Original article

A community based study on knowledge, attitude and practice (KAP) on HIV/AIDS in Gambella town, Western Ethiopia

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Abstract

Background: HIV/AIDS is the major public health problem in our country. Studies need to be conducted to assess the behavioral risk factors of its transmission and prevention.

Objectives: To assess knowledge, attitude and practice of HIV/AIDS in the study population.

Methods: Community based cross-sectional study was done to assess the knowledge, attitude and practice on HIV/AIDS among individuals aged 15 years and above in Gambella town in November, 2000. Structured questionnaire was used to collect data.

Results: A total of 359 individuals were interviewed among whom 53.8% were males. Fifty-five percent of them were between 20 and 30 years of age. Majority of the study population were government employee. Sixty six percent were married while 25% were single. Oromos (32.9%), Agnuaks (21.4%), Amharas (16.7%) and Nuers (12.5%) were the major ethnic groups in the study population. About ninety six percent of the interviewed population reported to have heard about HIV/AIDS for whom the main source of information was the mass media (82.8%). The majority reported unprotected sex (79.7%) and unsafe blood transfusion (64.2%) as common ways of HIV transmission. About eighty six percent and 80% agreed on screening before marriage and voluntary testing respectively. Eighty six percent practiced sex at a mean age of first sexual contact of 16.6 and 18.4 years of females and males, respectively. Among those who had sexual contact with non-regular partner in the last one year, 39.6% did not use condoms. Males had higher rate of STDs as compared to females (21.1% and 12.2% respectively). Males were also observed to have significantly higher frequencies of sexual contact with non-regular partner in the last one year ($p=0.00$).

Conclusions: The findings of the study showed that sexual practice often begun as early as eleven years of age with the mean of age 16 and 18 years for females and males, respectively. The respondents were observed to have adequate knowledge although risky behavior is prevailing. Therefore, we recommend that health education should target elementary school children and those children who are not at school as early as the age of ten years. The knowledge of mother to child transmission in the region is limited. Hence, emphasis also needs to be given to improve the knowledge on mother to child transmission of HIV. Information dissemination should also be designed in such a way to bring about behavioral change. Regular assessment on the impact of the intervention should also be done. [*Ethiop. J.Health Dev.*2003;17(3):205-213]

Introduction

Many years have passed since the HIV epidemic has been a threat to mankind around the world. It has been increasing at an alarming rate since the first cases were reported in the early 1980s. Its transmission in developed world had been highly attributed to homosexuality and drug abuse while heterosexual transmission plays a major role in developing countries. Industrialized countries have achieved significant result in the

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prevention and control of the disease mainly through behavioral changes.

By the end of 2001, the total number of population living with HIV/AIDS was estimated to be 40 million. About 5 million people were infected in the year 2001 only. The number of people living with the virus in Sub-Saharan Africa during the same period was about 28.5 million, which is around seventy percent of the total making the region the most seriously affected area in the world. The same region accounted for seventy percent of the total HIV/AIDS deaths in 2001 (1).

Ethiopia is one of the most seriously affected countries in the world. In 1999, it was estimated that one of every 13 adults was infected. While this ratio showed the overall situation of the country, that of the urban areas was one out of every six adults. By the year 2002, 2.6 million people were infected. The HIV prevalence of women in antenatal clinics in urban areas of Ethiopia was estimated to be 14.9% by the same year. In some towns of the country like Bahir dar, this figure was about 20.8 percent (2) Recently, the prevalence of HIV infection of the country is 6.6% (3).

In between years 1996-2000, out of a total of 672 clinically suspected cases in Gambella Hospital, 328 were found to be HIV seropositive. The majority of cases were in 25-29 years age (hospital records). The seroprevalence rate of HIV infection among pregnant women has increased from 12.8 in 1997 to 19% in 1999 (4,5). This may show that there is either lack of knowledge or behavioral change. A number of studies on KAP HIV/AIDS were done in our country. According to the behavioral surveillance survey (BSS) in 2002, about 98% of the study population were aware of HIV/AIDS. Almost all groups know at least one prevention method. The study showed that significant proportion of the population were at increased risk of HIV infection despite high level of knowledge (3). Similar observations were also found in other studies (6,12). Awareness of HIV/AIDS among workers in the informal sector in Addis Ababa was found to be 96.3%. This study also revealed that there was a 34.1% of misconception rate on the ways of transmission of HIV/AIDS (7). The KAP study that was done in 1997 on high school students showed that the students have good knowledge about HIV/AIDS although found to have risky sexual behavior (8,16,17).

