A study of knowledge, attitude, practice towards HIV/AIDS and prevalence of HIV/AIDS among tea sellers women in Khartoum State (April 2004 - May 2005)

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ABSTRACT:

This was a descriptive community based study conducted to determine Tea seller's women risk behavior and factors towards AIDS in order to assist national planner to develop behavior change interventions. The study was carried out in Khartoum state during the period April 2004 - May 2005, 648 tea sellers women of age 15- 49 were participated. It was found that they spend most of the day out of home, had high-risk sexual behavior. The majority of them are married, knowledge and behavior related to sexually transmitted disease and AIDS was generally satisfactory. Condom use was found to be not adequate; the tea sellers refer to pharmacies as a main source of obtaining condoms. The study showed a high level of misbelieves about mode of transmission of HIV / AIDS. Only little proportion of tea sellers has under gone voluntary testing for AIDS virus. The tea seller women are listening to radio and watching television, which make them potential sources for dissemination of information in the future. The tea sellers women when getting infected with sexually transmitted disease, used to seek treatment in governmental clinics and private pharmacies. The tea sellers women, like general population, are stigmatizing people living with AIDS. Although tea sellers women constitute a large proportion of the high risk population for HIV infection, no specific program to raise their awareness such as peer education, was designed for them.

Introduction

Sudan is the largest country in Africa, covering one eighth of the continent surface with an area of 2.5 million kms^2. More than 2000 km from north to south, having diverse environment due to different climatic zones, extending from the great desert to equatorial rainy forests. Since its independence in 1956, Sudan has witnessed only eleven years of peace. The civil wars, inter-ethnic conflicts, floods, droughts and variant patterns of rain, have had adverse effects on the economic and the developmental status of the whole country. More over, Sudan shares extensive borders with nine countries, several of which have high HIV/AIDS prevalence. The population of Sudan according to1993 census was 26 millions. The annual growth rate also increased from 1.9 percent to 2.6 percent. Rural –urban migration has been steady and high. HIV/AIDS pandemic has become human's social and economic disaster with far reaching implications for individual communities and countries. No other disease has so dramatically high lighted the current disparities and inequities in health care access, economic opportunity, and the protection of basic human rights. Antenatal care attendants showed prevalence of 1% with regional variations. However among certain population groups the trend is critically alarming. The prevalence was 10% among tea seller's women in Juba town of Equatorial Zone, 4.3 % among female sex workers, 4% for internally displaced populations and refugees, 2% among prisoners with variation between inmates

with long and short stay, 1.3% among street children and 1.1% among university students. There are regional variations in the prevalence of HIV infection with higher prevalence in southern states, eastern states, Khartoum state and White Nile state. Heterosexual transmission accounts for 94% of infections with prenatal transmission accounting to 2.4%.Despite the growing trend of the epidemic, the safe motherhood survey (2000) revealed that, in several states, only 20% of the population had heard of AIDS (1) Beside the exerted efforts to hinder the poverty burden, and the characteristics of the family consistency in Khartoum State, in which the extended family forms the locality society, we find the phenomena of tea sellers dominated widely in markets and gathering areas.

In the past the sellers were old women obliged to do this work, and tea selling was practiced only at down at bus stations and transportation areas and what presented was milk tea and ligamat (cousone) and this finishes at seven in the morning, these women were replaced by another type of women ,this most properly due to: drought and desertification which lead to displacing large numbers to the capital, the prolonged war for years and its social and economical out put, crises and famines which hit the Africa Horn Countries, and the flood of refugees into towns and the majority of them in Khartoum State. The current trend of tea sellers' women behavior did not face any objection or restrictions, this lead to disappearance of the old ladies and the encouragement of younger ladies to join this type of job. This phenomenon of younger tea sellers with gathering of men and youth around them created an unusual behavior often rejected by the general population. Due to the absence of legislations to hinder this phenomena, the decision making varied, thus it prevailed and dominated till it became a security threatening, specifically after the entrance of the new sellers. With bad morals backgrounds and continue selling tea till late in the night, tea selling became a sign and trademark for these places to be turned into night clubs managed by those tea sellers who serve all kinds of hard drinks and drugs. The buildings which are under construction become havens that provide these women with the restricted goods distributed under the tea cover.

