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ISSN (Online) : 2455 - 3662
SJIF Impact Factor :3.395 (Morocco)

EPRA International Journal of
**Multidisciplinary
Research**

Volume: 2 Issue: 4 April 2016



Published By :
EPRA Journals

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SOCIO-DEMOGRAPHIC PROFILES OF ANTI RETROVIRAL THERAPY (ART) PATIENT IN MANIPUR, INDIA

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ABSTRACT

The introduction of Antiretroviral Therapy is miracle drugs for millions of people around the world especially to those in resource limited settings like India. But the medicine comes along with a condition- once administered, it has to be lifelong and one has to maintain more than 95% adherent level. Even with many conceptual frameworks, adherence is still not understood. The demographic factors such as age, gender, level of education, occupation, income, religion, number of children and ethnicity have gathered mixed findings in many studies. An Interview Schedule was administered to consenting patients receiving ART at Churachandpur District Hospital, Manipur. Results have demonstrated some variation between respondent's age, sex, level of education, employment status and income. Majority (87.5 percent) of the respondents belong to age group 25-45 years i.e. the productive age group. There is evidence of statistical relationship between Gender and marital status ($\chi^2=35.153$, $df=3$, $p\leq.000$). More than half of the respondent i.e. 64.2 percent has a monthly income below Rs. 3000 per month. There is also evidence of statistical relationship between Education and Occupation ($\chi^2=41.050$, $df=20$, $p\leq.004$).

KEY WORDS: socio-demographic, socio-economic, Adherence.

INTRODUCTION

The introduction of Antiretroviral Therapy is a miracle drugs for millions of people around the world especially to those in resource limited settings like India (Gazzard, 2005). It not only prolonged the lives of the infected but also it is distributed free of cost (WHO, 2008). But the medicine comes along with a condition- once administered, it has to be life long and one has to be more than 95% adherent (WHO, 2011). Despite this critical need, many ART patients do not follow the prescribe regimen (Li, 2010). Highly Active Anti Retro Viral Therapy (HAART) is the foundation for the success of ART treatment (Cohen et al., 2011).

The demographic factors such as age, gender, level of education, occupation, income, religion, number of children and ethnicity have gathered mixed findings in many studies. For example, Di Matteo, 2004 opines that demographic variables of the patient age and gender are not expected to have a consistent effects on adherence while Jones, 2012, believes age may influence adherence. Jones states that with the exception of a few elderly, adherence increase with age but Levine et al, 2005, found a contradictory evidence that adherence is optimal at a younger age and among female ART patients. Different findings is evident from Okoronkwo et al, 2013, that there is no

significant relationship between adherence and age. The socio-demographic characteristics are of particular concern in this study, as they form the indicators to assess the background of the respondents which directly or indirectly influence their adherence.

STATEMENT OF THE PROBLEM

Even with many conceptual framework, adherence is still not understood (Di Matteo, 2004). In India, existing studies just briefly or just touched issues related to adherence, and studies around the cultural context on adherence are very limited (Sahay et al, 2011). On 30th November 2003, the Government of India announce to provide free ART. It is implemented from 1st April 2004 in the state of Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Manipur and Nagaland - where prevalence is very high. The highest mortality rate because of HIV/AIDS among the North Eastern States is Manipur (NACO, 2014). In 1998, Manipur AIDS Control Society (MACS) was formed making it the first state in India to adopt State AIDS Policy. In Manipur, the transmission route of HIV/AIDS is no longer confining to only injecting drug users. Present trends shows HIV now spreads to the spouse of IDUs and even to their children. On 15th March 2006, ART centre was established at District Hospital, Churachandpur. Since then, the challenges follows the ART patient and the study will assess what contribute to their adherence as there are still minimal study conducted in the area on adherence of the ART patient.

OBJECTIVE

- To describe the socio-demographic profile of the ART patient at Churachandpur District ART centre.
- To compare the level of adherence to ARV among PLHIV in different socio-demographic groups.

RESEARCH METHOD

The study was conducted at the ART Centre, Churachandpur District Hospital. The research was descriptive in nature. It employed quantitative method with a review of care and treatment register from where information on refill visits and clinical test result were gotten. An Interview Schedule was administered to collect the relevant information on the socio-demographic variables and self reported adherence hence using both the primary and secondary data. The Interview schedule was administered to 120 ART patients only after their consent. Two methods were used to measure the adherence self report and ART booklet where the refill appointment was marked and the clinical test of CD4 and Viral load were written on it.

