithinger, et al 2009. Only 1.3% for tuberculosis, although the percent is low but significant because tuberculosis is a disease that could be traced to HIV/AIDS, it is thought that one - third of the increase in tuberculosis incidence is attributable to HIV infection." It was observed that the local patent medicine dealers or the traditional healers are the medical practitioners in many communities in the study area.



Source : author's work 2011

Pie-chart distribution of other diseases in fishing communities

XIV. EFFECTS OF PREVALENCE OTHER DISEASES

Table 13 depicts effects of other diseases on household activities. 52% of the respondents believed that the prevalence of diseases cause destabilization in livelihood while 17% for change in level of production. Only 9.8% said it brought about change in terms of labor need. Thus health is wealth and is the key factor to

increase in agriculture/fisheries production in the area. If the situation among fisherfolk in the area is not checked it may be subsumed in the projection of International Labor Organization (ILO) that HIV/AIDS may cause a

drop in economic growth by as much as 25% by 2020 in sub-Saharan Africa because of death and illness among workers in their productive years (ILO, 2000).

Table 13 : Effects of other diseases on household activities

Effects	Frequency	Percent
Impact on activities		
Yes	378	94.5
No	22	5.5
Effect on household activities		
Change in terms of labor need	39	9.8
Paid labour	15	3.8
Change in level of production	68	17.0
Destabilization in livelihood	211	52.0
Change in level of production & Destabilization in livelihood	35	8.8
All of the above	32	8.1
Total	400	100

Source : author's work 2011

XV. COMBATING STRATEGIES ON OUTBREAK OF INFECTIONS

Table 14 presents the various strategies used to combat the problem of disease outbreak. 66% of the respondents agreed to the sale of non productive asset while 52.8% for sale of productive asset. Since most of the respondents lack alternative livelihood strategies which may require less labor intensive activity, they must resort immediately to selling assets such as boat, land and livestock were insurance to cope with sudden expenditure and for those who may not have disposable assets reported having to sell beds and mattresses to cope with the prevailing situation. Only 28.5% of the respondents agreed that it causes a severe crack in the household.

Table 14 : Distribution of respondents according to disease outbreak combating strategies

Strategy to combat problem of disease	Yes (F)	%	No (F)	%
Increase in mobility	214	53.5	186	46.5
Seek employment as daily laborer	242	60.5	158	39.5
More percentage of the food comes gathering	211	52.8	189	47.5
Sale of non productive asset	264	66.0	136	34.0
Reduction in nutrition(quantity & quality)	217	54.3	183	45.7
Severe debt	234	58.5	166	41.5
Sale of productive assets	211	52.8	188	47.0
Theft	60	15.0	340	85.0
Household dissolves	114	28.5	286	71.5
Prostitution	31	7.8	369	92.2
Total	400	100		

Source : author's work 2011

XVI. EFFECTS OF DEATH ON FISHING COMMUNITIES

Table 15 shows the effects of death. 46.5% of the respondents agreed that it will bring about reduction

15.0% and 7.0% of the respondents had taken to theft and prostitution respectively. These findings revealed that social vices are ways out of the ugly situation among fisher folk. This was mentioned during focus group discussion and individual interviews that increasing engagement in illegal activities that using unauthorized fishing gear and theft are found in the study area.

Some key informants reliably informed that there is a decline in levels of income over time due to reduced catches and destruction of illegal gear. This result may imply that the fisher folk may go into healthy and unhealthy means of finding solution to their immediate predicaments which may further create and compound the situation rather than proffering solution to the problems.

in the production while 17.5% agreed to the combination of reduction in the production, required paid labor and the role of women changed. This result may have serious implications on agricultural production taking into consideration the role of women that change knowing fully that women are responsible for up to 80%

of agricultural production which involves subsistence and cash crops. Therefore, local supply of food stuff may be endangered due to loss of labor for subsistence production in the area. Thus, supporting the assertion of Devereux (2001) that food insecurity may occur because people may not be able access as food as of social and economic factors such as poverty irrespective of food availability. In addition, this may also affect family values, traditional norms and customs which may influence children differently according to their gender. Also, the affected households may be faced with the

problem of additional costs of medicines, fees to doctors, traditional healers, and transport to health facilities centres for care of the sick, food insecurity and general decrease in income resulting from loss of labor. This may result to the sale of productive and non productive assets. Consequently it will bring negative impact on food production system, the local economy and the structure of the society in the communities as reported in the views of Barnett and Whiteside (2002) in the paper on AIDS in the twenty- first century.

Table 15 : Distribution of respondents according to effects of death on the community

Effects of death	Frequency	Percent
Reduction in the production	186	46.5
Required paid labour	18	4.5
Role of women changed	126	31.5
Village organized specific services for PLWHA	-	-
Village organized specific services for orphan	-	-
Reduction in the production, required paid labour & role of women changed	70	17.5
Total	400	100

Source : author's work 2011

XVII. CONCLUSION

This paper has highlighted the sexuality and HIV/AIDS profile among fisher folk of Kainji Lake Basin of Nigeria. It was discovered that fishing communities generally have low educational attainment. They practice multiple sex relationship and cases of HIV/AIDS were found in among the fisher folk. Little or no attention has been given to the fisher folk and unfortunately fishing communities have not benefited much from lectures, seminars and workshops on HIV/AIDS, it is imperative for government and other community based organizations to give fisheries sector attention on sex education and safe sex practice to reduce vulnerability to HIV/AIDS and human dignity causing a decline in rate of economic and agricultural, deteriorating the living condition of the people and exposing them to opportunistic infection in the area.

