



ISSN:1306-3111
e-Journal of New World Sciences Academy
2009, Volume: 4, Number: 2, Article Number: 1B0004

MEDICAL SCIENCES

Received: December 2008
Accepted: March 2009
Series : 1B
ISSN : 1308-7312
© 2009 www.newwsa.com

Nazan Karaoglu
Özgül Bike Yücalan Önal
Mehmet Ali Karaoglu
Medical Education and Informatics Dep.
Selcuk University Meram Medical Faculty
drnkaraoglu@gmail.com
Konya, Turkiye

KNOWLEDGE OF SEXUAL HEALTH AND CONTRACEPTION AMONG UNIVERSITY STUDENTS: A STUDY IN CAMPUS HEALTH CENTER OF SELCUK UNIVERSITY

ABSTRACT

This study is performed in a university campus primary care clinic setting and aimed to determine whether the university students were knowledgeable on sexuality topics, including contraception and sexual transmitted diseases (STDs). Research about the sexual knowledge of adolescents and young adults is an important step to determine the risk involved and helps to identify the parameters for further counseling and education. Approximately half of the students reported that they received at least one form of sexual education described in the questionnaire (48.4%, n=59). The top three source of the sexual education were press, peers and internet, respectively (28.7%, 25.4% and 22.1%). Internet was identified as a favored source of sexual education by males significantly (p<0.05). More than one thirds of all students showed interest to receive further counseling about STDs (n=45, 36.9%), and 28.7% (n=35) about contraception. These sexual issues were the same for males and females (p>0.05). This study reflects the necessity of providing sexual counseling and education to university students. The primary care clinic available in university campuses may serve to meet these needs.

Keywords: Sexual Education, Sexually Transmitted Diseases, Contraception, University

ÜNİVERSİTE ÖĞRENCİLERİNİN CİNSEL SAĞLIK VE KORUNMA YÖNTEMLERİ BİLGİSİ: SELÇUK ÜNİVERSİTESİ KAMPÜS SAĞLIK MERKEZİNDE BİR ÇALIŞMA

ÖZET

Bir üniversitenin birinci basamak sağlık merkezinde yapılmış olan bu çalışma üniversite öğrencilerinin kontrasepsiyon ve cinsel yolla bulaşan hastalıklar gibi cinsellikle ilgili konulardaki bilgi düzeyini belirlemeyi amaçlamıştır. Öğrencilerin yaklaşık yarısı cinsellikle ilgili bir eğitim aldığını belirtmişti (%48,4, n=59). Cinsel bilgi için ilk üç kaynak sırasıyla basın, akranlar ve internetti (%28,7, %25,4, ve %22,1). Erkek öğrenciler interneti anlamlı olarak daha çok cinsel eğitimlerinin kaynağı olarak belirtmişti (p<0.05). Çalışmaya katılan tüm öğrencilerin üçte birinden fazlası (n=45, %36,9) cinsel yolla bulaşan hastalıklar, %28,7'si (n=35) kontrasepsiyon hakkında eğitim almak istediğini belirtmişti ve bu konuda kız ve erkek öğrenciler arasında fark yoktu (p>0,05). Bu çalışma üniversite öğrencilerine cinsellikle ilgili eğitim ve danışmanlık verilmesinin gerekliliğini göstermektedir. Bu ihtiyacı karşılamak için üniversite kampüslerindeki birinci basamak sağlık merkezleri kullanılabilir.

Anahtar Kelimeler: Cinsellik Eğitimi, Cinsel Yolla Bulaşan Hastalıklar, Kontrasepsiyon, Üniversite



1. INTRODUCTION (GİRİŞ)

Adolescence and early adulthood is the time to discover sexuality and become sexually active. This is also the time of insufficient knowledge and inexperience. Unawareness of sexually transmitted diseases (STDs) and contraceptive methods results in experiences with insufficient or even without protection, which put young adults at risk for various infections and unwanted pregnancies [1 and 7]. Actually, knowledge about sexuality, reproduction, and contraception is often acquired after sexual activity has begun [8]. In terms of sexual health information, the prevention of pregnancy and STD related counseling should be prioritized [2, 3, 8 and 12].

