

CONTRACEPTION USE AND SEXUAL BEHAVIOR AMONG MALE STUDENTS IN BOSNIA AND HERZEGOVINA

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The aim of the study was to establish the parameters of sexual behavior and contraception use among full time male students in Bosnia and Herzegovina. In a prospective study that included 2128 male students aged 19-24, an anonymous survey was conducted on sexual behavior and contraception use in four university cities in Bosnia and Herzegovina during the 2007-2009 period. Out of the total number of surveyed students (N=2118), 74.6% (n=1581) were sexually active and the largest number of students (16.7%, n=614) had sexual relations with one partner. In the group of subjects with one sex partner, there was a significant difference according to universities ($\chi^2=13.62$; $p=0.009$). There was no significant difference in the number of students' sex partners according to study programs in the groups of subjects with one and two partners ($\chi^2=1.41$; $p=0.492$), but there was a significant difference according to years of studies ($\chi^2=10.13$; $p=0.038$). The mean age at sexarche was 17.35 ± 1.71 years and there was a statistically significant difference in the mean values of sexarche [$F(4, 1576)=9.273$; $p<0.001$]. Out of 1581 sexually active students, 1180 (74.6%) students used contraception at sexual intercourse; 1249 (79%) students reported condom as the method of contraception and 332 (21%) students reported using other methods of contraception. In conclusion, the increase in sexual activity among students was recorded, along with a high rate of contraception use during sexual intercourse.

Key words: students, sexual behavior, contraception, condom, sexarche

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INTRODUCTION

One of the characteristics of modern society is the increase of sexual activity among the youth (1-3). Hence, it can be assumed that in Bosnia and Herzegovina (B&H), in accordance with the contemporary tendencies all over the world, sexual activity of the youth is on the increase. Some theoreticians state that young people nowadays learn about sexuality at a much earlier age and from many more sources than before (1,3,4).

As a consequence of insufficient maturity and lack of knowledge and awareness of the need to preserve reproductive health, sexual behavior of young people can often be described as insufficiently responsible without the usage of appropriate protection measures (5,6). Sexual behavior of young people is affected by development, psychological, demographic, social, economic, and educational factors (3,7). The sharp increase of sexual activity among young people of both sexes and the earlier age at entering sexual contacts expose young people to the risks of unplanned pregnancy and sexu-

ally transmitted diseases (4,5,8). Their experiences vary, mainly depending on sex, culture, social environment, race, sexuality, and socio-economic status (8,9).

Young persons, male in particular, are more prone to risky behaviors, often have more sex partners and more risky partners. In addition, they are more prone to unplanned and accidental sexual relations and to avoidance of condom use.

The aim of this study was to establish the parameters of sexual behavior and contraception use among full time male students in B&H.

SUBJECTS AND METHODS

The study was conducted among male students in the four largest university cities in B&H with five universities (University of Sarajevo, University of Tuzla, University of Banja Luka, and two Universities of Mostar).

The total sample consisted of 2128 male subjects aged from 19 to 24 years, regular students of different universities, at different years of study and different study departments.

The survey was voluntary and anonymous, conducted among students of various schools (natural sciences, technical sciences, social sciences, and medicine) during the 2007-2008 and 2008-2009 academic years. The survey was conducted in accordance to the authorization granted by the universities that participated in the research. The subjects gave their oral consent for participation in the research and were able to withdraw from the study at any point during questionnaire filling out.

This observational, cohort study was performed by using an appropriate original and anonymous questionnaire. The questionnaire was structured specifically for this study, originally designed for the purpose of a PhD thesis at the School of Medicine in Tuzla and later adapted to our research.

After having been introduced into the purpose of the study, each subject completed a questionnaire comprising questions about their sexual behavior and contraception. The majority of the study subjects were willing to fill out the questionnaire.

The first part of the questionnaire was related to personal data of the subjects (university, school, year of study, age and place of birth, location and type of residence). The second part of the questionnaire included data on sexual behavior (sexarche, number of sexual partners, and use of contraception).

On data processing, standard methods of descriptive and inference statistics were employed. Quantitative data referring to sexarche were analyzed using the ANOVA statistical method. Qualitative data were tested using the χ^2 -test and z test that determine statistical significance of differences of proportion. On testing statistical hypotheses, the level of significance was set at $p < 0.05$. For statistical analyses, Microsoft Office Excel (graphic presentation and statistical package) and Arcus QuickStat biomedical were used.

RESULTS

The study included 2128 full time male students at different years of studies and study programs in four university cities in B&H. The largest number of surveyed students were enrolled in the first, second and third years of studies, while in terms of study groups the schools of social sciences prevailed (Table 1).