Objective

1. To estimate the prevalence of HIV/AIDS among tea sellers
2. To determine the tea sellers level of knowledge about HIV/AIDS /STDs.
3. To assess the risk behaviors and factors that put the tea sellers at a high risk of acquiring HIV/AIDS/STDs
4. Find the association between knowledge, attitudes, practices, behavior and prevalence of HIV/AIDS/STDs.
5. To identify channels, means and methodologies those are effective in delivering information and education material that would inflect favorable change.

Methods

***Study design*:** This is a descriptive cross-sectional community based study

***Study area*:** The study was conducted in Khartoum state with a surface area of 20140 Km and a population of 5,548,000.The state is divided politically and administratively into 7 localities and 24 administrative units. The central location of the state subject the state to continuous population influx from other states almost on a daily bases for work ,education, health services, marketing, and some for residence. In Khartoum, according to local government records, there is the largest group of tea sellers women in the country. They are found mainly in the centres, e.g. markets, stations of the transport and near hospitals.

***Study population*:** Female tea sellers aged 15 to 49 years, with an officially estimated figure of around 6,666 tea sellers.

Inclusion criteria: (1) female of 15-49 years were included for this study. (2) Those who a greed to participate.

***Exclusion criteria*:** (1) Any tea seller who is not within this range of age. (2) No double counting for any candidate.

***Sample size*:** Will be calculated using the formula:

$$n = \frac{z2\ pq\ X\ deff.}{d2}$$

Where:

N: is the sample size.

Z: is the value of normal curve corresponding to the level of confidence 95%.

P: is the probability of target group (according to last study done P value was 2.5%)

Q: is the desired margin of error.

D: is the desired margin of error.

deff: is the design effect.

$$N = \frac{(1.96)^2\ (0.025)\ (0.0975)\ (2)}{(0.017)2} = 648 \text{ tea sellers}$$

Type of the sample is stratified random one.

***Sampling technique*:** (1) Female tea sellers were stratified by locality where each locality is going to be given a number of tea sellers from the sample according to the weight of female tea sellers out of the total number for the state. (2) In each locality the sample is going to be distributed equally across all the main known locations where female tea sellers are found. (3) In each location, every female tea seller meeting the inclusion criteria that the data collectors came across randomly was selected, till the sample for the location is completed.

***Ethical Consideration*:** (1) only tea seller who agrees to participate will be included in the study, high confidentiality will be observed during filling questionnaire. (2) The tea sellers were told that they will need to answer the Questionnaire and have their blood tested for HIV infection if they agreed to participate in the study.

***Data collection*:** Data was collected in the field. Inclusion criteria mentioned before was put in mind. The women responded to the instructed questionnaire, no names was written in the questionnaire but a code known only to the interviewers for identification if needed. Collection of blood for testing for HIV infection was carried out during the day in the field. Both the assigned unique study number and the candidate registration number were written on the blood specimens bottles and then both will copy into the master sheet kept with the counsellors. All the collected bottles were kept in the bottle rag, in a place beside the lab technician and were kept till they were transferred to the central AIDS laboratory (CAL), in the administration of laboratories/ ministry of health. All the tea sellers women involved in the study gave a verbal consent to fill up the questionnaire also the 648 gave their consent to give blood to be tested for HIV infection.

***Laboratory procedure*:** Blood specimens were centrifuged treated to release plasma, and then examined for the presence of HIV antibodies using commercially available ELISA testing kits, the blood specimens that were not processed within three days of collection were frozen at 20 c till the time of processing.

***Limitation and constrains*:** For tea sellers women the following constrains were encountered:1) Some of these women might not be truth full when answering questions in the sexual history regarding the number and type of sexual partners.2) Tea sellers' women, who refused to be included in the study, may be having more positive cases among them.

***Data collection tools*:** This was done through a questionnaire, that was checked by a counsellor at the end of each day and subsequently coded to ease analysis, and then coded data were entered via prepared data

sheets into the computer. Continuous variables like age were recoded into categorical variables to aid statistical analysis.

***Data Analysis*:** The data collected was analyzed using SPSS

Results

Back ground Characteristic of the Study population:

A total of 648 tea sellers women were enrolled in the study.