The formula used in the present study to measure adherence is given below:

$$\frac{\text{No. of ART pills taken}}{\text{No. of ART pills prescribed}} \times 100$$

The degree of adherence is divided into three categories:

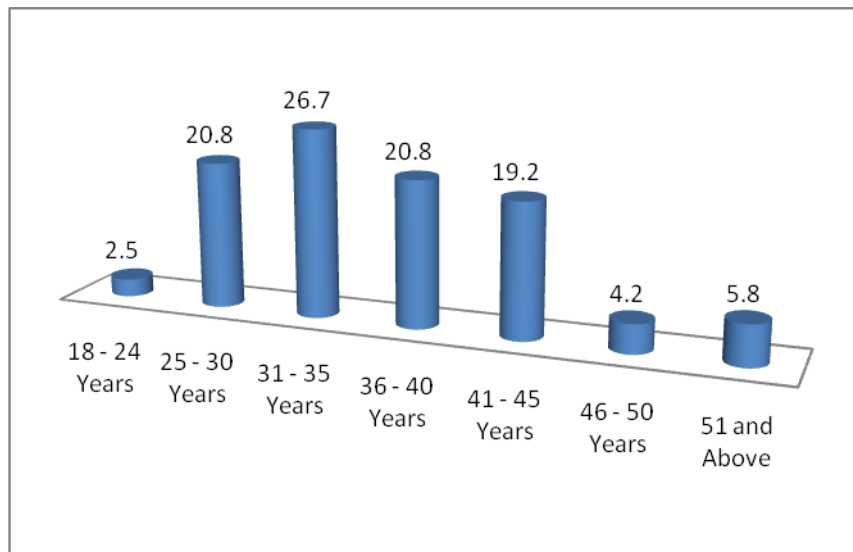
1. < 80 %- Very poor adherence
2. <95 % but > 80 %- poor adherence
3. >96 %- Good adherence

RESULTS

Socio-economic and demographic of the ART patients at ART Centre Churachandpur District Hospital:-

AGE: Age is an important factor which affects the physiology factors related to health, also to adherence. Age not only gives a clue about the stage of development of personality but it is also assumed that at a particular age, a person achieve a certain things in the form of education, marital status and maturity. The adherence facilitators and barriers may also differ from one age group to another. In studies of HIV infected individuals Carter et al., 2010, found that older age generally has been found to co-relate with higher adherence and a high likelihood of achieving viral suppression when ART is initiated.

Figure 1.1: Age of the respondents (N=120)



In the present study, the age distribution of the respondents varies from 18 years to 51 and above (Figure 1.1). Majority (87.5 percent) of the respondents belong to age group 25-45 years i.e, the productive age group, of whom, a large number (32 percent) belong to age group 31-35 years, only 10 percent of the total sample is 46 years and above. Where as there are only 2.5 percent respondents in the younger age group i.e, 18-24 years. Could it be that in the young people, immune system is still strong and they still have no desire to go to the doctor or to the ART centre?

GENDER

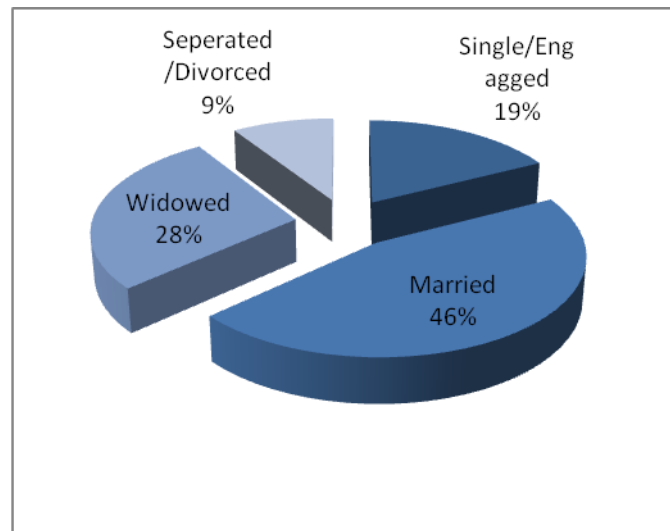
Gender plays an important role in shaping differences in HIV therapeutics. Comparatively, women seem to delay ART initiation more frequently, have higher incidence of treatment interruption, experience more side effects, have more viral rebound after initial suppression than men; furthermore, women appear to metabolize antiretroviral (ARV) drugs differently than men (Bonolo et al.,2013). There is also evidence that women living with HIV face different barriers more to adherence than their male counterparts do, including depression, stress, stigmatization, and specific social roles related to gender (Applebaum et al., 2009). However, inconsistencies remain regarding the association between gender and non-

adherence. One possible explanation is that this relationship may be confounded by unexamined social or behavioral factors. Furthermore, these associations have not been extensively studied in developing countries (Hawkins et al., 2011).

