

Knowledge and Attitudes of University Students towards HIV/AIDS in Turkey: Selçuk University Example*

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ABSTRACT

Aims: The aim of the present study is to examine the knowledge and attitudes of university students towards HIV/AIDS in terms of its correlation with certain variables.

Method: The research was designed as a cross-sectional study. The sample of the study is composed of 943 students attending the Faculty of Health Sciences and the Faculty of Engineering and Architecture under Konya Selçuk University. With the aim of identifying the knowledge and attitudes of the students towards HIV/AIDS, a 25-item HIV/AIDS survey and a personal information form is used. The data were observed to be compatible with the normal distribution and a “t-test” and a “one-way analysis of variance” with a view to determining the correlation of their level of knowledge on HIV/AIDS with a range of variables.

Results: The percentage of respondents was 51.5% at the Faculty of Health Sciences and 48.5% at the Faculty of Engineering and Architecture. 58.9% of the participants were women (n=555) and 41.1% men (n=388). The statistical analysis performed in the same concept led to the observation that the level of knowledge of the students on HIV/AIDS varied significantly in line with age, faculty of attendance, paternal level of education, place of residence and delivery of training on HIV/AIDS, whereas the variation arising from sex, family structure and maternal level of education was identified not to be significant.

Conclusion: The university years, marking the beginning of sexual activities, and university students as a target audience are combined to form quite an important group to be informed on HIV/AIDS. Specifically, school-based training programs, community-based activities and public training programs targeting the youth have an improving effect on the level of knowledge on HIV/AIDS. Training is considered to be of great importance in both getting to know and staying protected against this condition.

Keywords: HIV/AIDS, knowledge, attitude, university students

INTRODUCTION

AIDS (Acquired Immune Deficiency Syndrome) was defined for the first time in 1981 through the identification of rare infections in a group of homosexual men in California and New York and the formation of an agreement among the researchers on the unprecedented nature of the condition in the literature. There was an interval of years between the initial notification of patients with AIDS and the identification of the active virus and this virus was denominated as HIV (Human Immune Deficiency Virus) (Tümer, 1998a: 35).

* Initial finding of the study were presented at Social Work Semposium 2012.

The HIV infection is transmitted with the virus denominated as HIV and weakens and destroys the immune system of the body, leading to the emergence of various diseases, which, although could be treated under normal conditions, may not be treated in the face of inadequate bodily defence and result in death. Patients infected with HIV subsequently progress to the AIDS stage (Tümer, 1998b:186).

The first HIV infection in Turkey was identified in 1985. The initial step to contain the spread of AIDS in Turkey was the definition of AIDS as an infectious disease and the inclusion of the same into the list of notifiable diseases through the Circular issued by the General Directorate of Basic Healthcare Services of the Ministry of Health in 1985. Two separate terms are used for this condition in disease notification. Persons that have been infected and are tested positive for the condition but do not exhibit any disease symptoms yet are termed as “Carriers”, while those that do exhibit the symptoms of the condition are referred to as having “AIDS” (Ministry of Health, 2003).

The data concerning the spread of HIV/AIDS in Turkey gives way to the observation that HIV/AIDS does not show a widespread dissemination, but indicates significant increases in years. In the year 1985, marking the first identification of the condition, there were only three AIDS cases, whereas December 2003 data published by the Ministry of Health specify that there were a total number of 1712 HIV/AIDS cases, namely 504 with AIDS and 1208 HIV-positive (Ministry of Health, 2003). According to the data provided by the Public Health Agency of Turkey, 8238 cases in total were reported in 2014 including 7041 HIV-positive and 1197 with AIDS (Ministry of Health, 2014).

The agent of AIDS, namely HIV, is most commonly transmitted sexually. Moreover, transmission can occur through the transfusion of HIV-infected blood and blood products, the use of infected syringes or needles, etc., and the communication of the virus from a mother with AIDS to the infant during pregnancy and birth (I. AIDS Congress of Turkey, 1993). A review of the modes of transmission involved in the cases notified in Turkey reveals that 46% of HIV/AIDS cases were infected through heterosexual intercourse; 9.9% through homosexual/bisexual intercourse; 1.9% through intravenous substance addiction; 1.6% through nosocomial infection; and 1.1% through maternal transmission. The modes of transmission for 39.4% of the cases were not identified (Ministry of Health, 2014).