Some authors suggested that young individuals have specific needs and interests about sexual health information, which can be enhanced by interventions, but usually it has not been very successful in changing risky behaviors to prevent transmission of STDs [9, 11, 13 and 15].

Over 90% of pregnant teenagers had discussed contraception with their general practitioner in the year before they became pregnant, confirming primary care as the main provider of health services for young people [7]. The university youth have a special importance among the young population with their intellectual role in the future of a society [3 and 16]. Lack of sexual education and rapid socio-cultural change has made Turkish adolescents and youths more prone to STDs, unwanted pregnancies and consequent psychological problems [3]. Sexual experience rates are reported in different percentages in males and females through traditional approach [2, 4, 16 and 17]. Some investigators reported that 40% of university students had knowledge about STD [18].

2. RESEARCH SIGNIFICANCE (ÇALIŞMANIN ÖNEMİ)

Many researches had been done among university students but none of them were in a campus community healthcare setting. Our study aimed to investigate knowledge about contraception and STD in a primary care unit located in a university campus.

3. MATERIAL-METHODS (MATERYAL-METOT)

This is a descriptive and cross-sectional study. University students who admitted to the primary care unit of Selcuk University in the first two weeks of January in 2006 with problems related to separation from a boy or girl friend constituted the study population. An anonymous questionnaire of 18 parameters designed by the authors was conducted to voluntary students. Participants were informed about the objectives of the study and informed consent was obtained from each participant. Demographic variables, presence of sexual education, the source of education, desire for education, knowledge about STDs, family planning and contraceptive methods were assessed via open ended and multiple choice questions. Demographic variables included gender, age, late residence, number of siblings and current residence. Study was conducted under the permission of local administration unit. Privacy of the students was guaranteed throughout the study by the implementing author, who was monitoring and providing assistance during the filling stage of the questionnaire. A pilot testing of the questionnaire was carried out on 10 students who came to health center for any reason and these students were not included in the final sample.

Statistical analyses were performed using proper computer software. Descriptive statistics (means, frequencies and percentages) were used to assess demographic features of the sample. Initial comparisons of the two groups in gender and education were made by



Chi-square and Fisher's exact tests. All of these tests were two tailed and were evaluated at the 0.05 significance level.

4. FINDINGS AND DISCUSSIONS (BULGULAR VE TARTIŞMALAR)

The mean age of the 122 university students was 21.10±2.01 years (range from 18 to 27 years). Sixty (49.2%) female and 62 (50.8%) male students participated in this study. While 77 (63.1%) students had grown up in cities, 45 (36.9%) were coming from rural areas of Turkey. Mostly, they have one or two siblings (n=78, 63.9%) and 59 (48.4%) were living in a hostel. The socio-demographic characteristics are shown in Table 1.

Table 1. Socio-demographic characteristics of participants.
(Tablo 1. Çalışmaya katılanların sosyo-demografik özellikleri)

		Number (n)	Percentage (%)
Mean Age	21.1±2.01 years		
	Male	62	50.8
	Female	60	49.2
	Urban	77	63.1
	Rural	45	36.9
	None	3	2.5
	1-2	78	63.9
	With own family	19	15.6
	With friends	39	32.0
	Hostel	59	48.4
	Other (relatives, hotel etc.)	5	4.1

Approximately half of the study group reported that they received sexual education (48.4%, n=59). The first three sources of the sexual education were press (print and visual media), peers and internet respectively (28.7%, 25.4% and 22.1%). No significant difference found among sources of sexual education (p>0.05) except internet in favor of males (p<0.05). Among all students STDs and contraceptive methods were the first two issues that they wanted to be given education by 36.9% (n=45) and 28.7% (n=35), respectively. These sexual issues were the same for males as females (p>0.05). Table 2 represents the education sources and the issues they want to learn about.

While most of the subjects had knowledge on AIDS, with no difference in gender and education (p>0.05), syphilis and gonorrhea were significantly well recognized by sexually educated subjects (p<0.05). The most common known method of family planning was oral contraceptives (94.3%; n=115). Condom use knowledge was reported by 47.5% (n=58) of the students. Among contraceptive methods; condom, IUD, calendar method and withdrawal were significantly well-known by sexually educated students (p<0.05). Comparison of knowledge about STDs and contraceptive methods with respect to sexual education are shown in Table 3. There was a significant difference between male and female students about contraceptive methods in IUD, injection and calendar method (p<0.05). Table 4 represents the comparison of knowledge according to gender.