Table 1

Distribution of male students according to years of study and study departments at universities in Bosnia and Herzegovina

	City				Total
	Sarajevo	Tuzla	Mostar	Banja Luka	
Years of study					
I	169	142	372	69	652
II	76	140	213	111	540
III	54	102	217	107	480
IV	58	69	103	109	339
V	46	31	109	16	117
Study department					
Natural, technical sciences	118	213	292	170	793
Social sciences	199	116	569	166	1050
Medicine	56	115	49	65	285

Out of the total number of students surveyed, there were 74.6% (n=1581) sexually active students. According to the number of their sexual partners, there were 16.7% (n=614) of them with one partner, 12.5% (n=456) with two partners, and 14% (n=511) with three or more sex partners. The rate of students' sex relations with one sex partner ranged from 44.6% (n=128) in Sarajevo and 41.9% (n=244) in Mostar to 30.6% (n=115) in Banja Luka, and of those with three or more sex partners 37.2% (n=140) in Banja Luka and 36.2% (n=122) in Tuzla. Thus, it is evident that there was a significant difference in the proportion of subjects with one sex partner according to universities ($\chi^2=13.62$; $p=0.009$).

There was no significant difference in the number of sex partners of male students (according to study programs) in the proportion of subjects with one and two partners ($\chi^2=1.41$; $p=0.492$). There was a significant difference in the proportion of male students with one and two partners according to years of studies ($\chi^2=10.13$; $p=0.038$).

The mean age at sexarche for the male students included in the research was 17.35 ± 1.71 years. The mean age at sexarche was significantly lower at the University of Mostar than at the University of Tuzla ($p=0.002$) (Figure 1).

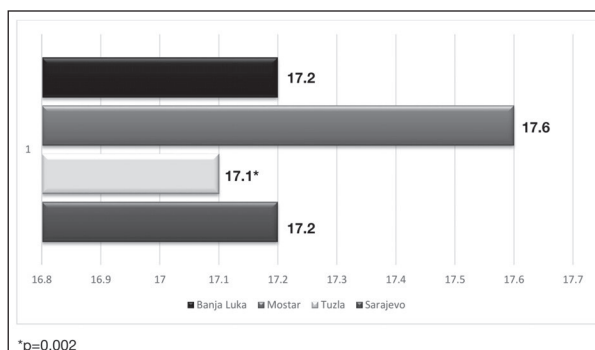


Fig. 1. Mean age at sexarche in male students in Bosnia and Herzegovina.

Using ANOVA for testing statistical significance of difference at sexarche for the subjects at different universities yielded a statistically significant difference in sexarche mean values [$F(4,1576)=9.273$; $p<0.001$].

Contraception in sexual intercourse was used by 74.6% ($n=1180$) of the sexually active students. Condom as the method of contraception was reported by 79% ($n=1249$), and other methods (*coitus interruptus*, female sex partners using oral hormone contraception) were reported by 21% ($n=332$) of these subjects. The rate of using condom as a contraceptive method for male students ranged from 82% ($n=477$) at the University of Mostar to 70.3% ($n=213$) at the University of Sarajevo (Figure 2).

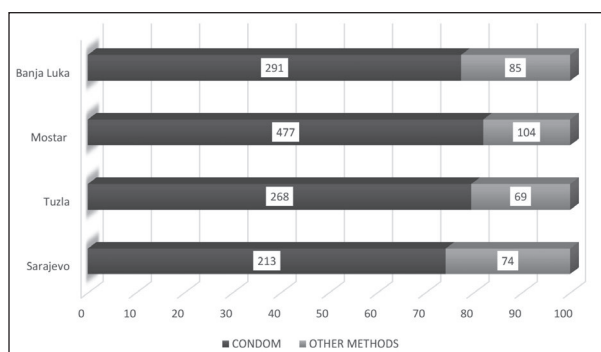


Fig. 2. Contraception use among male students at universities in Bosnia and Herzegovina.

DISCUSSION

Data obtained in this study indicated that there were 74.6% of sexually active male students, while the number of their sex partners ranged from one partner (16.7%) to three or more partners (14%). In the group of subjects with one sex partner, there were significant differences according to universities ($\chi^2=13.62$; $p=0.009$) and years of studies ($\chi^2=10.13$; $p=0.038$), whereas no significant difference was found in the number of sex partners according to study programs in the group of subjects with one and two partners ($\chi^2=1.41$; $p=0.492$). The mean age at sexarche among students in B&H was 17.35 ± 1.71 years.