However, the following recommendations will assist the fishing communities to fight against health related problems, especially HIV/AIDS;

- Encouraging know your status campaign in the fisheries sector.
- Enlightenment campaigns and education programme on safe sex.
- Provision of health facilities and health personnel in fishing communities

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Abstract - The burden of Asthma in developing countries such as India is of sufficient magnitude to warrant its recognition as a priority in government health strategies. Particular resources need to be provided to improve the care of disadvantaged groups with high morbidity, including certain racial groups and those who are poorly educated, live in large cities, or are poor. The present study was conducted to find out current prevalence of asthma in subjects attending multi specialty centre OPD Ballimaran, Delhi. Attempts were also made to detect possible factors contributing to the prevalence. A total of 1000 subjects were included in the study using questionnaire, clinical evaluation by physician and spirometry. The current prevalence of asthma in male population of Delhi was 13.42% and in female population 12.41%, respectively. The prevalence of asthma was more (13.42%) in male population than female population (12.41%) respectively.

Keywords : *asthma, spirometry, spirometry.*

GJMR-F Classification : *WF100, WF140*



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Prevalence of Asthma in the Subjects Attending Multi Specialty Centre OPD, Ballimaran, Delhi

Dr. Izharul Hasan^α, Mahboob Ali^σ, Mushtaq Hussain^ρ & Mohd Aslam^ω

Abstract - The burden of Asthma in developing countries such as India is of sufficient magnitude to warrant its recognition as a priority in government health strategies. Particular resources need to be provided to improve the care of disadvantaged groups with high morbidity, including certain racial groups and those who are poorly educated, live in large cities, or are poor. The present study was conducted to find out current prevalence of asthma in subjects attending multi specialty centre OPD Ballimaran, Delhi. Attempts were also made to detect possible factors contributing to the prevalence. A total of 1000 subjects were included in the study using questionnaire, clinical evaluation by physician and spirometry. The current prevalence of asthma in male population of Delhi was 13.42% and in female population 12.41%, respectively. The prevalence of asthma was more (13.42%) in male population than female population (12.41%) respectively.

Keywords : asthma, spirometry, spirometry.

I. INTRODUCTION

Asthma is a chronic inflammatory disorder of the airways characterized by recurrent episodes of wheezing, breathlessness, chest tightness and cough that is often reversible either spontaneously or with treatment (Global Initiative for Asthma 2004).

In India, an estimated that 57,000 deaths were attributed to Asthma in 2004 (WHO 2004) and it was seen as one of the leading cause of morbidity and mortality in rural India (Smith 2000). Though effective screening, evaluation, and management strategies for Asthma are well established in high-income countries, these strategies have not been fully implemented in India as evidence had previously suggested that Asthma is not to be treated independently but fitted into the general spectrum of respiratory diseases (Krishnakumar 2003). Furthermore, even though medicines that treat Asthma effectively are available at affordable costs, they rarely reach more than one per cent of those who would benefit from it (Krishnakumar 2003). According to World Health Organisation (WHO) estimates 300 million people suffer from Asthma, 255, 000 people died of Asthma in 2005 (WHO 2004) and over 80% of Asthma deaths are reported from low and

lower-middle income countries (Braman 2006). Asthma creates a substantial burden on individuals and families as it is more often under-diagnosed and under-treated. (Rabe *et al*/2000; Adachi *et al*/2002)

Approximately 300 million people worldwide currently have Asthma, with estimates suggesting that Asthma prevalence increases globally by 50% every decade (Masoli *et al*/2004). With the projected increase in the proportion of the world's urban population from 45% to 59% in 2025, there is likely to be a marked increase in the number of Asthmatics worldwide over the next two decades. It is estimated that there may be an additional 100 million persons with Asthma by 2025 (Masoli *et al*/2004).

According to the recently conducted cross sectional nationally representative National Family Health Survey (NFHS)-3, the overall prevalence of asthma among adult men and women in India is similar with 1,696 and 1,627 per 100,000 respectively (IIPS and Macro International 2007).

The present study was undertaken to record the prevalence of asthma among patients attending multi specialty centre OPD, Ballimaran Delhi.

II. METHODOLOGY

This cross sectional study was carried out in multi specialty center Ballimaran OPD, the total no of subjects enrolled in this study were 1000, and Inclusion criteria are all age groups, outpatients, asthma patients. Exclusion criteria are Psychiatric patient, Asthma and allergic rhinitis co morbidity with other disease.

The patients were selected by random computerized sampling method, motivated to participate in the study. Assessment was done air flow obstruction by flow meter. The instrument used were Mini peak expiratory flow meter and stethoscope.

III. QUESTIONNAIRE

The patients were requested to answer a questionnaire of following question: patients were asked, "Do you suffer with a blocked nose/stuffy nose/catarrh/sneezing/runny nose/itchy eyes/ears/roof of mouth?" "Do you suffer with asthma (wheezing/tight chest/cough/shortness of breath)?" "In the last month, have you suffered with any of these symptoms even when taking your regular medicine?" Waking in the night because of asthma, Shortness of breath, Wheezing,

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Tight chest, Cough, A blocked nose, Stuffy nose, Catarrh, Sneezing ,Runny nose, Itchy eyes , Itchy ears , Itchy roof of mouth.

IV. CORE QUESTIONNAIRE WHEEZING

'Have you ever had wheezing or whistling in the chest at any time in the past?' 'Have you had wheezing or whistling in the chest in the last 12 months?' 'How many attacks of wheezing have you had in the last 12 months?' 'In the last 12 months, how often, on average, has your sleep been disturbed due to wheezing?' 'In the last 12 months, has wheezing ever been severe enough to limit your speech to only one or two words at a time between breaths?' 'Have you ever had asthma?' 'In the last 12 months, has your chest sounded wheezy during or after exercise?' 'In the last 12 months, have you had a dry cough at night, apart from a cough associated with a cold or a chest infection?' 'Check which time of year your child has the most difficulty breathing (cough, wheeze, chest tightness), Family history of Asthma?' 'How often are breathing problems, coughing or wheezing Occurring during the DAY?' 'How often are breathing problems, coughing or wheezing Occurring during the night?' 'Does physical activity cause breathing problems wheezing or coughing?'