Different factors interact in complex manner to acquired and spread HIV infection. Its complexity makes the control and prevention of the epidemic difficult. Hence, it is vital to understand the nature of the epidemic in various location and consider the effect of social, economical, cultural and behavioral risks. Behavioral data is of paramount importance to set various points of public health intervention and it also helps to identify who is at risk. Such kind of information is also useful for efficient use of resources in the fight against epidemic. There are several studies on knowledge, attitude and practice of various population groups towards HIV/AIDS in the world. Encouraging results were found to show the baseline risk behavior and also to follow the progression of such factors.

This community-based study, thus, was conducted to assess the knowledge, attitude and practice of people residing in Gambella town on HIV/AIDS. This will definitely help to identify risky behavior that may need urgent and prompt public heath intervention in the region.

Methods

The study was conducted in Gambella town 777Kms south east of Addis Ababa. It is characterized by hot and humid climate. The total population of the town is estimated to be 20,000, according to the 1994 census. Although the people share common cultures and similar living standards, the native population practice polygamy and inheritance of one's late brother or relative's wife is a common practice.

A cross sectional study was conducted to access the knowledge, attitude and practice of the study population on HIV/AIDS. The study was conducted from November to December, 2000. The source population included all people residing in Gambella town aged fifteen years and above. This was estimated to be 11,000(55%of the population).

Required sample size was 372. The town was conveniently divided into 20 villages based on the house-to house polio campaign map of the town, that was conducted at the same time. Three hundred seventy two households were selected randomly from all villages using proportionate sampling depending on the number of households in each village. From each household one individual was selected using the lottery method when more than one eligible was obtained in a household. Data collectors were health assistants and nurses who were trained for one day. The questionnaire was translated in to Amharic and administered. Variables included socio-demographic characteristics and various factors related to knowledge, attitude and practice such as methods of transmission and prevention and the like. Translators were used for some study subjects who did not understand Amharic. Data was collected by going house to house. Each individual was asked for consent after which he/she was interviewed using the questionnaire. Epi info statistical software version 6 was used for data entry and analysis. Chi-square (X^2) test was used to calculate significant differences among proportions of categorical variables. P-values less than 0.05 were considered significant.

Result

Three hundred fifty nine (96%) participated in the interview. One hundred ninety three (53.8%) of them were males. The lowest age for both sexes was 15 years while highest ages for females and males, reported respectively, were 55 and 63. The mean age for females and males was 25.9 and 28.6 years, respectively. The majority were between 20 and 30 years of age. Majorities of them were government employees by occupation to be followed by students while the rest were merchants, farmers and NGO employees. This could, however, be explained by the selected study age group and place (towns) (Table 1). Most of the subjects were married (66.3%) while 25.3% of them were single (i.e, never married). Oromos constitute the higher proportion followed by Agnuaks, Amharas and "Nuers" which constitute 21.4%, 16.7% and 12.5% respectively. Fifty eight percent of the study subjects were above six grades and 14.2% were illiterates.

Only 4.5% of the participants reported that they didn't hear about HIV/AIDS (Table 2). For those who have heard of HIV/AIDS, the main source of information was found to be mass media (82.8%). The commonly reported ways of transmission were unprotected sex (79.8%)and unsafe transfusion (64.2%).

