The teenager as a medical patient: The influence of social factors on the health care activity of teenagers in the field of reproductive health

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ABSTRACT

Background: Teenagers tend to abandon the programs of preventive and therapeutic medical care established for them in infancy by their pediatricians and parents.
Purpose: To assess the influence of social factors on the health behaviours of Belarusian teenagers in the field of reproductive health.
Material and methods: We analyzed the medical activity of Belarusian teenagers ages 15 to 18 during (March through June 2010) using a questionnaire. The sample of 463 females and 486 males representatively reflects the set of teenagers of Belarus.
Results: In the group of adolescents interviewed, it was revealed that medical activity was insufficient; medical knowledge is mismatched with their requirements for health. Among social factors, such as accommodation, education of parents, socioeconomic status, and family structure, the last one appeared to be the most significant. Within families, teenagers more often received information concerning reproductive health from their mothers. Problems related to reproductive health were ranked differently depending on the age and gender of the teenagers. A positive dependence on timely reference for medical aid based on the educational level of parents was found.
Conclusions: The medical activity of teenagers is insufficient, and their health care knowledge in the field of reproductive health does not align with their requirements for health.
Key words: teenagers, medical activity, social factors, reproductive health

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INTRODUCTION

A way of life, including medical activity and behavior in the health sphere as a whole, can describe a culture [1]. This characteristic feature has been revealed by Professor Zhuravlyova concerning Russia. Throughout the last 25 years, during which researches of social factors of health in Russia have been conducted, the factor "health deterioration" was listed as the first of six motives for caring about health (namely, the example set by people in the surrounding environment, the influence of medical information, level of education, requirements of the family, a desire to be physically stronger, health deterioration) by all respondents in all researches. Most people in the population start to care about their health only when they are ill [2].

Such behavior is especially dangerous and is inadmissible in relation to the child and the teenager. At the same time, teenagers in the age range of 15 through 17 years in most cases have not reached sufficient social maturity for independent decision-making. Thus, according to the research conducted in Nizhni Novgorod, the majority of children between the ages of 14 and 17 who have health complaints tell their parents first of all (68.7%). The teenager at this age remains a child in the eyes of parents and doctors. Its own position concerning health protection only starts to be formed [3]. The medical literacy of teenagers as a rule is insufficient for them to make informed decisions connected with their health. The majority of teenagers use inadequate sources of information about health, much of it received from their contemporaries. Therefore, factors connected with the family and education are important for the formation of sufficient medical knowledge and behavior of young people.

According to Zhuravlyova, the core foundation for the formation of healthy conditions for children within the family includes 1) material well-being of the family; 2) sufficient attention given to the child by his or her parents; 3) observance by the child of a mode of the day; 4) regulation of an overload of lessons; 5) the establishment for children of reasonable requirements for time spent resting and having free time; and 6) the teaching of necessary health care skills within the family [4]. Zhuravlyova specifies that the educational level of the mother is considered one of the most reliable factors for predicting the health of children [4].

Studying the character and the orientation of influence of the family on the formation of healthy children was one of the aspects of the work "Monitoring of conditions of healthy generation raising," which employed a questionnaire of Russian school males. According to the results, the most important factor influencing medical activity of a teenager is the level of education of his or her mother. The percentage of children who ate a balanced diet was 38 percent among mothers with higher education levels, and about half of mothers give their children multiple vitamins/minerals in addition. By contrast, the percentage of those who served a balanced diet to their children among mothers who had not finished secondary education does not exceed 10 percent (the regular use of vitamins is about 25 percent), and mothers with no secondary education do not use vitamins at all. Almost 78 percent of parents with higher education levels in comparison to 60 percent of parents who had not finished secondary education always seek medical care when their children are sick or injured or have chronic diseases, and these parents follow the recommendations of their health care providers [5].

Procreative health is an area of high risk for low medical activity. Owing to features related to their psychological age, teenagers seldom tell their parents about problems arising in the reproductive sphere in a timely fashion, and as a role, they do not seek medical aid at the appropriate time [6].

The purpose of our research is to establish the behavioral characteristics of the medical activity of teenagers of Belarus in the sphere of reproductive health and to reveal the influence on these of gender and social factors (socioeconomic status, family structure, education of parents, accommodations).

