PREVALENCE OF STD AND STD RELATED RISK FACTORS IN SEX WORKERS OF ADDIS ABABA

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ABSTRACT: The distribution and frequency of some Sills among 282 female sex workers in Addis Ababa randomly selected out of a larger group subjected to HIV serosurvey was studied. Demographic and social information, clinical examination including use of speculum and laboratory detection of Sill pathogens were performed following an informed consent of all participants. An alarmingly high prevalence of Sills was found in the study population. Gonorrhoea was detected in 78 subjects (30.1%), trichomoniasis in 62 (23.9%), vaginal candidiasis in 51 (19.7%) and out of 203 sera studied 76 (37.4%) were positive for syphilis. The duration in sex work was found to have a significant association with seropositivity for syphilis ($p < 0.001$). Neither the marital status nor regular intake of oral pills influenced the prevalence of Sills. Further laboratory investigation on a broader panel of STDs along with KAPB studies for assessment and evaluation of social and behavioral determinants related to sex work are recommended.

INTRODUCTION

Sex workers are generally considered to be an important reservoir of many sexually transmittable pathogens, much more in developing than in the developed countries (1). Several studies conducted in developing countries have shown sex workers as the source of infection by the large majority of male patients seen at Sill clinics, both in urban and semi-urban areas (2,3,4,5).

Sex work is an important social problem in Ethiopia, particularly in major urban centers; though assessments on the number of sex workers in Addis Ababa are unreliable, estimates have been made of as many as one out of five adult females (6). However, according to a 1989 projection by the surveillance and research division of the department of AIDS control, the number of sex workers was estimated to be around 7.1% of the adult female population (Mengistu Mehret personal communication, 1990). The rapid spread of HIV has severely affected females practicing multipartner sexual contacts (MPSC), so that they are currently considered, with their clients the major transmitters of HIV in some parts of Africa (7).

In addition to that, the increased evidence that several sexually transmitted diseases act as risk factors or facilitators of HIV transmission has led to the necessity of renewed attempts at Sill control (7,8,9).

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Female sex workers are at present subjected to a periodic Sill screening in some urban centers of the country in the framework of the "food handlers screening programme Activities are usually carried out at health center level, in collaboration with the local municipalities, providing the

registration and follow- up of female bar workers. Severe constraints are however affecting those control oriented initiatives, limiting their achievements and rendering scanty , insufficient and rather unreliable data. The major aim of the present study was to collect data on the distribution and the frequency of some sms among sex workers in Addis Ababa; these data will be used as baseline for interval surveys, as well as for planning future interventions of the STDs Control Programme, which is, at the moment, in its early implementation phase.

SUBJECTS AND METHODS

The present study was conducted in collaboration with the Surveillance and Research Division of the Department of AIDS Control, on occasion of one of the interval HIV -I sero-prevalence surveys in Addis Ababa, between 16 July to 16 August 1990. The Surveillance Division carried out a census of all MPSC females working at bars in 40 randomly selected Kebeles (Kebele is in the Ethiopian Administrative Unit, usually defined as the association of 500 households), located in different areas of the city .A randomized selection among the subjects was then performed and the sample size for the HIV serosurvey resulted in 1225 individuals. 282 of them were admitted to the STDs screening. Using systematic sampling method; every fourth subject studied for HIV was called by one of the two STDs mobile teams, and subjected to the procedures of the protocol, defined as follows;

a)Questionnaire Administration Informed consent was obtained from each participant; all responded to a standardized pretested questionnaire. Data collected included demographic and social information, age at first sexual intercourse, duration of sex work,
information on sexual practices, history of exposure to STDs during the last three years, behavior during the symptomatic period and presence of current symptoms.

b)Physical Examination Those enrolled were examined at their respective Kebeles. Physical examination mainly focussed on inguinal lymphnodes, external genitalia and perineum, including speculum examination for the visualization of vaginal wall and cervix.

c)Sampling of Genital SpecimensVaginal and cervical samples were obtained from all subjects irrespective of the presence of signs or symptoms, genital specimens were inoculated into suitable transport media and carried within few hours to the STDs Central
Laboratory for bacteriological investigations Sera aliquot were made available from blood drawn for HIV screening to determine sero-prevalence of syphilis.

d)Statistical Analysis All data obtained were entered and analyzed by EPIINFO software and correlations were studied using a Chi-square and Fisher exact tests.