In the present study, female constitute 56 percent, and men constitute 44 percent of the total respondent. This can be interpreted that among those who attend the ART clinic, are the women more comfortable to talk to the researcher on the issue of ART adherence? Or could it be because among those who avail ART, women in general are more as compared to men as more number of females got infected through their male counterparts/husbands as is documented by Jayarama S et al., 2008.

MARITAL STATUS: Marriage as a social institution holds a significant place in the Indian Society. Patriarchy in nature, it is the men who is the bread earner of the family. The roles of a women, wife and girls were made different and it forms a part of the socialization of a child since childhood. But if the males in the family dies or were not able to take care of the family, the burden of being a bread earner falls on the women/wife shoulders.

Figure 1.2: Marital status of the respondent (N=120)



In the present study, nearly half of the respondent i.e. 46 percent were married. 28 percent are widow, 19 percent are single/engaged and a small proportion 9 percent are separated / divorced. Upon further analyses, it is found that majority of the widowed category belong to women (27 out of 33), whose husband died and leaving them to be the bread earner or the head of the family.

GENDER AND MARITAL STATUS

In the present study, it is attempted to study the relationship between Gender and marital status among the respondents.

Table 1.1 Gender and marital status (N=120)

Marital Status	Gender		Total
	Male	Female	
Single	18 (85.7)	3(14.3)	21(100)
Married	28 (50.9)	27 (49.1)	55 (100)
Widow/er	2 (6.1)	31(93.9)	33(100)
Separated/Divorced	5(45.5)	6(54.5)	11(100)

In the study, 50.9 percentage of the male respondent were married while 49.1 percent of the female respondent were married. 85.7 percent of the male respondents were single compared to only 14.3 percent of the female respondent. An interesting facts is revealed, among the widow/widower category, it was found that 93.9 percent of the female respondent were widow while only 6.1 percent of the male respondent is a widower. This shows that women were left behind by their husband who died of HIV/AIDS. There is also evidence of statistical relationship between Gender and marital status ($\chi^2=35.153$, $df=3$, $p<.000$).

The result is in consistent with the findings made by Joge et al., (2012), while studying the socio economic demographic profile of the ART clinic attendee in Maharashtra, found that more females were infected by HIV through their husbands, They have to bear all the responsibilities like the bread earner of the family, have to take care of the children,

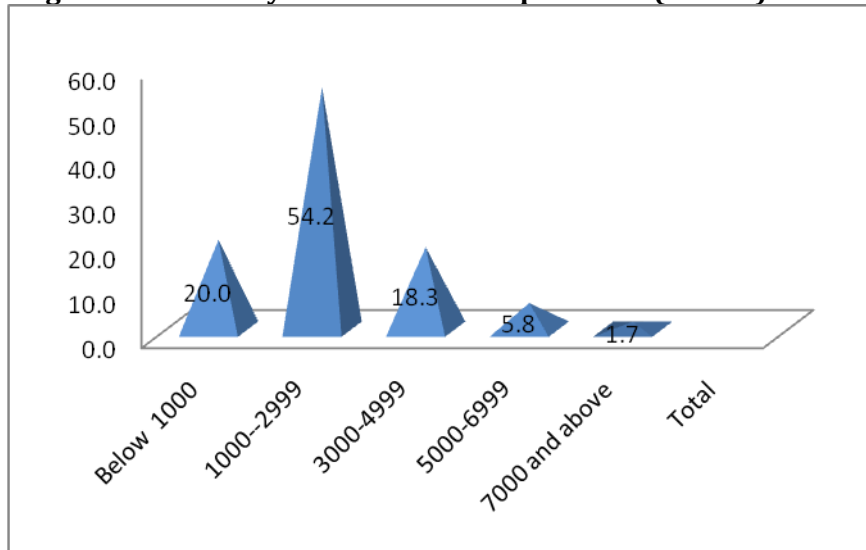
have to think about the well being of all the family members and have to take care of herself. In consistent with the study findings of Aplebaum, 2009 and Hawkins, 2011, this can be the reason why women delay initiation of ART, are more depressed, lead a more stressful life, and have higher incidence of non-adherence compared to men. A cross tabulation of this variable and the level of adherence maintained (outcome) shows that 39.6 percent male adhere compared to 58.2 percent female. However, cross tabulation shows there was no evidence of statistically significance relationship between gender of the PLHIV and the level of ART adherence maintained ($\chi^2=10.498$, $df=4$, $p<.033$)