Only 0.9% reported to know that HIV is transmitted from mother to child. Faithfulness to partner, condom use and abstinence were reported to be ways of prevention by the majority of respondents (78.2, 76.5 and 64%, respectively). About 57% of the subjects knew that unprotected sex with any body can transmit HIV and 83.8% believed that even healthy looking individuals could transmit the virus. Common traditional practices such as tattoos, uvuloctomy, circumcision, tooth extraction were reported to predispose to HIV infection by the majority (65%-82.5%). Nearly 82% believed that HIV/AIDS is not curable. Seventy six percent of the participants knew that polygamy increases the risk of HIV transmission. More than sixty percent of the participants have good knowledge about the impact of HIV/AIDS (Table2).

Table 1: **Socio-demographic characteristics of the study population, Gambella town, Nov. 2000 (N=359)**

Characteristics	Frequency	Percent
Age group (years)		
<20	56	21.8
20-30	198	55.1
31-45	101	28.1
>45	4	1.1
Sex		
Male	193	53.8
Female	166	46.2
Occupation		
Gov. employee	119	33.1
Student	76	21.2
Merchant	52	14.5
NGO employee	6	1.8
Farmer	32	8
Others	74	21.5
Marital Status		
Married	238	66.3
Single	92	25.3
Divorced	15	4.2
Widowed	14	4.1
Literacy status		
Illiterate	51	14.2
Read and write	28	7.8
Gr. 1-6	72	20.1
Gr. 7-12	158	44
>12	50	13.9
Ethnicity		
Oromo	118	21.4
Agnuak	78	3.1
Amhara	60	12.5
Nuer	45	32.9
Tigre	20	16.7
Kambata	11	7.8
Others	27	5.6

Nearly 80% of both sexes agreed that sexual intercourse should not be committed before marriage. This was also true for 94.4% of those who have heard of HIV/AIDS while only 2.5% of those with no information about HIV/AIDS had the same reply. Eighty-seven of the subjects didn't accept having sex with multiple sexual partners.

Most of them (71.2%) preferred to get condom from the hospital while it was only 22% that have chosen bar or shop as a source of condom. About eighty five percent of females and 96.4% of males supported testing for HIV before marriage while the over all rate was 91.4%. The proportion of respondents having positive attitude towards screening before were 68%, 82%, 94%, 97.5% and 96% among the illiterates, those who can read & write, grades 1-6, grades 7-12 and above 12 respectively.

Table 2: **Knowledge on HIV/AIDS in the study population, Gambella town, Nov. 2000 (N=359)**

Knowledge	Frequency	Percentage
General knowledge		
Heard about AIDS	342	95.3
Healthy looking individuals	301	83.8
Can transmit HIV is curable	43	12
Polygamy increases the risk of HIV infection	274	76.3
Knowledge on Transmission		
Un protected sex	286	79.7
Unsafe blood transfusion	233	64.9
Sharing of needles	46	12.8
Mother to child Transmission	3	0.9
Knowledge on prevention		
Abstinence	230	64
Use of condom	274	76.3
Faithfulness to sexual Partner	281	78.3
No prevention	13	3.6
Traditional practices predisposing to HIV		
Tattoos	234	65.7
Tooth extraction	296	82.5
Tonsillectomy	279	77.8
Circumcision	278	77.4

Table 3 shows that about 80% agreed with voluntary testing for HIV. This agreement was observed to increase with increasing literacy status. Eighty-nine percent of the study participants preferred to be counseled by physicians. Isolation of people living with HIV/AIDS was opposed by 56.7% but supported by 37.7%. About 86% practiced sex with a mean age of first sexual contract at 16.6 and 18.4 years for females and males respectively. The lowest age of first sexual contact was 11 years for both sexes.

Table 3: **Knowledge on HIV/AIDS in the study population, Gambella town, Nov. 2000**

Attitude and practice	Yes	No	Do not know	Total
Attitude (N=359)				
Agree with sex before marriage	288 (80.4)	53 (14.8)	18 (4.7)	359 (100)
Agree with screening before marriage	328 (91.4)	12 (3.3)	19 (5.3)	359 (100)
Agree with isolation of PLHA	133 (37.2)	203 (56.7)	23 (6.10)	359 (100)
Agree with voluntary testing	286 (79.4)	57 (15.9)	16 (4.3)	359 (100)
Practice				
sexually active	308 (86.1)	51 (13.9)	0	359 (100)
Non-regular sexual partner in the last one year	58 (18.8)	241 (78.2)	9 (2.9)	308 (100)
used condoms	107 (34.7)	191 (620	10 (3.3)	308 (100)
Had STD	52 (16.9)	248 (80.5)	8 (2.6)	308 (100)
Was treated for STD	49 (94.3)	2 (3.8)	1 (1.9)	52 (100)

