International Journal of Contemporary Pediatrics
Muthuraja M et al. Int J Contemp Pediatr. 2015 Nov;2(4):263-267
http://www.ijpediatrics.com
pISSN 2349-3283 | eISSN 2349-3291

DOI: http://dx.doi.org/10.18203/2349-3291.ijcp20150965

Research Article

Assessment of knowledge among adolescents regarding HIV/AIDS in Chennai, Southern India

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Received: 21 September 2015
Accepted: 06 October 2015

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ABSTRACT

Background: The aim of this paper is to assess the knowledge regarding HIV and AIDS among the adolescent students in Chennai, India.
Methods: A cross-sectional design was used in this study. A self-administered questionnaire with 28 items was distributed among 1440 adolescents (720 boys; 720 girls) studying in schools and colleges in Chennai. Data obtained was coded and analyzed by descriptive and analytic statistics and confidence coefficient 95% by SPSS-16. P <0.05 was considered significant.
Results: Results showed that a majority of the adolescents (83%) knew that AIDS was a deadly disease and awareness regarding general aspects of AIDS was 64%. Compared to boys, girls exhibited a better knowledge on 22 out of 28 items (P <0.01 for all). Compared to early adolescents, late adolescents did better on 20 out of 28 item (P <0.01 for all). However, the proportion of correct responses did not exceed 65% for any item in any of these groups.
Conclusions: Our study indicates the presence of substantial lacunae in knowledge regarding AIDS in the population studied. It is therefore suggested that education regarding AIDS and other sexually transmitted diseases not only be incorporated in school and college curricula but should also be taught in detail.

Keywords: Adolescent, HIV/AIDS, Knowledge, School and college students

INTRODUCTION

The word "Adolescent" in Latin means to grow to maturity[1] and it is a period of rapid growth, matched only by fetal growth transiting from dependant childhood to independent adulthood.[2] Normal adolescence is characterized by profound biological, psychological and social developmental changes.[3] It is at this phase of development that sexual awakening starts. Sometimes it is gradual and smooth and at times it is explosive and turbulent. Adolescents are in search of knowledge and it leads to sexual curiosity, feelings, experiments and experiences.

Adolescence is a period where there is a shift of morbidity pattern principally somatic to psycho social problems. Some of them are depression, substance abuse, health risk behavior, HIV & other sexually transmitted diseases.[4] Promiscuous sexual activity is one of the commonest health risk behaviors exhibited by adolescents. In an attempt to satisfy the upsurge of sexual feelings, various forms of sexual behavior are exhibited.[5]

Adolescents are one of those under served segments of the population, partly due to comparatively low morbidity and partly due to complexities of issues involved. The percentage of health visits in this sector would be only 5 to 7%.[6] According to the National AIDS Control Organization, the number of HIV cases less than 20 years

of age is between 15 to 20%. Promiscuity was found to be the cause in 96% whereas perinatal transmission accounted for only 3.15%. The levels of overall (57%) and comprehensive (18.5%) knowledge of HIV/AIDS among different population groups including adolescents were lower.[7,8] Similarly, the comprehensive knowledge of modes of HIV transmission of in-school adolescents was lower than that of the general awareness or the separate modes of transmission.[9,10]

Studies from other African countries and eastern India also revealed that comprehensive knowledge of HIV/AIDS ranged from 9% to 42%;[11,12] however, studies from Brazil and Europe showed a higher (more than 90%) degree of HIV/AIDS and related issues awareness.[13,14]

This data clearly shows the magnitude of the problem and the need to focus awareness on this important section of population, which is very essential. In AIDS, prevention is cure. For prevention, knowledge about AIDS is mandatory. Thus, the aim of this study was to assess the knowledge of HIV/AIDS among adolescents as it is one of the important aims of the national task force on adolescents.

METHODS

A cross-sectional design was used in this study. To assess the knowledge regarding HIV/AIDS, 1440 adolescents ranging from 13 to 20 years within the corporation of Chennai were studied by, separate questionnaires during the period January 2015 - September 2015.

