School Children's Knowledge, Attitudes and Beliefs Regarding STIs/HIV; A Comparative Descriptive Study in Rural and Urban Settings in Sri Lanka

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Abstract- **Using quantitative approach, a descriptive comparative study was conducted to assess and compare the adolescent school children's knowledge, attitudes and beliefs regarding STIs/HIV in rural and urban settings in Sri Lanka participating 294 students. The study tool was self administered questionnaire.**

This study identified the lacuna in the STIs/HIV knowledge, attitudes and beliefs among adolescent students in both settings. More than half (74.5%) of the students had not heard about STIs but all students had heard about HIV/AIDS in both settings. Most of the students responded correctly identifying unprotected sex, blood transfusion and injecting illegal drugs as modes of transmission of HIV. Half of the students in both settings did not know that the use of condom is the main safe method for prevention and control of STIs/HIV. Most of students in both settings agreed with the attitudes that "people with AIDS should be support helped and treated.

***Index Terms*— adolescent, STIs/HIV, knowledge, attitudes and beliefs, rural and urban settings**

I. Introduction

The Human Immunodeficiency Virus (HIV) is one of the most serious, deadly infectious virus in human history. Its transmission and acquisition are known to facilitate by Sexually Transmitted Infections (STIs). STIs are infections including HIV that are spreads primarily through person to person sexual contact (WHO, 2013). Certainly in every 24 hours, an estimated 7000 people are infected with HIV and more than million expose to sexually transmitted infections (STIs) (Engenderhealth, 2013). Today of all people living with HIV, 23% are under age of 24, while 35% of all new infections are found among people between 15-24 year age group which adolescents are belong to (Engenderhealth, 2013). Many adolescent around the world are sexually active and many sexual contacts among them are unprotected. Therefore they are at a risk of contacting sexually transmitted infections including HIV (Jaiswal et al, 2005).

The first case of HIV infection in Sri Lanka was reported in 1987. Since, then a total of 1196 HIV infection and AIDS cases have been cumulatively reported in the country. The 9309 new cases of STIs and 395 new cases of HIV were reported among age between 9-29 years at the end of December 2012 (NSACP/SIM/2012). From this statistics it is clear that the adolescents have a higher risk of getting infected with STIs and HIV. Though the knowledge of adolescents is an important preventive factor of STIs and HIV among them, school students are not having sufficient knowledge about symptoms, complications, transmission and risk group of this deadly infection (Anwar et al. 2010). Given its deadly nature it is of paramount importance to prevent HIV/STIs among younger population as it pushes youngsters to lifelong suffering thereby wasting country's wealth in turn. Therefore the school authority and other concerned should come forward to design awareness campaigns for school children helping them to improve their knowledge of HIV and STIs and its' spreads and prevention.

In the health care system in general, prevention is the more economical measure to reduce the health cost in a country. More specifically, improving knowledge through awareness programmes remains more effective as a basic preventive measure. Therefore, awareness programs should initiate at school level as school children are more vulnerable group to be victims of this deadly infection. On the other hand schools are the key locations to initiates the awareness programs because

schools are the places where provide easy access to a large number of young populations.

The scarcity of the relevant Sri Lankan literature on this issue stress the necessity of carrying out a study to assess school adolescent's knowledge, attitudes and beliefs of HIV/STIs. Therefore examine the current knowledge of adolescent school children's regarding HIV/STIs is a paramount importance in terms of identifying their learning needs.

II. METHOD

Using a quantitative approach, comparative descriptive study was conducted in Colombo as urban setting and in Anuradhapura and kurunegala as rural settings in Sri Lanka in January 2014. This study was conducted in selected National mixed Sinhala medium schools in Colombo, Kurunegala and Anuradhapura. From four selected schools adequate sample of 294 students were participated. But several visits had been done to meet the principals and provincial educational directors to get the permission for conducting the study.

For data collection a 15 item questionnaire was developed in English language. Then questionnaire was translated into Sinhala language (National language of Sri Lanka) because the study was conducted in Sinhala medium schools. The questionnaire was contained six sections according to the study objectives. All the question response options were "Yes" and "NO" or "True" and "False", except the final question which allow participants to mention their own barriers to improve knowledge about HIV/AIDS and STIs.