Medical activity is understood as the actions accepted by a teenager in the areas of prevention, treatment, and rehabilitation; information-seeking behavior about health care and services provided through medical appointments; and the further observance of medical recommendations. Medical activity thus characterizes the teenager as the patient.

MATERIALS AND METHODS

We analyzed the medical activity of Belarusian teenagers ages 15 to 18 during (March through June 2010) using a questionnaire. The sample of 463 females and 486 males representatively reflects the set of teenagers of Belarus. The questionnaire developed by us to study the behavioral characteristics of the medical activity of teenagers related to risk factors (familiarizing with psychoactive substances, crisis psychological conditions, and sexual behavior). The questionnaire has passed the preliminary test assuming Grodno Friendship to teenager's Center. The sample size was designed in according to requirements to statistical reliability [7]. The

sample structure allows to investigate gender factor. Technique of casual selection was applied in points of data gathering. In total 1052 adolescents were interrogated. The parts of rejected questionnaires were less than 10%. The questionnaire data of 463 females and 486 males were included in the statistical analysis.

Data were analyzed by using the statistical software packages (STATISTICA 6.0 and SPSS 13.0).

RESULTS

General characteristics and gender differences of medical care behavior among teenagers in the field of reproductive health

As to the question, *do teenagers know what reproductive health mean*s?

Almost half of teenagers (48%) answered "yes" (41.6% of males and 50.8% of females, χ^2=2.98, p=0.08); 25.8% of teenagers specified that they did not know the answer to the question "What is the reproductive health?" The breakdown was 29.2% of males and 22.2% of females (χ^2= 0.18, p=0.66). Almost one-third, or 28.8%, of those surveyed were not convince sure about their level of knowledge. Twenty-nine percent of the teenagers (26.1% of males and 32.2% of females, χ^2= 2.31, p=0.12) considered their *knowledge about procreative health as sufficient*, while 22% (24.3% of males and 19.7% of females) considered their knowledge insufficient. Yet more than one-third of the surveyed group (34% of males and 32.4% of females) could make no estimate of their own knowledge about reproductive health.

Nearly one-third (32.3%) of the surveyed people answered that their basic *information concerning sex and reproductive health* was received from parents. Almost the same proportion of teenagers (33.2%) trusted mass media other than the internet, such as TV and magazines. Close to half of all adolescents (40.6%) used printed and evident information from public health services and books. Peers ranked as the second most-trusted source (34.9%). To a lesser degree (ranking in fourth place) teenagers specified teachers (19.9%) and "personal experience" (17.5%). Only 13.6% of respondents obtained reproductive health information during a visit to a specialist and only 6.4% of teenagers got information from a family doctor. Only 3% of the teenagers surveyed reported other sources of information (such as internet, video, pornographic films). Gender differences in the frequency of use of other sources of information about reproductive health are presented in Table 1.

Only 11.3% of teenagers (11.9% of males and 10.6% of females) said they *seek out medical aid* immediately when they become ill. Close to half (48.7%) of adolescents (44.2% of males and 53.3% of females, χ^2 =2.72, p=0.099) visited a doctor when they became sick over a several-day period. Almost one-quarter (26.1% of males and 22.7% of females, χ^2=0.93, p=0.33) visited the doctor only in the case of serious illness. Nearly 8% of teenagers visited a doctor to obtain permission to be absent from work or classes. Only 5.6% of adolescents did not visit doctors on their own volition, but when school required them to undergo a medical examination .

Nearly half (49.6%) of teenagers answered positively to the question regarding whether a conversation with a gynecologist or urologist was arranged for them at school. Close to one-third (29.5%) of the group said their questions in this instance concerned personal hygience or sexually-transmitted illnesses. About a quarter (24.9%) received information about contraception from a doctor and slightly less (22.8%) got information about sexual activity. Their conversations with the medical specialists concerned the structure or functions of sexual systems (13.2%) or adverse effects of abortions (12.6%). The most rare discussion topics concerned preparations for future birth of children (mentioned by 6.2%) and peculiarities of abortion (3.7%). The meeting with the gynecologist or urologist was arranged for the majority when they were between the ages of 9 and 11. About half (50.9%) had never had a preventive examination of their reproductive systems conducted by a gynecologist or urologist (surgeon). Half of the teenagers had been examined by a medical specialist between the ages of 14 and 16 years old. For the 36% of teenagers who had passed a medical examination consisting only of survey of about their reproductive system. Almost every tenth teenager specified that their routine examination by a gynecologist, surgeon or urologist included "only answers to questions from the doctor". As for the question, "What would you like to add to this survey?", almost half of the teenagers specified "nothing". Among those who expressed an opinion (about 3% of sample overall and about 6% of those who had positively answered a question about preventive care), the majority wanted to add a conversation to the survey or to receive a consultation, further information, or answers to questions.

