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ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDES, AND PERCEPTIONS ABOUT HIV/AIDS IN TEENAGE STUDENTS IN A HIGH PREVALENCE DISTRICT IN INDIA

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ABSTRACT: BACKGROUND: Teenagers form a significant portion of those infected with HIV and the number of young women getting infected with HIV/AIDS is growing rapidly. **OBJECTIVES:** This study was done to estimate the knowledge attitudes and risk perceptions about HIV/AIDS, in teenage high school students of Guntur. **METHODS:** A cross sectional study was carried out. For data analysis, simple percentage was applied. For finding gender differences, "Chi square test for independence" was used. **RESULTS:** More than half (61.1%) were unaware that treatment is available for HIV. More than one third (41.6%), of students preferred to discontinue friendship if their friend contracts HIV. Two thirds, (66.66%) of the students were unaware that HIV can be transmitted by tattooing /skin piercing. About one third (31%) were unaware that using disposable syringes can help prevent HIV transmission. Girls (77.5%) were less aware that HIV can be transmitted through sexual intercourse than boys (93.2%), (p value =0.019). More girls (28.5%) were lacking in the awareness that condoms can help in prevention of HIV transmission than boys (5.1%) (p value =0.0008).More girls (24.5%) were unaware that safe blood transfusion practices can help in prevention of HIV than boys (5.1%), (p value =0.0114). Also more girls (42.8%) were unaware that using disposable syringes can help in prevention of HIV transmission than boys (20.3%), (p value =0.0037). **CONCLUSION:** There were significant gaps in knowledge about HIV among teenage high school students and comparatively girls were less aware than boys. HIV/AIDS knowledge should be improved by school education programmes.

KEYWORDS: HIV, AIDS, Knowledge, Attitudes, Perceptions, Teenage, students

KEY MESSAGES:

1. The study showed that there were many misconceptions and gaps in knowledge among teenage high school students.
2. Comparatively girls were less aware of modes of transmission and methods of prevention than boys and more girls had negative attitude towards HIV +ve people than boys.

INTRODUCTION: Studies have shown that teenagers form a significant portion of those infected with HIV.[1] For people to take steps to avoid HIV/AIDS they must first have proper knowledge regarding HIV/AIDS. Access and exposure to appropriate HIV/AIDS information and discussing it with others has the potential positively to impact knowledge, attitudes, beliefs and sexual practices.[2] Alarming gaps in knowledge relating to the HIV/AIDS epidemic among young adults are frequently reported.[3,4] Hence this Study was undertaken to study the level of

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awareness, gaps in knowledge, myths and misconceptions in the teenage students of Guntur, a district with relatively high prevalence in Andhra Pradesh. [5,6]

Studies by national AIDS control organization (NACO) had revealed that the percentage of women getting infected with HIV/AIDS is growing at an alarming rate. In a study conducted in New Delhi, it was revealed that female adolescents were less knowledgeable about HIV/AIDS compared with male adolescents, while the males reported significantly greater exposure to HIV/AIDS education compared with the females.[7] Also a study from the United Arab Emirates investigating HIV knowledge among first-year university students found that serious misconceptions existed and women were less knowledgeable than men.[4] Hence this study was also undertaken to know whether any significantly low level of knowledge about HIV/AIDS in women compared to men is contributing to the rapid growth of HIV/AIDS in women.

Knowing the misconceptions and gaps in knowledge about HIV/AIDS in teenage students through this study can help in strategic improvement of awareness and filling of gaps in the knowledge through school education programmes. Schools can play a major role in dissemination of HIV/AIDS knowledge and protecting the young people from contracting HIV due to lack of awareness. Education is essential to assist young people to make informed decisions about their sexual health.[8] Significant changes have been observed between pre-test and post-test knowledge and awareness levels through school HIV/AIDS education programmes in different regions.[9-11] Also if there is any significant difference in knowledge about HIV/AIDS related to gender, further research can be done to know the causes and appropriate measures can be taken to improve the awareness in the appropriate gender group.