Today, prejudices on HIV/AIDS and lack of information on its modes of transport are still prevalent. The lack of information is the most manifest in attitudes towards patients with HIV/AIDS. Duyan (2001a) emphasises that misinformation on the modes of transport of HIV, prejudiced attitudes towards the most at-risk groups in terms of the pandemic, behaviours causing the HIV infection including intercourse and intravenous substance abuse and fears relating to the disease and death are determinant in the attitudes towards patients.

Considering the breakdown of HIV/AIDS cases notified in Turkey by age (2013), the cases are observed to be intensifying around the age of twenty and onwards. According to 2013 data, 1113 of the total number of 6802 notified cases were in the age range of 25-29; 1192 in the age range of 30-34; 969 in the age range of 35-39; and 1335 in the age range of 40-49.

The breakdown of HIV/AIDS cases by age shows that the number of HIV/AIDS cases increase after the first years of sexual activity. In this context, it is obviously of great importance to provide information and training on HIV/AIDS at young ages that mark the initiation of sexual activity. With this aspect, the level of knowledge on the condition can also be stated to have an impact on attitudes. In fact, a review of the studies on HIV/AIDS indicates that the studies are generally addressing the level of knowledge and attitudes among high school and university students (Kaya et al., 2010; Temiz et al., 2005; Duyan, 2001b;

Altay et al., 2006; Tunçel et al., 2006; Bhowon, 2006; Petro-Nustas et al., 2002; Serloand Aavarinne, 1999).

Kaya et al. (2010) established that sex had an effect on the level of knowledge and male students were more knowledgeable on the matter in a study with 468 high school students. A look into the maternal and paternal level of education in the same study led to the observation that the paternal level of education affected their knowledge on the condition, but the maternal level of education did not have the same effect. Examining the level of knowledge against the monthly household income, the study found that children of low-income families had less information on HIV/AIDS.

Temiz et al. (2005) conducted a study entitled “Knowledge and Attitudes of University Students on AIDS” with 272 university students and identified that the level of knowledge among the students was rather insufficient; female students were more afraid of contracting AIDS than male students; and this also stemmed from the lack of information.

Duyan’s (2001b) study entitled “Knowledge of Social Work Students on HIV/AIDS and their Attitudes towards Persons with HIV/AIDS” identified that the level of knowledge among the responding students was quite high and training on AIDS had significantly increased their level of knowledge. In addition, the attitudes of the students towards persons with AIDS were observed in the same study to be positive. In terms of differences between sexes, female students had more significant attitudes towards persons with AIDS than male students.

Conducted with 76 social work students, Bhowon (2000) reviewed the knowledge and attitudes of social work students towards AIDS. This study determined a high level of knowledge among the students on AIDS. However, despite the majority of students being knowledgeable on the condition, their knowledge in the field of the prevention of AIDS was found to be insufficient.

In general, studies on the level of knowledge and attitudes regarding HIV/AIDS were undertaken with healthcare professionals. Hatipoğlu et al. (2005) conducted a study with 138 healthcare professionals employed at a training hospital with the aim of identifying their level of knowledge on HIV/AIDS and established an insufficient level of knowledge among healthcare professionals on HIV/AIDS.

Similarly, studies on HIV/AIDS were undertaken with students that were to work in the field of healthcare upon graduation. Tunçel et al. (2006) determined significant shortcomings in the knowledge held by healthcare students on certain modes of transmission, risk groups and precautions pertaining to AIDS in a study performed with the foundation-year students at a Vocational College of Healthcare Services. Furthermore, no statistically significant difference was observed in the number of correct answers given by students who declared they had and had not received courses on AIDS.