V. OCCUPATION

Occupations of the subjects were recorded for assessment to socio economic status. It was recorded under following categories.

- Labour
- Student
- Unemployed
- Shop keeper
- Businessmen
- Mechanic
- Farmer
- Driver
- Tailor
- Clerk
- Teacher
- House wife

VI. SOCIOECONOMIC STATUS

The SES was assessed by using the Kuppaswami's SES Scale for Urban population, 1976. Due to changes in the economy to year, the classification or scale was modified accordingly.

VII. DIAGNOSIS OF PATIENT'S

1. Diagnosed asthmatic patients
2. Presence of wheezing sounds
3. Attack of shortness of breath with wheezing in past 6 months
4. PEF < 200 Lit/Min

VIII. CATEGORIZATION OF SEVERITY OF ASTHMA

	Mild	Moderate	Severe
Symptoms disturbing sleep	<once per week	>once per week	Daily
Day time symptoms	<Daily	Daily	Daily
Limitation of accustomed activity	Nil	<1 per week	>1 per week
Peak expiratory flow	Normal	60-80%	<60%

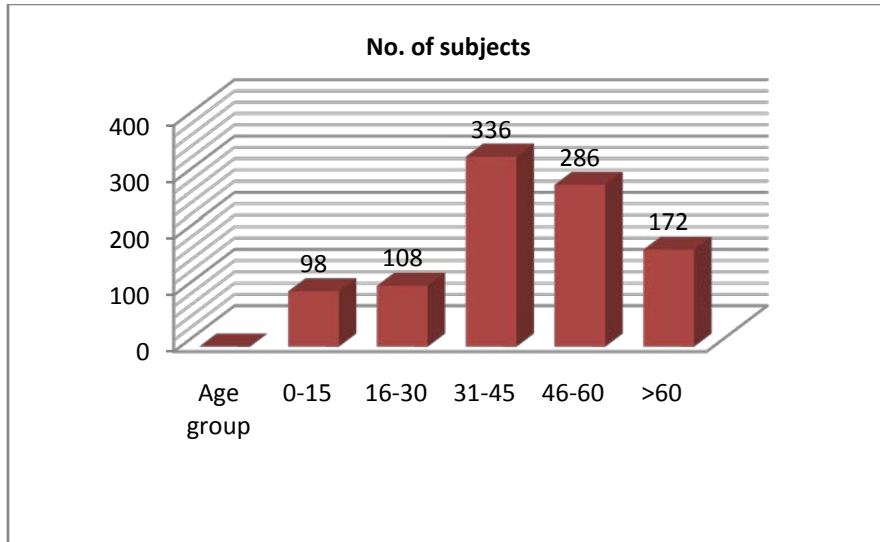
IX. STATISTICAL ANALYSIS

The data were analyzed on SPSS version 10.0. Chi-square test was applied to test the significance of association of prevalence with risk factors at $P < = 0.05$.

X. RESULTS AND DISCUSSION

In our study as shown in Figure no. 1, out of total subjects, 9.8% were in the age group 0-15 yrs, 10.8% were in the age group of 16-30 yrs, 33.6% were in age group of 31-45 yrs, 28.6% were in age group 46-60 and 17.0% were found in the age groups of >60 yrs respectively.

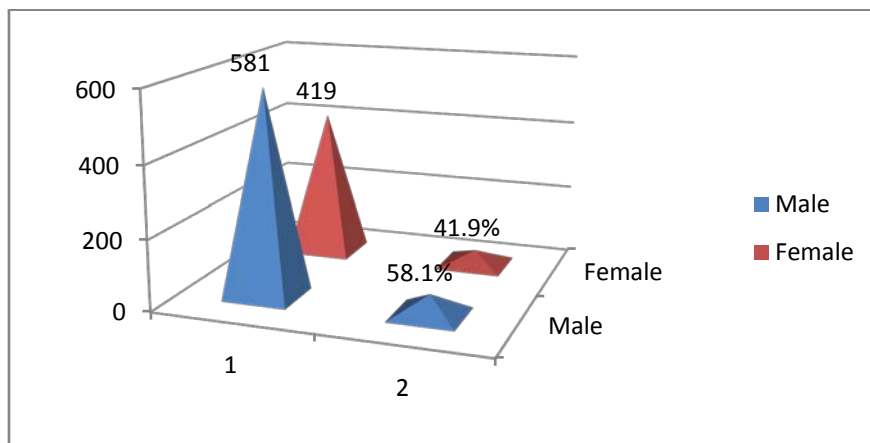
Figure 1 : Distribution of Patients according to Age (n=1000)



In our study population 581 (58.1%) were males and 419 (41.9%) patients were females (Figure no.2). The difference may be due to easy access and high health consciousness in male as compared to female. The prevalence of asthma among male was 13.42%, among female was 12.41%. Total prevalence was

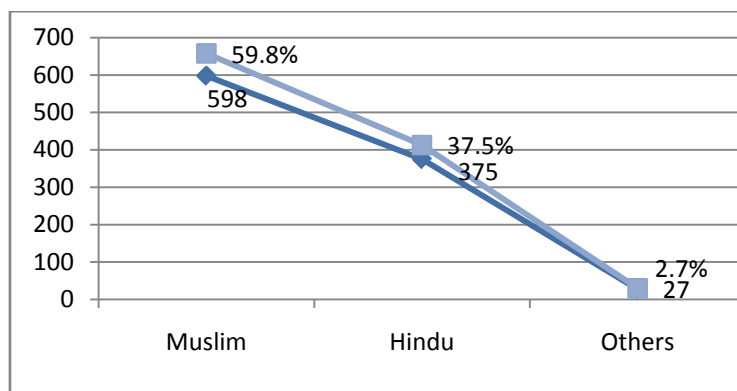
13.0%. Our study shows that prevalence of asthma was more among males compared to females. High prevalence among males may be due to more exposure of male population to various industries, dust and overcrowded places.