1. *Age*: The mean age was 30.8 ±0.34 (mean ± SE) years with 25 to 29 years of age accounting for 20.4% of the total number.
2. *Education*: Most of the tea seller women (54. 3%) were illiterate.
3. *Years of working*: Most of them have less than 5years since starting this work with the mean duration of 5.08±0.21 (mean ±SE) they are accounting for 59.3%.
4. *Place of residence before coming to Khartoum state*: Most of them (50.9%) came from western states (330), the rest of them came from different areas of Sudan and few of them (2.6%) came from outside Sudan (mainly Ethiopians and Eritrean).
5. *Marital Status*: (45%) of them were married, (11%) were widows, (19%) divorced, (22%) are .unmarried and 3% are separate.
6. *Number of siblings*: Most of them (76.4%) had siblings, (24.7%) has less than 3 children, and (2.6%) has more than 9 children.
7. *Other Sources of income*: Most of them (97.4%) had no other sources of income.

Knowledge and attitudes related to HIV/A1DS:

Most of the Tea Sellers women (93.1%) had heard of HIV/AIDS. The main source of knowledge was radio (51.2%), the second one was friends and relatives (47.1%), (14.9%) of the respondents who heard about AIDS knew that fever is one of the symptoms of HIV/AIDS, (16.3%) Knew that continuous diarrhea is one of the symptoms, (23.7%) knew that loss of weight is one of the symptoms, (72.1%) of the respondents knew that HIV could be transmitted by heterosexual contact, (38.1%) by blood transfusion, (3.5 %) during pregnancy, (47)1by using skin piercing instruments. In transmission from mother to child, (55.4%) thought that it can be transmitted through the placenta, (8.8%) during the delivery and (14.9%) thought that HIV can be transmitted by breast feeding, (32.7 %) were aware that healthy looking person could be infected with HIV, (20.1 %) thought that the agent causing the disease is a virus, (36.7%) of the tea sellers thought that HIV can be transmitted by insects bite, (15.6%) by sharing meal with PLWHA. The best known methods for preventing HIV among respondents were, (64.5%) avoiding un protected sex, (12.1%) loyalty to one partner, (47.4%) avoidance of sharing skin piercing instruments, (3.5%) condom use. Only (18.7%) of the tea sellers had history of blood trans fusion or surgical operation, (50.1%) of tea sellers were willing to provide care for a relative with HIV/AIDS, (39%) willing to take meal with PLWHA, (15.3%) willing to buy food from shopkeeper infected with HIV while (29.4%) agree to allow HIV infected teacher to continue working.

HIV voluntary counseling and Testing:

Most of the respondents reported not under gone HIV testing; only (3.6 %) did the test. Of those who did the test 50% under gone testing on voluntary basis, while the rest did it in a response to a physician request.

Condom use by the partners of the study population:

Knowledge and availability of condom: Only (36.7%) of the tea sellers never heard of condoms. Most of them mentioned the main source of knowledge was relatives and friends (37.4%). Pharmacies were mentioned by (56.7%) of them, as the main source for obtaining condom.

Causes of Condom use:

Many causes were mentioned for condom use; such as to avoid pregnancy (76.5%), (5.9%) to avoid STDs and (5.9%) to avoid HIV/AIDS.

STDs knowledge:
Hearing of the disease that can be transmitted through sex seems uncommon among them, only (8%) had vaginal discharge, (3.70%) had itching and, (8%) genital ulcer.

STDs patients' behavior:
Those who had STDs last year, the majority of them sought advices at governmental clinic (8.6%) or private clinic (1.9%), (12.3 %) of them used condom, (2%) told their partners about their disease, (3%) taking special treatment at home while only (2%) abstained from sex.

The prevalence of HIV /AIDS among tea seller's women:
The prevalence of HIV among the studied group was (1.23 %). The percentage of HIV positive cases among the married ones was (50%) and among unmarried was (50%). For the age group 40 years and less, the HIV positive cases were (87.5 %) and for the age group more than40 years the positive cases were (12.5%).The percentage of the HIV positive in those of less than 10 years duration of work was (75%) and in those of more than 10 years was (25%).The percentage of HIV positive in educated group of studied population was (50%) while in illiterate group was (50%).

History of operation or blood transfusion:
(12.5%) of the HIV positive cases had history of operation or blood transfusion. The residence of HIV positive cases before coming to Khartoum state was as follows, Khartoum (12.5 %), out side Khartoum (87.5%).

Knowledge of HIV/AIDS:
(87.5%) of the positive respondents has heard of HIV, (12.5 %) has no knowledge,(25%) of HIV positive respondents think that they can do protection by loyality to one partner,(62.5 %) of HIV positive cases has no knowledge, (87.5%) of the positive respondents has no knowledge of protection by using male condom, (62.5 %) of the positive ones had acknowledge that they can took protection by avoiding un protected sex ,25% had no knowledge.