Petro-Nustas et al. (2002) conducted an intercultural study where the authors reviewed the knowledge, attitudes and beliefs of 126 Jordanian and American students of nursing on AIDS. According to the findings, the level of knowledge of American students on HIV/AIDS was higher than that of Jordanian students. Moreover, shortcomings in the level of knowledge on the modes of transmission of HIV (e.g. believing that using the same bathroom, being bitten by a mosquito, going to the same school or working in the same environment as individuals infected with HIV may lead to the transmission of the virus) were observed among Jordanian students. At the same time, the attitudes of American students towards AIDS were observed to be more positive than that of Jordanian students.

Serlo and Aavarinne (1999) performed another study on “Attitudes towards HIV/AIDS” with 245 university students in Finland and requested the students to define HIV and AIDS. The

majority of the students were able to provide correct definitions in response. Most of the students held positive attitudes towards HIV/AIDS. Looking into the sentiments expressed by the students, authors identified certain negative feelings towards AIDS in the majority of the students. These negative feelings stem from fears including the fear of AIDS. Differences among faculties were at a rather low level. Only the students of the nursing department considered their level of knowledge sufficient. The majority of the students stated that they had obtained their knowledge on HIV/AIDS from television channels, newspapers, radio stations and the nursing school.

All around the world and in Turkey, the importance attached to patients with HIV/AIDS and the condition itself. Protection from the condition is of great importance as there is no definitive treatment or a vaccine for the occupation as of today. In this context, the level of knowledge and attitudes regarding the condition also shape how individuals protect themselves from the condition. Considering the situation from this perspective, the university years, marking the beginning of sexual activities, and university students as a target audience are combined to form quite an important group to be informed on HIV/AIDS. In this framework, the present study aims to establish the level of knowledge of the students of Konya Selçuk University and their attitudes towards the condition.

METHOD

The study was conducted in April-May 2012. The research was a cross-sectional study. The sample of the study was composed of 943 university students attending the Faculty of Healthcare Sciences and Faculty of Engineering and Architecture who consented to take part in the study and selected through the simple random sampling method.

Data Collection Tools

The data collection was undertaken through the use of a personal information form encompassing the characteristic traits of the students developed by the authors, as well as a 25-item HIV/AIDS Survey developed by Nwokocha and Nwakoby and adapted to Turkish by Kaya, Akıllı and Sezek (2010) with the aim of measuring the level of knowledge on AIDS. The pilot application of the survey was undertaken at a high school and the reliability coefficient was calculated as .71.

The study data were analysed on the SPSS program. The data were observed to be compatible with the normal distribution and a “t-test” and a “one-way analysis of variance” for independent groups with a view to determining the correlation of their level of knowledge on HIV/AIDS with a range of variables. In addition, descriptive statistics were employed to explain the attitudes of the students towards HIV/AIDS.

FINDINGS

This section presents the results pertaining to the socio-demographic properties of responding university students and their level of knowledge and attitudes towards HIV/AIDS.

58.9% of the responding university students were women (n=555) and 41.1% men (n=388). 45.4% of the students were in the range of 17-20; 41.3% in the age range of 21-22 and 13.4% in the age range of 23 and older. The percentage of the participating students from the Faculty of Healthcare Sciences was 51.5% and of the participating students from the Faculty of Engineering and Architecture 48.5%.

In terms of the family structure, 42.5% of the students defined their family structure as democratic; 31.1% as protective; 22.4% as traditional; and 4% as authoritarian. With respect to the maternal and paternal level of education, both mothers (58.9%) and fathers (41.9%)

were observed to be at the elementary education level, whereas fathers (54.8%) were at a higher level than mothers (27.4%) in terms of high school and university education.

The majority of the families had an income level equal to or lower than 2.000 TL (61.1%), while the percentage of families with an income level between 2.000 and 3.000 TL was 26.1%. Considering their place of residence, 60.8% of the students were living in provinces; 28.5% in districts; and 10.7% in villages.

Furthermore, 31.2% of the students had taken part in a course or a general conference on sexual health or HIV/AIDS, while 68.8% of the students had not taken part in such an event.

As a result of the statistical analyses undertaken with respect to whether the level of knowledge of students on HIV/AIDS varied in line with certain variables or not; no significant difference was identified in the level of knowledge of students on HIV/AIDS among the variables of sex, family structure (democratic, protective, traditional and authoritarian) and maternal level of education. The data pertaining to the other variables in question are given below.