Figure 2 : Distribution of the Subjects according to Sex (n=1000)



The religion wise distribution of patients shows that out of 1000 patients, 598 (59.8%) subjects were Muslims, 375(37.5%) patients were Hindus, and 27 (2.7%) were from other religions. (Figure No. 3)

Figure 3 : Distribution of Patients according to Religion (n=1000)



In our study total prevalence of asthma was 13.0% (Table No.1) however in the study conducted by Jindal SK *et al* among population of 18 yrs and above during 1995-97 find out the prevalence was 3.94% in urban population (Jindal SK 2000). According to the recently conducted cross sectional nationally

representative National Family Health Survey (NFHS)-3, the overall prevalence of asthma among adult men and women in India is similar with 1,696 and 1,627 per 100,000 respectively (IIPS and Macro International 2007).

Table 1 : Prevalence of Asthma according to patient's sex

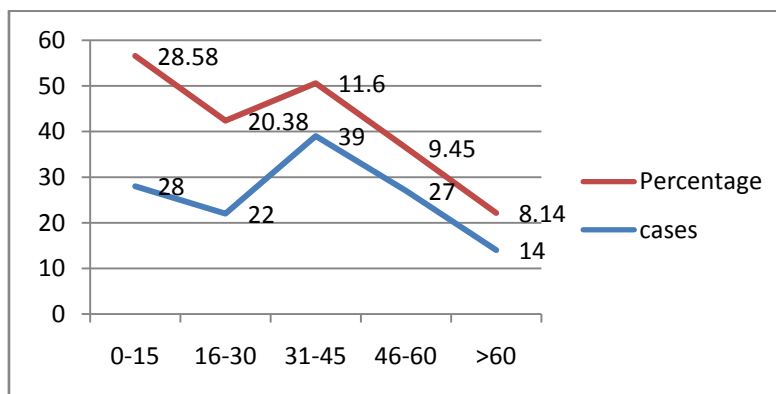
Status	Males (n=581)		Femals (n=419)		Total (n=500)	
	No. of subjects	Percentage	No. of subjects	Percentage	No. of subjects	Percentage
Normal	503	86.58	367	87.59	870	87.00
Asthma	78	13.42	52	12.41	130	13.00
Total	581	100	419	100	1000	100

In our study the prevalence was higher as compared to other studies. The cause of high prevalence may be due to the participation of all age group subjects in the study. There was limited information on prevalence of asthma among all ages group. Increasing trends of prevalence rate probably was due to allergic and environmental conditions which can provoke asthma in Delhi. It is also supported by study conducted in four mega cities Bangalore, Kanpur, Delhi and Chandigarh in which prevalence of asthma

3.47%, 2.07%, 1.68%, and 2.28% respectively in age groups of 15-75 years (AN Aggarwal et al 2006)

As shown in Figure no.4, the prevalence of asthma among subjects in age group 0-15 years was 28.58%, among 16-30 years was 20.38%, among 31-45 years was 11.60% among 46-60 years was 9.45%, among >60 years was 8.14%. Difference in prevalence in asthma among different age group was statistically significant and revealed the dominance of 0-15 year's age group.

Figure 4 : Prevalence of asthma according to age groups



In our study, prevalence of asthma was high in age group 0-15 years and lowest in the age group >60 years. A study conducted by Murthy KJR showed that the prevalence was higher in small age group, our study also show concordant findings (Murthy KJR 2006). Increasing prevalence of asthma could be seen in small age group due to higher vulnerability of children to allergic conditions. Our study showed high prevalence in the subjects having family history association. A study conducted by Chowgule RV *et al* that there is a strong correlation between diagnosis of asthma and the history of family disease of asthma (Chowgule RV et al 1998).

As shown in Table No. 2, In our study 190 (19%) were illiterates, 287 (28.7%) were educated upto primary school, 186(18.6%) upto middle school, 180(18%) upto High school, 67(6.7%) upto Intermediate and 90(9%) upto UG and PG.

Table 2 : Distribution and prevalence of subjects according to Education (n=1000)

Education	No. of Subjects	Percentage (%)	Prevalence Cases	Percentage
Illiterate	190	19.0	29	22.31
Primary	287	28.7	27	20.76
Junior high school	186	18.6	26	20.0
High school	180	18.0	31	23.85
Intermediate	67	6.7	12	9.24
UG + PG	90	9.0	5	3.84
Total	1000	100%	130	100%

In our study revealed out prevalence of asthma among illiterate was 22.31%, primary school educated was 20.76%, Junior high school educated was 20.0%. high school educated was 23.85%, intermediate educated was 9.24%, and UG & PG was 3.84%. The

literacy wise prevalence 23.85% was highest among those who have completed their education upto high school as compared to illiterates 22.31%. In our study only 3.84% prevalence was found among UG & PG educated subjects. Mostly prevalence was found among illiterates, primary, upto junior, and upto high school subjects. In present study due to the problem of unemployment, limited working option, and rendering the subjects for working in high risk places.

As shown in Table No. 3, In our study subjects 132(13.2%) were in higher SES, 287(28.7%) were in middle SES, 485(48.5%) were in lower SES, and 96(9.6%) were in very lower SES.

Table 3 : Distribution and prevalence of subjects according to Education (n=1000)

SES	No. of Subjects	Percentage (%)	Prevalence Cases	Percentage
Higher SES	132	13.2	17	13.07
Middle SES	287	28.7	19	14.61
Lower SES	485	48.5	58	44.62
Very Lower SES	96	9.6	36	27.70

The prevalence of asthma among higher socio economic status was 13.07%, among middle socio economic status 14.61%, among lower socio economic status 44.62%, and among very socio economic status 27.70%. According to SES the prevalence of asthma was highest among the class III Lower SES 44.62%, next higher among the class IV Very Lower SES 27.70%. This result indicates that poverty is a risk factor for asthma occurrence.

