

Study and compare the seropositivity for syphilis among street children

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Abstract: Introduction; A more serious and vulnerable group of the urban poor that is growing rapidly in big cities is that of street children and working children, with a home or without a home. In comparison to the urban poor, the phenomenon of street children is a recent one. Runway and homeless youths are without doubt sexually active, possibly more so than other adolescent 12. Hence, sexually transmitted diseases are common in both boys and girls. AIDS seroprevalence study suggests that the street children are at significantly greater risk for infection with HIV. The predominant risk factor for HIV transmission among homeless youth are homosexual and bisexual activity, intravenous drug use, crack use, history of STD and prostitution^{17, 49}. The present study was an attempt to study and compare the seropositivity for syphilis among street children registered at “Apanga Va Niradhar Bahuddeshiya Kalyankari Sanstha”, Nagpur, Maharashtra, India. Methods: 461 children were included in the study of which 343 were ‘on the street’ and 118 were ‘of the street’ children. Detailed clinical examination was carried out at centres of NGO including general and systemic examinations. VDRL test was performed on 432 street children as 19 children were refused for investigation and 10 samples of blood were haemolysed. The samples were centrifuged. The separated serum was then collected in autoclaved plain bulb with code numbers for VDRL test for syphilis. The samples, which were found to be reactive for VDRL, were subjected for ELISA for HIV. Treatment and referral – Treatment was given whenever required and necessary referrals to Government Hospital, Nagpur were made for further expert opinion and management. Results: VDRL seropositivity was found to be 1.6%. In that for ‘on the street’ it was 1.5% and for ‘of the street’ it was 1.8%. All of them had heterosexual behavior. Subjects were recommended for periodic screening and management of sexually transmitted diseases should be undertaken in the street children especially for those with high-risk behavior.

Keywords: Street children, study and compare, seropositivity, syphilis.

I. INTRODUCTION

In the world today, the process of urbanization has become a phenomenon, which is inevitable. One major consequence of waves of migration to the cities is ‘population boom’ in the cities². A more serious and vulnerable group of the urban poor that is growing rapidly in big cities is that of street children and working children, with a home or without a home. In comparison to the urban poor, the phenomenon of street children is a recent one. Street children are referred by varied names all over the world. In the developed north, they are labeled ‘homeless youth’, ‘runways’ and or even ‘throwaways’, ‘gaminismos’. In developing countries, they are called by different names in different countries. Official language tends to be softer and refer to street children ‘children in an irregular situation’ or ‘in difficult circumstances’³. The definition of street children is evolving as agencies working with children continue to study the phenomenon and its complexity. The United Nation defines a street child as ‘any girl or boy.....for whom the street (in the widest sense of the word, including unoccupied dwelling, waste land etc.) has become his or her abode and / or source of livelihood and who is

inadequately protected, supervised or directed by responsible adults⁹. For children on the street, the question of survival is of paramount importance. Their days are spent in ensuring survival and the activities to this, range from begging, collection of edibles from garbage, washing cars, pushing hand carts, shining of shoes, etc. Rag picking constitutes a major (almost 90%) occupation for street children. It is surely the most dehumanizing occupation where the nature of the work and work environment are unhygienic, dangerous, demanding and destructive of self-worth. Runway and homeless youths are without doubt sexually active, possibly more so than other adolescent⁹. Hence, sexually transmitted diseases are common in both boys and girls. AIDS seroprevalence study suggests that the street children are at significantly greater risk for infection with HIV. The predominant risk factor for HIV transmission among homeless youth are homosexual and bisexual activity, intravenous drug use, crack use, history of STD and prostitution^{6, 11}. The present study was an attempt to study and compare the seropositivity for syphilis among street children registered at “Apanga Va Niradhar Bahuddeshiya Kalyankari Sanstha”, Nagpur, Maharashtra, India.

II. MATERIAL AND METHODS

The study was carried out at Apang Va Niradhar Bahuddeshiya Kalyankari Sanstha, Nagpur. This Non-Governmental Organisation (NGO) works for street children in Nagpur city through “An integrated programme for street children” (recognized by Ministry of Social Justice and Empowerment, Government of India). The organization has two main residential (night shelters) units with ten contact centres (Day care centres) situated in different parts of Nagpur. Day care centres (Contact centres) offers counseling and guidance, provided non formal education, reintegration of children with their families and placements of children in foster care homes / hostels, enrolment of these children in school, provides facilities for training in meaningful vocations, trades and skill to earning money and provides health care facilities and nutritional supplements. 461 children were included in the study of which 343 were ‘on the street’ and 118 were ‘of the street’ children.

Methodology - Rapport was developed with the street children. From each street child, by interview technique, first general demographic information like age, sex, education etc. were obtained and these were confirmed from register of NGO. Street children were enquired regarding their reasons for present status, contact with parents, substance abuse, sexual activities (female street educator’s help was taken in case of female street children) etc. Detailed clinical examination was carried out at centres of NGO including general and systemic examinations. VDRL test was performed on 432 street children as 19 children were refused for investigation and 10 samples of blood were haemolysed. The samples were centrifuged. The separated serum was then collected in autoclaved plain bulb with code numbers for VDRL test for syphilis. The samples, which were found to be reactive for VDRL, were subjected for ELISA for HIV. Treatment and referral – Treatment was given whenever required and necessary referrals to Government Hospital, Nagpur were made for further expert opinion and management.