Table 2. The education sources and the issues students want to learn about

(Tablo 2. Öğrencilerin bilgi kaynakları ve hangi konuda bilgi almak istedikleri)

	Male		Female		Total		p
	N	%*	N	%*	N	%*	
Sexual education							
Yes	30	24.6	29	23.8	59	48.4	0.095
No	32	28.5	31	27.6	63	51.6	
Source of education							
Family	15	13.3	8	7.1	23	18.9	0.309
Peers	16	14.2	15	13.3	31	25.4	0.928
Press (print and visual media)	19	16.9	16	14.2	35	28.7	0.886
Teachers	10	8.9	14	12.5	24	19.7	0.453
Health professions	8	7.1	3	2.6	11	9.0	0.302
Internet	20	17.8	7	6.2	27	22.1	0.014
Wish to get education about**							
First sexual relation	12	10.7	12	10.7	24	19.7	0.981
STD	23	20.5	22	19.6	45	36.9	0.982
Contraceptive methods	18	16.0	17	15.1	35	28.7	0.986
Anatomy of reproductive system	3	2.6	7	6.2	10	8.2	0.361
Signs of pregnancy	5	4.4	1	0.8	6	4.9	0.263

* Percentages in whole group

** Some students who reported that they had sexual education also signed for issues representing their wish for sexual education.

Table 3. Comparison of knowledge about STD and contraceptive methods with respect to sexual education

(Tablo 3. Cinsel yolla bulaşan hastalıklar ve kontrasepsif yöntemler hakkındaki bilgi düzeyinin cinsellik konusundaki eğitim almış olma açısından karşılaştırması)

STD	Sexual education				Total		p
	Yes		No		N	%	
	N	%*	N	%*			
AIDS	59	48.4	62	50.8	121	99.2	1.000**
Hepatitis B	33	27.0	41	33.6	74	60.7	0.301
Syphilis	38	31.1	15	12.3	53	43.4	0.000
Gonorrhea	39	32.0	21	17.2	60	49.2	0.000
Contraceptive Methods							
Pills	57	46.7	58	47.5	115	94.3	0.441**
Condom	36	29.5	22	18.0	58	47.5	0.004
IUD	34	27.9	22	18.0	56	45.9	0.012
Ligation of the tubes	4	3.3	4	3.3	8	6.6	1.000**
Injection	13	10.7	10	8.2	23	18.9	0.385
Calendar method	22	18.0	5	4.1	27	22.1	0.000
Foam	4	3.3	0	0.0	4	3.3	0.052**
Vasectomy	1	0.8	0	0.0	1	0.8	0.484**
Withdrawal	28	23.0	14	11.5	42	34.4	0.003
Diafram	2	1.6	1	0.8	3	2.5	0.610**
Norplant	2	1.6	0	0.0	2	1.6	0.232**

* Percentages in whole group

** Fisher's exact test



Table 4. Comparison of knowledge about STD and contraceptive methods with respect to gender

(Tablo 4. Cinsel yolla bulaşan hastalıklar ve kontrasepsif yöntemler hakkındaki bilgi düzeyinin cinsiyet açısından karşılaştırması)

STD	Gender		Female		Total		p
	Male	%*	N	%*	N	%	
AIDS	62	50.8	59	48.4	121	99.2	0.492**
Hepatitis B	41	33.6	33	27.0	74	60.7	0.208
Syphilis	24	19.7	29	23.8	53	43.4	0.284
Gonorrhoea	33	27.0	27	22.1	60	49.2	0.364
Contraceptive Methods							
Pills	56	45.9	59	48.4	115	94.3	0.115**
Condom	30	24.6	28	23.0	58	47.5	0.849
IUD	20	16.4	36	29.5	56	45.9	0.002
Ligation of the tubes	3	2.5	5	4.1	8	6.6	0.488**
Injection	5	4.1	18	14.8	23	18.9	0.002
Calendar method	9	7.4	18	14.8	27	22.1	0.039
Foam	1	0.8	3	2.5	4	3.3	0.361**
Vasectomy	1	0.8	0	0.0	1	0.8	1.000**
Withdrawal	23	18.9	19	15.6	42	34.4	0.528
Diafram	1	0.8	2	1.6	3	2.5	0.616**
Norplant	0	0.0	2	1.6	2	1.6	0.240**