XI. CONCLUSION

Asthma is a common disease worldwide with significant ethnic and regional variations. An increasing morbidity and mortality, as well as health care burden from asthma has been recognized. There has been a change in the epidemiology and clinical spectrum of asthma with an apparent increase in the overall prevalence along with a rise in the incidence of 'difficult to treat' cases. The present study concludes that prevalence of asthma is more among the subjects age group of 0-15 years, more among illiterates and education upto high school may be due to lack of education and awareness regarding asthma. So as for prevention asthma it is necessary to provide for health professional as can serve asthma educators and appropriate strategies should be initiated like continuing medical education.

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Assessment of Sexual Behavior, Unmet Reproductive Health Needs and Fertility Intention of People Living with HIV/AIDS, Jimma, South West of Ethiopia

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Abstract - Providing effective reproductive health service to people living with HIV/AIDS requires understanding of their sexual behavior, fertility intention and unmet reproductive needs. Failure of having evidence based responses on gaps identified on these needs might bring an increased HIV incidence, unintended pregnancies, vertical transmission, stigma and discrimination. Facility based cross sectional study was conducted in southwest town of Jimma, Ethiopia. Quantitative data was collected 632 study participants from the ART. A structured interview administered questionnaire was used to collect the data. Verbal and written consent was obtained from each client and data was collected by nurses. Data was analysed by SPSS version16 windows software. Most of the respondents 341(54.0%) were females, with a mean age of 29.6 ± 7.98 years. Most 86.7% were sexually active, of which 499(80.0) were had a regular partner. Casual sex was reported to be 35 (6.4%). Unprotected sexual contact was found to be 16.2% among male and 4.4% among females. Disclosure of own sero-status to partner was 90.7% while knowledge of Sexual Partner HIV status was 91.4%. Only 385 (70.3%) used condom always the remaining 163 (29.7%) used condom sometimes.

GJMR-F Classification : WM611, WQ208



Strictly as per the compliance and regulations of:



Assessment of Sexual Behavior, Unmet Reproductive Health Needs and Fertility Intention of People Living with HIV/AIDS, Jimma, South West of Ethiopia

Kalkidan Hassen^α & Misra Abdullahi^σ

Abstract - Providing effective reproductive health service to people living with HIV/AIDS requires understanding of their sexual behavior, fertility intention and unmet reproductive needs. Failure of having evidence based responses on gaps identified on these needs might bring an increased HIV incidence, unintended pregnancies, vertical transmission, stigma and discrimination. Facility based cross sectional study was conducted in southwest town of Jimma, Ethiopia. Quantitative data was collected 632 study participants from the ART. A structured interview administered questionnaire was used to collect the data. Verbal and written consent was obtained from each client and data was collected by nurses. Data was analysed by SPSS version 16 windows software. Most of the respondents 341 (54.0%) were females, with a mean age of 29.6 ± 7.98 years. Most 86.7% were sexually active, of which 499 (80.0) were had a regular partner. Casual sex was reported to be 35 (6.4%). Unprotected sexual contact was found to be 16.2% among male and 4.4% among females. Disclosure of own sero-status to partner was 90.7% while knowledge of Sexual Partner HIV status was 91.4%. Only 385 (70.3%) used condom always the remaining 163 (29.7%) used condom sometimes. Disclosure of own status to partner was 90.7% while STI after being diagnosed for HIV was nearly 12%. About quarter of the study population has expressed desire for fertility 149 (23.6%). Among the sexually active females, 229 (82.3%) used contraceptive. Methods used were injections 63 (27.5%), Pills 71 (31.0%), condom 84 (36.7%) and IUD or implants 11 (4.8%). More than 88% of women preferred integrated service of HIV care and Family planning service. Risky sexual behavior and fertility intention were high and need for integrated service was found the most wished for. Interventions should be made to assist people with HIV to make effective decisions on safe sex and fertility.

I. INTRODUCTION

The rise in prevalence of HIV/AIDS impedes the struggle health sector of developing nations towards achieving desired goals.¹ Adult HIV prevalence in Ethiopia is lower compared to sub-Saharan African countries. However, the sero-survey in late 2010 showed an estimated adult HIV prevalence of 2.4% (1,216,908 people) which formulate Ethiopia among the countries of largest HIV infected populations in the world.²

As antiretroviral therapy is more widely available, an emerging issue such as meeting the

reproductive health needs of people living with HIV/AIDS who are living longer and healthier becomes a priority. Information about sexual behavior and reproductive health needs of people living with HIV/AIDS is essential to design intervention aimed at safer sexual practice and reproductive health among these people.³ Unmet needs leads to a high level of unintended pregnancy, vertical transmission and rise in incidence of HIV infection.⁴

In a study done in Thailand showed 41% of the PLWHA were having sex with a regular partner of which 28% did not know partner's HIV status.⁵ A study done in Tanzania showed more than half of the PLWHA (52%) said they have regular sex without having protection.⁶ In a study done in Kenya, nearly half of the respondents had been sexually active and were engaged in risky sexual behavior such as multiple sexual partners, sex with casual partner, and inconsistent condom use.¹

Family planning and HIV/AIDS prevention care, and treatment services are useful entry points for many types of services that people in their reproductive years need. No opportunity should be missed. Sub-Saharan Africa has particular needs for both HIV and family planning services.⁴ Family planning offers HIV positive clients the opportunity to prevent unintended pregnancies, prevent mother to child transmission of the virus.⁶ However, many reproductive health needs of HIV infected individuals are not met in many countries of the developing world.⁷