The reliability and validity of the questionnaire of this study was achieved using a panel of subject expert. It was validated by course supervisor and the health and education experts in ethical board of National hospital of Sri Lanka. Reliability was established using a pilot test by collecting data from 15-20 students not included in the sample but met the inclusion criteria of the study

To collect data, the permission of provincial education directors and principals of selected schools was obtained through the letters. With the help of advance level class teachers met the students and verbal explanation was given regarding the study and its' purposes. Informed consent form was given to every selected student who voluntarily participated to get the written consent from their parents. Questionnaire was administered in school class room situation and verbal consent was taken from the students and instructions were given to fill the questionnaire under the supervision of three undergraduate researchers.

A total of 300 students were initially selected but only 294 students have completely answered the questionnaire. This 294 were included 148 rural students and 146 urban students. Therefore the response rate was 98%.

Data were analyzed using descriptive statistical method. (Microsoft excels widows 08). Data were expressed as quantities and percentages of students in rural and urban areas and in the total study. Analysis were done to determine the differences between Socio-demographic data, Knowledge related to STIs and HIV/AIDS, sources of getting information , attitudes and beliefs, and perceived barriers to improve knowledge about HIV/AIDS and STIs.

III. RESULT

A total of 294 students (49.6% urban and 50.4% rural) were participated, of whom 48.9% were boys and 51% were girls. Social-demographic characteristics showed that more frequently reported age group was 18 years and most of students were Buddhists (90.8%) (Table-01).

When considering the knowledge related to STIs and HIV/AIDS, in the total sample the majority of respondents (74.5%) had not heard about STIs but all students had heard about HIV/AIDs in both rural and urban settings (100%). Regarding the knowledge of STIs conditions, 58.9% of students in urban and 40.5% students in rural knew Chlamydia as STIs condition, but more than 60% of students in both settings knew Gonorrhea, Herpes and Syphilis as STIs conditions (Figure 01).

Regarding knowledge on the modes of transmission of HIV/AIDS most of students from both rural and urban settings correctly identified unprotected sex(98.9%), blood transfusion(93.8%), injecting illegal drugs(88%) and at child birth(66.9%) as modes of disease transmission. When consider the total sample in both settings, only 8.8% of students think that the road accident is a reason for transmission of HIV. In the total sample, 14% students from rural and 16% students from urban were correctly answered saying that the tattoos are a method of transmission of HIV. There were no significant differences in knowledge between urban and rural areas. Students in both groups similarly identified hand shaking, foods, sharing toilets, mosquito bites, sneezing and coughing as factors that do not transmit HIV/AIDS but kissing and hugging, sweat and saliva and public swimming pool were incorrectly identified as modes of transmission (Table-02).

Regarding high risk groups, 64% rural and 58% urban students pointed out that the adolescents were the high risk group for HIV/STIs as same as the prostitutes (95.9%) and homosexual (83%) but both rural and urban students were not marked drug addicts as a high risk group. Significant numbers of students (93.8%) in both rural and urban were marked virus as an organism for STI. But few of them knew bacteria and fungi as causative organisms for STIs (Table-03).

When considering the answers regarding HIV prevention and control, 56.3% of students in both settings knew that usage of contraceptive pills is not an effective method for prevention of HIV. Only 53% of rural students and 50% of urban students in the survey knew that condoms were an effective method of preventing HIV/AIDS and other STIs respectively. There was poor knowledge among both groups on usage of sterilized syringes (64.9%) and avoid sharing blood mixed equipment (52%) as preventive measures of HIV (Table-04).

The main sources of information available for respondents about HIV/STIs were news papers (97.9%), seminars (77.5%), books (87.7%) and doctors and nurses (92.4%), (Finger-02). Of the total sample, 52.3% of students had chosen friends as sources of getting information in both settings. Most of the rural students were not marked internet as a sources of getting information (Finger-02).

Students had relatively good attitudes and beliefs towards people with HIV/AIDS, except the belief that to discontinue friendship with friend having HIV (61.4%). Of the students in rural settings 52% of the participants and 58.9% of the urban participants had believed that anyone can become infected with AIDS (Table 5). The treatment availability for STIs/HIV in government hospital was known only by (52.7%) students in

both settings. Only 44.5% of rural and 54% of urban adolescents had barriers to improve knowledge (Table 6) .They showed that they have no media to get knowledge, according to the culture they can't talk about this topic, shame to ask about the conditions, elders not come forward to give knowledge, fear to discuss openly, no one to conduct seminars or lectures, refusal of teachers to explains, lack of awareness programs, no opportunities to get information were amongst the identified barriers. Considering the response rate of barriers more rural students had mention their needs to improve knowledge than by urban students.