About 36% of the interviewed teenagers had visited the gynecologist or urologist on their own initiative: the breakdown was 20.1% of males and 52.05% of females (χ^2=50, 13, p=0.0001). The presence of "problems of a medical nature related to sexuality" was indicated by 7.4% of males and 10.6% of females (χ^2=2.45, p=0.12).

Influence of social factors on medical care activity of teenagers

Results of the analysis of self-estimation *of the financial position of the family* in which the teenagers had grown up show that the majority of

teenagers consider their families to be fall into either the "good" (45.1%) or "middle" (37.7%) category. Every twelfth teenager states that the financial status of his or her family is "difficult".

Almost one-third (32.3%) of the respondents received basic information concerning health from parents or another family member. In the comparison, teenagers estimated the financial position of their family as "very good/good", "difficult/very difficult", or unknown to them. No significant differences in the frequency of use of the family as a source for information concerning health were found with these different economic groups (χ^2 =1.75, p=0.185; χ^2 Yates=1.43, p=0232).

The comparison of answers from teenagers concerning the financial status of their family as "very good/good" and "difficult/very difficult" has shown that the share of teenagers from rich families seeking immediate medical aid when becoming ill was 12.4% while the share for those originating from poor families was 11.1%. As for teenagers who seek medical assistance after feeling poorly for several days, the shares for affluent and poor families were, respectively, 47.9% and 42.2%. In the case of serious illness, the shares were, respectively, 24.3% and 22.2%. In short, distinctions between teenagers from affluent and poor families appeared statistically insignificant.

The influence *of completeness of a family (structure)* on communicative functions (tab. 2, fig. 1) was investigated by means of a comparative analysis of the proportion of teenagers who used their families as a source of information about reproductive health. In the survey group, 31.8% of the teenagers came from "full families"; 39.3% came from "incomplete families with mum," in which they lived with their mothers, and 15% came from "incomplete families," in which they lived with their father or other relatives.

Table 1. Gender differences in the frequency of use of information resources concerning reproductive health

Informational source	**Rank place**	**Proportion of teenagers who have chosen a resource**	**Gender**		**Statistical significance**
			Males	**Females**	
Printed and evident information of public health services, books	1	40.6%	31.07%	50.5%	χ^2 =15.8 p=0.0001
Contemporaries	2	34.9%	37.0%	32.6%	p>0.05
Mass-media (TV, magazines)	3	33.2%	36.0%	30.2%	p>0.05
Family, parents		32.3%	26.7%	38.2%	χ^2=7.3. p=0.0069
Teachers	4	19.9%	15.2%	24.8%	χ^2=9.17 p=0.0025
"Personal experience"		17.5%	27.4%	7.1%	χ^2 =47.8 p=0.00001
Gynecologist/ urologist	5	13.6%	6.17%	21.4%	χ^2 =35.6, p=0.00001
From "family doctor"	6	6.4%	3.7%	9.3%	χ^2=10.8, p=0.001
Other sources	7	5.7%	8%	3.2%	p=0.58