Table 1: Distribution of attitude towards PLWH

Action	Frequency	Percent	Cumulative percent
Willing to care of relative with PLWHA	302	50.1	46.6
Willing of taking meal with PLWHA	235	39	36.4
Agreed to allow HIV infected student continue school	176	29.2	27.2
Agree to allow HIV infected teacher to continue working	177	29.4	27.3
Willing to by food from a shopkeeper infected with HIV	92	15.3	99.7
Willing to keep secret if family number infected with HIV	148	24.5	14.2
Total	**603**	**100.0**	

Table 2: Distribution of knowledge of symptoms of AIDS.

Knowledge	Frequency	Percent	Cumulative percent
Fever	090	14.9	13.9
Diarrhea	098	16.3	15.1
Loss of weight	143	23.7	22.1
Others	51	8.5	7.9
Total	**378**	**413.2**	

Table 3: Sources of knowledge and awareness of HIV/AIDS.

Source of increasing knowledge	Frequency	Percent
Radio	346	53.4
Television	329	050.8
Cinema	018	02.8
School	055	08.5
Mosque	099	15.3
News paper	054	08.3
Lectures and seminars	192	29.6
Theaters	004	00.6
Friend and relative	021	03.2
Books and leaf lets	075	11.6
Others	011	01.7
Total		

Figure 3: Distribution of tea sellers women by marital status, Khartoum state, April 2005

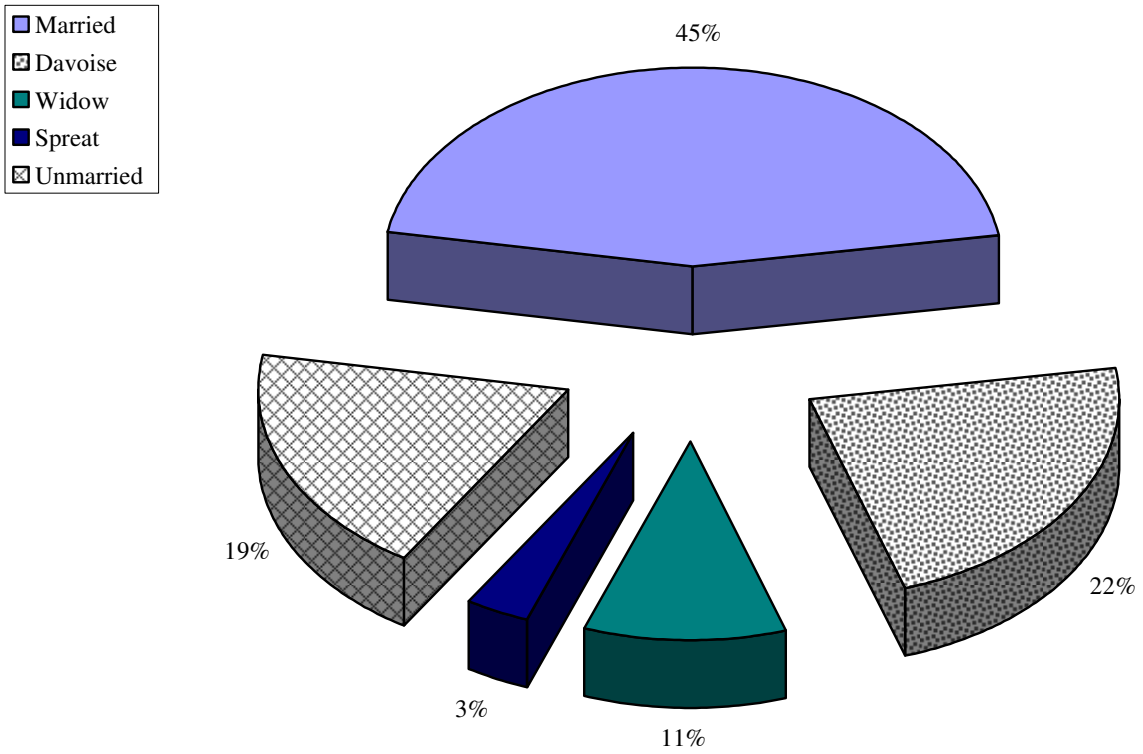


Figure 8: Distribution of tea sellers women by knowledge of antenatal transmission of HIV/AIDS, Khartoum State, April