Observation:

The data were analysed using mean and standard deviation. The statistical test like ‘Z’ test and Chi-square test were used for comparing means and proportion of ‘on the street’ and ‘of the street’ children

Table No.1: Age wise distribution of study subjects

Age (years)	Categories of street children				Total	
	On the street		Of the street		No.	%
	No.	%	No.	%		
6-8	58	17	11	9.3	69	15
9-11	90	26.2	34	29	124	27
12-14	140	40.8	43	36.4	183	39.6
15-17	53	15.4	26	22	79	17.1
Above 17	02	0.6	4	3.3	6	1.3
Total	343	100	118	100	461	100

Table No.2: Sexwise distribution of study subject

Age (years)	Categories of street children				Total	
	On the street		Of the street		No.	%
	No.	%	No.	%		
Male	211	61.6	92	78	303	65.8
Female	132	38.4	26	22	158	34.2
Total	343	100	118	100	461	100
M:F	1.6:1		3.5:1		1.9:1	

Table No.3: Age and VDRL seropositivity of study subjects

Age Years)	Categories of street children						Total		
	On the street			Of the street			Total	VDRL +ve	%
	Total	VDRL +ve	%	Total	VDRL +ve	%			
6-8	51	0	0.0	7	0	0.0	58	0	0.0
9-11	85	0	0.0	32	0	0.0	117	0	0.0
12-14	132	0	0.0	40	0	0.0	172	0	0.0
15-17	53	5	9.4	26	2	7.7	79	7	8.9
> 17	2	0	0.0	4	0	0.0	6	0	0.0
Total	323	5	1.5	109	2	1.8	432	7	1.6

Table No.4: Sexual activity and VDRL seropositivity of study subjects

Sexual activity	Categories of street children						Total		
	On the street			Of the street			Total	VDRL +ve	%
	Total	VDRL +ve	%	Total	VDRL +ve	%			
No involvement	259	0	0.0	77	0	0.0	345	0	0.0
Homosexual	0	0	0.0	19	0	0.0	9	0	0.0
Heterosexual	64	5	7.8	19	2	10.5	83	7	8.4
Bisexual	0	0	0.0	4	0	0.0	4	0	0.0
Total	323	5	1.5	109	2	1.8	432	7	1.6

III. DISCUSSION

461 children were included in the study of which 343 were 'on the street' and 118 were 'of the street' children. It was observed that the majority i.e. 307 (66.6%) of street children were from age group 9 to 14 years while 69 (15%) were in the age group 6 to 8 years, only 6 (1.3%) subjects were above 17 years of age. Mean age was 11.84 (SD \pm 2.86). Majority i.e. 230 (67%) 'on the street' and 77 (65.4%) 'of the street' children were from the age group 9 to 14 years. Mean age of 'on the street' children was 11.89 (SD \pm 2.75) and 'of the street' children was 11.72 (SD \pm 2.89) (table 1). Study done by **D'Lima H et al (1992)**⁵ on 2169 street children at Bombay reported that 39.9% were from the age group 11 to 15 years followed by 26.8% from 16 to 18 years. Whereas **Ghosh A (1992)**⁷ at Bombay and **Rao BVR et al (1992)**⁸ at Hyderabad reported that there were more children (i.e. 57.5% and 41.8% respectively) in age group of 6 to 10 years. According to sex it was observed that the majority i.e. 303 (65.8%) were male and 158 (34.2%) were female study subjects. Male to female ratio 1.9: 1. The proportion of male 'of the street' children 92 (78%) were more than the proportion of male 'on the street' children 211 (61.6%), which was found to be statistically significant. Thus, the male to female ratio was 1.6:1 in 'on the street' children and 3.5:1 in the 'of the street' children (Table 2). VDRL was performed on 432 street children as 19 refused for investigation and 10 blood samples were haemolysed. In the present study, VDRL seroprevalence was found to be 1.6% (7 of 432 were positive). All the VDRL positive street children were from the age group of 15 to 17 years. The proportion of VDRL positive among 'on the street' children [5(1.5%)] was found to be similar to that of 'of the street' children [2(1.8%)]. **Pinto JA et al (1994)**⁴ reported that, VDRL positivity rate among street-based (of the street) 2.6% and home-based (on the street) 2% were similar (Table No.3). **Bhanu P and Pagare D (2003)**¹ studied on 1010 street children and found that 32 subjects had STD. In our study it was observed that those street children who were VDRL

positive, all of them were heterosexual (Table No.4). Further all 7 VDRL reactive blood samples were subjected for ELISA for HIV and none of them were found to be positive. **RECOMMENDATIONS:** The periodic screening for and management of sexually transmitted diseases should be undertaken in the street children especially for those with high-risk behavior. Regular health check-up, treatment and referral whenever required are necessary to deal with related health problems of street children. Health education should be imparted to all street children.

IV. CONCLUSION

461 street children were included in the study. Majority of street children, 307 (66.6%) were from age group 9 -14years, in which 'on the street' children were 230 (67%) and 'of the street' were 77 (65.4%). The mean age of street children found to be 11.84 (SD \pm 2.86). The male to female ratio in general was found to be 1.9: 1. In 'of the street' children it was more (3.5:1) than 'on the street' children (1.6:1). VDRL seropositivity was found to be 1.6%. In that for 'on the street' it was 1.5% and for 'of the street' it was 1.8%. All of them had heterosexual behavior. Subjects were recommended for periodic screening and management of sexually transmitted diseases should be undertaken in the street children especially for those with high-risk behavior.

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