In order to exclude any bias in the study sample, students belonging to different sections of the society were considered. Among the 720 school students both corporation and private schools were included and among the 720 college students both professional (non-medical) and arts college students were included and at the same time, equal sex distribution was also maintained (720 males and 720 females). These adolescents were further stratified into early adolescents (13-16 years) and late adolescents (17-20 years) for the sake of comparison. A common questionnaire was first prepared in English using simple terms and language. The option "No comments" was also given for those who did not want to reveal their true opinion and preferred to be neutral. The head of these institutions were approached and permission was obtained from them. The questionnaires were circulated among the students and they were given a time period of one hour to select the correct answers from a list of possible answers. The students were instructed not to discuss with others and were closely monitored. The students were reassured once again that their answers and their identity will not be revealed to either parents or teachers. All the doubts of these students pertaining to language were explained to them, then and there either in English itself or in vernacular language. The study was done under personal supervision, so as to avoid any unfair means of filling up the questionnaire. Their doubts regarding HIV/AIDS were clarified and the correct answers were revealed to them at the end. It is noteworthy that all adolescents participated in this study with satisfaction. Data obtained were coded and analyzed by descriptive and analytic statistics and confidence coefficient 95% by SPSS-16. A P value <0.05 was considered as statistically significant.

RESULTS

Results are mentioned in Tables 1-5. From (Table 1) it can be seen that a majority of the adolescents (83%) knew that HIV/AIDS was a deadly disease and awareness regarding general aspects of HIV/AIDS was 66%. Table 2 and 3 prove that most of the adolescents knew that sexual route is the mode of transmission (88%) and HIV/AIDS is not transmitted by shaking hands or by hugging (87%). They were also aware that HIV/AIDS can be diagnosed by blood test (86%, Table 5). Majority (82 to 87%) had a fairly good knowledge regarding the modes by which HIV/AIDS cannot be transmitted. Less than 50% of adolescents in this study did knew much about the symptoms of HIV/AIDS except for the symptom weight loss (Table 5); moreover they were also deeply ignorant that homosexuals and truck drivers are high risk groups to contract HIV/AIDS (Table 4). The striking feature was that only few (14%) knew that HIV/AIDS can be transmitted by ear and nose piercing/tattooing.

Table 1: Comparison of knowledge about general aspects and cause of HIV/AIDS among male vs. female and early vs. late adolescents.

Knowledge	Total correct response	Male	Female	P value	Early adolescents	Late adolescents	P value
Expansion of AIDS	69 %	46%	54%	<0.001	51%	49%	0.254
Expansion of HIV	37%	40%	60%	<0.001	55%	45%	0.003
AIDS is a health problem in other country but not in India	65%	48%	52%	0.036	40%	60%	<0.001
AIDS is a deadly disease	83%	47%	53%	<0.001	46%	54%	<0.001
Causative agent is Virus	79%	46%	54%	<0.001	52%	48%	0.036

Table 2: Comparison of knowledge about modes of transmission between male vs. female and early vs. late adolescents.

Knowledge	Total correct response	Male	Female	P value	Early adolescents	Late adolescents	P value
Sexual mode of transmission	88%	49%	51%	0.043	48%	52%	<0.001
Infected pregnant woman to child	76%	41%	59%	<0.001	40%	60%	<0.001
Blood transfusion	79%	47%	53%	<0.001	43%	57%	<0.001
Ear and nose piercing/tattooing	14%	48%	52%	0.036	36%	64%	<0.001
Sharing of shaving blades/razors	42%	60%	40%	<0.001	45%	55%	<0.001
Injection needles	80%	44%	56%	<0.001	47%	53%	<0.001

Table 3: Comparison of knowledge about modes of transmission among male vs. female and early vs. late adolescents.