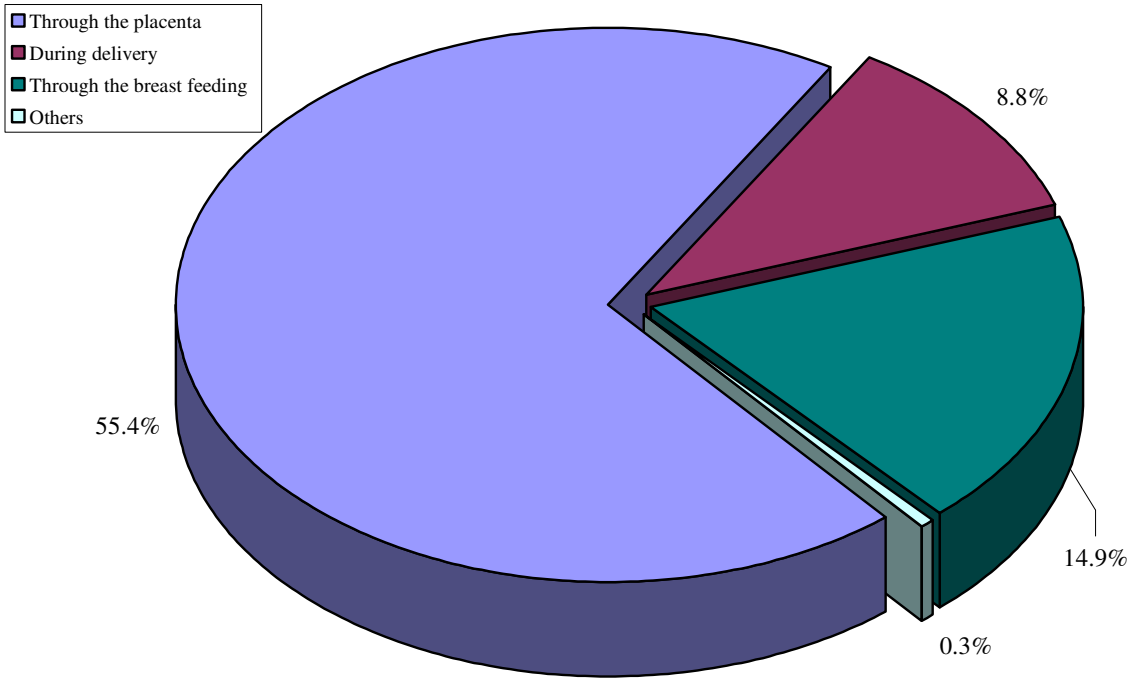


Figure 9: Distribution of tea sellers women by knowledge of agent causes HIV/AIDS, Khartoum State, April 2005