Family planning can help achieve HIV prevention goals and improve maternal and child health outcomes. Likewise, HIV services can help expand access to family planning services. Family planning and HIV/AIDS programs often serve similar populations, particularly in countries with generalized HIV epidemics driven by heterosexual transmission.⁸

Fertility intentions of HIV positive individuals are shaped by a number of conflicting considerations; societal expectation, stigma, and perceived negative caregiver attitude or positive influence of health workers, fear of giving birth to an infected child, having had an infected baby and socio-economic factors are the most important.⁹ In a study done in Ghana over 64% of women living with HIV would like to have children in

the future, Two-third of the respondents had ever used a method to delay or avoid pregnancy. Among those who say wanting no children the main reasons are concern about own health or partners health, fear of transmitting the disease to their child and having enough children.¹⁰ Hence this research is done with the objective of this study was to assess the sexual behavior, unmet reproductive health needs and fertility intention of HIV positive women and men on antiretroviral therapy in Jimma, Ethiopia.

II. SUBJECTS AND METHODS

a) Study settings and participants

Facility based, cross-sectional quantitative study design was used. The study was conducted from December 2011 to April 2012 in Jimma University specialized Hospital, Jimma, South west Ethiopia. Jimma is one of the 17 Zones of the Ethiopian Region of Oromia. Based on the 2007 Census conducted, this Zone has a total population of 2,486,155, an increase of a population density of 159.690. While 137,668 or 11.31% are urban inhabitants, a further 858 or 0.03% are pastoralists. Our sample was taken from 632 PLWHA currently following ART at least for the last six month duration. Ethical clearance was reviewed and approved from Jimma University Collage research and publication committee. Written Informed consent was obtained from each Individual study subject.

b) Measurements

The dependent variables were Sexual risk behavior, unmet contraceptive need and Fertility intention for the last six months prior to the data collection. The independent variables include socio-demographic characteristics (age, sex, income, education, religion, marital status, occupation), sexual characteristics (number of partner, duration of relationship, type of partner, HIV status of partner, disclosure of own and knowledge of partners HIV status) and service related issues (family planning methods and family planning service preferences).

Data were collected by a pre-tested questionnaire which was adopted from different studies. The questionnaire includes demographic, sexual risk behaviors, type of sexual partnership, partner sexual characteristics, disclosure status, disclosure barriers, disclosure outcomes, fertility intention and factors related to fertility.

c) Data analysis and processing

Data collectors and supervisors were trained prior to data collection. Questionnaires was checked daily for error or completeness, and corrective measure will be taken..Quantitative data was analyzed using SPSS version 17 windows based statistical software while qualitative data was analyzed by thematic

framework analysis after gathering different data that appeared commonly and grouped under theme.

III. RESULTS

a) Socio-demographic characters

Most of the respondents 351(54.0%) were males, with a mean age of 29.6 ± 7.98 years, Oromo by ethnicity, married and Orthodox Christians by religion. Majority of the respondents have completed a secondary education 350 (33.6%) and 170 (29.5%) have completed primary education while quarter of them 54(24.9%) finished college or university. Majority of respondents 99 (45.6) receive monthly salary below 1000 Birr or nearly 50 dollars. Most 355 (56.1) of the respondents have one or more children (Table 1).

b) Sexual Behavior

Considering the sexual activity of the subjects in the past six months of study Period 548(86.7%) were active of which 499(80.0) were with regular partner and 78(14.2 of participant reported sex with two or more partner. Casual sex was reported to be 35 (6.4) (Table 2). Unprotected sexual contact was found to be 16.2% among male and 4.4% among females. Disclosure of own sero-status to partner was 90.7% while knowledge of Sexual Partner HIV status was 91.4% (Table 3) Among sexually active, condom use was 494 (90.14%), of which only 385 (70.3%) used condom always the remaining 163 (29.7%) used condom sometimes. The reason mentioned for not using condom always was partner dislike condom 77(14.0%), client/spouse needs to have child 92 (16.8%), partner positive 63(11.5%). Disclosure of own status to partner was 90.7% while STI after being dignosed for HIV was nearly 12%.

c) Family planning utilization and unmet needs of it

Among the sexually active females, 229 (82.3%) used contraceptive. The methods they used includes injectable 63(27.5%), Pills 71 (31.0%), condom 84(36.7%) and IUD or implants 11(4.8%). Personal experience (48.9%) was the common reason for current choice of contraceptive methods followed by health education given 31.4% and friends' advice/experience 19.7%. Study subjects who were not used contraception reasoned fertility intention 63.4%, abstinence from sex 33.0 %, fear of drugs 36.6 reaction% and other health related concern 42.9%. About 59.1% disclose their HIV status to family planning service provider. Fear of stigma 17%, fear of breach of confidentiality 34% and failure of knowing its important 56% were the major reason for not disclosing HIV status to the family planning service provider (Table 4) Most of the respondents prefer family planning care would have been provided in Art clinic (88.6%). The major reasons expressed were provider familiarity 32.6%, to reduce stigma 30.1% and to save time 72.6%. Majority of respondents know their right of reproduction 94.6%.

d) Fertility Intention

Most 389 (61.5%) of the study subjects had one or more child. About quarter of the study population has expressed desire for fertility 149 (23.6%). The major reason for desire for fertility were Child bring happiness, Societal, family and friends expectation, to leave something behind. Those who denied desire for fertility reasoned fear of mother to child transmission, to avoid orphaned kid, already had the desired children (Table 5). In the bivariate analysis, among the socio-demographic variables, sex, age, religion, marital status and having live spouse were found significantly associated with fertility decision (Table six)

IV. DISCUSSION

We assessed the sexual behavior, unmet reproductive health needs and fertility intention of HIV positive men and women on antiretroviral therapy in Jimma, south west of Ethiopia by using facility based cross-sectional study design during December to March 2011. Participants reported the about their sexual behavior they had in their past six months prior to data collection, fertility intention and unmet reproductive health needs.