Knowledge	Total correct response	Male	Female	P value	Early adolescents	Late adolescents	P value
Contaminated air/water/food	84%	42%	58%	<0.001	52%	48%	0.005
Mosquito bites/bugs	82%	45%	55%	<0.001	47%	53%	<0.001
Shaking hands/hugging/kissing	87%	49%	51%	0.05	41%	59%	<0.001
Sharing of towels/comb/brush/room	85%	42%	58%	<0.001	46%	54%	<0.001

Table 4: Comparison of knowledge of high risk groups for HIV/AIDS between male vs. female and early vs. late adolescents.

Knowledge	Total correct response	Male	Female	P value	Early adolescents	Late adolescents	P value
Commercial sex workers	66%	58%	42%	<0.001	48%	52%	0.034
Drug addicts	54%	54%	46%	0.001	46%	54%	0.001
Homosexuals	48%	63%	37%	<0.001	39%	61%	<0.001
Children born to infected mother	77%	41%	59%	<0.001	42%	58%	<0.001
People who receive repeated blood transfusion	74%	44%	56%	<0.001	47%	53%	0.001
Truck drivers	33%	61%	39%	0.614	37%	63%	<0.001

Table 5: Comparison of knowledge of symptoms, diagnosis and treatment for HIV/AIDS between male vs. female and early vs. late adolescents.

Knowledge	Total correct response	Male	Female	P value	Early adolescents	Late adolescents	P value
Prolonged fever	47%	38%	62%	<0.001	52%	48%	0.154
Prolonged loose motion (diarrhea)	14%	35%	65%	<0.001	54%	46%	0.225
Loss of weight	73%	52%	48%	0.010	51%	49%	0.212
Blood test to find out whether a person has got AIDS or not	86%	45%	55%	<0.001	47%	53%	<0.001
AIDS is curable with currently available drugs	64%	43%	57%	<0.001	54%	46%	0.001

In comparison with male and female knowledge regarding HIV/AIDS, significant differences were noted in many items except for the possibility of transmission of HIV/AIDS by ear and nose piercing/tattooing (P = 0.036), HIV/AIDS is not transmitted by shaking hands or by hugging (P = 0.05) and truck drivers are the high risk groups for HIV/AIDS infection (P = 0.614). Overall, females had a better knowledge on 22 of 28 items compared to males (P <0.01 for all). There were significant differences between early and late adolescents in all aspects of knowledge regarding HIV/AIDS except for the HIV/AIDS symptoms and expansion for the term HIV/AIDS. Overall, late adolescents had better

knowledge 20/28 items compared to early adolescents (P <0.01 for all). However, across the study participants, the proportion of correct response did not exceed 65% for any item in any of these groups.

Based on the appropriateness of response to the 28 items in the questionnaire, the knowledge level of the study group was categorized as adequate knowledge (>75%), moderately adequate knowledge (50%-75%) and inadequate knowledge (<50%). In our study, 43% of students possessed adequate knowledge, 32% had moderately adequate knowledge and 25% had inadequate knowledge as depicted in Figure 1. Overall knowledge regarding HIV and AIDS was compared among male (47%) vs. female (53%) as in Figure 2 and among early (46%) vs. late adolescents (54%) as in Figure 3.

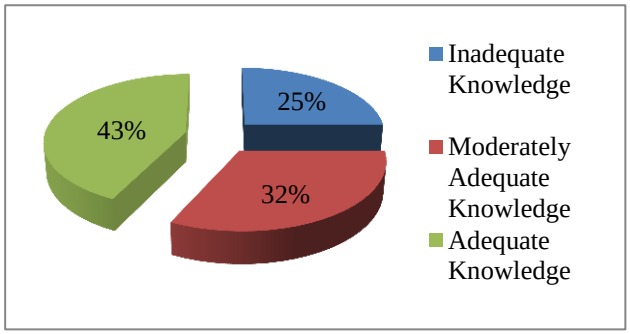

Figure 1: Level of overall knowledge.