Table 1. HIV/AIDS knowledge of university students according to age

	Age	N	\bar{X}	Sd	F	P
HIV/AIDS Survey	17-20	428	14,58	2,96		
	21-22	389	15,38	2,88	9,13	.00*
	23+	126	15,48	2,13		

*p<0.05

Table 1 shows the average scores of the students with respect to the variable of age. A detailed review into the average scores indicates a significant increase in the level of knowledge in parallel with the increase in age among the students. Consequently to the analyses performed in this scope, the age of the students was determined to lead to a statistically significant difference in the level of knowledge on HIV/AIDS (F=9, 13, p<0.05).

Table 2. Tukey test results according to age

	Age (I)	Age (II)	Mean Difference	Standart Error	P
HIV/AIDS Survey	17-20	21-22	-,79939*	,20674	.00*
		23+	-,89534*	,29913	.00*

*p<0.05

The Tukey test conducted with the aim of identifying the source of the difference in Table 2, the level of knowledge of students on HIV/AIDS in the age range of 17-20 was observed to be significantly lower than that of the students in the age ranges of 21-22 and 23+. Thus, the level of knowledge on HIV/AIDS can be stated to increase in parallel with the age of university students.

Table 3. t-Test results according to faculty

	Faculty	N	\bar{X}	Sd	t	P
HIV/AIDS Survey	Health Sciences	486	15,24	2,96	2,24	.02*
	Engineering and Architecture	457	14,81	2,97		

*p<0.05

The level of knowledge of students on HIV/AIDS exhibits a significant difference in terms of the variable of faculties attended by the students according to the t-test performed in the statistical analysis ($t=2,24$, $p<0.05$). Considering the averages, the students attending the Faculty of Health Sciences ($\bar{X}=15,24$) may be stated to have more knowledge on HIV/AIDS when compared to the students attending the Faculty of Engineering and Architecture ($\bar{X}=14,81$).

Table 4. HIV/AIDS knowledge of university students according to father's education

	<i>Father's Education</i>	<i>N</i>	\bar{X}	<i>Sd</i>	<i>F</i>	<i>P</i>
<i>HIV/AIDS Survey</i>	Not attended any school	32	13,6875	3,23	2,64*	.04*
	Elementary	395	15,1038	3,12		
	High School	273	14,9451	2,89		
	University and above	243	15,2140	2,74		

* $p<0.05$

Table 4 specifies the average scores of the students in terms of their paternal level of education. A review into the findings indicate that the highest average belonged to students with a paternal level of education of university or higher ($\bar{X}=15,21$), while the lowest average was with the students whose fathers had not attended any school whatsoever ($\bar{X}=13,68$). The variance analysis resulted in a significant difference in the level of knowledge of students on HIV/AIDS in parallel with the paternal level of education ($F=2,64$, $p<0.05$).

Table 5. Tukey test results according to father's education

	<i>Father's Education (I)</i>	<i>Father's Education (II)</i>	<i>Mean Difference</i>	<i>Standart Error</i>	<i>P</i>
<i>HIV/AIDS Survey</i>	Not attended any school	Elementary	-1,41630*	,54568	.04*
		University and above	-1,52649*	,55832	.03*

* $p<0.05$

As can be seen in Table 5, the Tukey test performed with the aim of identifying the source of the difference yielded a significantly lower level of knowledge on HIV/AIDS among students whose fathers had not attended any school whatsoever than that of students whose fathers are elementary school or university graduates ($p<0.05$).

Table 6. HIV/AIDS knowledge of university students according to place of residence

	<i>Place of Residence</i>	<i>N</i>	\bar{X}	<i>Sd</i>	<i>F</i>	<i>P</i>
<i>HIV/AIDS Survey</i>	Province	573	15,02	2,90	3,18*	.04*
	County	269	15,29	2,99		
	Village	101	14,41	3,25		

* $p<0.05$

Table 6 shows the average scores on the level of knowledge on HIV/AIDS in terms of the place of residence of students. A review of the findings indicates that the highest average belonged to students living in districts ($\bar{X}=15,29$), while the lowest average was with the students living in villages ($\bar{X}=14,41$). The variance analysis conducted in this scope gave way to the observation that the place of residence of the students led to a significant difference in the level of knowledge on HIV/AIDS ($F=3,18, p<0.05$).