Fifty percent of males and 18% of females reported to have used condoms one or more times. Generally speaking failure to use condom decreases with increasing literacy status. Condom use was computed against marital status and it was found that 39% of the single and 23.2% of the married ones used it. The prevalence of condom use among the Nuers, Amharas, Agnuaks & Oromos was almost comparable. Among those who had casual sex in the last one year, 39.6% did not use condoms. Sex with non-regular partners was practiced by 27.3% of males, 9.5% of females, 42.3% of singles and 13.6% of the married ones in the last one-year. As well 24.5% of merchants, 19.1% of students, 17.4% of government employees and 18.5% of farmers practiced similarly in the same period.

Males reported sexually transmitted diseases more frequently than females (21.1% and 12.2%, respectively), genital discharges being the major symptom (85.9%). The rate of sexually transmitted diseases was also computed for different occupation and was found to be 22.4%, 21.1% 12.7%, and 7.1% for merchants, government employee, students & farmers, respectively. STDs were also reported by 17.3% of the singles and 16.6% of the married ones (Table 4). When the rate of STD was computed across different ethnic groups the highest prevalence was seen among the Oromos and Amharas to be followed by Agnuaks and Nuers. Nearly 4% of those who had STD reported not to be treated. Among those who had been treated, 75.5% reported to have got their treatment from the hospital.

Table 4: **Practice related to HIV/AIDS in the study population by sex, Gambella town, Nov. 2000**

Variables	Sex		Total	X^2	P-value
	Female	Male			
Non regular sexual partner in the last one year	No. %	No. %	No. %		
Yes	14 (9.5)	44 (23.3)	58 (18.8)	14.8	0.0007*
No	127 (86.4)	114 (11)	241 (78.3)		
I do not know	6 (4.1)	3 (1.9)	9 (2.9)		
Total	147 (100)	161 (100)	308(100)		
Use of condom					
Yes	27 (18.4)	80 (49.7)	107 (34.7)	29.4	0.00000*
No	112 (76.2)	79 (49.1)	191 (62)		
I do not know	8 (5.4)	2 (1.2)	10 (3.3)		
Total	147 (100)	161 (100)	308 (100)		
STD in the past					
Yes	18 (12.2)	34 (21.1)	52 (16.9)	2.9	0.087*
No	121 (82.3)	127 (78.9)	248 (80.1)		
I do not know	8 (5.4)	0	8 (3)		
Total	147 (100)	161 (100)	308 (100)		
Screening before marriage					
Yes	142 (85.5)	186 (96.4)	328 (91.4)	5.98	0.014*
No	10 (6)	2 (1)	12 (3.3)		
I do not know	14 (8.5)	5 (2.6)	19 (5.3)		
Total	166 (100)	193 (100)	359 (100)		
Sex before marriage					
Yes	135 (81.3)	154 (79.8)	289 (80.5)	0.48	0.488*
No	21 (12.7)	31 (16.1)	52 (14.5)		
I do not know	10 (6)	8 (4.1)	18 (5)		
Total	166 (100)	193 (100)	359 (100		