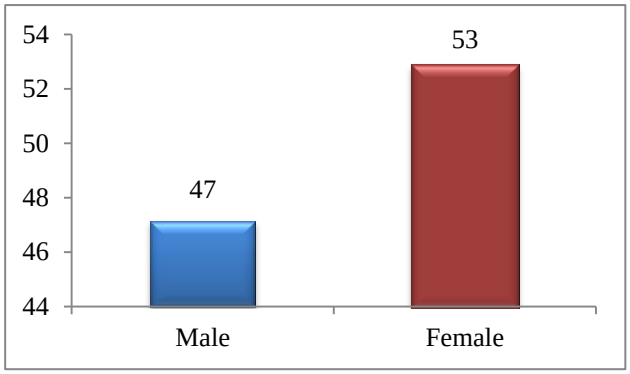

Figure 2: Sex distribution of overall knowledge.

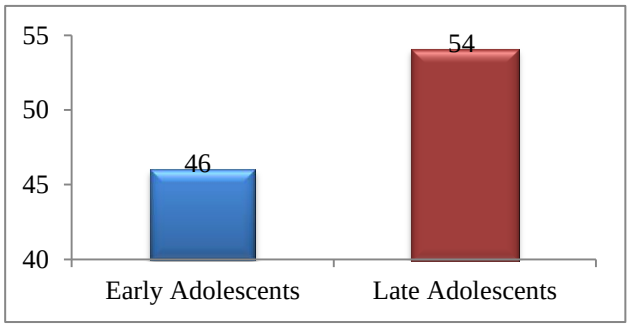

Figure 3: Knowledge distribution among adolescents.

DISCUSSION

The awareness about general aspect of HIV/AIDS in our study was only 64%. Whereas, in a study done on the adolescent population of Singapore by Quek et al.[15] it was observed to be 77%. Nearly 79% of adolescents in our study were aware that HIV/AIDS is caused by a virus. On an average almost 75% could identify the modes of transmission correctly but there was a striking deficit in the knowledge regarding the spread through ear & nose piercing/ tattooing (14%). Whereas in a study conducted in U.S.A. by Facente et al.[16] only 33% were able to answer correctly regarding the transmission of HIV/AIDS. But the sample size for the study was only 78 adolescents. This smaller sample size could be one of the possible reasons. Most of the females in our study knew about the transmission of HIV/AIDS from infected pregnant woman to child (59%) compared to the males. Males were more aware of spread by sharing shaving blades or razors. Age wise comparison among the study group revealed that the late adolescent age group (64%) was better informed about the spread of AIDS. There was a large lacuna regarding the knowledge of various symptoms of HIV/AIDS in our study but most of them knew that blood test is done for detection of AIDS.

The study done by Lal et al.[17] has recorded only 45% response regarding awareness that HIV/AIDS is not curable at present in comparison to 62% of positive response in our study. The reason could be because our study included only urban students whereas the former study included rural students also. In our study awareness regarding the preventive measure for HIV/AIDS, male sex scored less (44%) compared to females. Whereas study by Egger et al.,[18] males scored 55% which is higher but the study by Egger et al. had an unequal proportion of males and females in the sample. Knowledge and awareness on HIV/AIDS among adolescent school girls is therefore crucial not only in preventing the spread of the virus, but also in addressing the threats posed by HIV/AIDS to education for all goals[19] and other interventions aimed at enhancing girl child education.

CONCLUSIONS

The data of our study clearly indicates the presence of substantial lacuna in all aspects of knowledge regarding HIV/AIDS. The main areas of such lacuna are:

a) The symptoms of HIV/AIDS;

b) Modes of transmission; and

c) Prevention.

It is therefore suggested as was also mentioned by 41% of study participants in the questionnaire that education regarding HIV/AIDS and other sexually transmitted diseases not only be incorporated in school and college curricula but should also be taught in detail.