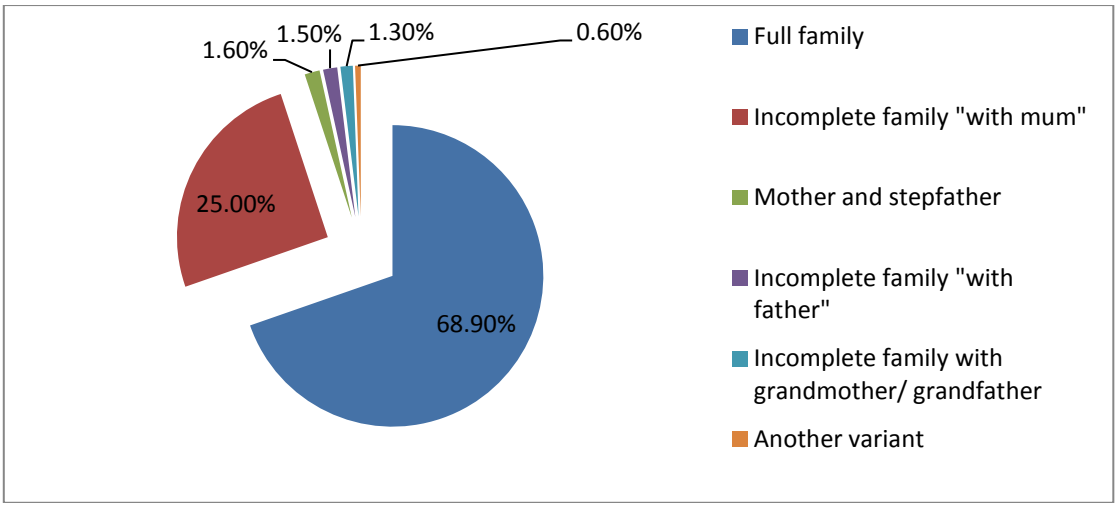

Figure 1. – Peculiarities of families with teenagers

In families "with mum" the teenagers more often reported that parents and the family are resources of information concerning sexual education.

Only 11.8% of the teenagers from full families, 9.1% teenagers from incomplete families "with mum", and 9.09% from incomplete families "without mum" sought medical aid urgently (when they became ill). Differences were not statistically significant.

Table 2. – 2x2 Table "Specify, please, your family is …" and "From what sources do you receive the basic information concerning sexual education?", an answer variant "From parents, in the family"

		Teenagers who have chosen a variant of the answer "family"			
		Yes	No	Statistical significance of distinctions	Total
" Please describe your family …"	Full family (1)	209	445	For (1) and (2) χ^2=1.24, p=0.26;	654
	Incomplete family "with mum" (2)	91	163		254
	Incomplete family "without mum" (3)	5	28	For (1) and (3) χ^2=4.14, p=0.04 ;	33
In all		305	636	For the sum (1),(2) and group (3) χ^2=4.65. p=0.03	941

Accommodation as the factor influencing medical activity of teenagers.

Seventy-three percent of the teenagers lived in the city and 25.7 % lived in the village. About 11.0% of the respondents lived in the city and 11.86% of the teenagers living in the countryside sought medical aid "when they became ill"; 46.7% of the respondents living in the city and 54.15% living in the sought medical aid when they felt badly in the last few days (χ^2 =1.39, p=0.23); only in case of serious illness - 25.7% and 20.95%, respectively (χ^2 =1.41, p=0.24). No significant differences were not found.

Almost 55% of families lived in their own apartment, 32.8% in own house, 5.7% together with grandmother (grandfather), in rented habitation - 3.7%, in a hostel of flat type - 1.3%, and in a hostel of corridor type - 0.3%. Details are shown in table 3.

Table 3. 2x2 Table "Please specify, conditions of accommodation of your family" and "What situations of seeking for medical aid are most typical for you?"

		In what conditions are your family accommodated?						Total
		Apartment	House	Rented flat	Hostel (flat type)	Hostel (corridor type)	Together with other relatives	
"What situations of seeking for medical aid are most typical for you?"[1]	No answer	4	7	1	0	0	1	13
	1	54	30	9	2	0	7	102
	2	256	150	16	7	2	28	459
	3	133	78	7	1	1	12	232
	4	44	20	1	1	0	5	71
	5	31	20	0	1	0	1	53
	6	3	6	1	0	0	1	11
In all		525	311	35	12	3	55	941

1– I seek once when I became ill
2 - I seek when feel myself badly in the last few days
3 - I seek only in the case of serious illness
4 - I seek only when it is necessary to get the permission to be absent in the work or classes
5 - I do not seek help from doctors by my own decision, but pass obligatory (dispensary) medical inspections
6 – I never seek help from a doctor