INCOME: Income of an individual plays an important role in a persons life as it determines his life style, his way of thinking and even his daily habits. In the present study, income of the respondent determines provision of basic needs and what can be saved for other purpose like buying nutritious food

for the ART patient. And also Income determines the relationship between the level of ART adherence

maintained. The monthly income of the respondents were presented in Figure 1.3.

Figure 1.3: Monthly income of the respondents (N=120)

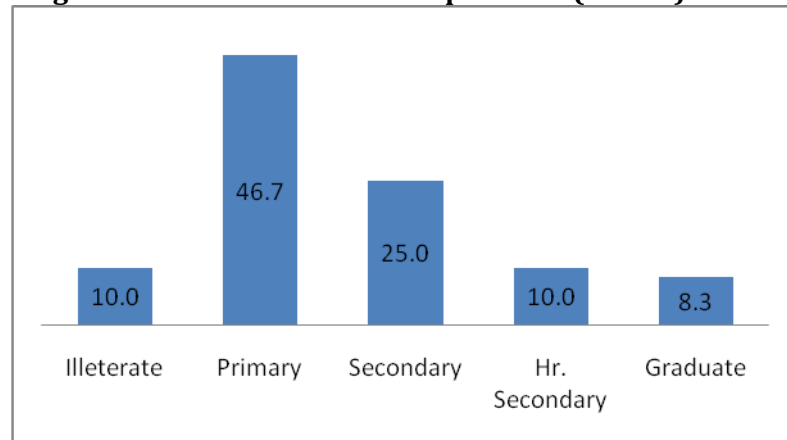


A large number of the respondent, more than half of the respondent i.e. 64.2 percent have a monthly income below Rs. 3000 per month, where 54.2 percent have income between Rs.1000-Rs.2999 and a very minuscule number 1.7 percent have monthly income above Rs. 7000. This large gap in income gave a curiosity as to whether income will have anything to do with their level of adherence or not? It is assumed that, as lower income respondents have to work laboriously for their livelihood, unpredictable working conditions (like working longer than expected and the timing of medicine intake cycle is disturbed) coupling with side effect experiences might be contributing to their non adherence. But there is no evidence of statistical relationship between the two variables i.e. Income and level of adherence ($\chi^2=23.394$, $df=16$, $p\leq.104$).

EDUCATION: Education is one of the most important characteristics that influence a persons life,

because it impact the awareness, knowledge and attitudes of a person towards life, here, ART adherence. Hegazi et al, 2010, examined the relationship of patients' education to antiretroviral therapy (ART) adherence in an urban treatment centre in Gambia and suggest that formal education may impact favourably on adherence to ART. Similar findings also can be seen from Wolf et al, 2007 in their studies while examining the relationship between patient literacy level and self-reported HIV medication adherence and conclude that low level of education was an important risk factor for improper adherence to HIV medication regimens. However, Karim & Karim 2009, perspective on HIV/AIDS and education is that education and high levels of knowledge have done little so far to contribute to a decline in HIV prevalence.

Figure 1.4: Education of the respondents(N=120)



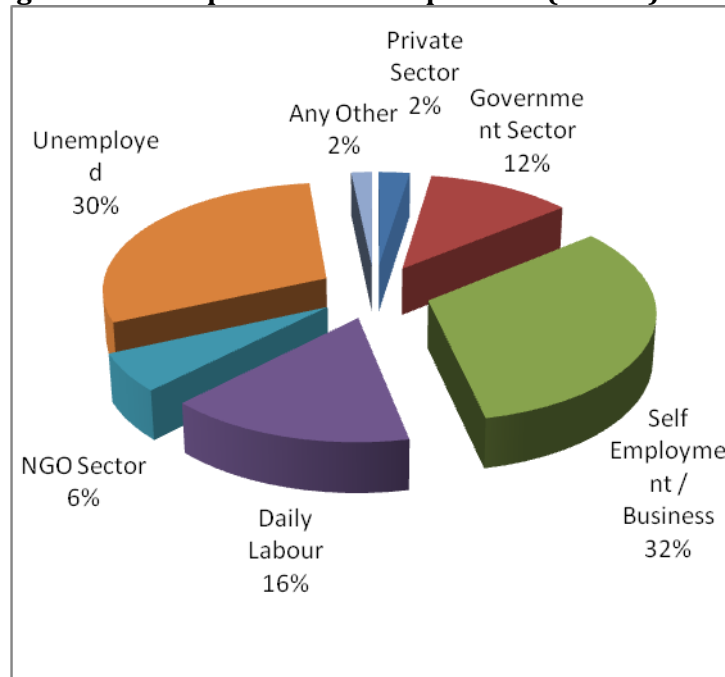
From the above data it can be seen that more than half of the respondent i.e 46.7 percent respondent is studying till primary standard and 10 percent were illiterate. It is found that, there is no evidence of statistical relationship between the two variables, Education and the level of adherence maintained by the respondents ($\chi^2=15.361$, $df=16$, $p\leq.498$).The second educational qualification group consist of 25 percent studying till higher education. A small percentage consisting of only 8.3 percent were having an education till graduate level. This data proves that, no matter what level the education standard is achieved by the respondent, here, very