Table 7. Tukey test results according to place of residence

	<i>Place of Residence (I)</i>	<i>Place of Residence (II)</i>	<i>Mean Difference</i>	<i>Standart Error</i>	<i>P</i>
HIV/AIDS Survey		Province	,26029	,21950	.46
	County	Village	,87412*	,34657	.03*

*p<0.05

As can be gathered from Table 7, as a result of the Tukey test performed with the aim of identifying the source of the difference, the level of knowledge of students on knowledge of students living in districts on HIV/AIDS varied in line with certain variables or not was significantly higher than that of students living in villages ($p<0.05$). Accordingly, students living in districts may be stated to have more information on HIV/AIDS when compared to students living in villages.

Table 8. t-Test results according to delivery of training on HIV/AIDS

	<i>Delivery of Training</i>	<i>N</i>	\bar{X}	<i>Sd</i>	<i>t</i>	<i>P</i>
HIV/AIDS Survey	Yes	294	15,97	2,81	6,68	.00*
	No	649	14,61	2,94		

*p<0.05

The level of knowledge of students on HIV/AIDS exhibits a significant difference in terms of the variable of training received by the students on HIV/AIDS according to the t-test performed in the statistical analysis in Table 8 ($t=6,68, p<0.05$). Considering the averages, students that had received training on HIV/AIDS ($\bar{X}=15,97$) may be stated to have more information on HIV/AIDS when compared to students that had not received training on HIV/AIDS ($\bar{X}=14,61$).

Table 9. Attitudes of university students towards HIV/AIDS

	<i>Yes (%)</i>	<i>No (%)</i>	<i>Don't Know (%)</i>
I'd rather get any other disease than AIDS	61,9	14,6	23,4
I've heard enough about AIDS and I don't want to hear any more about it	37,6	43,2	19,2
I am afraid of getting AIDS	62	27,9	10,1
It is important that students learn about AIDS in family life education classes	94,6	3,4	2
If a free blood test was available to see if I have the AIDS germ, I would take it	79,6	12,7	7,6

A detailed review of the attitudes of university students towards HIV/AIDS indicates that 61.9% of the students preferred getting any other disease than AIDS; 43.2% considered their level of knowledge on AIDS insufficient; 62% were afraid of getting AIDS; 94.6% believed it is important that students learn about AIDS in family life education classes; and 79.6% would go to undergo blood testing, if free, to see whether they have the AIDS germ.

DISCUSSION

The present study aimed to identify the level of knowledge and attitudes of students of the Faculty of Health Sciences and Faculty of Engineering and Architecture of Konya Selçuk University towards HIV/AIDS.

The level of knowledge of university students on AIDS was associated with certain variables as a result of the study. These variables include sex, age, faculty of education, family structure, maternal and paternal level of education, place of residence and training on AIDS.

The level of knowledge of students on HIV/AIDS did not exhibit any significant differences in terms of sex, family structure (democratic, protective, traditional and authoritarian) and maternal level of education. The studies in literature specify different results in terms of the knowledge of students on HIV/AIDS with respect to sex. Kaya et al. (2010) stated that sex was a factor in the level of knowledge and male students were more knowledgeable than female students, while another study could not identify a significant difference in the level of knowledge on HIV/AIDS by sex (Altay et al., 2006).

In the present study, the knowledge of university students on HIV/AIDS did not exhibit any significant differences with respect to the variable of age. The level of knowledge of students was observed to increase in line with the age. Similarly, Altay et al. (2006) established a higher knowledge score among students attending the senior year when compared to those attending the foundation year and found a statistically significant correlation in this context. Accordingly, the level of knowledge of university students on AIDS/HIV may be stated to improve in parallel with aging.