Among the study subjects those who were sexually active for their last six months prior of study period were 86.7%, higher than the studies done Bahrdar town of Ethiopia (48.9%), South Africa (65 %), and Botswana (62%), but comparable Mexico (87%)¹¹⁻¹⁴. In this study Most 80% reported having regular sexual partner, a similar steady partnership was the observed in a studies done in Addis Ababa (82%) and Botswana (80%)^{15,16}. Those who reported multiple partners were 14.2, higher than the study done in Addis Ababa and other study done in South Africa^{15, 17}. Differences are possibly attributable to the study setting and socio demographic determinants. Concomitantly, the variation also could be due to methodological heterogeneity.

Disclosure of own status to partner was 90.7%, comparable with a studies conducted in Uganda and South Africa which showed 97% and 90% of subjects had disclosed their serostatus^{18,17}. However this is far higher than studies done in Illubabor zone of Ethiopia and Rwanda^{19,20}. The difference might be attributed to the study period, awareness might increase in due time.

Unprotected sexual contact was found to be 9.8%, much less than the study done in Addis Ababa which revealed 36.9% of the respondents had condom-unprotected ('risky') sexual intercourse¹⁵. Similarly our finding is less than study reports from United States and the South Africa, where the prevalence of risky sex was 30% and 23%, respectively^{21,22}. In other studies conducted in Brazil and Uganda, 25% and 35% of HIV positive people attending ART intentionally practiced high risk sex, respectively^{23,24}. Variation of this can be socio-cultural issues related to sexual disclosure in the

community where having multiple partners is seen with lots of odds and it might be related to the high reported intention to have a child in this study, and the fact that most of the respondents were in a marital relationship, unlike the other studies.

Use of Condom was 90.14%, of which only 70.3% used condom always. The remaining 163 29.7% used condom sometimes. Comparable finding was observed in the study done in Hosana of Ethiopia, and contributes a lot for expansion of AIDS and other sexually transmitted illness doubling the burden²⁵. This indicates that the need for establishment of effective safe sex practices and condom use behavior among PLWHAs. The reason mentioned for not using condom were identified, partner dislike condom, fertility intention and partner positive were noted nearly with equal proportion. The same classical reasons were mentioned in different proportion in studies conducted in the Hong conk and Dominican Republic^{26,27}. Casual sex was reported to be 35 (6.4), much less than the study done in Botswana which reported 79 (32%) of had casual partner¹⁶. Almost 42% respondents did not disclose their HIV status to their family planning service provider. Unlike the study conducted in Addis Ababa the most common reason identified in this study was "I didn't thought its important"²⁹.

Family planning use is important for HIV positive individuals like any HIV negative people to space & limit birth and to prevent unintended pregnancy irrespective of their fertility desire³⁻⁵. Furthermore, avoiding unintended pregnancy among HIV positive is one way of vertical transmission reduction². Most contraceptives are safe and effective for use by people with asymptomatic HIV infection as well as people who developed HIV/AIDS disease⁵. Among the sexually active females most (82.3%) used contraceptive. The most common preferred and currently used family planning methods were condom followed by hormonal. Our result agreed with Studies conducted in Kenya, Zimbabwe and a worldwide review by Mitchell and Stephens²⁸⁻³⁰.

Desire for children takes many forms, including how many, when, how, with whom, that vary greatly from one context to another. However, despite complex all are the priority reproductive health concern. Among respondents, nearly quarter of the study population has expressed their desire for fertility (23.6%). This finding is lower than the studies done in north eastern region of south wollo (36.4%) and southern part of Ethiopia 33.9%^{31, 32}. The study also revealed that current fertility decision is lower than a study conducted in Zimbabwe, and Nigeria^{29,33}. Difference in the desire for fertility intention among the above studies could be attributed to difference in study setting, socio-economic variables and the fact that fertility intention is determined by health status, being a phenomenon that is dynamic rather than fixed over time. The major reason expressed in this

study were “Child bring happiness”, Societal, family and friends expectation, “to leave something behind” and were almost reasoned by the above all studies with different proportion.

More than 88% of women living with HIV responded their choice of integrated service of HIV care and Family planning service. The way in which a health care providing system approaches may affect a woman’s relative comfort in interacting with the broader health care system. This is evidenced by the major reasoned expressed from respondents was familiarity and belongingness. The integration of FP services into HIV care has been identified as a promising strategy to reduce unmet reproductive health needs of contraception among women living with HIV, and our finding affirm its necessity. Like much of sub Sahara African countries our data was in favor of integrating HIV and family planning services to create a meaningful solutions which may require a fundamental reconsideration of HIV support structures and service delivery paradigms, which might challenge our poor economic settings³⁴.

Nearly 95% of the study subject knew their reproductive health highlights as international and national expert consultations on HIV highlights the right of HIV-positive people to decide on freely and responsibly on all aspects of their sexuality, including protecting and promoting their sexual health, be free from discrimination, coercion or violence in their sexual lives and in all sexual decisions, expect and demand equality, full consent, mutual respect and shared responsibility in sexual relationships⁹.

a) Abbreviations

- AIDS: Acquired Immune deficiently syndrome
- ART: Anti retro viral therapy
- IUD: Intra uterine Derive
- OCP: Oral contraceptive pills
- PLWHA: People living with HIV,/or manifestations of AIDS
- SPSS: statistical package for social sciences
- STI: Sexually transmitted infections
- WHO: world health organization

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Table 1 : Basic socio-demographic characteristics of the respondents, Jimma University Specialized Hospital, March 2007

