

Knowledge of Secondary School Students on HIV/AIDS in Kirkuk Province / Iraq.

Suhella S. Tahir * MBCHB, DIM
 Mohammed A. Kadir** PHD
 Hussein S. Akbar*** PHD
 Ahmed M. Amin *

Summary:

*Fac Med Baghdad
 2009; Vol. 51, No. 2
 Received Aug. 2008
 Accepted Apr. 2009*

Background: The acquired immunodeficiency syndrome (AIDS) is a disorders caused by cellular and humoral immune dysfunction from infection by the human immunodeficiency virus (HIV 1 and HIV 2).

Patients and Methods: The study was carried out in Kirkuk governorate on 5090 secondary school students from different localities of the city, for the period from the beginning of October 2005 to the end of March 2006. A special questionnaire was applied for each student containing age, sex, class, parent's education, mode of transmission & methods of prevention.

Results: There was no significant difference between male and female regarding the etiology of AIDS. The knowledge of secondary school students was not related to parent's education.

Conclusions: It is concluded that educational lectures increased the knowledge of students.

Key words: HIV Knowledge, secondary school, Kirkuk.

Introduction:

AIDS or Acquired Immune Deficiency Syndrome is caused by an RNA cytopathic human retro virus which is of two types. HIV 1 and a second virus HIV 2 which is serologically distinct from HIV 1 but causes clinically indistinguishable AIDS in Africa (1). The illness was first described in 1981 and the virus was isolated by the end of 1983, since then AIDS has become a world wide epidemic expanding in scope and magnitude as HIV infection have affected different population and geographic regions. Once infected individuals remain infected for life, within a decade the vast majority of cases develop fatal opportunistic infections as a result of HIV induced deficiencies in the immune system (2).

HIV/AIDS infection is a pandemic occurring in epidemic form on five continents, however not all populations are uniformly affected in one country or another or in the midst of the same country (3). In a review of AIDS morbidity and mortality data for the sub-region, it was indicated that there has been a continued worsening of the epidemic as evidenced by escalating incidence and mortality rates as about (63.70%) were reported of being exposed through heterosexual contact (4).

In a declaration of commitment on HIV/AIDS called for a 25% reduction in HIV prevalence among young people aged 15-24 years in the most effective countries by 2005 as well as 20% reduction in proportion of infants infected with HIV. According to the declaration 90% of all young people aged 15-24 years were to have access to vital HIV prevention information, education and services including life skills education in 2005 (5).

The present study was carried out to show the awareness of secondary school students about different aspects of HIV/AIDS in Kirkuk city.

Students and Methods:

A prospective study was carried out in Kirkuk province with cooperation of STD division in PHC department for the period from beginning of October 2005 to end of March 2006, on secondary school students from both rural and urban areas to show the Knowledge of them about etiology, mode of transmission and prevention of HIV/AIDS. The study was conducted on 5090 secondary school students from schools inside Kirkuk city as well as from nearby towns, including (Taza, Dakok, Hawija, Riaz, Dibis and Altun Kopri). The study included all students present in the school in the day of test. A special questionnaire sheet was arranged to estimate the knowledge of students (pre-test), followed by a short lecture on AIDS, including posters. Then a post-test was carried out for the same groups of students following the lectures, to show the improvement of their knowledge after the lecture. The data was collected and analyzed statistically using Chi-square and student t-test. The information in the questionnaire sheet is indicated as below.

* HIV center, Kirkuk.

**Dept. of Microbiology, College of Medicine, Kirkuk.

*** Dep. Of Physics, college of Science, Kirkuk.

A QUESTIONNAIRE FORM

No.....

Date.....

A-Personal information:

Name.....Sex.....

Age.....

School.....Class.....

Education level:

Father.....Mother.....

B-Etiology of AIDS: 1- Parasites.....2-

Bacteria.....3-Viruses.....

C-Mode of transmission:

Blood.....

Sex.....

Insect bite.....

Food and drinks.....

Kissing.....

Shaking hands.....

Contaminated syringes.....

Mother to fetus.....

Swimming pools.....

Wounds and abrasions.....

Animals to man.....

D- Methods of Prevention

.....

Results:

The knowledge of secondary school students on etiology of AIDS is indicated in table 1. It is shown that the knowledge of students regarding the cause being virus was 89.78%, did not vary significantly between both sexes. The rate of students believed to be bacteria was 2.68% male and 3.69% female, but 6.88% male and 7.3% female believed that the cause is parasite.

