

# Sexual activity and behavior among adolescents in Poland and Lithuania

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## SUMMARY

**Introduction.** The study was taken to evaluate the sexual behavior of young people from two Central European countries: Poland and Lithuania and to determine their level of knowledge about human sexuality.

**Material and methods.** The study included 846 adolescents from two Central European countries: 134 Poles, aged 16-18, and 712 Lithuanians, aged 18. A purpose-designed two-part questionnaire was used in the study. The first part concerned the participants' socio-demographic characteristics. The second part assessed their knowledge about human sexuality, and determined the source of knowledge; it also contained questions regarding sexual behavior, age at sexual initiation, number of sexual partners, use of contraception, and experience with sexual violence.

**Main outcome measures:** to determine young people's sexual behavior and their knowledge about sex life.

**Results.** Polish teenagers had their first sexual intercourse earlier than teenagers from Lithuania (mean age 15+/-1.2 vs. 16 +/-1.1). The analysis showed statistically significant differences between Polish and Lithuanian teenagers in many domains, especially in the frequency of using contraception, knowledge about sexually transmitted infections and knowledge about the consequences of early sexual contacts.

**Conclusions.** The level of knowledge of Polish and Lithuanian teenagers on sexuality is insufficient. An age-adapted sex education curriculum is necessary to spread information about puberty, modern contraception, forms of sexual abuse, etc.

**Keywords:** sexual behavior; sexual violence; contraception

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## INTRODUCTION

Adolescence is a time of transition from childhood to adulthood, typically between the ages of 10 and 19. It is a period of intensive development of physical, mental and sexual identity – interest in sexuality increases and sexual relationships are initiated [1].

According to prior research, the largest number of young people begin their sexual life between 15-17 years of age. Age of first sexual intercourse is dependent on many variables such as, gender (boys typically start their sexual life earlier than girls), race (the median reported age of first sexual intercourse was 15.0 years for black males, 16.3 years for black females, 16.6 years for white males and females, 16.5 years for Hispanic males, 17.3 years for Hispanic females, and 18.1 years for Asian American males), family status (teenagers bring up in full families have first sexual intercourse later), impact of peer environment. It was found, that teenagers starting their sex life at an older age, show more responsible behavior related to the sexual sphere (such as the use of contraception) than those taking their first sexual intercourse before the age of 15 [2-5]. Use of alcohol and drugs by adolescents have also been shown as a risk factor of the higher number of sexual partners at a young age with the lowering age of sexual initiation [6] and higher frequency of unprotected sexual intercourse [7]. Adolescents initiating sexual relationships at a younger age are also more likely to have poorer psychological health and mediocre academic performance at an older age [1].

Research regarding young people's sexual life has shown, that early sexual initiation (before age of 15) is a major risk factor for sexu-

ally transmitted infections (STI) [8], unwanted pregnancy and significant emotional stress [9,10]. The use of condoms to avoid STI is particularly recommended in this group – WHO recommends individualized matching of contraception for young girls in the same range as in adult women (excluding the use of medroxyprogesterone acetate) [11].

Despite the fact that large number of adolescents have access to sources of knowledge about human sexuality, such as the Internet or newspapers, many teenagers have little or inadequate knowledge about STI (including the human papilloma virus vaccination and cervical cancer), contraception and legal regulations regarding young people's sex life (including the legal marriage age) [12,13] – hence, the importance of professional health teachers and comprehensive sexual education programs in schools [14,15].

There are few studies about sexual life and knowledge about human sexuality among adolescents from Poland and Lithuania as this topic was not yet adequately investigated. In published literature regarding adolescents' sexuality in both countries, researchers focused on sexual abuse, impact of sexual experiences in adolescents to their sexual life in adulthood [16,17], and the use of contraception [18, 19]. Klejewski et al., found that 42% of teens at the age of 14 years and 27% of adolescents between the ages of 17-18 years did not use any contraceptive methods, and the knowledge of high school students about the methods and contraceptives is only of average level (they received an average of 22.6 points out of a possible 52 in the questionnaire) [18].

Poland and Lithuania are both Central European countries with a similar history and social structure (in both countries, the vast majority of citizens are declared as Roman Catholics). Although, for many years both countries belonged to the communist bloc, they are currently within the European Union and are developing dynamically. The first hypothesis of our study stated, that due to similar cultural context, Polish and Lithuanian adolescents have similar levels of sexual experiences. Polish and Lithuanian societies are specific and in the vast majority conservative (many parents did not agree to the participation of their children in the study because of their faith). Sexual education, in both countries, has been carried out fairly recently; in both countries there are discussions about its final shape and scope of knowledge, which

should be communicated to children and adolescents.