* Significant; P<0.05

Discussion

Many studies have been done in different parts of Ethiopia on HIV/AIDS among diversified social groups. There was also a KAP study on HIV/AIDS done in Gambella on some population groups such as high school students, commercial sex workers, soldiers and prisoners in 1997 (unpublished). Therefore this is the first community-based study done on general population in the town to assess the knowledge, attitude and practice of the population on HIV/AIDS. The study has tried to enroll those who are 15 years of age and above with the assumption that wider range of sexually active segment of the population were targeted. This study showed that 95.5% of the population have heard about HIV/AIDS which is similar to that obtained three years back in a study done in the same town among the risk groups. Similar observation was seen in studies from Awassa (8,9). The major source of information was the mass media (82%). This was also true in the study done on senior high school students in Addis Ababa in 1990 (10). In both studies schools and health institutions did not seem to play significant role as compared to the mass media. Considering the low access of the population to the mass media, especially in rural areas of the region, promotional services need to be extended to schools and health institutions in order to attain a better level of awareness related to the disease. Considerable

proportions of the respondents were able to correctly reply the common ways of transmission and prevention of the disease. This is comparable to studies done elsewhere in the country (11,12). However, the finding that only 0.9% knew mother to child transmission indicates that there is little attention given to it during health education campaigns. Inspite of the wide practice prevailing in the region, the majority said that polygamy increases the risk of HIV infection.

Generally, the respondents seem to have favorable attitude on prevention of the diseases. Majority of both sexes approved screening before marriage though the male approval was found to be significantly higher ($p<0.05$). This is almost comparable to the finding of a study done in Addis Ababa in the year 2000 (13). This indicates the existence of favorable social atmosphere for voluntary testing. Similarly large proportion of both sexes had negative attitude to sex before marriage, which is comparable to the study done in 1997 that showed higher percentage of female's disapproval on sex before marriage (8).

The reason why the majority prefer to get condom from the hospital rather than bars could be a biased reply for the word "bar" that may have a negative social implication. Although the proportion of respondents who opposed isolation of HIV/AIDS patients is higher than who supported (58% and 37%), it still indicates a strong prejudice and social discrimination, which is consistent with the study done in Gondar rural community in 1995 (11).

The mean age of first sexual contract for females and males obtained in our study (16.6 and 18.4 years) is comparable to two other studies (10,12,14,15). The observed early sexual contact among females in this study is mainly attributed to the prevailing culture that allows an early marriage in the region. This study showed that the earliest age of sexual contact was 11 years, which was similar to a study in Addis Ababa in 2001 (16). There is a difference between the proportion of people using condom (34.7%) and that who know about condom as a preventive method of HIV transmission (76.5%) which is comparable to the results found in students in Gondar (17). This indicates the dissociation between knowledge and using condom. This may be due to the reason that most of the respondents were married (66.3%). Marriage was the commonest reason for not using condom. It could also be due to the reluctance of individuals to apply their knowledge (18).

It was observed that males tend to have significantly higher frequency of sexual contact with casual partner in the last one year and at the same time they use condom more frequently than females. Although the dissociation between knowledge and use of condom mentioned above exists, it is encouraging to observe a parallel relationship between use of condom and sex with casual partner when it is grouped by gender. However, it is also important to note that 39.6% of the respondents committed unprotected sex with sexual partners, which contradicts with the observed adequate knowledge. Males had higher rate of sexually transmitted disease as compared to females although no significant difference was observed. This may be due to the fact that most STDs are a symptomatic among the females.

The discrepancy between the high rate of condom usage and higher rate of STDs in males than females may be because of failure to use condom consistently and appropriately. Only few individuals with STD failed to be treated. It has been found that literacy status has a positive impact on the attitude towards use of condom and screening before marriage ($P<0.05$) of the trend = 0.002, 0.004 respectively). In general, since the study is conducted in a town, it may not represent the general population in the region. Moreover due to the sensitive nature of the inquiries made, it could have some limitations in eliciting genuine responses.