Variable	N	%
Sex		
Male	291	46.0
Female	341	54.0
Age (years)		
< 20	23	3.6
21–25	139	22.0
26–35	288	45.5
> 36	182	28.8
Education		
Illiterate	55	14.3
Primary education	170	29.5
Secondary education	350	33.6
Collage/university education	35	22.6
missing	10	
Ethnicity		
Oromo	296	48.4
Amhara	190	34.8
Dawro	70	7.2
Keffa	28	4.3
Tigre	17	2.1
Guraghe	22	1.6
Others	17	1.7
Religion		
Orthodox	444	70.3
Muslim	128	20.3
Protestant	47	7.3
Others	11	1.7
Place of residence		
Urban	490	77.5
Rural	142	13.5
Employment		
Employed	378	59.8
Not employed	254	41.2
Marital status		
Married	341	57.1
single	71	11.2
widowed	45	7.1
divorced/separated	175	27.6
Family income ETB*		
<1000	385	60.9
>1000	247	39.1

*Exchange rate 1 USD = 18.30 Ethiopian Birr (ETB)

Table 2 : Sexual activity among women and men on ART in Jimma, Dec., 2011

Sexual Activity	Male N (%)	Female N (%)	Total N (%)
Sexually active	270 (92.8)	278 (81.5)	548(86.7)
Sex with regular partner	230 (79)	269 (78.9)	499(80.0)
Sex with two or more partner	50 (17)	18 (5)	78(14.2)
Sex with casual partner	23 (8.5)	12(4.3)	35(6.4)

Table 3 : Frequency of unprotected sexual practice, partner sero-status and disclosure among women and men on ART in Jimma. Dec., 2011

Variables	N (%)
Unprotected sexual contact	
Male	47 (16.2)
Female	15(4.4)
Sexual Partner HIV status	
HIV positive	489(89.2)
HIV negative	12(2.2)
Don't Know	47(8.6)
Disclosure of own status to partner	
Yes	497(90.7)
No	45(9.3)
History of Sexually transmitted illness after diagnosed for HIV	
Yes	76(11.9)
No	557(90.1)

Table 4 : Distribution of contraceptive use and its factors after initiation of ART in Jimma. December, 2011

Variables	N	%
Current family planning use n=229		
• OCP	71	31.0
• Condom	84	36.7
• Injectables	63	27.5
• IUD	7	3.1
• Implants	4	1.7
Reasons for current choice of contraceptive methods n=229		
• health education given	45	19.7
• From friends' advice/experience	112	48.9
• Personal experience	63	27.5
• Dual protection		
Reason for not to using contraceptive method all females (n=112)		
• Fertility intention	41	36.6
• Abstinence from sex	71	63.4
• Fear of drugs reaction	37	33.0
• Health concern	48	42.9
Disclose of HIV status to your FP service provider (n=229)		
• Yes	133	59.1
• No	96	41.9

Reason for not disclosing HIV status to FP service provider (n=96)

• Fear of stigma	17	17.7
• Fear of breach of confidentiality	34	35.4
• Don't think that it is important	56	58.3
• Don't know	4	4.1

Do you like ART and FP service to be given at one service delivery site (632)

1. Yes	434	68.7
2. No	136	21.5
3. Don't know	62	9.8

Location of FP counseling and service

• In the family planning clinic	72	11.4
• Within the ART clinic	560	88.6

Reason for preferring ART clinic for FP service

• The ART providers are familiar		
• To reduce stigma	206	32.6
• To save time	190	30.1
	459	72.6

Do HIV positive people have the right of reproduction

• Yes		
• No	598	94.6
• Don't know	27	4.3
	7	1.1

Table 5 : Fertility intention and its determinant among women and men on ART in Jimma. December, 2011

Variables	N	%
Number of live child/ children (n=632)		
• I have	389	61.5
• I don't have	243	38.5
Fertility intention (n=632)		
• Yes	149	23.6
• No	483	76.4
Reason for fertility intention (n=149)		
• Child bring happiness	75	50.3
• Societal, family and friends expectation.	66	44.3
• Partner's desire.	21	14.1
• To leave something behind	27	18.1
• To avoid stigma from not having child	9	6.1
Reason for not having fertility desire (n=483)		
• Fear of transmission of the virus to the child	236	48.9
• Had a desired number of children?	98	20.3
• fear of leaving AIDS orphan	177	36.6
• health concern	56	11.6
• Economical reason	78	16.5

Table 6 : Factors associated with fertility decisions of study participants, ART in Jimma. December, 2011

Characteristics	Fertility Intention		Odds Ratio	
	Yes	No	COR (Lower -Upper limit)	AOR (Lower -Upper limit)
sex				
Male	82	209	0.62 (0.44-0.91)	0.51 (0.31-0.87)*
Female	67	274	1	
Religion				
Christians	90	401	2.95 (1.94-4.48)	2.74 (1.56-4.21)**
Muslims	51	77	1	
Marital status				
Married	58	283	2.22 (1.52-3.23)	2.29 (1.23, 4.26)**
Un married	91	200	1	
Age (in years)				
15-34	85	40	0.25 (0.16-0.41)	0.21 (0.219, 0.52)***
35-54	64	118	1	
Live child				
Yes	47	342	1	
No	102	141	5.26 (3.54-7.83)	7.33 (3.56-11.2)*

Note: ***P<0.001, **P<0.01 and *P<0.05



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16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

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21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.



27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

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33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.



Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

- Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
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In every sections of your document

- Use standard writing style including articles ("a", "the," etc.)
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- Use past tense to describe specific results
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Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.



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The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript-- must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

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- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
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- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
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- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

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- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.



- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
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- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

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- Report the method (not particulars of each process that engaged the same methodology)
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- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
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The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently. You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
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What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
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- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
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- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
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- Give details all of your remarks as much as possible, focus on mechanisms.
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- Try to present substitute explanations if sensible alternatives be present.
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- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

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- Submit to work done by specific persons (including you) in past tense.
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<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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