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ORIGINAL PAPER

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Behavioral Sexual Characteristics of Female Students in Bosnia and Herzegovina

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ABSTRACT

Introduction: Characteristics of sexual behaviour of female students, which will affect fertility in adulthood, represent one of the critical parameters of reproductive health. **Aim:** The aim of this study was assess characteristics of sexual behavior of female students in Bosnia and Herzegovina.

Materials and Methods: In a prospective study on a representative sample of 2,872 regular girls aged 19-24 years, an anonymous survey on the reproductive health of female students in Bosnia and Herzegovina from 2007 to 2009 was conducted. **Results:** Of the total number (N = 2872) of surveyed female students, 49.44% were sexually active. Average sexarcha age was 18.14±1.83 years, and there was statistically significant earlier sexarcha in female students in Banja Luka vs. female students of the University of Sarajevo ($p < 0.001$), as well as in female students in Mostar vs. female students of the University of Tuzla ($p < 0.001$). Sexually active female students in 74.4 % cases had intercourses with only one partner, and 7.7 % of them had intercourses with three or more partners. Regarding the use of contraceptive methods, 69.4% female students were using contraception at first intercourse and 66.7% of them at last intercourse. 3.5% of sexually active students (N=50) had intentional abortion. Almost half (46.9%) of surveyed female students had regular pelvic exams; nearly two-third of those (63.4%) had gynecological exams in private institutions, and 36.6% of them in public health facilities. Only one-third (35.8%) sexually active female students in BiH stated that Pap test was performed. **Conclusion:** Sexual behaviour of female students in BiH is less risky than in the immediate environment, but health care quality is poor.

Keywords: female students, sexarcha, contraception, PAP test.

1. INTRODUCTION

All of the researches, both in the world and in our country, indicate gradual but steadily increasing sexual activity of young people and lowering the average age of its starting point, especially when it comes to girls (1, 2, 3).

The primary reasons for the high rate of pregnancy, abortion and sexually transmitted diseases (STDs) in this age group are the under-use of contraception, limited access to reproductive health services, high biological vulnerability and negative societal values regarding the sexuality of young people (4, 5, 6, 7).

Risky behavior of young people is reflected in the freedom of sexual behavior, frequency of premarital relations, the freer behavior of young people, especially women, frequent changes of partners, high exposure to sexually transmitted diseases, unwanted pregnancies that lead unsafe abortions, severe illness, infertility and death (3, 8, 9). University students are in the youth age category and are exposed to risky sexual behaviours such as unprotected sexual intercourse leading to STDs and unwanted pregnancies (9, 10, 11, 12).

The experience of countries with a long tradition of counselling for young people, show that the promotion of reproductive health of young people can influence the reduction of unwanted pregnancies, abortions and STDs, and that good education programs delay the first sexual intercourse and protect sexually active young people from pregnancy and STDs (5, 9, 13).

2. AIM

The aim of this study was assess characteristics of sexual behavior of female students in Bosnia and Herzegovina.

3. SUBJECTS AND METHODS

Study design: In a prospective study on a representative sample of 2,872 subjects conducted an anonymous survey on the sexual behaviour in Bosnia and Herzegovina from 2007 to 2009. The study was conducted among the female students in the four largest university city in Bosnia and Herzegovina with five universities (University of Sarajevo, University of Tuzla, University of Banja Luka and two Universities of Mostar). The total sample consisted of 2,872 female students, aged from 19 to 24 years, full time students at different universities, different years of study and study departments, different places of residence. The survey was voluntary and anonymous and was conducted among the female students of various faculties (Natural sciences, Technical sciences, Economics, Social sciences, Medicine). The faculties were randomly selected.

Instrument for data collection: The study used questionnaires, which consisted of 42 questions (23 questions were open-ended, and 19 with clearly defined response). The first part of the questionnaire was related to the personal data of subjects (university, faculty, year of study, age, location and type of residence). The second part of the questionnaire was the data on sexual behaviour (sexarcha, the number of sexual partners, use of contraception, information about the pelvic exam and Pap test, abortions).

A Questionnaire was designed specifically for this study, which had been created for the purpose of PhD thesis at the Medical Faculty in Tuzla and later adapted to our research.

The survey was conducted by student volunteers previously educated on the type and method of the survey. The filling in of the questionnaire lasted 15 minutes. The survey way anonymous and conducted in accordance to the authorization granted by the universities that participated in the research.

A formal approval was secured from Universities in BiH and informed consent was obtained from the respondents before proceeding to the data collection.

Data analysis: Applied standard methods of descriptive and inference statistics. Quantitative data referring to sexarcha were analysed using statistical method ANOVA. When testing the statistical hypotheses the significance level of $p < 0.05$ was used. For statistical analyses Microsoft Office Excel (graphical presentation and statistical package) and Arcus QuickStat biomedical were used.