In Poland, sex education classes are held in primary schools (5th, 6th grade), junior high and high schools on a voluntary basis (resignation from participation may be reported by a legal guardian of an underage pupil, or by the pupil themselves if adult). It may be noted that Polish sexual education is only an optional course, and according to many authorities, it is not conducted in a manner consistent with modern knowledge on human sexuality. According to the Ministry of Health, just over 50% of Polish pupils participate in sex education classes [20]. A “Program of Family Preparation and Sexual Education” promoting Christian values and sexual abstinence has been introduced in Lithuania [21]. Nevertheless, sexual education courses are not actually carried out. Due to the lack of trained educators, sexual education is only taught as part of biology lessons in grades 6 and 9. This situation leads to a lack of reliable knowledge at schools and encourages young people to seek information from other sources (not necessarily reliable – eg. internet). It reflects negatively on the sexual development of young people and adversely affects the formation of correct sexual attitudes in adulthood. The second hypothesis of our study is that due to the lack of sexual education in schools, Lithuanian adolescents have less knowledge on human sexuality than Polish adolescents.

Sexual education is not the only factor that has an impact on the adolescents' knowledge about human sexuality. As mentioned earlier, in both countries, the vast majority of citizens are the followers of the Roman Catholic Church, which recommends sexual abstinence until marriage and discourages the use of modern contraception (such as hormonal contraception, condoms). The only method of contraception recognized by the Catholic Church is natural birth control – teaching women to determine the fertile phase (typically 7 to 10 days long) of their menstrual cycle. To avoid pregnancy, women avoid intercourse on potentially fertile days. Another hypothesis of our study stated that young people from both countries, living particularly in villages and declaring the Catholic faith, delay the start of sexual life and use primarily natural methods of contraception. The study ought to determine the real needs and expectations of teenagers on the sources of knowledge about sexual life and contraception.

## AIM

The aim of the study was to evaluate the sexual behavior of young people from two Central European countries: Poland and Lithuania, and to determine the teenagers' level of knowledge about human sexuality.

## MATERIALS AND METHODS

The purpose-designed questionnaire-based study on sexual activity and behaviour of Polish and Lithuanian adolescents was carried out between 2014 and 2015. It included 846 adolescents from two Central European countries: 134 Polish teenagers aged 16-18 (67% girls, junior high and high school pupils from the region of Silesia) and 712 Lithuanian teenagers 18 years of age (54% girls, 510 from Vilnius and 202 from the Vilnius region). The inclusion criteria for the study were to provide answers to a minimum of 70% of the questions in the survey by the respondent. A total of 361 respondents did not agree to participate (136 in Poland and 225 in Lithuania). Uncompleted questionnaires (answered less than 70% of the questions) were returned by 79 (37%) of the Polish respondents and 237 (25%) respondents from Lithuania, and were subsequently excluded from the study.

All participants included pupils from randomly chosen schools, 5 in Silesia, Poland, and 5 schools of the Vilnius region, Lithuania. Both the Silesian region (in the south of Poland) and the district of Vilnius in Lithuania are highly urbanized areas, characterized by a relatively good access to educational and cultural centers.

The inclusion criteria involved: age between 16 and 18, school Principal's consent, parents'/legal guardians' consent, and the participant's informed consent. Exclusion criteria were: lack of consent from the parents/legal guardian or the pupils themselves to participate in the study, and failure to answer more than 70% of the questions in the questionnaire.

The selection of the research population was random and the study was conducted only after the necessary approval was obtained. All the respondents were guaranteed anonymity and confidentiality.

A purpose-designed questionnaire was used in the study. The first part of the questionnaire regarded age, gender and socio-demographic characteristics (i.e. place of residence, family status). The second part assessed the respon-

denents' knowledge about human sexuality, especially the source of knowledge (Where adolescents received the first information about human sexuality? Where adolescents found accurate information about human sexuality? With whom adolescents can talk about human sexuality? Does the school provide sufficient information about human sexuality?) and knowledge about STI and early pregnancy, their sexual behavior (age at sexual initiation, the number of sexual partners, use of contraception, contraceptive method used and experience with sexual violence). All questions within the questionnaire were of closed-type. Few of them were multiple-choice questions, and information about possible options were always reported at the end of the question (i.e. Where do you usually meet your future partner? What form of sexual contact did you have with a stranger person? What methods of contraception do you use? What kind of caresses do you think are appropriate to your age?).

There were two separate questions on knowledge about STI in the questionnaire. 1. Do you have the knowledge about sexually transmitted infections? 2. Which of the 10 listed diseases are sexually transmitted infections? If a participant chose 3 or more correct diseases (5 of them were correct), and replied "yes" on the first question, he/she was qualified as having knowledge about STI. There were also two separate questions regarding knowledge of teenage pregnancy in the questionnaire. 1. Do you have the knowledge about teenage pregnancy? 2. Which of these 10 phrases about teenage pregnancy are true? If a participant chose 3 or more correct phrases (5 of them were correct) and replied "yes" on the first question, he/she was qualified as having the knowledge about teenage pregnancy.