SUBJECTS AND METHODS: A cross-sectional study was done among teenage students belonging to high schools in Guntur district. A 21 question questionnaire covering various topics regarding knowledge of facts about HIV/AIDS, modes of transmission, myths and misconceptions, preventive measures, attitudes towards HIV/AIDS patients, perceptions and various sources of information was prepared and distributed among students. Institutional ethics committee approval was taken. Consent was taken from the subjects prior to administering the questionnaire. The population for this study comprised, the adolescent high school students belonging to age group 14-17 in Guntur city. Total number of students who participated, were 108. Of them 59 were males and 49 were females. The students who participated in this study were selected randomly from 5 randomly selected high schools in Guntur. A Research Hypothesis that "There is no significant relationship between the student's level of HIV/AIDS awareness and their gender" was taken prior to the study. For data analysis, simple percentage was applied to estimate the knowledge, attitudes and risk perceptions in the students. For finding gender differences regarding knowledge, attitudes and perceptions about HIV/AIDS, Chi square test for independence at p value <0.05 was used.

RESULTS:

a. **Awareness of facts about HIV:** As evident from table 1, while, majority of students (84.74%) knew that HIV cannot be cured, more than half (61.1%) of students were not aware that there is a treatment for HIV. Nearly half (45.4%) of students had the

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misconception that HIV +ve people do not look healthy. 17.6% felt that HIV/AIDS is a punishment from God.

Comparatively girls (67.3%) were less aware of the full form of HIV than boys (86.4%). (P value: 0.019). Regarding awareness of other aspects like the full form of AIDS, presence of treatment, absence of cure and vaccine, virus as a causative factor and misconception that HIV +ve people do not look healthy, there was no statistically significant difference between boys and girls .However overall percentage wise boys had better awareness than girls about various facts of HIV.

b. Awareness of modes of transmission: As shown in table 2, about one fourth (25.9%) of the students were not aware that HIV can be transmitted through breast feeding. About two third, (66.6%) didn't knew that HIV can be transmitted by tattooing /tribal marks /skin piercing. There were many misconceptions about modes of transmission as is evident from table 3. Some of the students had misconception that mosquito bites (19.4%), Sneezing, coughing and spitting (14.8%), using same toilet (12.03%), sharing clothes (11.1%), sharing food utensils/food (8.3%), living in the same house (7.41%) and swimming pools (4.61%) can transmit HIV. Comparatively girls (77.5%) were less aware that HIV can be transmitted through sexual intercourse than boys (93.2%), (p value =0.019). Regarding awareness of other modes of transmission like unsafe blood transfusion, unsterilised needles, breast feeding., mother to child during birth, tattooing /tribal marks /skin piercing there was no statistically significant difference between boys and girls though overall percentage wise boys performed better than girls.

More girls had misconceptions that mosquito bites (p value =0.0003), Sneeze, cough and spit (p value =0.0099), toilets (p value =0.0003), sharing clothes (p value =0.0051), sharing utensils/food (p value =0.0414), and swimming pools (p value =0.0120) can transmit HIV [Table 3]. More percentage of girls (10.2%) cited living in the same house as a mode of transmission than boys (5.1%) though there was no statistically significant difference (p value =0.312),

c. Attitudes of students towards HIV +ve people *:As shown in table 4, more than one third (41.6%) of students said that they will discontinue friendship if their friend contracts HIV. More than one third (34.3%) of students felt that HIV+ve peoples name should be disclosed publicly. More than one fourth (29.6%) of students were of the opinion that HIV+ve people should be Quarantined. About one fifth (20.4%) of the people cited that HIV+ve people have no right to study or work. About one fourth (25%) said that they cannot share cloth/sweater with a HIV+ve person. About one fourth said that they cannot share meals or drink with a HIV+ve person.

More Girls (42.6%) were of the opinion that HIV +ve people should be Quarantined than boys (18.6%), (p value =0.006). More Girls (36.7%) said that they cannot share cloth/sweater with a HIV+ve person than boys (15.2%), (p value =0.0103). More percentage of boys (45.7%) felt that they will discontinue friendship if their friend contracts HIV than girls (36.74%), though there was no statistically significant difference between boys and girls in this aspect (p value =0.3434). Regarding other attitudes there was no statistically significant

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difference between boys and girls. However, percentage wise more girls had bad attitude towards HIV +ve people than boys.

d. Awareness of methods of prevention: As evident from table 5, about one third of students (31%) were not aware that using disposable syringes can help prevent HIV transmission.