*Percentages in whole group

**Fisher's exact test

Adolescents may ascribe less personal meaning to threats, weigh risks differently, show heavier reliance on peer norms, have different biological predispositions, and be less developed cognitively than adults [19]. "Risk taking" behaviors are common when adolescents start being sexually intimate [3, 5 and 7]. As some authors mentioned before that university students with the rapid change in their living environment have an increasing interest in sexual relationship, and increasing exposure to the world outside the school and the family [20]. Health center of a university campus is a very important primary care unit with respect to sexual counseling and education. Some authors pointed out that young peoples' preference was to attend a general primary care clinic rather than a specialist service, even if the primary care clinic is not as youth friendly as because of reluctance of being unauthorized as a sexual health service [7]. However, this unique chance of education and counseling mostly depends on the attitudes of physicians and personnel of the health center as it was shown in a study in China [20]. To sum up, this study provides descriptive information on university students' sexual education, knowledge of contraception and STD, in a primary care unit, which should be the main actor of sexual education, counseling and health care.

Sexuality is still a taboo for majority of the Turkish society [3]. Some previous studies have suggested that first sexual intercourse age was changing in gender and changing in different parts of Turkey [3, 4, 17 and 21]. While Biri et al. [17] noted the average age of first sexual intercourse as 21.3±4.1 years in Ankara, Gökengin et al. [21] notified that sexual activity of students has begun between 15-19 years in Izmir. Besides traditions, when university students were asked about their sexual experiences, sexual intercourse was reported as 14.8%, 19.0%, 36.6% and 44.1% in different studies [2, 4 and 21]. The mean age of this study population also points out the important ages for appropriate counseling during the preventive health care.



In a study, which is aimed to determine the level of knowledge about STDs in university students attending to non-medical schools, while 40% reported that they had knowledge on STDs, 77.4% pointed out the need of getting information on it [18]. Similarly, in our study, percentage of students who got sexual education was 48.4% and percentage of those who wish to get sexual education was 56.6%. This difference shows that some students who had education signed the question about the issue of education and pointed their need for a new education.

As some authors mentioned before, press (print and visual media) was the first source of education in this study group too [2, 11 and 18]. Peers were the second source, which was one of the four that were mentioned and higher than in the previous study of Ungan et al. [2] Internet, which was generally signed by males was the third source of education in the study we represented. No significant difference found in gender among sources except the internet in favor of males. Lou C et al. [22] noted that 68% of high school or college students thought the internet as a good way to carry out sex education. Teachers, parents, and health professions by means of human sources which need to have a direct communication or face-to-face interviews with an older adult may show the lack of communication. Similarly, when students asked where one could obtain information about condoms, contraception, and sexuality; they did not cite traditional sources such as clinics, physicians, educators, or parents but magazines, internet, all types of news media, classmates and friends instead [11, 20, 23 and 24]. Moreover, this shows the importance of providing sexual health and contraceptive services in an age appropriate environment and manner is particularly important for adolescents.

AIDS, as a media oriented and dreadful disease among STDs, was the mostly known disease [2,18]. In this part of the study, the significant difference of knowledge on syphilis and gonorrhoea between educated and non-educated groups shows the importance of giving education about STDs, which does not take place usually in media. Students participated in this study reported STDs as the first sexual issue, which they wish to get education about with no difference in gender. Despite controversies on this matter, some authors indicate that school-based educational programs focused on augmenting students' knowledge about STDs may substantially improve their sexual behavior [9 and 10]. Nevertheless, some authors want to observe new researches to see whether development of specific interventions requested by young adults would result in higher levels of recall and ability to avoid dangerous sexual practices [11]. In addition, some claims that own experience of STD had a paradoxical association between a higher level of knowledge about STD and this relation indicates that the healthcare system probably is one of the most effective educational tools [13]. In controversy, Williams et al. [14] found that there was not a causal impact of education about sexual risk practices among residents and graduates. Of course, it is not possible to abandon this issue to a natural learning, which means being infected. Primary care physicians with their role in patient education, complementary approach has a broad opportunity in STDs and sexual education.