The study was approved by the Bioethics Committee of the Medical University of Silesia in Katowice (KNW/0022/KB/221/I/14).

## MAIN OUTCOME MEASURES

To determine young people's sexual behavior (also risky sexual behavior) and their knowledge about sex life: especially their knowledge about human sexuality (source of this knowledge, knowledge about STI and early pregnancy), adolescents' sexual behavior (age of sexual initiation, number of sexual partners, contraceptive method used), and experience with sexual violence (forms of violence, place where this type of violence came into contact).

## STATISTICAL ANALYSIS

The obtained results were analyzed statistically with Statistica 9.0 computer software. Statistics was used to describe the general characteristics of the study population. The results were compared using T-test for independent samples (for quantitative traits) and Pearson's Chi-squared test (for qualitative traits). A value of  $p < .05$  was considered statistically significant.

## RESULTS

The study included 846 adolescents: 134 Poles (16%; 67% girls – secondary school pupils from the Silesian region), aged 16-18, and 712 Lithuanians (54% girls, 510 from Vilnius and 202 from the Vilnius region), 18 years of age. The age difference between the two groups was statistically significant.

Majority of the respondents, both Polish and Lithuanian, lived in the city (90% vs. 71%, respectively) and most (approx. 80%) lived in a two-parent family. Most teenagers, both Polish and Lithuanian were Catholic (84% vs. 80% respectively). Other religions were declared by 9% of Poles and 6% of Lithuanians; 7% of Poles and 14% of Lithuanians were atheist (tab.1.).

Sexual activity was declared by 39% of Poles and 41% of Lithuanians. Polish teenagers had their first sexual intercourse earlier than Lithuanian teenagers ( $15 \pm 1.2$  vs.  $16 \pm 1.1$  years) but Lithuanians had more sexual partners (two or more) than Poles (one). The age difference between the respondents' partners was not statistically significant (mean over  $17 \pm 0.6$  years).

The sources of information about sexuality differed significantly. In Poland, the major source of information were parents (22%),

friends (29%) or school (25%). In Lithuania, however, teenagers obtained information mainly from friends (24%) or school (21%). Internet was seen as a source of accurate information about human sexuality by one in two teenagers from Poland and one in three teenagers from Lithuania. In Lithuania, teenagers tended to rely on their parents (28% vs. 13%) or school (24% vs. 10%) more than in Poland. Polish teenagers claimed they could talk freely about their sexuality with their parents (22%) (twice more often than Lithuanians) or the catechist (9%) (three times more often than Lithuanians). Lithuanian teenagers declared that they talked about sex-related topics with their peers (74%), in chats (5%) or social networks (5%).

A statistically significant difference was observed among the teenagers' need to talk about their sexuality (57% Poles vs. 35% Lithuanians,  $p < .001$ ).

Statistically significant differences were observed with regard to the reason for initiating an intimate relationship. Polish teenagers more frequently justified their decision by saying that "virginity is not fashionable" (15% vs. 6%) and three times more frequently stated "I feel like an adult" (15% vs. 5.5%). Alarmingly, one in four teenagers, both Polish and Lithuanian, decided to initiate a sexual relationship in connection with a "social event". In Lithuania, love for the partner triggered the decision to start sexual life (50% vs. 42%) more often, whilst parents had no influence in this regard.

Statistically significant differences were observed between the Polish and Lithuanian adolescents concerning the use of contraception. In Lithuania, 50% of teenagers used it every time, whilst in Poland only 30%. No contraception was declared by 57% of Poles and 19% of

Tab. 1. Sociodemographic data

		Poland	Lithuania	N	p
Sex	Men	90 (67%)	386 (54%)	476	.006
	Women	44 (33%)	326 (46%)	370	
Place of living	Village	14 (10%)	207 (29%)	221	.001
	City	120 (90%)	505 (71%)	626	
Religion	Catholic	112 (84%)	566 (90%)	378	.071
	Other religion	12 (9%)	45 (6%)	57	
	Agnostic/atheist	10 (7%)	101 (14%)	111	
Family situation	Two-parent-family	110 (82%)	568 (80%)	678	.054
	Single-parent-family	24 (18%)	144 (20%)	168	

Lithuanians (this is most likely due to the fact that Polish teenagers, who have not yet started sexual intercourse, replied as never using contraception). In Lithuania, more often than in Poland, only the teenager's sexual partner used some method of contraception (19% vs. 2%). Both in Poland and Lithuania, approx. 30% of teenagers used the condom as a method of contraception. There were no statistically significant differences between the Polish and Lithuanian teenagers with regard to the frequency of using "coitus interruptus" (0% vs. 1.5%) or not using any contraception (4% vs. 9%). Contraceptive pills/patches were used by 12% of Poles and 3% of Lithuanians (tab.2.).