Table 1: Knowledge of secondary school students on etiology of AIDS

Sex	Number	Virus	Bacteria	Parasite
Male	2760	2496 (90.43%)	74 (2.68%)	190 (6.88%)
Female	2330	2074 (89.01%)	86 (3.69%)	170 (7.30%)
Total	5090	4570 (89.78%)	160 (3.14%)	360 (7.07%)

Virus $\chi^2 = 2.787$ D.F.=1 P>0.05

Bacteria $\chi^2 = 4.231$ D.F.=1 P<0.05

Parasites $\chi^2 = 0.326$ D.F.=1 P>0.05

The knowledge of secondary school students on AIDS according to parent s education is illustrated in table 2. The percentage of affirmative answer regarding etiology according to fathers education was highest among college level 92.51% followed by institute 90.73%, illiterate 88.35%, secondary 87.52%, primary 87.15% and intermediate 85.59% respectively. Concerning mother education, the affirmative answer was highest among institute level 93.37% followed by college 91.0%, secondary 89.66%, illiterate 89.01%, intermediate 88.80% and primary 84.96% respectively. Statistically there was significant difference between knowledge of students and their parents education (P<0.05).

Table 2: Knowledge of secondary school students on Aids according to parent's education.

Education al Status	Father education			Mother education		
	No.	Affirm-ative	%	No.	Affirm-ative	%
Illiterate	664	586	88.25 %	1712	1524	89.0 1%
Primary	794	692	87.15 %	998	848	84.9 6%
Intermedia te	930	796	85.59 %	804	714	88.8 0%
Secondary	930	814	87.52 %	658	590	89.6 6%
Institute	410	372	90.73 %	362	338	93.3 7%
College	1362	1260	92.51 %	556	506	91.0 0%
Total	5090	4520	88.80 %	5090	4520	88.8 0%

Father education $\chi^2 = 33.906$ D.F.=5 P<0.05

Mother education $\chi^2 = 25.626$ D.F.=5 P<0.05

It is shown in table 3, that the knowledge of secondary school students on etiology of AIDS according to classes. In pre-test the rate of affirmative answer among all students was 88.80% while in post-test the rate of affirmative answer was 96.69%. Statistically there was no significant difference between the knowledge of students and their classes.

Table 3: Knowledge of secondary school students on etiology of AIDS according to classes.

Knowledge		Pre-test		Post-test	
Class	Total Number	Affirmative Number	%	Affirmative Number	%
4	2216	1974	89.08	2134	96.30
5	1598	1430	89.48	1558	97.50
6	1276	1116	87.46	1230	96.39
Total	5090	4520	88.80	4922	96.69

Pretest $\chi^2 = 3.233$ D.F.=2

P>0.05 Posttest $\chi^2 = 4.633$ D.F.=2 P>0.05

Comparing the knowledge of secondary school students on methods of transmission is indicated in table 4. It is shown that the percentage of students with affirmative answer for blood transfusion in pre-

test was 78.19% which increased markedly in post-test 98.43%. The rate of affirmative answer for sex in pre-test was 93.43% which was increased to 98.19% in post-test. The rate of answer by insect transmission was decreased from 25.26% to 7.62%, by food and drink decreased from 39.88% to 9.15%, by kissing decreased from 61.88% to 16.11%, by shaking hands decreased from 31.0% to 8.99%, by contaminated syringes increased from 76.93% to 95.67%, from mother to fetus increased from 82.94% to 95.48%, by swimming pools decreased from 47.93% to 9.51%, by wounds and abrasions increased from 47.74% to 86.13% and by animal contact decreased from 37.48% to 10.25% respectively.

Table 4: Knowledge of secondary school students on methods of transmission.

Mode of Transmission	Pre-test		Post-test	
	Number	Percentage %	Number	Percentage %
Blood	3980	78.19	5010	98.43
Sex	4756	93.43	4998	98.19
Insect	1286	25.26	388	7.62
Food and drink	2030	39.88	466	9.15
Kissing	3150	61.88	820	16.11
Shaking hands	1578	31.00	458	8.99
Contaminated syringes	3916	76.93	4870	95.67
Mother to fetus	4222	82.94	4860	95.48
Swimming pool	2440	47.93	484	9.51
Wounds and abrasion	2430	47.74	4384	86.13
Animals	1908	37.48	522	10.25

Concerning the prevention of AIDS, table 5, shows that the rate of correct answers in pre-test was 10.80% increased to 69.43% in post-test; while the rate of false answers in pre-test was 89.19% decreased to 30.57%.

Table 5: Knowledge of secondary school students on prevention of AIDS.

Knowledge	Pre-test		Post-test	
	Number	Percentage %	Number	Percentage %
Correct answer	550	10.80	3534	69.43
False answer	4540	89.19	1556	30.57
Total	5090		5090	

Discussion:

HIV/AIDS has become a common problem in the world and started to increase in Iraq following the last war. In addition of having social implication, it has a drastic and devastating economic impact on the family nation thus it is necessary to take immediate action to minimize the future spread of this disease. In the present study the, knowledge about etiology of HIV/AIDS was affirmative in 89.78%, 90.43% of males and 89.0% of females. This reflects that most of the students know the etiological agent of HIV/AIDS being virus. The knowledge of our secondary school students is higher than that reported by Oyo-Ita et al (6) who that 68.8% of secondary school adolescent in Calabar- Nigeria knew the etiological agent of HIV/AIDS and higher than that reported by Opaleye et al (7) who showed that 73% of high school students had correct knowledge of the causative agent of AIDS in South Western Nigeria. While in India it has been shown that 16.3% of adolescent included in reproductive and child health programme knew that AIDS is caused by HIV infection (8). Comparatively Sly et al.(9) reported high number of college students knew the causative agent of HIV/AIDS being virus, they found in their study that 55% of males and 68.98% of females have affirmative answer on etiology of AIDS. As far as the education of parents is concern, it seems from the results of this study that the educational level of parents has no significant effect on knowledge of student about the etiology of AIDS, suggesting that the learning syllabus and audio visual instructions and self education influence their knowledge rather than their parents. Regarding the knowledge of students for the etiology of HIV/AIDS according to classes it seems that their knowledge was not related to classes as no significant difference was found among them in three different classes in both pre and post tests but their knowledge increased in post test. Concerning the knowledge of students about methods of transmission of HIV/AIDS it is found that the highest rate believe that it is transmitted through sex followed by vertical route (mother to fetus), blood transfusion, contaminated syringes and the lowest rate believed that it is transmitted by insects. This reflects that the students has considerable knowledge regarding modes of transmission. In this study the majority of students believed that HIV/AIDS is transmitted by sex (93.43%). This finding is identical to that reported by Oyo-Ita, et al. in Nigeria (6) who reported that 90% of secondary school adolescent knew that HIV/AIDS is transmitted by sexual intercourse. Regarding the insect transmission of AIDS, in pretest 25.26% of our studied groups believed that HIV can be transmitted by mosquitoes, this finding is lower than that reported by study performed on Zimbabwean secondary school pupil (10) who clarified that 54% of subjects believed that mosquitoes can transmit HIV. To asses the efficacy

of the educational lectures and audio visual aids, a post test was applied to the students to confirm the validity of the information given to them, which showed that the rate of students knowledge about blood, sex, contaminated syringes, mother to fetus, wound and abrasion increased while food and drink, kissing, shaking hands, swimming and animals transmission decreased. This reflects the efficacy of lectures and audio visual aids in widening the knowledge of students about modes of transmission of HIV/AIDS. The low percentage of correct answers about the prevention of AIDS among secondary school adolescents (10.80%) reflects that the majority of them are not aware about prevention of this fatal disease in our community. The increase in the rate of correct answers in post test (69.01%) indicates the efficacy of education in increasing the awareness of adolescents about HIV/AIDS. Further studies are recommended to carry on community wide bases to improve the knowledge of this susceptible group of population.

References:

- 1-Braunwald E., Fauci AS, Kasper DL, Hauser SL, Longo DL and Jameson JL
Human immunodeficiency virus (HIV) disease AIDS and related disorders.
Harrison s Principles of Internal Medicine.15th edit.
McGraw-Hill Medical Division. New York, London, 2001, PP. 1805- 1913.
- 2-Brooks GF, Jawetz E, Butel JS, Melnick JL, Ornston LN and Adelberg EA.
Jawetz, Melnick and Adelbergs *Medical Microbiology.* 20th edit. Appleton and Lange, 1995, P.514.
- 3-Clinical Guidelines Diagnostic and Treatment Manual. 3rd edit. Medecins Sans Frontieres, 1993, P.172.
- 4-Communicable Diseases Feedback Report. Acquired immunodeficiency Syndrome (AIDS) 1997-1999. CDER, 2000 Weeks, 13-25.
- 5- Stover J., Bertozzi S., Gutierrez J. P., Walker N., Stanecki K. A., Greener R., Gouws E., Hankins C., Garnett G. P., Salomon J., Boerma J. T., De Lay P., Ghys P.D. *The global impact of scaling up HIV/AIDS prevention programs in low- and middle-income countries.* Science Express, 2006, 311, No. 5766, 10-11..
- 6-Oyo-Ita AE, Kpeme BM, Etokidem AJ, Offor JB, Okokon EO and Etuk SJ. *Knowledge of HIV/AIDS among secondary school adolescents in Calabar-Nigeria.*
Annals of African Medicine, 2005, 4, 2-6.
- 7-Opaleye OO, Olowe OA, Taiwo SS, Ayelagbe OG, *AIDS knowledge, attitude and behavioral pattern among high school students in southwestern Nigeria.*
African J. Clin. Exp. Microbiol., 2005, 6(3), 247-252.

- 8-Gupta N, Mathur AK, Singh MP and Saxena NC. *Reproductive health awareness of school going, unmarried, rural adolescents.*
The Indian J. Pediatrics, 2004, 71(9), 797-801.
- 9-Sly DF, Eberstein IW, Quadagno D, Kistner JA. *Young children awareness, knowledge and beliefs about AIDS: observations from a pretest.*
AIDS Educ Prev., 1992, 4, 227-239.
- 10-Wilson D, Greenspan R and Wilson C. *Knowledge about AIDS and self reported behavior among Zimbabwean secondary school pupils.*
Soc Sci Med., 1989, 2