ACKNOWLEDGEMENTS

We would like to thank the study participants and the staffs of the concerned School and College for their participation in this study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

REFERENCES

1. Robert D. Needleman. Growth and development. In: Richard E. Behrman, Robert M. Kliegman, Hel B. Jenson, eds. Nelson Text Book of Pediatrics, 16th ed. Philadelphia: WB Saunders: 2000: 26.
2. Hamill PV, Drizd TA, Johnson CL, Reed RB, Roche AF, Moore WM. Physical growth: National Centre for Health Statistics percentiles. Am J Cin Nutr. 1979;32:607.
3. Slap GB. Normal Physiological and psychosocial growth in the adolescent. J Adolesc Health care. 1986;7:135.
4. Greenhill LL, Waslick B. Management of suicidal behavior in children and adolescents. Psychiatry Clin North Am. 1997;20:641.
5. Kakotailo P. Physical health problems associated with adolescent substance abuse. In: Rahdert ER, Czechowicz D, eds. Adolescent Drug Abuse: Clinical Assessment and Therapeutic Interventions. Rockville, MD: National Institute on Drug Abuse; 1995.
6. Society for Adolescent Medicine. Access to health care for adolescents: a position paper of the Society for Adolescent Medicine. J Adolesc health. 1992;13:162.
7. Central Statistical Agency [Ethiopia], I.M. MEASURE DHS. Ethiopia demographic and health survey, 2011. Preliminary Report. Addis Ababa: Central Statistical Agency; 2011.
8. Kassie GM, Mariam DH, Tsui AO. Patterns of knowledge and condom use among population groups: results from the 2005 Ethiopian behavioral surveillance surveys on HIV. BMC Public Health. 2008;8:429.
9. Alene GD, Wheeler JG, Grosskurth H. Adolescent reproductive health and awareness of HIV among rural high school students, North Western Ethiopia. AIDS Care. 2004;16(1):57-68.
10. Andargie G, Kassu A, Moges F, Kebede Y, Gedefaw M, Wale F, et al. Low prevalence of HIV infection, and knowledge, attitude and practice on HIV/AIDS among high school students in Gondar, Northwest Ethiopia. Ethiop J Health Dev. 2007;21(2):179-82.
11. Tsala Dimbuene Z, Kuate Defo B. Fostering accurate HIV/AIDS knowledge among unmarried youths in Cameroon: do family environment and peers matter? BMC Public Health. 2011;11:348.
12. Ray S, Ghosh T, Mondal PC, Basak S, Alauddin M, Choudhury SM, et al. Knowledge and information on psychological, physiological and gynaecological problems among adolescent schoolgirls of Eastern India. Ethiop J Health Sci. 2011;21(3):183-9.
13. Correia DS, Pontes AC, Cavalcante JC, Egito ES, Maia EM. Adolescents: contraceptive knowledge and use, a Brazilian study. Sci World J. 2009;9:37-45.
14. Samkange-Zeeb FN, Spallek L, Zeeb H. Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: a systematic review of published literature. BMC Public Health. 2011;11:727.
15. Quet JT, Li SC. A study of the effectiveness of AIDS health education interventions among the adolescent population of Singapore. Department of Pharmacy, National University of Singapore. Singapore Med J. 2002;43(7):359-64.
16. Facenta AC. Ledyard Public Health Nursing Service, Ledyard, CT, USA. Adolescents and HIV: knowledge, behaviors, influences, and risk perceptions. J Sch Nurs. 2000;17(4):198-203.
17. Lal SS, Vasan RS, Sarma PS, Thankappan KR. Knowledge and attitude of college students in Kerala towards HIV/AIDS, sexually transmitted diseases and sexuality. Natl Med J India. 2000;13(5):231-6.
18. Egger M, Ferrie J, Gorter A, Gonzalez S, Gutierrez R, Pauw J, et al. HIV/AIDS - related knowledge, attitudes and practices among Managuan secondary school students. Bull Pan Am Health Organ. 1993;27(4):360-9.
19. World Education Forum. Education for all. Meeting our collective commitments. Dakar Framework for Action, April 2000. Available at: http://portal.oas.org/LinkClick.aspx?fileticket=M%2F7 klZ0taMw%3D&tabid=1290. Accessed 9 May 2013.

Cite this article as: Muthuraja M, Dhanes V. Assessment of knowledge among adolescents regarding HIV/AIDS in Chennai, Southern India. Int J Contemp Pediatr 2015;2:263-7.