low level of literacy, it did not hamper in their way of adherence.

OCCUPATION:

Occupation means one’s job or the type of work to earn money. Since ART initiation completely change the life of an individual in terms of physiology and mentality state, for example, ART will need the patient to take extra diet and nutrition as well as hard labour job cannot be performed as body becomes weak due to side effects of the ART. So, persons response to a problem and adherence to ART is possibly determine by the kind of job that he/she is engaging. The main occupation of the respondents were presented in Figure 1.5.

Figure 1.5: Occupation of the respondent (N=120)



The data in the above figure reveals the distribution of 120 respondents by their occupation. It shows that more than half of the respondents, i.e 68 percent were employed, of which 32 percent of the respondents are either self employed/ or have their own business, 16 percent are daily laborers, 12 percent were Government employee. These unorganized sector of self employed/own business and daily labours consist of working in the field and cultivation, tailoring, vegetable vendor, in a construction work, as rickshaw pullers, or have a small shop know as “Pan Dukan”. The unemployed

category consist of 30.0 percent of the total respondents, which is a large population. So, the question arises, who are these unemployed category? Are they male or female? To find out this answers, a cross tabulation of the two variables, occupation and gender was done.

OCCUPATION AND GENDER

The researcher wanted to see and compare the occupation and gender of the respondents, and found there is significant relationship between the two variables. ($\chi^2=37.475$, $df=5$, $p\leq.000$)

Table 1.2: Occupation and Gender

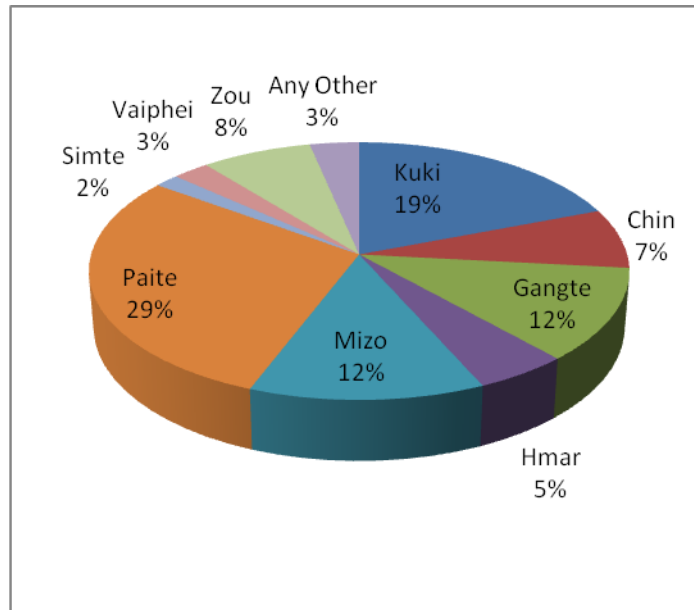
Occupation	Gender		Total
	Male	Female	
Private Sector	2 (66.7)	1(33.3)	3
Government Sector	11(73.3)	4(26.7)	15
Self Employment / Business	8(20.5)	31(79.5)	39
Daily Labour	18(94.7)	1(5.3)	19
NGO Sector	3(49.2)	4(57.1)	7
Unemployed	11(29.7)	26(70.3)	37
Total	44.2%	55.8%	100.0%

From the above data, it can be seen that among the Government employee, 70.3 percent belong to men and only 26.7 percent belong to women. Most of the unemployed are women i.e, 70.3 percent compared to only 29.7 percent male. The unemployed women depend on their husband for their survival or they are taken care of by their children. Unemployment is perhaps the biggest challenges that the ART patients were facing today. This problem cannot be taken as economic issues alone because it also has its own social, psychological and medical consequences. Researches have also confirmed lowered life satisfaction, low self-esteem, psychological well being, or increased psychological distress and cognitive problems in the unemployed persons (Paul et al., 2009). More unemployment level among the women respondents can hamper the level of adherence maintained by them, as they face psychological turmoil associated with no employment.