The relationship between gender and the use of contraception was also analysed. 32% of Polish boys and only 25% of Polish girls used contraception every time; there were no statistically significant differences ( $p=.407$ ). Statistically significant differences were noticed between boys and girls from Lithuania, where 59% of boys and 36% of teenage girls used contraception every time during sexual intercourse

( $p<.05$ ). The use of contraception was also compared between girls/boys from Lithuania and Poland. Only Lithuanian boys used contraception statistically significantly more often than Polish ones ( $p<.05$ ).

There were statistically significant differences in the teenagers' knowledge about sexually transmitted infections: 84% of Lithuanian and only 70% of Polish teens were aware of STI.

Teenage pregnancy was considered more dangerous than adult pregnancy among 50% of Polish and 65% of Lithuanian teenagers (tab.3.).

Intimate contacts with a stranger were declared by 37% of Polish and 30% of Lithuanian teenagers. The form of contact is presented in Table 4.

Nine percent of Polish and five percent of Lithuanian teenagers were approached by a stranger with a view to initiate an intimate relationship. Table 4 also demonstrates the results regarding sexual violence among the respondents.

The teenagers' views on the consequences of early sexual contacts differed significantly. Si-

**Tab. 2.** Frequency and methods of contraception use among teenagers from Poland and Lithuania (\* multiple-choice question)

		Poland	Lithuania	N	p
Use of contraception	Always	36 (30%)	147 (51%)	183	<.001
	Never	68 (57%)	54 (19%)	122	
	Sometimes	14 (12%)	34 (12%)	48	
	Only partner use contraception	2 (2%)	56 (19%)	58	
Methods of contraception*	Condoms	44 (33%)	209 (29%)	334	.419
	Pills/patches	16 (12%)	19 (3%)	35	<.001
	Discs/creams/pessaries	6 (4%)	9 (1%)	15	<.001
	Coitus interruptus	0 (0%)	11 (1,5%)	11	.148
	Natural methods	4 (3%)	7 (1%)	11	.060
	Not using contraception	6 (4%)	61 (9%)	67	.108

**Tab. 3.** Knowledge about sexually transmitted infections (STI) and pregnancy in teenagers among adolescents from Poland and Lithuania

		Poland	Lithuania	N	p
Knowledge about STI	No	40 (30%)	116 (16%)	156	<.001
	Yes	94 (70%)	596 (84%)	690	
Knowledge about pregnancy in teenagers	Yes	66 (49%)	465 (65%)	531	<.001
	No	20 (15%)	52 (7%)	72	
	Don't know	48 (36%)	185 (27%)	233	



gnificant differences between the Polish and Lithuanian teenagers included: knowledge about the possibility of an unwanted pregnancy (87% vs. 76%), contracting STI (72% vs. 54%), and lack of parental acceptance (34% vs. 23 %).

Data regarding the place of first meeting and the time from meeting to sexual intercourse are presented in Table 5.

Approximately half of the teenagers, both Polish and Lithuanian (52% vs. 49%), watched pornography, starting from the mean age of  $12.2 \pm 1.7$  years in Poland and  $13.7 \pm 1.5$  years in Lithuania.

Asked whether they would share their intimate photos on social networking sites, an affirmative reply was given by eight-fold more Poles than Lithuanians (16% vs. 2%) ( $p < .001$ ). The modern culture was believed to encourage early sexual contacts (45% of Poles vs. 35% of Lithuanians) and lead to the impoverishment of the relationship between partners (34% vs. no – 40%).

In the last part of the questionnaire, the respondents were asked to indicate the authority in the area of sexuality. Polish teenagers pointed out ten times more frequently to singers (14% vs. 1%), four times to actors (4.5% vs. 0.28%) or TV presenters (4% vs. 0%) and 1.5 times to poets (1.5% vs. 0%). Few Lithuanian teenagers pointed out to a family member (0.42%) or peers (0.28%). The vast majority of Lithuanians (almost 99%) did not indicate any authority in this regard.

The correlation between contraceptive method used as well as the knowledge about STI and pregnancy in teenagers with regard to age, gender, place of residence and access to sexual education was investigated in both countries (tab. 6,7). In general, variables such as age, gender, place of residence and access to sexual education were highly correlated with the knowledge about STI and pregnancy in teenagers. In Poland, both 16 years old boys and girls, from cities and villages, who attained

**Tab. 4.** Frequency and forms of sexual contact with strangers, occurrence and forms of encouraging to sexual contact, personal contact with sexual violence (as a victim), and contact with sexual violence at school (personal or as a witness) among teenagers from Poland and Lithuania (\* multiple-choice question)