In a study performed in a teenager clinic showed that 62.8% did not consistently use condoms [6]. Those at risk of pregnancy are also at risk of STDs, and it would be logical to provide both contraceptive and STD testing services together [7]. The rate of condom use at first sexual intercourse was 47.4% [3]. In present study, we found a significant difference in knowledge of condom, intrauterine device, calendar method and withdrawal between educated and non-educated students. Although we did not asked about usage, we think that one



cannot use a contraceptive method if he does not know. Burazeri et al. [9] noted that knowledge about STDs is an independent predictor of consistent condom use among university students. When university students questioned in Ankara, about their contraceptive use, only 3.1% claimed that they used a contraceptive method and the most popular method was condom preferred by 2.1%.

5. CONCLUSION AND SUGGESTIONS (SONUÇ VE ÖNERİLER)

A primary care physician especially in metropolis encounters with a wide variety of patients from different countries. Cultural and religious barriers are still important in Turkish population [3]. For the majority of Turks, talking about sexual issues is still a taboo and premarital sex is forbidden especially for women like some other countries [3, 20, 23 and 24]. While students as individuals may tolerate premarital sex, they are aware and accepting of the societal sanctions against it [3, 16, 20 and 23]. Therefore, sine qua non of the prevention programs is the knowledge of conflict between traditional cultural values and modern ideas [20 and 24].

This study has some limitations. First of all, self-report bias may have had an influence on the results. In second, this study was carried out in a limited part of university students, which probably only partially reflects the problems of the whole university students. Third, not knowing their experiences about sex may put our suggested risk in suspicion. We hope this study may give ideas in planning future studies, which may get over these limitations.

In conclusion, this study reflects the need of university students about sexual education and health units of universities in primary care may meet the expectations in this issue.

NOTICE (NOT)

It was previously represented as a poster in 'Fifth International Reproductive Health and Family Planning Congress, April, 19-22 2007, Ankara, Turkey' and published on page 293 of the abstract book.

ACKNOWLEDGEMENT (TEŞEKKÜR)

We thank to rectorship of Selçuk University and Presidency of Health, Sports and Culture Bureau for their permission for this study. We also thank to Suat Yaşar (MD, Assistant Professor in Psychiatry, University of Nevada, Reno, USA) for the English revision of the manuscript.

REFERENCES (KAYNAKLAR)

1. Norris, A.E. and Beaton, M.M., (2002). Who knows more about condoms? MCN, Cilt: 27, Sayı:2, ss:103-108.
2. 2-Ungan M., and Yaman H., (2003). AIDS knowledge and educational needs of technical university students in Turkey. Patient Educ Counsel, Cilt:51, ss. 163-167.
3. Aras, S., Orcin, E., Ozan, S., and Semin, S., (2007). Sexual behaviours and contraception among university students in Turkey. J Biosoc Sci, Cilt: 39,ss:121-135.
4. Bozkurt, N., Korucuoglu, U., Aksakal, N., Biri, A., Ciftci, B., Maral, I., et al. Turkish adolescents' knowledge on and attitude toward emergency contraception. J Pediatr Adolesc Gynecol 2006; 19:391-395.
5. Whaley, A.L., (1999). Preventing the high-risk sexual behavior of adolescents: Focus on HIV/AIDS transmission, unintended pregnancy, or both? J Adolescent Health, Cilt: 24, ss:376-382.