TABLE I. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDENTS IN RURAL AND URBAN AREAS (N=294)

Characteristics		Rural (N=148)		Urban (N=146)		Total(N=294)	
		No.	%	No.	%	No.	%
Age							
	16 years	6	4	10	6.8	16	5
	17 years	39	26	56	38	95	32
	18 years	98	66	76	52	174	59
	19 years	5	3.4	4	2.7	9	3
Sex							
	Male	53	36	91	62	144	49
	Female	95	64	55	38	150	51
Religion							
	Buddhism	136	92	131	90	267	91
	Christians	6	4	5	3.4	11	4
	Islam	2	1.3	6	4.1	8	3
	Hindu	4	2.7	4	2.7	8	3

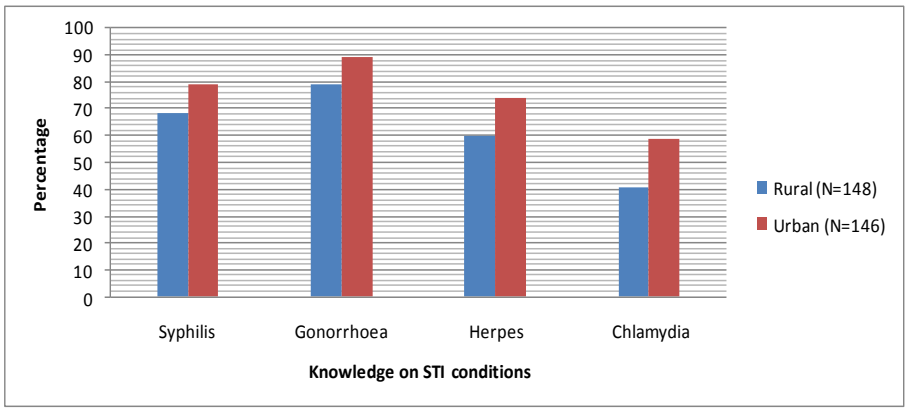

Fig. 1. Knowledge on STI conditions

TABLE 2. KNOWLEDGE OF STUDENTS REGARDING STIS AND HIV/AIDS IN "YES" ANSWERS AND IN PERCENT BY RURAL AND urban.

Questions		Rural (148)		Urban (146)		Total (294)	
		No.	%	No.	%	No.	%
HIV/AIDS mode of transmission							
Unprotected sex		146	99	145	99	291	98.9
Blood transfusion		136	92	140	96	276	93.8
Injecting illegal drugs		128	84	134	92	262	88
Hand shaking		26	18	10	6.8	36	12.5
Food		20	14	4	2.7	24	8.1
Sharing toilets		38	26	30	21	68	23
At child birth		95	64	102	70	197	66.9
Mosquito bites		45	30	37	25	82	27.8

Kissing and hugging	76	51	73	50	149	50.6
Road accidents	12	8.1	14	9.5	26	8.8
Sneezing and coughing	20	14	13	8.9	33	11.2
Tattoo	20	14	23	16	43	14.6
Public swimming pool	18	12	21	14	39	13.2
sweat and saliva	16	11	15	10	31	10.5

TABLE 3. KNOWLEDGE REGARDING HIV/AIDS AND STIS

	Rural (148)		Urban(146)		Total (294)	
	No.	%	No.	%	No.	%
High risk groups of STIs and HIV/AIDS						
Adolescents	96	65	85	58	181	61.5
Prostitutes	138	93	144	99	182	95.9
Homosexual	117	79	129	87	204	83
Drug addicts	30	20	22	14	52	17.5
Signs and Symptoms of STIs?						
Ulcers in the genital area	118	80	115	78	233	78.7
Pain during urination	78	53	79	53	157	53
Discharges from the genital area	122	82	136	92	258	87
Abdominal pain	86	58	92	62	178	60
Itching on genital area	126	85	128	86	254	85.7
Organism can cause STIs?						
Virus	140	95	138	93	278	93.8
Bacteria	98	66	106	72	204	68.9
fungi	66	45	74	50	140	47.2

TABLE 4. KNOWLEDGE OF STUDENTS REGARDING PREVENTION AND CONTROL OF HIV/AIDS

Measures can prevent HIV/AIDS	Rural (148)		Urban (146)		Total (294)	
	No.	%	No.	%	No.	%
Use of contraceptive pills	110	74	56	38	166	56.3
Abstaining from premarital sex	123	84	116	78	239	81.3
Sharing of blood mix equipments	71	48	82	56	153	52
Limit number of sexual partners	105	71	100	68	205	69.6
Use of sterilized syringes	91	61	100	68	191	64.9
Safer sex (use of condom)	76	53	74	50	150	51