		Poland	Lithuania	N	p
Sexual contact with stranger person	No	84 (63%)	408 (70%)	492	.096
	Yes	50 (37%)	214 (30%)	264	
Form of sexual contact with stranger person*	Kissing	22 (46%)	110 (52%)	132	<.001
	Hugging	12 (25%)	40 (19%)	52	
	Petting	2 (4%)	20 (9%)	22	
	Oral sex	6 (12,5%)	13 (6%)	19	
	Sexual intercourse	4 (8%)	12 (6%)	16	
	Other form	2 (4%)	8 (8,5%)	10	
Encouraging to sexual contact by a stranger	Yes	12 (9%)	38 (5%)	50	<.001
	No	122 (91%)	674 (95%)	796	
Ways of encouraging*	Money	8 (80%)	19 (50%)	27	<.001
	Cosmetics	0 (0%)	0 (0%)	0	
	Mobile phone	0 (0%)	9 (24%)	9	
	Clothes	0 (0%)	0 (0%)	0	
	Other	2 (20%)	10 (26%)	12	
Contact with sexual violence (personal)	Yes	34 (25%)	274 (38,5%)	308	.004
	No	100 (75%)	438 (61,5%)	538	
Forms of sexual violence at school*	Verbal violence	6 (17%)	212 (53%)	218	<.001
	Mental humiliation	20 (56%)	132 (33%)	152	
	Recording by mobile phone	8 (22%)	6 (1,5%)	14	
	Physical aggression	2 (6%)	51 (13%)	53	

information from media (the Internet/TV/Press) and parents/school, had a statistically significantly better knowledge about STI and pregnancy in teenagers (tab. 6.). Lithuanian teenagers presented similar results in this regard (tab. 7.).

Contraceptive methods were used most frequently (“every time”) by 17 year old Polish boys from cities, whose sexual knowledge was based on the Internet/TV/Press, as well as 18 year old Lithuanian boys, living in the city, who declared to follow parents/school sexual education (tab.6,7.).

## DISCUSSION

Our study provides information on the sexual life of teenagers from Poland and Lithuania, as well as their knowledge on sex-related issues. As afore-mentioned, a vast majority of adolescents have their first sexual intercourse at the age of 15-17 years (in white adolescents the mean age is 16,6 years) [5]. In our study, the mean age of sexual initiation in Poland was 15 years and 16 years in Lithuania (first sexual intercourse was over a year earlier than mean age in Poland).

Despite such early initiation, teenagers’ knowledge about the possible consequences thereof was insufficient.

Based on a study of 669 teenagers, *Grondin* et al. concluded, that despite the fact that 40% of the respondents had already had their first sexual intercourse, their knowledge about STI was poor. The authors believed that factors such as male gender, age below 18 years, lack of dialogue with parents, low socioeconomic status and absence of health education were signi-

ficantly associated with little knowledge about human papilloma virus (HPV) and cervical cancer [13].

Nair et al. interviewed 3,023 young people aged 15-24. Among these, only 52% knew that a baby’s gender is determined by chromosomal sperm load, and 3.7% were aware of the existence of emergency contraception [12]. Interestingly, however, 57% of the respondents chose a friend to talk about sex-related issues and only 5.3% chose their parents (5.3%). Mothers were considered more appropriate to talk about sexuality than fathers (5.3% vs. 0.4%) [12].

The data obtained from our study revealed similar results – despite the fact, that 39% of Polish and 41% of Lithuanian adolescents declare that they are sexually active, and only 49% and 65% adolescents, respectively, had proper knowledge about pregnancy in teenagers. Adequate knowledge about STIs was shown among 70% of Polish and 84% of Lithuanian respondents.

In our study, teenagers indicated the Internet as their main source of information about human sexuality: 33% of Lithuanians and 49% of Poles. The poor selection of data available on the Internet can lead to misinformation and false views on the issues of sexuality and sexual health. Interestingly, 28% of Lithuanians and 13% of Poles regard their parents as a source of accurate knowledge about sexual matters; only 8% of Lithuanians and 10% of Poles think that of their siblings. In Poland, both 16 years old boys and girls, from cities and villages, who obtained information from media and parents/school, had statistically significantly better

**Tab. 5.** Places where teenagers meet their future partners for the first time and time from the first meeting after which sexual contact occurs in adolescents when they like each other (\* multiple-choice question)

		Poland	Lithuania	N	p
Places, where teenagers meet partners*	Internet	16 (12%)	158 (22%)	174	.007
	Party	34 (25%)	227 (32%)	261	.135
	Disco	26 (19%)	138 (19%)	164	.996
	School	40 (30%)	147 (21%)	187	.058
	Holidays	30 (22%)	159 (22%)	189	.988
	Another	52 (39%)	237 (33%)	289	.216
Time for having sexual intercourse	On the first date	22 (17,5%)	77 (11%)	99	.002
	After few dates	24 (19%)	72 (10%)	96	
	After few months	30 (24%)	204 (29%)	234	
	Longer	50 (39,5%)	359 (50%)	409	

knowledge about STIs and pregnancy in teenagers. Lithuanian teenagers depicted similar results.