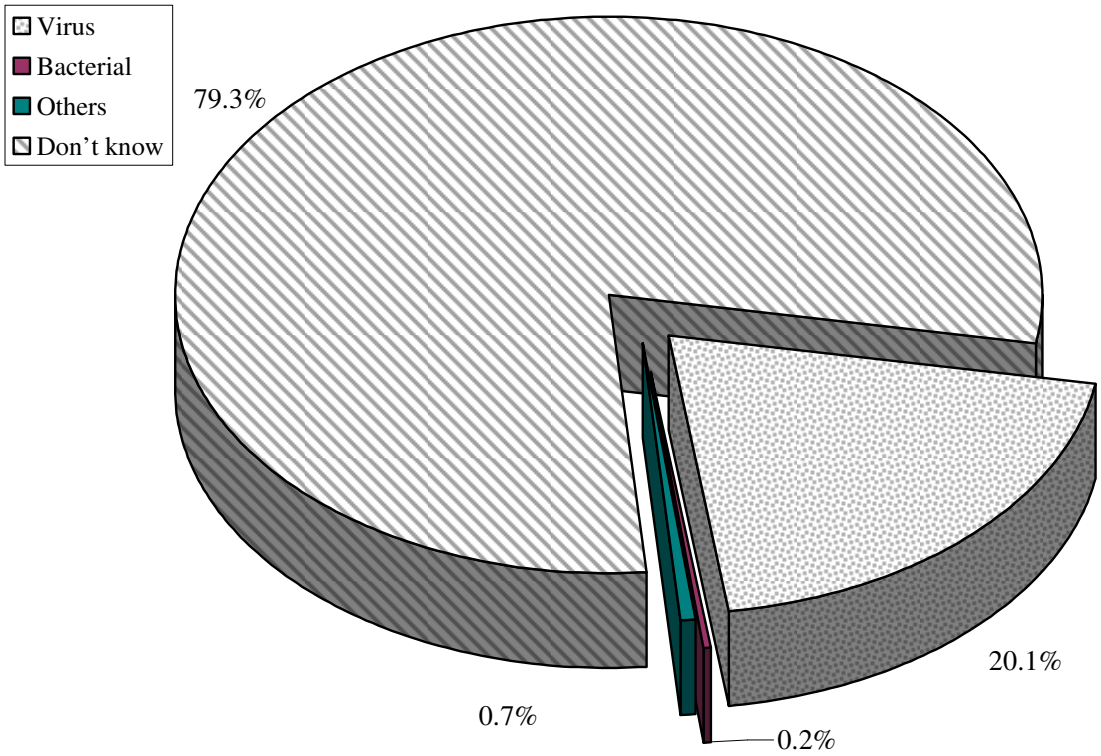


Figure 16: Distribution of tea sellers women by causes of condom use, Khartoum State, April 2005.

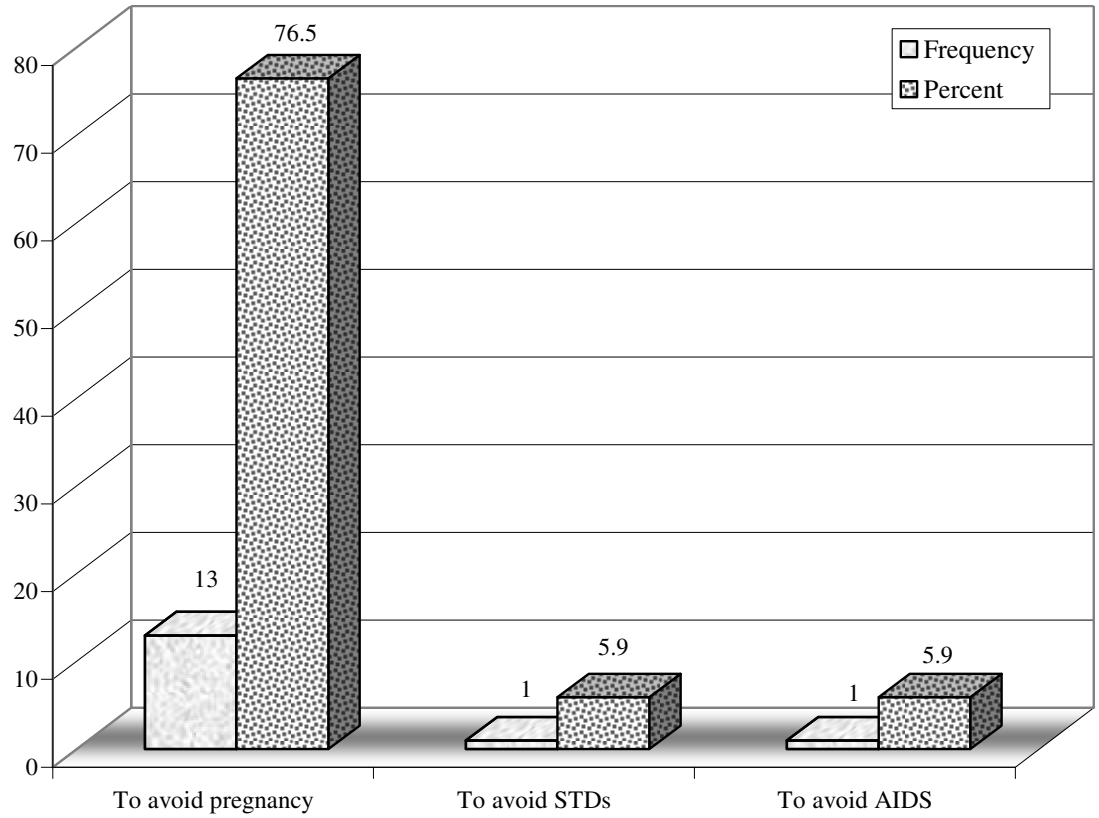
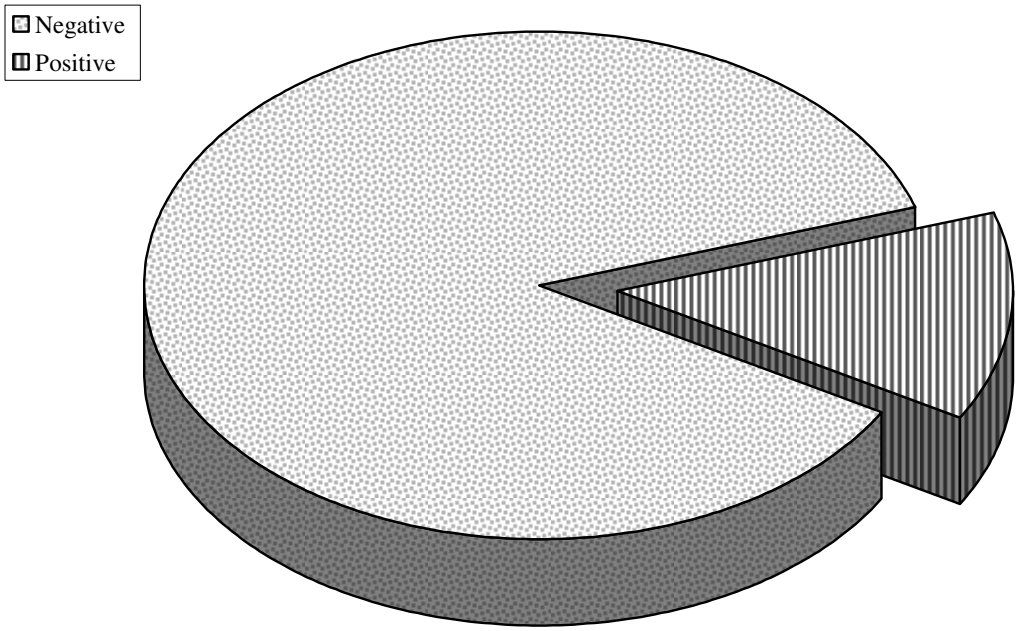