4. RESULTS

This study covered a total of $N = 2,872$ regular female students in four university city in BiH (Sarajevo, Tuzla, Mostar i Banja Luka). Distribution of students by universities, years of study and faculty groups is presented in the tables (Table 1).

Of the total number of surveyed female students ($N = 2872$)

Table 1. Distribution of female students according to years of study and to study departments at universities in BiH

Cities	Years of study					Study departments		
	I	II	III	IV	V	Natural and technical sciences	Social sciences	Medicina
Sarajevo	308	136	59	54	70	155	125	249
Tuzla	206	203	71	61	15	182	334	138
Mostar	359	293	302	125	11	255	782	53
Banja Luka	119	149	156	151	24	124	385	93
Total	992	581	588	393	120	7713	1626	533

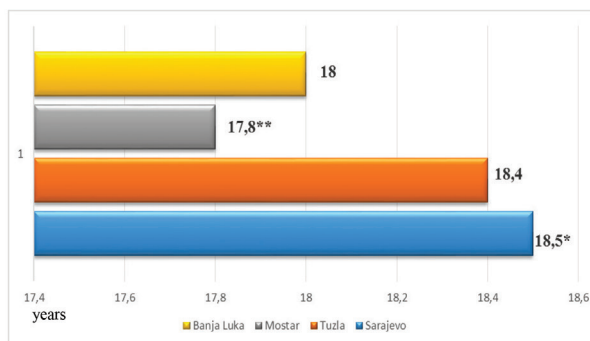


Figure 1. Average age of sexarcha for female students in BiH

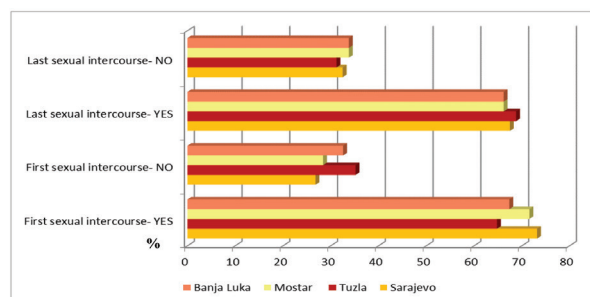


Figure 2. Use of contraception methods with first and last sexual intercourse in female students in BiH

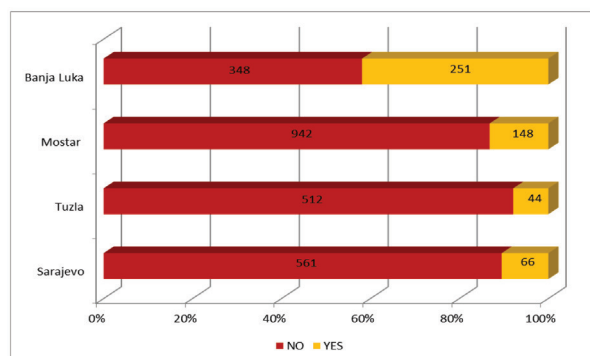


Figure 3. Distribution of surveyed female students regarding performed Pap test by universities in BiH

in BiH, 1,420 (49.44%) were sexually active (Figure 1).

The average age of sexarcha for female students was 18.14 ± 1.83 years, and in relation to the universities in Bosnia and Herzegovina at the earliest sexarcha was noted in female students in Mostar 17.8 ± 1.7 years, and the latest sexarcha was reported by female students in Sarajevo, 18.5 ± 1.9 years (Figure 2).

There was statistically significant earlier sexarcha in female students in Banja Luka vs. female students of University of Sarajevo ($p < 0.001$), as well as in female students in Mostar vs. female students of University of Tuzla ($p < 0.001$) (Figure 2).

Sexually active female students in 74.40 % cases had sexual intercourses with only one partner, and 7.7 % of them had sexual intercourses with three or more partners. Compared to the universities, the largest number of female students with one sexual partner were at the University of Sarajevo (80.3%), while 12.9% of female students had three or more sexual partners. Regarding the use of contraceptive methods, 69.4% female students were using contraception at first sexual intercourse, and 66.7% of them were using

contraception at last sexual intercourse (Figure 3).

Out of total amount, 78.8% students (N=100) of the University of Mostar used contraception at first intercourse, and 68.8% (N = 144) students of the University of Tuzla used contraception at last intercourse (Figure 3). On the other hand, first intercourse contraception was not used by approximately one-third of students of the University of Tuzla (35.2%) and (33.8%) students of the University of Banja Luka did not use contraception at the last sexual intercourse (Figure 3).