Alarmingly, only 32% of Poles and 24% of Lithuanians believe that school provides them

with adequate and comprehensive education. This is probably due to the fact that sexual education at schools, in both countries, is far from the world standards. In Poland, sex edu-

**Tab. 6.** Correlations between contraceptive use, knowledge about STI and pregnancy in teenagers with regard to age, gender, place of residence and access to sexual education in Poland. Rows which contain no answers have not been included. (\* multiple-choice question)

AGE	GENDER	PLACE OF RESIDENCE	SOURCES OF INFORMATION*	USE OF CONTRACEPTION			METHODS OF CONTRACEPTION*					KNOWLEDGE ABOUT STI			KNOWLEDGE ABOUT PREGNANCY		
				Every time	Sometimes/ Never	p	Condoms	Contraceptive pills	Natural methods	None	p	Yes	No	p	Yes	No	p
16 YEARS	Male	City	Internet/TV/ Press	2 (20%)	8 (80%)	.315	8 (100%)	0	0	0	.180	10 (100%)	0	.002	4 (40%)	6 (60%)	.189
			Friends/ Siblings	2 (20%)	8 (80%)		8 (100%)	0	0	0		6 (60%)	4 (40%)		6 (60%)	4 (40%)	
			Parents/ school	0	10 (100%)		2 (50%)	2 (50%)	0	0		4 (40%)	6 (60%)		2 (20%)	8 (80%)	
		Village	Internet/TV/ Press	0	0	.005	0	0	0	0	.423	6 (100%)	0	.024	0	0	.060
			Friends/ Siblings	0	0		0	0	0	0		8 (57%)	6 (43%)		0	0	
			Parents/ school	2 (100%)	0		0	0	0	0		14 (100%)	0		0	2 (100%)	
	Female	City	Internet/TV/ Press	2 (33%)	4 (67%)	.099 Ns	2 (100%)	0	0	0	.423	0	2 (100%)	.024	2 (33%)	4 (67%)	.060
			Friends/ Siblings	0	14 (100%)		4 (100%)	0	0	0		6 (100%)	0		8 (57%)	6 (43%)	
			Parents/ school	2 (14%)	12 (86%)		2 (33%)	2 (33%)	2 (33%)	0		2 (50%)	2 (50%)		12 (86%)	2 (14%)	
		Village	Internet/TV/ Press	0	2 (100%)	.054 Ns	0	0	0	0	.238	2 (50%)	2 (50%)	.264	0	2 (100%)	.050
			Friends/ Siblings	2 (50%)	2 (50%)		0	0	0	0		2 (100%)	0		4 (67%)	2 (33%)	
			Parents/ school	4 (100%)	0		0	0	0	0		3 (75%)	0		0	4 (100%)	
City	Internet/TV/ Press	4 (100%)	0	.050	3 (75%)	0	0	1 (25%)	.238	0	0	.024	2 (50%)	2 (50%)	.024		
	Friends/ Siblings	2 (100%)	0		2 (100%)	0	0	0		0	0		2 (100%)	0			
	Parents/ school	2 (33%)	4 (67%)		0	2 (50%)	2 (50%)	0		0	0		0	6 (100%)			
17 YEARS	Female	City	Internet/TV/ Press	0	0	.597 Ns	0	0	0	.088	0	0	.597	0	0	.040	
			Friends/ Siblings	4 (40%)	6 (60%)		2 (25%)	4 (50%)	0		2 (25%)	6 (60%)		4 (40%)	4 (40%)		6 (60%)
			Parents/ school	6 (23%)	20 (77%)		4 (50%)	2 (25%)	2 (25%)		0	20 (77%)		6 (23%)	16 (61%)		10 (38%)
	Female	City	Internet/TV/ Press	0	2 (100%)	.264 Ns	0	0	0	.135	0	2 (100%)	.135	2 (100%)	0	P=0,13534	
			Friends/ Siblings	2 (50%)	2 (50%)		0	0	2 (100%)		0	2 (50%)		2 (50%)	2 (50%)		
			Parents/ school	0	2 (100%)		0	0	0		0	2 (100%)		0	2 (100%)		