ETHNICITY :-

Manipur is known for its diversity, land of the multi ethnic, multi cultural , multi lingual and multi religion. The term Ethnicity is relating to a sub group of population within a dominant national or cultural group, having a common national or cultural tradition (Oxford Dictionary). And also defined as a racial, cultural or minority group (English dictionary). There are around 36 government recognized Tribes in Manipur (Census 2011, Ngalenggam, 2014). The different ethnic groups are of the same Mongoloid group, and have very close similarities in their culture and traditional habits. The distinctiveness of Manipur ethnic is clearly defined through two factors- territorial affiliation and that of language/dialect by the people. The tribal’s inhabited the hills region and the Meitei’s inhabited the valleys. And since Churachandpur is situated in the hills the ethnicity in the present study is clearly defined in terms of their dialects.

Figure 1.6: Ethnicity of the respondent



We can see from the table above that 29 percent of the respondents belong to the Paite community and 19 percent belong to the Kuki tribes comprising nearly 40 percent of the total respondents. It is important to note here that the Paite and the Kuki constitute majority of the population in Churachandpur District. Hence majority of the respondent are also belonging to these two tribes. There are 12 percent Mizo and 12 percent Gangte among the respondents. The demographic of the area is divided in such way that every ethnic belonging to one tribe will settle together. The Gangte's comprises more as the District hospital is situated just a few blocks away from their town and the respondents are known to the researcher, so they are comfortable to give their consent. The other ethnic comprises of

Zou, Vaiphei, Simte, Hmar and Chin comprising of 33 (27 percent) respondents. The other category include the Meitei Pangal who married the tribal girls and known as 'Makpa'. It is also interesting to note that the four respondents who belongs to other categories settles in Churachandpur with their wife (Churachandpur Tribals) and children and behave almost like the tribal's in the region.

LEVEL OF ADHERENCE

The level of adherence maintained is calculated using the simple formula. And the result is presented below.

$$\frac{\text{No. of ART pills taken}}{\text{No. of ART pills prescribed}} \times 100$$

Table 1.5: Level of adherence

Level of adherence	Frequency	Percentage
80 %	2	2.0
90 %	19	16.0
95 %	13	11.0
96-100 %	86	71.0

Based on the WHO clinical requirement, >95 % adherence is required for ART patient. So, 71 percent of the respondent were adhering to ART regimen which is a very high adherence level maintained.

DISCUSSION

People living with HIV on ART in Churachandpur District cut across varied socio-demographic and economic characteristics including

Age, Gender, Educational Level, Employment status, Marital Status, Income and Occupation. The data presented on the tables and figure shows the proportions of the socio demographic and socio-economic, irrespective of their age, all the respondents adherence is distributed equally across all age. Females were more, 56 percent because they are often at the health facilities because of pregnancies or with their children. Women are often

aware of the problems their children will be undergoing if they die young. Forty six point seven (46.7) percent of the respondents attain till primary and 25 percent attain till secondary comprising 71.7 percent of the total respondent. It maybe because of this reason that the adherence level is high at 71 percent being maintaining good adherent. Most of the unemployed belong to women. Unemployment and no regular job is perhaps one of the biggest challenges that the ART patients were facing today. This also shows the vulnerability of women, unemployed women with children is worst hit by the ART.

CONCLUSION

Though socio-demographic factors are not strong predictors of adherence and non-adherence but it correlates with socio economic factors to determine adherence. Male who were adhering were mostly single and staying with their parents who motivates them to adhere because they keep on reminding them to take the ART medicine. Women though, were reminded mainly by their spouse or their children to take the ART medicine. The unemployed widows were believed to be the most defaulters among the groups but they were the ones who maintain strict adherence because of their children welfare. Only those who were self employed and worked in the private sector has a clashes sometimes with the ART centre timings and this made them postpone their refill of medicine appointment dates. Marriage and employment will enhance adherence. Income level though low for most respondents, did not hamper in their way of adherence.

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