RESULTS

The mean age of the participants was 23.4 years; 3.6% of them were married, 50.7% never married, 43.9% divorced and 1.8% widowed multiparity was reported by 30% of the females, single pregnancy by 40.7%, the remainder claimed to have had 2 or more pregnancies. As to the

educational background, 2.3% were illiterate, 29.9% participated in the National Literacy Campaign, 56.8% attended a primary school and 15.8% completed the ninth or higher grade of general schools.

Table 1. History of STD related symptoms among sex workers in Addis Ababa, 1990

Symptom/sign	%
Vaginal discharge	74.7
Itching/rash on genital area	28.0
Swelling/oedema of the genitalia	19.2
Genital ulcer	7.1
Genital warts	2.7

* Multiple Symptoms were reported.

The average age at first coitus was 16.5 years. The period spent in sex work ranged from less than a year to more than 3 years, with an average of 3.1 years. Among contraceptives, oral pills were reported as the most widely used, taken regularly by 41.7% of the respondents, while usage of other methods, such as diaphragm, spermicides, or intra-uterine device Has negligible.

Table 2. Source of medical care of STDs among sex workers in Addis Ababa, 1990

Source of medical care	%
Health center or hospital	53.9
Private clinics	37.5
Self treatment	6.3
Pharmacy	2.3

The use of condoms was reported to be regular or frequent by 2.9% of the females, occasional or very rare by 56%. No use of condom was reported by 41.4% of the respondents.

The number of sexual partners on average per week was 2.4, and the majority of the respondents declared to practice 2 to 3 sexual intercourses per partner. Previous exposure to STDs was reported by 65.7% of the females (table I), and the large majority of them (97.7%) did seek medical care at different sources, as shown in table 2.

At the time of the interview, 47.9% of the females complained of one or more STDs relation symptoms, the duration since the onset of symptoms being more than a week in the majority of the cases. Sexual practice was generally continued, inspite of the presence of genital symptoms.

The gynecological examination showed one or more signs of abnormality in 89.9% of the individuals (table 3). Only 14.2% of those who did not report any STDs related symptom were confirmed to be free of STDs, and abnormalities were found in 94.4% of self reporting symptomatics.

Laboratory tests revealed Neisseria gonorrhoea isolates in 78 cases (30.1)%, rich omonas vaginalis in 62 (23.9%), Candida albicans in 51 (19.7%), and 27 cases of bacteriaI vaginosis (10.4%). Out

of 203 sera studied, 76 (37.4%) reacted to both qualitative non-treponemal and treponemal tests (RPR and TPHA). No significant correlation was found
between the age and the prevalence of STDs confirmed by laboratory investigations (Chi square test: $0.07 < p < 0.5$).

Marital status was not associated with an increased susceptibility to STDs (Fisher exact test: 0.3 <p<O.5). The regular intake of oral contraceptives did not show any influence on the prevalence of STDs (Chi square test; $0.2 < p < 0.6$). A significant association was found between the period spent in sex work and the seropositivity for syphilis i.e. the longer the duration, the higher the seropositivity .(Chi square test: $p < 0.001$). No consistent difference was observed in terms of syphilis sero-prevalence between the group with a history of previous genital ulcer and the group who did not report for any. The same pattern was observed on comparing the serology of the cases of genital ulcers seen on physical examination to the group free of such lesions.

Table 3. Major findings on physical examination of sex workers in Addis Ababa, 1990

Clinical findings*	%
Genital discharge(vaginal or cervical)	63.7
Genital warts	9.2
Genital ulceration	8.7
Swelling/oedema of genitalia	4.5
MolluscUD contagiosum	1.7

* Multiple findings were reported.

It is however to be noted that both groups of subjects with history and present cases of genital ulcers were small in numbers, limiting perhaps the significance of the statistical analysis. Furthertt1Ore, serological tests were conducted on qualitative basis only, and therefore no indication was given concerning the time elapsed between the infection and the detection of specific anti-treponemal antibodies.