(i.e. 16 year old boys from Polish cities, who had information about sexuality from media: 20% always used contraceptives, 100% used condoms, all of them had knowledge about STI, and only 40% had knowledge about pregnancy; 16 year old boys from Polish cities, who had information about sexuality from friends or siblings: 20% always used contraceptives, 100% used condoms, 60% of them had knowledge about STI, and also 60% about pregnancy; 16 year old boys from Polish cities, who had information about sexuality from parents or school: 100% used contraceptives sometimes or never, 50% of them used condoms and 50% contraceptive pills, only 40% of them had knowledge about STI, and 20% about pregnancy)



cation classes (formerly Family Life Education) start in the 5<sup>th</sup> grade of elementary school and are not obligatory. Often, due to the lack of properly trained sex educators, sex education is taught by teachers of other subjects. In Lithuania, sex education is part of biology classes in grades 6 and 9, and the curriculum is based on the promotion of Christian values and sexual abstinence [20, 21]. In recent times, the role of professional sexual educators in building the knowledge about sexuality in adolescents has been emphasized. Rhodes et al. assessed the

work of 82,286 sexual education teachers, both professional and non-professional. The authors concluded that professionally trained educators discussed more sex-related topics during their lessons, and that separate sex education classes for boys and girls allowed to transfer more knowledge and practical skills [14]. Eisenberg et al. focused on the setbacks that sex educators had to overcome at schools. The factors that were the most disruptive for the classes or influenced the selection of topics discussed were: lack of time (indicated by 48% of te-

**Tab. 7.** Correlations between contraceptive use, the knowledge about STI and pregnancy in teenagers with regard to age, gender, place of residence and access to sexual education in Lithuania (\* multiple-choice question)

AGE	GENDER	PLACE OF RESIDENCE	SOURCES OF INFORMATION*	USE OF CONTRACEPTION		METHODS OF CONTRACEPTION*				KNOWLEDGE ABOUT STI			KNOWLEDGE ABOUT PREGNANCY			
				Every time	Sometimes/ Never	Condoms	Contraceptive pills	Natural methods	None	Yes	No	Yes	No			
					p					p			p			
18 YEARS	Male	City	Internet/TV/ Press	19 (36%)	34 (64%)	37 (70%)	0	16 (30%)	0	.027	80 (87%)	12 (13%)	.027	64 (70%)	28 (30%)	.215
			Friends/ Siblings	35 (63%)	21 (37%)	37 (69%)	1 (2%)	11 (20%)	5 (9%)		51 (72%)	20 (28%)		40 (56%)	31 (44%)	
		Parents/ school	30 (86%)	5 (14%)	36 (97%)	1 (3%)	0	0	66 (86%)		11 (14%)	50 (65%)		27 (35%)		
		Internet/TV/ Press	10 (48%)	11 (52%)	12 (60%)	1 (5%)	7 (35%)	0	29 (78%)		8 (22%)	19 (51%)		18 (49%)		
	Village	Friends/ Siblings	9 (75%)	3 (25%)	10 (83%)	1 (8%)	1 (8%)	0	22 (81%)	5 (19%)	15 (56%)	12 (44%)	.841			
		Parents/ school	6 (75%)	2 (25%)	7 (87%)	0	0	1 (13%)	16 (73%)	6 (27%)	13 (59%)	9 (41%)				
18 YEARS	Female	City	Internet/TV/ Press	7 (27%)	19 (73%)	11 (42%)	2 (8%)	13 (50%)	0	<.001	82 (93%)	6 (7%)	<.001	60 (68%)	28 (32%)	.025
			Friends/ Siblings	13 (37%)	22 (62%)	25 (71%)	10 (9%)	0	0		59 (76%)	19 (24%)		48 (62%)	30 (38%)	
			Parents/ school	7 (44%)	9 (56%)	13 (81%)	0	3 (19%)	0		92 (93%)	7 (7%)		79 (80%)	20 (20%)	
		Internet/TV/ Press	4 (44%)	5 (56%)	4 (44%)	0	3 (33%)	2 (22%)	23 (77%)		7 (23%)	19 (63%)		11 (37%)		
	Village	Friends/ Siblings	3 (25%)	9 (75%)	5 (42%)	2 (17%)	5 (42%)	0	37 (79%)	10 (21%)	29 (61%)	18 (38%)	.916			
		Parents/ school	5 (56%)	4 (44%)	7 (78%)	1 (11%)	1 (11%)	0	39 (89%)	5 (11%)	29 (65%)	15 (34%)				

(i.e. 18 year old boys from Lithuanian cities, who had information about sexuality from media: 36% always used contraceptives, 70% used condoms and in 30% natural methods; 87% of them had knowledge about STI, and 70% had knowledge about pregnancy; 18 year old boys from Lithuanian cities, who had information about sexuality from friends or siblings: 63% always used contraceptives, 69% of them used condoms, 2% contraceptive pills, 20% natural methods and 9% do not use contraceptives; 72% of them had knowledge about STI, and 56% about pregnancy; 18 year old boys from Lithuanian cities, who had information about sexuality from parents or school: 86% always used contraceptives, 97% of them used condoms and 3% contraceptive pills; 86% of them had knowledge about STI, and 65% about pregnancy)

achers), concern about the students' and/or parents' reaction (45%), and school policy (25%) [22].