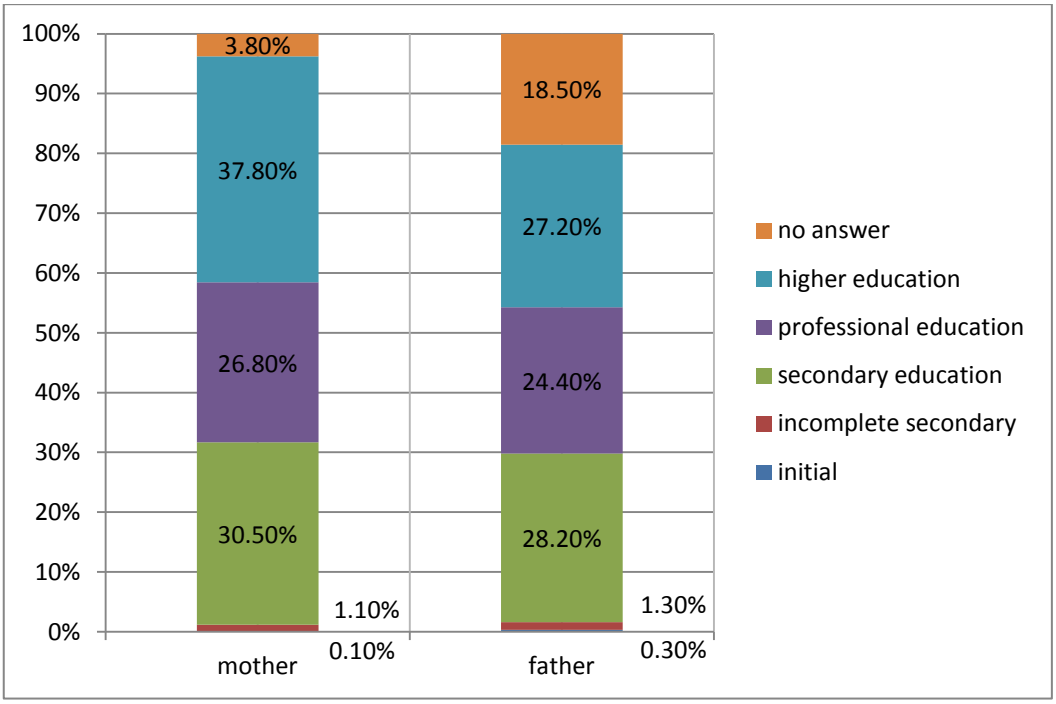

Figure 2. Parents education of the surveyed teenagers

Differences are not statistically significant except in one case. The proportion of teenagers urgently seeking for medical aid from those who lives in rented habitation significantly exceeded that from those who live in own apartment (χ^2=5.57, p=0.018). About 4% of the teenagers did not answer the question about *education of mother*, 18.5% did not answer the question about *education of father* (Figure 2).

Nearly 31% of the teenagers received essential information concerning sex and procreative health from the family and parents; whose mothers had higher education, and 33.4% of the teenagers whose mothers had lower educational attainment. Similar results were reported in the case of fathers as educators. Thirty-four percent of the teenagers had fathers with higher education and 31.5% had fathers with lower educational attainment.

Only 10.65% of the teenagers whose mothers had lower educational attainment sought medical aid urgently. Similar findings were obtained among teenagers whose mothers had higher education. None of the teenagers had mothers with an incomplete secondary education, 10.4% of mothers had a secondary education, 11.4% - professional education, 11.4% had a higher-education address for medical aid at once when became ill.

Only 6.6% of the teenagers had fathers with an incomplete secondary education, 10.1% - secondary education, 12.06% - professional education, and 12.4% - higher education (Figure 3)