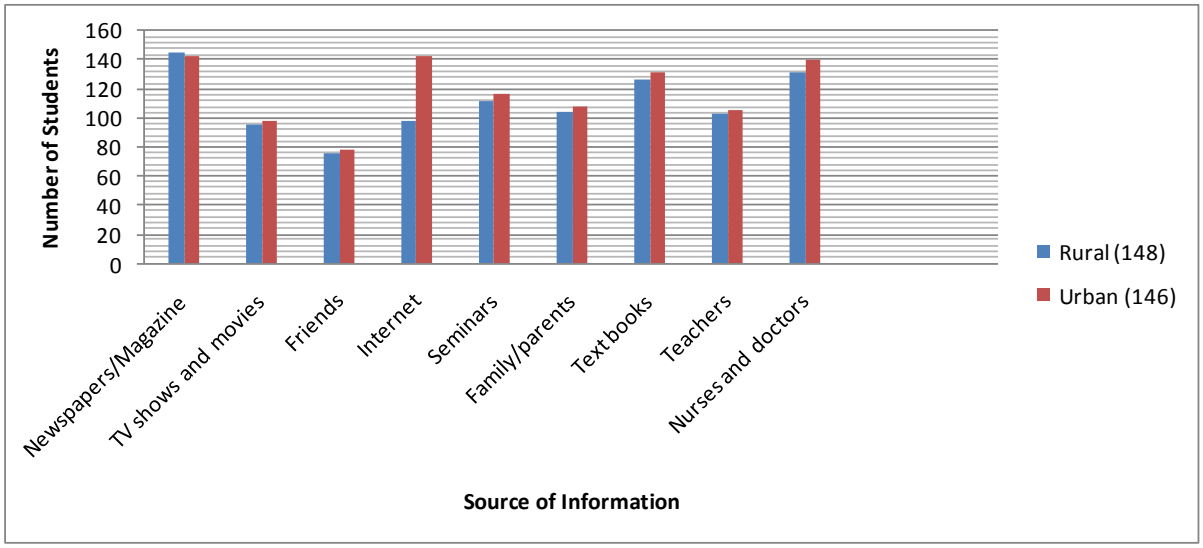

Fig. 2. Sources of information on STI

TABLE 5. ATTITUDES AND BELIEFS REGARDING HIV/AIDS IN AGREED ANSWERS

Statement	Rural (148)		Urban (146)		Total (294)	
	No.	%	N0.	%	No.	%
AIDS is a disease comes from god	141	95.2	140	94.2	281	94.7
No one desired to have AIDS	140	94.2	138	93.2	278	93.4
Anyone can become infected with AIDS	78	52	86	58.1	164	55.1
There is the need for health education on the seriousness of AIDS	142	95.9	139	94	281	94.9
It is bad to get close to HIV/AIDS patients	102	68.9	96	64.8	198	81.8
One can get infected with HIV by sitting next to a person with HIV	115	77.7	113	76.3	228	77
If your friend get infected with HIV would you continue to have friendship with him/her with him	95	64.1	87	58.7	187	61.4
If one of your relatives get infected in HIV would you be willing to take care of him/her at your home or in the community.	107	72.2	103	69.5	210	70.8

TABLE 6. PERCEIVED BARRIERS TO IMPROVE KNOWLEDGE ABOUT AIDS AND STIS

Item	Rural (148)		Urban (146)		Total (294)	
	No.	%	No.	%	No.	%
Have a perceived barriers to getting knowledge	65	44.5	80	54	145	49.2
STIs and HIV treatments units are available in g hospital?	82	56.1	73	49.3	155	52.7

IV. DISCUSSION

The purpose of the study was to reveal the knowledge, attitudes and beliefs regarding STIs and HIV among the adolescent students in both urban and rural settings. When considering the knowledge on STIs and HIV, the findings highlighted that higher number of adolescent had heard about HIV, but lesser number of them have heard about STIs in both urban and rural settings. When considering the diseases of STIs, students in both setting had heard about Gonorrhea, Syphilis, and Herpes than Chlamydia. Similar findings were reported by Manus and Dhar (2008) concluding that adolescent girls had not heard about STI conditions like Syphilis, Herpes and Chlamydia. Most of the participants responded correctly as unprotected sex, blood transfusion and injecting illegal drugs are modes of transmission. But road traffic accidents, tattooing, were not identified as mode of transmission and kissing and hugging, sweat and saliva and public swimming pool were incorrectly identified as mode of transmission. Gupta, *et al* (2013) have found that secondary school student in India had known that unprotected sex ,blood transfusion and injecting illegal drugs are as mode of transmissions of HIV/AIDS. But the knowledge about road traffic accidents and tattooing were not inquired by them.