It is estimated, that early sexual initiation is associated with a higher risk of STI. Hence, the WHO recommends using double contraception – hormonal contraception and condoms. According to Yoda, adolescents who begin their sexual life very early (before the age of 12) are at risk of contracting STI, become involved in risky sexual behavior more often, become pregnant, abort, or give premature birth [10]. Parkes also concluded that teenagers who start sex life at the age of 13, undertake risky sexual behavior more often (also after using alcohol and drugs) [23]. Fisher et al., conducted a study which assessed the risk of STI in a population of adolescents. The authors interviewed 232 people aged 14-21 asking them about the number of sexual partners and the use of condoms. The mean number of sexual partners in the previous 12 months was 2.4 (range 0-20). Despite the frequent change of partners, only 17 respondents (5%) confirmed using condoms during every intercourse. The majority, 74.3%, used condoms only sometimes, while 7.8% did not use condoms at all [24].

The data obtained from our study is very similar: only 27% of Polish and 51% of Lithuania teenagers used contraception during every intercourse, whilst 52% of Poles used no contraception at all. According to our study, the group that most frequently used different methods of contraception were teenage boys from Lithuania. Condoms were used by 33% of Polish and 29% of Lithuanian teenagers.

A study of 144 young women aged 16-25 conducted by Lidaka et al. showed no correlation between women's knowledge about contraception and its use. The authors claim that the most significant risk factor for unwanted pregnancy is ineffective use of contraception or lack of thereof, and is associated with young women's behavior [19].

One of the most important factors connected with risky sexual behavior among young people is alcohol and/or drug intake before intercourse. Sanchez et al., studied a group of 17,371 high school students, investigating their sexual relationships and drugs used during the previous month. As many as 37.2% admitted to using drugs and 43% did not use condoms (interestingly, teenage girls aged 16-18 and students of public schools were among those having these risky behaviors). Teenagers taking drugs have been shown to participate in unpro-

tected sexual contacts more often [7]. In a group of young people from Asia (aged 11-22), Ong et al. found that more than 90% of sexually active teens drank alcohol (50% on a regular basis) and 50% reported depressed mood during the year preceding the survey [1]. Riggs et al. reported that the consumption of alcohol in childhood correlates with a higher number of sexual partners during adolescence [6]. Male teenagers or those coming from a broken family tend to start their sexual life earlier [3].

In our study we observed, that 25% of Poles and 38,5% of Lithuanians had contact with sexual violence, and 37% and 30% of respondents, respectively, declared, that they had sexual contact with strangers. The most common form of sexual contact with strangers involved kissing (46% in Poland vs. 52% in Lithuania), but 8% of Poles and 6% of Lithuanians admitted that they had full sexual intercourse with a previously unknown person. Unfortunately, we do not know whether alcohol or drugs were used in these scenarios.

It is also worth mentioning, that we were faced with a few limitations of the present study. This is the first study comparing sexual activity and behaviour among adolescents in Poland and Lithuania. However, the homogeneity and relatively small number of the investigated population are not sufficient to generalize the results for population in Poland and Lithuania. Secondly, the selection bias and its effect on the generalization of the results should be explained. The study was carried out in randomly selected schools, 5 in the Silesian region (Poland) and 5 in the Vilnius region (Lithuania) without the presence of a parent but the consent forms from the parents were necessary. Unfortunately, many parents declined such investigation and therefore these pupils were not admitted to the study population. Such a situation resulted in the loss of a very interesting group of respondents. Unfortunately, we currently do not have data to explain why the parents did not agree for the study, but we strongly suggest that the conservative ideas were the actual reason. Thirdly, the study concerns the intimate sphere of young people, which can cause reluctance among some respondents. Moreover, as in other self-reported inventories, our questionnaire is subjective in nature. In summary, further study should be conducted among a larger group and in more countries, in order to increase the knowledge of sexual activity and behavior among adolescents.

## CONCLUSIONS

The knowledge of Polish and Lithuanian teenagers on sexuality is insufficient. In our study, teenagers from Lithuania showed better knowledge about STI and used contraception more often, whilst teenagers from Poland knew more about the consequences of early sexual contacts. Young people who do not receive quality sex education given by qualified educators are forced to seek knowledge elsewhere; hence the necessity to introduce age-adapted sex education at schools in order to spread reliable information regarding puberty, contraception, forms of sexual abuse, etc. The authors recommend reliable, based on modern knowledge, sexual education, especially teaching children and adolescents about the mechanism of maturation (anatomy of the human body and chan-

ges thereof during adolescence, menstrual cycle), forms of contraception (especially modern contraception, for example, contraceptive pills, hormonal contraception), knowledge about STI and methods of protection against STI in age-adapted ways from an early age. Unfortunately, it seems that that kind of sexual education in Poland and Lithuania first needs changes in local law. More research should be carried out after the introduction of these changes, in order to examine whether modifications in the conduct of sex education influences adolescents in their sexual behavior.

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