Conclusion and Recommendation

Most of the respondents reported that they heard of HIV/AIDS. The main source of information was found to be the mass media, which is not accessible to every segment of the society particularly in rural areas. This gap should be filled by dissemination of information using schools and health institution wherever they are available for they seem to play unsatisfactory role in our study. Furthermore, health education can also be disseminated at social gatherings like local meetings and religious ceremonies. As sexual practice started as early as 11 yrs of age, health education about HIV/AIDS should be started in earlier ages at home and elementary school to lay the background of HIV prevention in what is called window of hope (19). Knowledge on transmission of HIV/AIDS from mother to child was seen to be very low. Therefore, due attention should be given to improve the knowledge of the society about such transmission in order to reduce the magnitude of infection among children. The study has shown that safe sex practices are less practiced as compared with the observed level of knowledge on prevention and transmission. Hence, appropriate health education should be given in a way to bring behavioral change targeting at individual risk behavior. Prejudice and social discrimination of people living with HIV/AIDS was seen to prevail at a higher rate therefore the community should get continuous and appropriate information to accept and give care to the people living with HIV/AIDS. Screening before marriage and voluntary testing appeared to be acceptable by the society and should be considered as major intervention areas in the health service package and should be encouraged. It is also vital to understand the behavior of the population so as to draw effective intervention strategies (17).

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References

1. UNAIDS. Report on the global HIV/AIDS epidemic, 2002.
2. Ministry of Health. AIDS in Ethiopia, 3rd Edition. Disease prevention and control department, Nov. 2000.
3. Ministry of Health. AIDS in Ethiopia, 4th Edition. Disease prevention and control department, Oct. 2002.
4. Woldemeskel Y, Chekol A. A sero-prevalence of HIV in mothers following ANC Gambella Hospital, 1997. (Unpublished).
5. Bejiga M, Negash Y. Sero-prevalence of HIV in mothers following ANC, Gambella Hospital, 1999. (Unpublished).
6. Degu G. Knowledge and practice of condom in preventing HIV/AIDS infection among commercial sex workers in three small towns of Northwestern Ethiopia, Ethiop J Health Dev, 2002;16(3):277-286.
7. Abera Z. Knowledge, attitude and behavior (KAB) on HIV/AIDS/STDs among workers in the informal sector in Addis Ababa. Ethiop J health Dev., 2003;17:53-62.
8. Woldemeskel Y, Chekol A, Nega W. Preliminary report of knowledge, attitude and behavior of high school students, commercial sex workers, soldiers and prisoners on HIV/AIDS in Gambella town, 1997 (unpublished).
9. Taffa N. Sexual activity of out-of-school youth and their knowledge and attitude about STDs and HIV/AIDS in Southern Ethiopia. Ethiop J health Dev. 1998;12(1):17-22.
10. Geiger S. Sexual behavior & knowledge of HIV/AIDS & other STDs. A survey of senior high school students Ethiop J Health Dev. 1990;4(2):123-131.

11. Ismael S, H/Giorgis F, Legsse D, Alemu E. et. al. Knowledge, attitude and practice on high risk factors pertaining to HIV/AIDS in rural community.. Ethiop Med J. 1995;33:1-6.
12. Korra A, Haile M. Sexual behaviors & level of awareness on reproductive health among youths evidence from Harar, Eastern Ethiopia. Ethiop J Health dev. 1999;13(2):107-113.
13. Mohammed F. Demeke B, Ismail S. Determinants of voluntary HIV counseling and testing among 15-19 years urban communities of Ethiopia. Ethiopian Medical Association 37th Annual Medical conference (Abstract).
14. Ismael S, Bitsuamk H and Alemu K. High risk behavior for STD/HIV, pregnancies and contraception among high school students in a rural town, North Western Ethiopia. Ethiop J Health Dev. 1997;11(1):29-36.
15. Eshete H and Sahilu T. The progression of HIV/AIDS in Ethiopia. Ethiop J Health Dev. 1990;10(3):179-190.
16. Fekadu Z. Casual sex debuts among female adolescents in Addis Ababa, Ethiopia. Ethiop J Health Dev, 2001;15(2):109-116.
17. Fitaw Y and Worku A. High risk sexual behavior and pattern of condom utilization of the Gondar College of Medical Sciences students, North Western Ethiopia. Ethiop J Health Dev, 2002;16(3):335-338.
18. Petros B, Belayneh S, Mekonen Y. AIDS and college students in Addis Ababa. A study of knowledge, attitude and behavior. Ethiop J Health Dev. 1997;11(2):115-123.
19. Mengistu G, Jones J. Low prevalence of HIV in the window of hope age group in Northwest Ethiopia. Ethiop J Health Dev. 2003;17(1):85-87.