DISCUSSION

Very few studies were conducted in Ethiopia on the prevalence of STDs among female sex workers. The last report dates back to the early sixties and refers to a survey conducted on 900 sex workers in Addis Ababa (10).

However. the long time interval and significant differences in the methodologies employed did not allow comparison of the results. Meanwhile several social and cultural
developments have occurred in the Ethiopian society. leading to a general improvement in the educational status. particularly among the female r population. The present study has confirmed the educational background to be far better than what was reported in the past. where illiteracy was registered in 90% of the study population (11).

A number of factors have been suggested to have contributed to the wide dissemination of Sills and among them social factors were found to have a particular significance (12). The instability of marriages is reflected by a high magnitude of divorces in the study population usually

accompanied by the presence of children. whose rearing responsibility is entirely left to their mothers. Sex work is among the few options left to these individuals.

A higher degree of exposure to infections their complications and sequelae becomes the usual feature of their daily practice. This is well documented by the high proportion of female sex workers reporting previous episodes of STDs. which was found to be almost a three-fold increase if compared to the figure recorded among female STD patients studied at four health centers in Addis Ababa (13).

In general. the use of protective means aimed at both safer sex and contraception was found rather low inspite of the frequent sexual practice and turnover of partners reported by MPSC females.

The presence of STD related signs or symptoms did not generally result in the interruption of the sexual activity. probably due to the risk of losing financial benefits. Furthermore. lack of concern for early medical care was a common finding. causing delay in treatment and increasing the likelihood of further transmission to occur.

The preference of attendance for medical care was given to alternatives to the public health service units in a large number of cases. Factors accounting for that choice were several, some of them could be related to stigma attached to STDs. Additional complications, if not risks, can be expected to generate out of some of those sources of medical care, where inadequacy is the most common feature. Though the number of similar studies conducted in developing countries is limited, interesting views on trends and tendencies, as well as comparisons, can be pointed out. According to the present study the prevalence on Neisseria gonorrhoea in the country appears to be rather high. Verhagen and Gemert found a rate of 35% in female sex workers attending Sill Clinics in Kenya in 1972, while D'Costa et al. found a figure as high as 46.6% in a similar group studied in Nairobi in 1986, showing a sharp increase in the prevalence (13.4%).

The last figure appears to be similar to the results of a study conducted in 1988 on 2000 sex workers in Bangkok, where a prevalence of 44.5% was recorded (14).

The prevalence of Neisseria gonorrhoea infection seems to be high also among female sex workers in developed countries: Conrad et al. reported a figure of 19.8% in Atlanta in 1981, while a six year study conducted in Austria showed a decline from 36.3% in 1971 to 17.2% in 1979 (18,15,19). The level of sero-prevalence of syphilis reveals exposure to treponemal infections, though the number of genital ulcers detected clinically was limited. This confirms the character of endemicity of such disease, particularly among high risk groups in developing countries. Female sex workers tested in Nairobi in 1985 showed a sero-prevalence of 41.4%, while a similar group studied in Ivory Coast had a rate of 47% (4,17). On the contrary only 6.3% of the sera from the sex workers tested in Fresno in 1979 and 3.4% in Atlanta in 1981 did react on serological tests (18,15). This study, though conducted on a limited sample size and focussing only on some of the sexually transmittable pathogens, has clearly indicated that STDs are highly prevalent among MPSC females in Addis Ababa. This evidence, together with available data from neighboring countries and the indication of a general tendency to an increase in the magnitude of Sill problems in

developing countries, are elements urging for intervention, with priority given to some specific control strategies.

More efforts should be given to health education, aimed at promoting wider use of condoms, in the general context of safer sex practices. In the meantime intensive information on risks and health hazards attached to Sills should be given. Attendance at appropriate medical institutions should also be recommended, as well as abstinence from Sexual intercourse during symptomatic periods.

Regular screening activities should be reorganized and improved, on the basis of the implementation of a standardized management, both for diagnostic and therapeutic purposes.