More girls (28.5%) were lacking in the awareness that condoms can help in prevention of HIV transmission than boys (5.1%) (p value =0.0008).More girls (24.5%) were not aware that safe blood transfusion practices can help in prevention of HIV than boys (5.1%) (p value =0.0114). Also more girls (42.8%)were not aware that using disposable syringes can help in prevention of HIV transmission than boys (20.3%) (p value =0.0037).

e. Sources of information: Regarding the sources of information about HIV/AIDS, as shown in table 6, the major source mentioned by the students was television (45.4%), followed by school (35.2%), next came the print media (22.2%), and followed by friends (12.9%) and radio (7.4%).

Table 1: Awareness of various facts about HIV

Statement	Male (% response)	Female (% response)	Total (% response) (male+female)	P value
Heard of HIV/AIDS	59 (100)	49 (100)	108 (100)	1.0000
Wrote full form of AIDS	47 (79.66)	34 (69.39)	81 (75)	0.2196
Wrote full form of HIV	51 (86.44)	33 (67.35)	84 (77.78)	0.0175*
HIV is a viral infection (yes)	42 (71.19)	35 (71.43)	77 (71.30)	0.9779
Bacterial infection (yes) Fungal infection (yes)	14 (23.73) 0 (00.00)	6 (12.24) 3 (06.12)	20 (18.52) 3 (2.78)	
HIV/AIDS can be cured (yes)	9 (15.26)	6 (12.25)	15 (13.89)	0.6526
Treatment is available for HIV/AIDS (yes)	23 (38.98)	19 (38.77)	42 (38.89)	0.9824
There is a vaccine for HIV/AIDS (yes)	7 (11.87)	9 (18.37)	16 (14.82)	0.3436
HIV positive individuals can look healthy (yes)	37 (62.71)	22 (44.90)	59 (54.63)	0.0641
HIV/AIDS is a punishment from God (yes)	3 (5.09)	16 (32.65)	18 (17.59)	0.0002***

*= significant at 5% level; ***=significant at<0.001 level

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Table 2: Awareness of Modes of Transmission

Mode of transmission	Male (%),	Female (%),	Total (%),	P value
a)Sexual intercourse (yes)	55 (93.22)	38 (77.55)	93 (86.11)	0.0191*
b)unsafe blood transfusion practices (yes)	47 (79.66)	42 (85.71)	89 (82.41)	0.4108
c)breast feeding (yes)	42 (71.19)	38 (77.55)	80 (74.07)	0.4524
d)mother to child during birth (yes)	54 (91.52)	44 (89.79)	98 (90.74)	0.7575
e)unsterilized needles (yes)	55 (93.22)	43 (87.75)	98 (90.74)	0.3293
f)tattooing /tribal marks /skin piercing (yes)	21 (35.59)	15 (30.61)	36 (33.33)	0.5846

*= significant at 5% level;

Table 3: Misconceptions about Modes of Transmission

Misconception about modes of transmission from a HIV +ve person	Male (%)	Female (%)	Total (%)	P value
Through mosquito bites (yes)	4 (6.78)	17 (34.69)	21 (19.44)	0.0003***
Through Sneeze, cough and spit (yes)	4 (6.78)	12 (24.49)	16 (14.81)	0.0099***
Through using common toilets (yes)	1 (1.69)	12 (24.49)	13 (12.03)	0.0003***
Through Sharing clothes (yes)	2 (3.39)	10 (20.41)	12 (11.11)	0.0051**
Through Sharing utensils/food (yes)	2 (3.39)	7 (14.28)	9 (8.33)	0.0414*
Through living in the same house (yes)	3 (5.08)	5 (10.20)	8 (7.41)	0.3118
Through swimming pools (yes)	0 (0.00)	5 (10.20)	5 (4.63)	0.0120*

*= significant at 5% level; **= significant at 1% level; ***=significant at<0.001 level