Present study showed that adolescent knowledge on mode of transmission of HIV/AIDS does not vary according to the setting whether it is rural or urban. Rheel *et al* (2007) in a rural district in Pakistan found that only 55% adolescent knew at least two mode of transmission of HIV/AIDS.

In this study many students have considered adolescents as high risk group of STIs /HIV same as prostitutes and homosexuals. Guptha *et al* (2013) in India observed that the knowledge of students about high risk group of STIs/HIV was not satisfactory.

Students had not correctly understood about organisms which are cause to STIs. According to the findings majority of the students knew that virus can cause STIs but did not know about bacteria and fungi. When considering the available literature, many authors had not inquired about the knowledge on causative organisms for STIs among students.

In the present study half of the students in both setting did not know that the use of condoms is the main safe method for prevention and control of STIs and HIV. Equal result was found in India, by Manus and Dhar (2008) saying that majority of adolescent students did not know that people who always used condoms were safe from all STIs and HIV.

The main source getting information regarding STIs/HIV in urban setting was internet, newspaper, magazines and health sector instead of getting information from friends, family and TV shows. Text book and newspaper were the main source of getting information in rural counterpart. Considering the both setting students had not marked family/parents, friends and TV shows as sources of getting information. But Guptha *et al* (2013) identified that majority of students (85%) in India get information on HIV/AIDS from the television.

Getting information from friends was low among adolescent in both setting in this study .In particular study had done by Ahamed and Khan in 2007 , has found that the adolescents have more probability of obtaining knowledge from their peer circles was inadequate and full of misconceptions.

The most interesting finding of this study was the majority of students in both setting agreed with the attitude that "people with AIDS should be helped, supported and treated''. Similar finding was there in Turkey study that, young teachers with higher knowledge had more positive attitudes about HIV/AIDS (Nur, 2012).Both urban and rural students marked their perceived barriers to improve knowledge about STIs and HIV/AIDS.

There are certain limitations of this study. The population of the study only included grade 12 and 13 students from each selected school. Then sample was small and data collected only from two schools in two districts as covering rural and urban setting due to lack of time to collect data. The finding about knowledge and attitudes of this study cannot be generalized to the whole population of student because small sample size as compared to the total number of adolescent students in selected area. However this study provides relevant information for better understanding of knowledge, attitude and behavior among students in urban and rural setting.

The study did not include the questions about use of condoms as their practice and other sexual activities in the questionnaire. Going through the identified limitations this study provides a path to replicate the study with larger sample with different ethnic groups and using a different research approach avoiding identified limitations.

V. CONCLUSION

In spite of the efforts over past years in STIs and HIV prevention, this epidemic still presents a serious challenge to societies around the world, including Sri Lanka. According to the study findings few points can be highlighted. There was no significance difference of knowledge, attitudes and beliefs regarding STIs/HIV in urban and rural adolescents. Rural counterpart had more sources like internet to improve knowledge than rural students. Attitudes of helping AIDS patients were slightly higher in urban adolescents.

With improved knowledge students will be able to prevent STIs/HIV among themselves and also help others to reduce the stigmatization suffered by people living with AIDS. Cultural barriers, system of education and lack of health education programmes were directly identified as barriers when improving knowledge of adolescents in both settings.

This shows that there is a need for disseminating appropriate information, to use education and communication strategies for increasing the awareness of STIs/HIV.

Health education programmes, seminars and public talks regarding STIs/HIV and AIDS prevention should be conducted regularly in schools with the support of health education units of hospitals. Parents and teachers should be targeted when conducting educational activities which would be enabled them to play beneficial role in the sex education and STIs/HIV and AIDS of young generation.

STIs/HIV/AIDS and safer sex education components should be included to the school curriculum in all schools. Through schools students should be encouraged to communicate this knowledge of STIs/HIV to their friends, parents and community members so, that HIV/AIDS and STIs can be eradicated or controlled.

AKNOLEDGEMENT

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