A significant difference is observed when the knowledge of university students on HIV/AIDS is considered from the perspective of the variable of “faculty”. According to this finding, students attending the Faculty of Health Sciences have more information on HIV/AIDS when compared to students attending the Faculty of Engineering and Architecture. The students of the Faculty of Health Sciences may be considered to have more knowledge on the matter than the students of other faculties as they have received training on the epidemiology of diseases and their curriculum encompasses this specific subject. Moreover, similar studies conducted with health-related vocational college students indicated that these students have sufficient knowledge on AIDS (Tunçel et al. 2006). Nevertheless, Serlo and Aavarinne (1999) identified the differences among faculties to be at a rather low level. The level of knowledge among the students of the department of nursing varies only slightly from that of the students of other faculties. Altay et al. (2006) could not determine a significant difference in the average scores of the knowledge of students attending the fields of physical and social sciences on the modes of transmission of and means of protection from HIV.

A review into the results concerning the variable of the paternal level of education revealed significantly lower scores of information on HIV/AIDS among university students whose fathers had not attended any school. A Tukey test was performed with the aim of identifying the source of the difference and indicates higher average scores among students whose fathers had graduated elementary school or university. Similar findings are also found in Kaya et al. (2010). In this study, authors observed that the paternal level of education affected the

knowledge of students on HIV/AIDS similarly to our study, while the maternal level of education did not create the same effect.

In the present study, a significant difference was observed in the level of knowledge of university students on HIV/AIDS by their places of residence. Accordingly, the average scores of university students that have spent most of their lives in districts on HIV/AIDS were found to be higher than that of those living in villages. The reason behind this finding may be the limited access offered to villagers to information and media.

The knowledge of university students on HIV/AIDS exhibited a significant difference with respect to the variable of “having received training on HIV/AIDS”. In other words, the level of knowledge among students that had received training on HIV/AIDS and sexual health was found to be significantly higher than that of those that had not received such training. The history of having received training on HIV/AIDS is considered to be important in increasing the level of knowledge. Duyan (2001b) also found a significantly higher level of knowledge among the students that had received training on HIV/AIDS than those that had not received such training. Specifically, training on HIV/AIDS can be stated to have significance in studies performed with university students. However, no statistically significant difference was observed in Tunçel et al. (2006) in the number of correct answers given by students who declared they had and had not received courses on AIDS.

A detailed review of the attitudes of university students towards HIV/AIDS indicates that the students considered their level of knowledge on AIDS insufficient; preferred contracting any other disease than AIDS; were afraid of contracting AIDS; believed the provision of information to families on AIDS to be important; and would go to undergo blood testing, if necessary, to see whether they had contracted AIDS.

The importance of training in enabling individuals to understand and protect themselves from HIV/AIDS cannot be overstated. Specifically considering the onset of sexual activity, trainings offered to young individuals assume an especially striking meaning. The literature frequently emphasises the importance of training on HIV/AIDS (Kaya et al., 2010; Duyan, 2001b; Zeren, 2006; Altay et al., 2006; Zeren and Ergene, 2008).

A large number of training programs are organised to provide students with information on HIV/AIDS. These trainings are available both in curricula and certain programs. One of these programs is the “Psycho-Training Program on HIV/AIDS” developed by Zeren (2006a) for adolescents and young individuals. The program is delivered in close group sessions of 90 minutes held once a week. The program is composed of 8 sessions delivered to groups of 8-12 persons. The content of the training includes such subjects as general information on HIV/AIDS, sexuality, sexual values and attitudes, safe sex, condom use, peer pressure, choices in sex-related matters, saying no and risk taking. The programs offer both interactive information based on visual and experimental methods to students and a learning and self-knowledge environment for students to take part in such activities as watching video recordings, role-plays, discussions and group games. The Psycho-Training Program on HIV/AIDS, developed by Zeren (2006b), was established to be effective in changing the attitudes of freshmen towards HIV/AIDS in the desired way.

Zeren and Ergene (2008) also conducted a study to identify what professionals working at elementary schools needed to know with respect to HIV/AIDS and suggested that the training should address both students and school employees, teachers and psychological counsellors.

In this context, taking into consideration the fact that school-based training programs, community-based activities and public information programs increase the level of knowledge

on HIV/AIDS, such efforts are considered to be of great importance for their protective-preventive function.

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