6. Boyer, C.B., Shafer, M.A., Wibbelsman, C.J., Seeberg, D., Teitle, E., and Lovell, N., (2000). Associations of sociodemographic, psychosocial, and behavioral factors with sexual risk and sexually transmitted diseases in Teen Clinic patients. *J Adolescent Health, Cilt: 27, ss:102-111.*
7. Tripp, J., and Viner, R., (2005). ABC of adolescence: Sexual health, contraception, and teenage pregnancy. *BMJ, Cilt: 330, ss:590-593.*
8. Hassan, E.A. and Creatsas, G.C., (2000). Adolescent sexuality: A developmental milestone or risk-taking behavior? The role of health care in the prevention of sexually transmitted diseases. *J Pediatr Adolesc Gynecol, Cilt: 13, ss:119-124.*
9. Burazeri, G., Roshi, E., and Tavanxhi, N., (2004). Does knowledge about sexually transmitted infections increase the likelihood of consistent condom use? *Prev Med, Cilt:39, ss:1077-1079.*
10. Johnson-Mallard, V., Lengacher, C.A., Kromrey, J.D., Campbell, D.W., Jevitt, C.M., Daley, E., et al., (2007). Increasing knowledge of sexually transmitted infection risk. *The Nurse Practitioner, Cilt: 32, Sayı:2, ss:26-32.*
11. von Sadvoszky, V., Kovar, C.K., Brown, C., and Armbruster, M., (2006). The need for sexual health information: Perceptions and desires of young adults. *MCN, Cilt: 31, Sayı: 6, ss:373-379.*
12. Sulak, P.J., Herbelin, S.J., Fix, D.D.A., and Kuehl, T. J., (2006). Impact of an adolescent sex education program that was implemented by an academic medical center. *Am J Obstet Gynecol, Cilt: 195, ss:78-84.*
13. Andersson- Ellstrom, A. and Milsom, I., (2002). Knowledge about the prevention of sexually transmitted diseases: a longitudinal study of young women from 16-23 years of age. *Sex Transm Inf, Cilt: 78, ss:339-341.*
14. Williams, J.K., and Goebert, D., (2003). Assessing sexual health behaviors of resident physicians and graduate students. *Acad Psychiatr, Cilt: 27, ss:44-49.*
15. Johnson, L.S., Rozmus, C., and Edmisson, K., (1999). Adolescent sexuality and sexually transmitted diseases: Attitudes, beliefs, knowledge, and values. *Journal of Pediatric Nursing, Cilt: 14, Sayı:3, ss:177-185.*
16. Ozan, S., Aras, S., Semin, S., and Orcin, E., (2005). Sexual attitudes and behaviors among medical students in Dokuz Eylül University, Turkey. *Eur J Contracep Repr, Cilt: 10, Sayı:3, ss:171-183.*
17. Biri, A., Korucuoglu, U., Ilhan, M., Yilmaz, E., and Biri, H., (2007). Turkish Women's level of knowledge on and attitude toward sexual health. *Maturitas, Cilt: 58, ss:236-240.*
18. Ozdemir, L., Ayvaz, A., and Poyraz, O., (2003). Cumhuriyet Üniversitesi öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgi düzeyleri (in Turkish). *C. Ü. Tıp Fakültesi Dergisi, Cilt:25, Sayı:1, ss:10-14.*
19. Rouner, D., and Lindsey, R., (2006). Female adolescent communication about sexually transmitted diseases. *Health Commun, Cilt: 19, Sayı:1, ss:29-38.*
20. Zhang, H., Stanton, B., Li, X., Mao, R., Sun, Z., Kaljee, L., et al., (2004). Perceptions and attitudes regarding sex and condom use among Chinese college students: A qualitative study. *AIDS Behav, Cilt: 8, Sayı:2, ss:105-117.*
21. Gökengin, D., Yamazhan, T., Özkaya, D., Aytug, S., and Ertem, E., (2003). Sexual knowledge, attitudes, and risk behaviors of



- students in Turkey. J School Health, Cilt:73, Sayı:7, ss:258-263.
22. Lou, C., Zhao, Q., Gao, E., and Shah, I.H., (2006). Can the internet be used effectively to provide sex education to young people in China? J Adolescent Health, Cilt: 39, ss. 720-728.
 23. Cok, F., Gray, L. A., and Ersever, H., (2001). Turkish university students' sexual behaviour, knowledge, attitudes and perceptions of risk related to HIV/AIDS. Culture, Health & Sexuality, Cilt: 3, Sayı:1, ss:81-99.
 24. Cha, E.S., Kim, K.H., and Doswell, W.M., (2007). Influence of the parent-adolescent relationship on condom use among South Korean male college students. Nursing and Health Sciences, Cilt: 9, ss:277-283.