Additional studies are recommended for he assessment of the incidence and prevalence of Sills, with a broader spectrum of pathogens included into the laboratory investigation panel.

Priority should also be given to studies on knowledge, attitude, practice and behaviour of MPSC females, for appropriate assessment and evaluation of social and behavioral determinants related to sex work.

REFERENCES

1. Acral SO, Holmes K. Epidemiology of Sexually Transmitted Diseases. Plummer FA, Ngug, EN -Prostitutes and their Clients in the Epidemiology and Control of Sexually Transmitted Diseases. In: Sex Transm Dis Holmes K et al. Mc Graw-Hill New York, 1990; pp.71-76.
2. Arya OP, ReMelt FJ -Altitudes of College Students in East Africa to Sexual Activity and Venereal Disease. Br J Vener Dis 1988; 44: 160-166.
3. Meheus A. Declen:q A. and Prat R. Prevalence of Gonorrhoea in Prostitutes in a Central African Town. Br Vener Dis 1974; 50: 50-52.
4. D'Costs U, Plummer FA, Bowmer I et al. Prostitutes are a Major Reservoir of Sexually Tnnamiued DiIC&ICa in
Nairobi- Kenya. Sex Tnnam Di, 1985; 12: 64-67.
5. Piot PI Laga M. Genital Ulcers other Sexually Transmitted Diseases and the Sexual Transmission of HIV .Br Med I 1989; 298: 623-624.
6. Mayer H. Memorandum: Prostitution and Venereal Diseases in Addia Ababa 1962. Ministry of Public Health -Ethiopia.
7. Mehret M, Khodakevich L, et al. Prevalence of HIV-I infection among females pncticing multipartner sexual contacta in Ethiopia. XXVI Annual Medical Conference, Addia Ababa, Ethiopia, May 1990; A 60.
8. Kreill I, Canel M, Meheua A. Role of Sexually Transmitted Diseases in Transmitting Human Immunodeficiency Virus. Genitorium Med 1988; 64: 1-2.
9. Pepinl, Plummer Faetal. The Infection of HIV Infection and other Sexually Transmitted Diseases: an Opportunity for Intervention. AIDS 1989; 3: 3-9.
10. Ferrein -Marque. I. Contribution a l'etude de. maladies veneriennes et cutanees a Addis Ababa. Dermatologia Tropica, 1964; 3: 139-151.15. II. Schalle KF, Kuls W. Venereal Disease. in Ethiopia; Geomedic. monognphy. pp 118-119 Springer Verlag, Berlin 1972.
12. Plorde DS. Sexually Transmitted Disease. in Ethiopia: Social Facton Contributing to their Spread and Implications for Developing Countries. Br I Vener Dis 1981; 57: 357-362. 13. Feleke

W, Ghidinelli M, De-ta S. Some Social Featurea of STD Patienta in Addis Ababa Ethiopia. Miniltry of Health-Ethiopia,1991. In press. 14. Verllagen, AR and Gemert W. Social and Epidemiological Determinanta of Gonorrhoea in an East African
Countries. Br I Vener Dis 1972; 48, 277.
15. TnisupaA. Epidemiological Profi1eof Sexually Transmitted Disease. in Various Categories of Prostitute. in Relation to their Place of Work in South-East Asia. World
Health Organization, Geneva 1988/INTNDT/88.
16. Connd GL, Kleris GS, Rush B. Sexually Transmitted Disease. among Prostitute. and other Sexual Offenden. Sex Tnnsm Dis 1981; 8: 241-244.
17. Fanta D, Gebhart W, Gross W. Results of Routine Screening for Sexually Transmitted Disease. in Austria over a Six Year Period. Br I Vener Dis 1979; 53: 147-148.
18. Denis F, Sarin F, Damet GG. Prevalence of Human T-Lymphotropic Retroviruses Type ill (HIV) and Type IV in Ivory Coast LANCET 1987; I: 408-411.
19. Iaffe H.W., Rice DT., Voigt R. Selective Mass Treatment in a Venereal Disease Control Programme. Am. I Pub. Health 1979; 69: 1181-1182.