5. DISCUSSION

According to the results of our study, 49.44% of female students had a sexual experience and two-third (74.40 %) of the female students cases had sexual intercourses with only one partner. Most of sexually active female students started their sexual life at the age of 17 or later. So far there are no significant studies or studies related to reproductive health of young people in BiH, in addition to the works of some authors, and a report on a survey carried out by UNDP in 1999 in Bosnia and Herzegovina on the young people, but the data is quite poor and general (14, 15, 16).

If we look at the data in the countries in our close environment, we see that are very similar to ours. In the neighboring countries (the former Yugoslavia), sexually active young people have a tendency of starting sexual activity at an earlier age (17, 18, 19, 20, 21). Trend of earlier sexarcha towards younger age reported by some authors from Croatia, who stated that the student population earlier entered into sex (17 years), in relation to a few years ago, when only 40% of students have had sexual intercourse before age of 18, and the largest number of students entered into sexual relations between 18 and 20 years (17). Petrovic et al. (2007) report that 84% of sexually active students in Novi Sad, about one in five (20.4%) had ≥ 4 partners (19).

In a study involving 5,385 students at the first and third year of study from five university centers in Serbia, it was found that the sexual experience had 43.2% of girls (21). Modern social processes contributing to the rise of sexual freedom among the youth and found that the number of sexual partners with whom the girls make contact, tends to increase during the last decade in the United States (21). On the other side, in some countries, such as Romania, 81% of girls aged 20-24 years and 13% of boys had only one partner (22).

At the University of Tirana sexarcha for girls was 18.8 years which is similar to our results, as well as a later start of sexual activity among girls (23) which is also found in other studies worldwide (24, 25, 26). A study conducted in Canadian youth aged 15-24 years shows that sexarcha for girls is 16.8 years and that young people with higher education have later sexual intercourse (18.6 years) compared to those with less education (17.2 years) (25).

In regards to the use of contraceptive methods, 69.4% sexually active female students were using contraception at first intercourse and 66.7% at last intercourse. Early UNDP (2000) reports on youth sexual activity in BiH state that 40% of youth age 15-25. years using contraception (16). The data in the countries in our close environment are very similar to ours (27, 28, 29).. Similar to our results are results of International Studies at first sexual intercourse in France, Spain and Belgium, 75% subjects aged 20-24 years used some contraception

measures, as well as 55 % in Poland, Hungary and Latvia (30).

In Bosnia and Herzegovina 3.5% sexual active female students had an intentional abortion, which would correspond to the data of authors in BiH who have written about the incidence of adolescent pregnancy which ranged 3-5% (31, 32). The rate of abortions in Europe in girls aged 20-24 years varies among the countries of Eastern and Western Europe, in Croatia 1.4%, Slovenia 1.6%, Hungary 3% and 11% in Belarus, while in Western Europe the rate is low (Italy -1.9%; Finland -2.9% Netherlands 8%) and the highest rates have Greece 10-12% and Romania 78% (33, 34, 35).

Almost half 46.9% female students were going to gynecological examination, nearly two-third of those (63.4%) had gynecological exams in private institutions, and 36.6% of them in public health facilities. Almost one-third (35.8%) of sexually active female students in BiH stated that Pap test was performed.

Some other studies and researches report different results gynecological examinations and Pap test (17, 21, 35, 36). However, some authors still present a rather high percentage (85%) of gynecological examinations (36).

In most neighboring countries (Serbia, Croatia, Slovenia) there are student clinic and students have the opportunity to talk with the doctors and regular medical check-ups to prevent undesired pregnancies or during the normal symptoms of STDs (17, 18, 21, 38). The need for such a multi-disciplinary institutions in BiH is imminent.

Reproductive potential of the population is maintained and improved applying promotion of reproductive health in the demographic sphere because the young people are to be bearers of population reproduction in the immediate future (39).

This lack of relevant data is very important because of the promotion of sexual and reproductive health, especially important meta-analysis of the World Health Organization and United Nations Programme as well as researches conducted in developing countries where there are no programs nor training Centres (9, 16, 29, 30).

The fact that it has been more than 10 years since the research/survey was conducted might be seen as a limitation of the study. The period of 10 years that passed since the survey was conducted might act as a limiting factor in the validation of the study questionnaire.

6. CONCLUSION

The situation with regard to sexual behavior of female students in Bosnia and Herzegovina shows favorable situation since the average age of sexarche, there is also high level of the use of contraceptives, and nearly half have only one sexual partner. However, the risks of sexual behavior is the problem of female students is low level of gynecological examinations and performed Pap test.

Our data suggest that in BiH, unlike the countries of Western Europe and the United States, young people to a certain extent retain the traditional pattern of behavior, attitudes and practices.

It is required education about sexuality, physiology of reproduction, contraception benefits and risks of intentional abortions, and sexually transmitted diseases, including applying preventive measures. These findings will be use-

ful for planning future preventive programs with the aim of improving the health of youth in general and the sexual health in particular.

- Conflict of interest: none declared.

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