Figure 17: Distribution of tea sellers women by prevalence of HIV, Khartoum State, April 2005



Discussion

The majority of tea sellers' women were of age less than 40 years, the mean age was 30.8 years, the mean age for the general female high risk population was 24.9 years, and this the most important productive sector of the community. About 45% of them were married, 19% were single, but most of the rest were divorcee, widows or separate. This social status is by it self a predisposing factor. In comparison with cohort study of female bar workers in Mbeya Region, the mean age of the 600 women was 25.4years, 127 (21%) of them were married or living with a partner, 264 (44%) were widowed or divorced, and 209 (35%) were single. Most of the tea seller women (76.4%) have sibs [3]. The level of education of studied population was relatively low, this may be due to the fact that they are females and access to education is very difficult, traditional customs and taboos, gender judice, lack of power and effects of poverty play an important role to prevent them to pursue their education, early marriage or pregnancy could also be important factors [4-5]. Most of the tea seller women have had no other sources of income (97.4%), yet they make a lot of business from tea selling when compared to a graduate in the civil service. All the female included in the study were living in Khartoum state, where the study was conducted, but most of them were Sudan westerners as internally displaced persons as victims of political conflicts famine and civil war. Most of the tea sellers have been working in their current profession between one and 9 years (80, 9%).However this may indicate that an increasing number of tea sellers women with low socioeconomical background are being recruit, thus increasing their exposure risk index. Age group plays a role in determining duration of work at one place. Almost (93.1 %) of the interviewed tea seller women have had heard about HIV/AIDS. This enlightenment could be explained by increased information widely available now in the media. Recent situation analyses survey in the Sudan showed the majority of the respondents (78.6%) have heard about AIDS. In 1999 the SMS survey results showed that in west Darfur state, only 13% had had heard about HIV/AIDS [6]. The studied tea sellers women group showed good knowledge about the mode of transmissions of HIV/AIDS especially heterosexual practice transmission (72.1%),as compared to the Kishindo's research on bar girls who were all AIDS-aware [7]. The source of knowledge of most of the respondents was radio (51.2%), friends (47.10%) and TV (44.8%) and this reflects the impact of media as a channel for disseminating information about health related issues including HIV/AIDS and STDs. Almost (20.1%) of the respondents thought that the agent that causes the disease is a virus, In spite of this good knowledge about the causative agents in HIV, still there is tendency to wrong believes e.g. (36.7%) of the respondents believed that HIV can be transmitted through mosquito bite, these wrong believes about HIV/AIDS modes of transmission, however in view of the weak awareness-raising programs during the last two years, this is very much in consistence with national figures identified in 2002 where it was found that (27,8%) of all respondents have had the same believed, while (24.3 %) of them believed it was transmitted through sharing meals with infected persons. The knowledge of tea sellers women about protective measures from HIV/AIDS contraction was as follows (64.5%) thought that protection was by save sex practice, this may be due to the lack of comprehensive health education program aimed at behavior change among this group of women in addition it can also be due to un availability or inaccessibility of VCT services. Almost (37.5%) of the studied tea sellers knew that healthy looking persons can be infected, this is a very important message in the campaign enhancing exposure to HIV/AIDS epidemic in order to avoid casual sex with healthy looking