What are data on the neighboring countries? The results of physical examinations of first year students in the academic year 2008-2009 at the schools of the University of Zagreb and University of Rijeka showed that 65.2% (Zagreb) and 72% (Rijeka) of the students were sexually active (10). The Croatian data show that the student population start having sexual relations at an earlier age (16 or 17 years of age) (10-13). In a study conducted in the academic year 2008-2009, male students stated that they had a higher number of partners

(>4 sexual partners) and more often had intercourse with unknown and promiscuous persons than female students (10,11). In Serbia, the youth start having sexual relations at an earlier age (15 or 16 years of age) (14-16).

The data vary all over the world and mainly indicate an increase in sexual activity of the youth. The studies conducted in Finland among university students showed that 80% of the subjects were sexually active, while at four universities in Egypt 26% of male students confirmed that they were sexually active (17,18).

The share of youth who had sex before the age of 15 in the United States was 14%, in Canada, France and the United Kingdom 4%-9%, and in Sweden 12% (19). At the University of Tirana, the mean age at sexarche in students is 17.9 years, which is close to our results (20). A study conducted among the Canadian youth aged 15-24 showed the mean age at sexarche in young men was 16.7 years, and that the university educated young people entered sexual relations at a later mean age (18.6 years) as compared with those less educated (17.2 years) (21).

However, there also are data on a relatively constant mean age at sexarche such as, for example, in a Swedish study conducted in the 1999-2004 period, where the mean age at sexarche was 17.6 years in 1999 and 17.4 years in 2004 (22).

Condom as the method of contraception was reported by 79% of the male students in B&H, whereas other methods (*coitus interruptus*, female sex partners using oral hormone contraception) were mentioned by 21% of subjects. In other European countries such as Greece, Finland, Sweden, and Denmark, condom was found to be used as contraception by 45%-60% of subjects (18,23,24). A study in three cities in Italy showed that 84.9% of young people used condom as contraception (25). A high level of condom use (75%) during sexual intercourse was recorded among Japanese students (26), which is close to our data for young students. A study of sexual behavior of young people conducted in Finland showed that condom was reported by 79% of the young men, whereas one-third of the subjects did not use contraception (18).

Data for B&H are rather scarce, with general information on similar studies related to the reproductive health of young people, except for the articles by some authors and the UNDP report on the study conducted in B&H in 1999 (27-30).

CONCLUSION

The increase in sexual activity among male students was recorded along with the high rate of contraception use during sexual intercourse. Risky sexual behavior of the youth may result in serious and permanent consequences, primarily for their reproductive health but also for their general health condition (31,32). It is therefore extremely important to know the basic parameters of sexual behavior in order to design a high quality prevention program.

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SAŽETAK

KORIŠTENJE KONTRACENCIJE I SPOLNO PONAŠANJE STUDENATA U BOSNI I HERCEGOVINI

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Cilj rada je definirati parametre spolnog ponašanja i upotrebu metoda kontracepcije kod redovnih studenata u BiH. *Ispitanici i metode*: U prospektivnoj studiji na 2.128 redovnih studenata, u dobi od 19 do 24. godine života provedena je anonimna anketa o spolnom ponašanju i korištenju kontracepcije u 4 univerzitetska grada u BiH u razdoblju od 2007. do 2009. god. *Rezultati*: Od ukupnog broja anketiranih studenata (N=2.118) spolno aktivnih je bilo 74,6 % (N=1.581), a najveći broj studenata - 16,7 % (N=614) imao je spolne odnose s jednim partnerom. U proporciji ispitanika s jednim spolnim partnerom postoji značajna razlika po univerzitetima za muške ispitanike ($\chi^2=13,62$; $p=0,009$). Ne postoji značajna razlika u broju spolnih partnera studenata prema studijskim skupinama, prema proporciji ispitanika s jednim i dva partnera ($\chi^2=1,41$; $p=0,492$), ali postoji značajna razlika po godinama studija studenata muškaraca ($\chi^2=10,13$; $p=0,038$). Srednja dob seksarhe je $17,35\pm 1,71$ godina, te postoji statistički značajna razlika srednjih vrijednosti seksarhe ($F(4, 1576)=9,273$; $p<0,001$). Kontracepciju je koristilo 74,3 % spolno aktivnih studenata. Kondom kao metodu kontracepcije koristili su u 79 % (N=1249) slučajeva, a druge metode u 21 % (N=332) slučajeva. *Zaključak*: Porast spolne aktivnosti među studentima muškog spola registriran je uz visoku stopu korištenja kontracepcije tijekom spolnog odnosa.

Ključne riječi: studenti, spolno ponašanje, kontracepcija, kondom, seksarha