Table 4: Attitudes of students towards HIV +ve people

Statement about attitude	Male (%)	Female (%)	Total (%)	P value
a) HIV+ve people should be Quarantined (yes)	11 (18.65)	21 (42.86)	32 (29.63)	0.0061**
b) I will discontinue friendship if my friend contracts HIV. (yes)	27 (45.76)	18 (36.74)	45 (41.67)	0.3434
c) HIV+ve peoples name should be disclosed publicly (yes)	19 (32.20)	18 (36.74)	37 (34.26)	0.6213
d) HIV+ve people have no right to study or work. (yes)	12 (20.34)	10 (20.41)	22 (20.37)	0.9929
e) I cannot share cloth/sweater with a HIV+ve person (yes)	9 (15.26)	18 (36.74)	27 (25.00)	0.0103*
f) I cannot share meals or drink with HIV+ve person. (yes)	11 (18.65)	15 (30.61)	26 (24.08)	0.1475

*= significant at 5% level; **= significant at 1% level

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Table 5: Awareness of Methods of Prevention

Method of prevention	Male (%)	Female (%)	Total (%)	P value
a)Condoms (yes)	56 (94.91)	35 (71.43)	91 (84.26)	0.0008***
b)Safe blood transfusion (yes)	56 (94.91)	37 (75.51)	93 (86.11)	0.0037**
c)Use of disposable syringes (yes)	47 (79.66)	28 (57.14)	75 (69.44)	0.0114*

*= significant at 5% level; **= significant at 1% level; ***=significant at<0.001 level

Table 6: Sources of Information

Sources of information	Male (%)	Female (%)	Total (%)	P value
Television	32 (54.24)	17 (34.69)	49 (45.37)	0.0423 *
School	14 (23.73)	24 (48.98)	38 (35.18)	0.0062 **
print media	12 (20.34)	12 (24.49)	24 (22.22)	0.6055
friends	8 (13.56)	6 (12.24)	14 (12.96)	0.8396
radio	1 (1.69)	7 (14.28)	8 (7.41)	0.0129 *

*= significant at 5% level; **= significant at 1% level;

DISCUSSION: In the present study, 45.4% of students had the misconception that HIV +ve people do not look healthy. In a similar study among school children in the state of Haryana, 57% believed that persons with HIV/AIDS could be detected by their physical appearance.[12] The present study also revealed that more than one third (41.6%) of students preferred to discontinue friendship, if their friend contracts HIV. This is similar to a finding in the study of Tavoosi et al., where nearly one-third of students declared that they would avoid sitting near an infected student.[13]

And furthermore, in the present study, females were less aware about various facts of HIV/AIDS, modes of transmission and methods of prevention and had more negative attitude towards HIV +ve persons. In a similar study conducted in Kerala, females had a Substantial gap in the knowledge and attitudes towards HIV/AIDS and other sexually transmitted diseases, than males.[14] Similar studies in some other countries also showed that young women often lack access to appropriate information and services regarding prevention and treatment.[15-17]

Regarding the first sources of information about HIV/AIDS, the major source mentioned by the students in the present study was television (45.4%). Likewise, in a similar study majority of senior secondary students belonging to a government school in Chandigarh reported that they derived most of the information from TV. [18]

Major Gaps in the knowledge of students in the present study are: Almost about half (45.4%) of the students had the misconceptions that HIV +ve people do not look healthy. Two thirds, (66.66%) of the students were not aware that HIV can be transmitted by tattooing /tribal marks /skin piercing. More than one third (38.9%) of students were not aware that there is a treatment for HIV. About one third (31%) were unaware that using disposable syringes can help prevent HIV transmission. About one fourth (25.9%) of students were not aware that HIV can be transmitted through breast feeding. Care should be taken to fill gaps in these areas first.

Positive attitude towards HIV +ve people should be developed among students, as many students had bad attitude towards HIV +ve people. Gender based sex education with special emphasis on girls should be given, as comparatively girls were less aware of modes of transmission and methods of prevention than boys. Also more girls had more misconceptions about modes of transmission of HIV and more girls had bad attitude towards HIV +ve people than boys. Consultants and health workers in guidance schools and high schools should educate the selected students for efficient peer education.[19] Awareness of HIV should be further spread through all media with more emphasis on print media and radio, as dissemination of HIV knowledge through them is comparatively less.

CONCLUSION: There were significant gaps in knowledge about HIV among teenage high school students and comparatively girls were less aware than boys. HIV/AIDS knowledge should be improved by school education programmes.

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