persons. In bar and hotel workers in Moshi, Tanzania AIDS-related knowledge was very high, more than 90% of the study participants knew that it was possible for a healthy looking person to have HIV as carrier state, while about (68%) knew that they can avoid AIDS by using condoms [8]. The majority of tea seller women who underwent testing (3.6%) were required to take the test. VCT should be available and accessible to all and in an anonymous centre to encourage clients, other wise the exact situation of HIV prevalence will not be known due to the strong social stigmata associated with the disease and the consequences of such a test in a country like Sudan. Attitudes of the respondents towards PLWHA was moderate, (50.1%) were willing to care for relatives with PLWHA. The is a punishment for sin and distract attention away from a realistic under standing of how HIV is transmitted, in spite knowledge and awareness is high. There is still some misbelieved regarding the spread of HIV through social contacts [11]. Hence AIDS prevention education campaigns should focus on cultivating more positive attitudes towards HIV +ve infected individuals in the community. Respondents who have heard of condom were (36.7%), the main sources of knowledge was relatives (37.7%), friends (31.1%) and the rest from other sources. In bar and hotel workers in Moshi, Tanzania, the majority of the participants (86.9%) scored high on the condoms knowledge scale [8-12]. The use of condoms by interviewed tea sellers was very low (7.1%), stigmata could be effective strategies in the promotion of condoms use among this population. Scare of pregnancy is the main cause of condom use in this group. The tea sellers who used condoms have pharmacy as a main source (56.7%).Such low levels of condom use among this high-risk group are really alarming. In a survey of women in the childbearing age group in Kigali, Rwanda, only (7%) reported to have ever used condoms, other studies had found condoms use to be positively associated with increasing level of education in bar and hotel workers in Moshi, Tanzania [8]. Consistent condoms use decreased with increasing age (P value, test for linear trend 0.001). Level of education was positively associated with condoms use in our studied group (P value, test for linear trendˆ0.01).In studies carried out in USA by LYTLE CD it was found that condoms used is a highly effective barrier to virus passage with a very small chance of leakage (9). There is strong correlation between using condoms and contracting STDs including HIV/AIDS [2]. Hence, the overall effect of condoms use in the prevention of HIV transmission may be significantly high in populations where both STDs and HIV infections are prevalent [2-8]. Most of respondents heard about STDs, knowledge of symptoms seemed to be reasonable for some symptoms but poor for others. The study showed that a considerable number of our studied group had STDs, this is in accordance with a similar result obtained in study done among female bar workers in Mbeya region [3]. The prevalence of HIV among the studied group was (1.23 %), and the participating women in the study were clearly working in a high-risk environment. In a cohort study of female bar workers in Mbeya Region, the prevalence of HIV infection was high (68%), indicating a high exposure to infected sexual partners during their lifetime [3]. The results of HIV positive respondents show that (50%) were married, (50 %) were unmarried (P = 0.5 18), this indicates that marital status plays a minor role in both exposure and prevention of infection [12]. Within the age group 15- 40 years, the HIV positive cases were (87, 5 %) (P 0.654), indicating that this age group bears a high risk index than other groups. In a study done in South West Tanzania the high risk age group was 15-24 [10]. There is no apparent correlation between the duration of work and the prevalence of HIV, in fact many HIV infections may have occurred before women started working in their current professions, as the duration of work in the profession was not significant in HIV risk in this social group. The percentage of education in the positive respondents was (50%) and the level of uneducated was (50 %) (P = 0.539), so there

is no significant difference. The geographical distributions curve of positive cases showed variable roots of rural descendent.

Conclusion

(1) The HIV prevalence among Tea sellers women was 1.32. (2) Condom use as found to be low among this high risk group. (3) There is a high level of wrong believes among them such as that HIV can be transmitted by mosquitoes. (4) Only few women complaining of STI symptoms had sought treatment (5) Health facilities have so far failed to adequately reach this highly vulnerable group (6) they stigmatize PLWHA. (7) No specific protective program was designed for them.

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