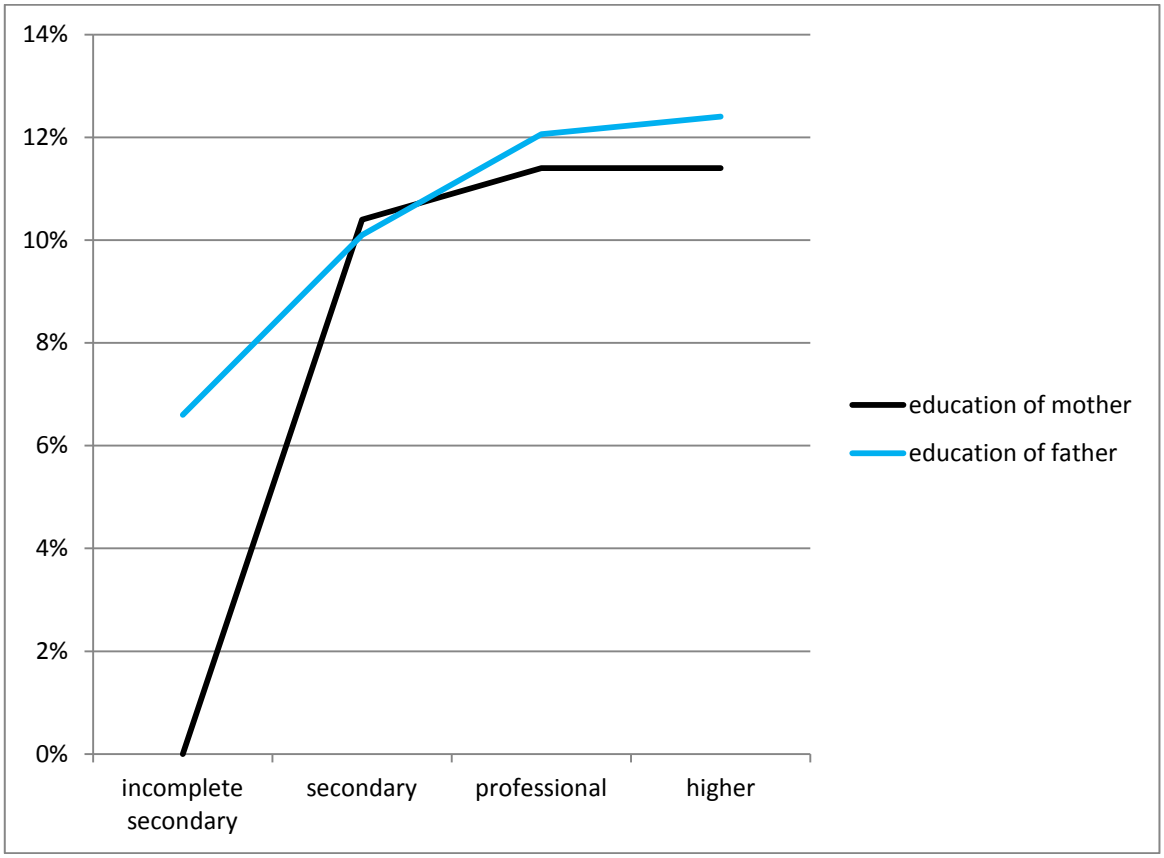

Figure 3. Dependence of teenager's timely reference behind medical aid from educational level of parents (axis? – education of parents, axis y - proportion of teenagers addressing for medical aid in due time, %)

However, nonparametric methods of the analysis, including the method of rank correlations, did not confirm statistical dependence. Therefore, it is possible to speak of the tendency.

DISCUSSION

Too often, the medical knowledge of teenagers is not sufficient in matters of procreative health. Close to half of all teenagers assert that they

know what reproductive health means; however, only a quarter of males and a third of females consider their knowledge of reproductive health to be sufficient.

The majority of teenagers receive the most fundamental information concerning sex and reproductive health from printed sources of public health services.

At the same time, the proportion of teenagers who use information obtained from contemporaries or mass media as their main source is high. Teens receive information directly from a doctor less often than they obtain information from personal experience. Females are more likely than males to choose adequate sources of information (i.e. printed information from public health services, books, family, teachers, and directly from the doctor).

At the end of the twentieth century, teachers, sociologists and physicians of Europe and the U.S. began asking questions concerning the negative factors caused by the sexual behavior of teenagers and youth and how to solve behaviorally caused problems. B. Huberman, who has devoted more than 30 years to studying similar questions in the U.S., noted in early 2000: "Despite the liberal relationship to sex that is accepted in Europe, their teenagers start their reproductive life a year or even two years later than in the U.S. In the U.S., teenagers become sexually active at 16 years old on average. In Holland, at 18 years of age. In France, about nine full-term pregnancies out of 1000 females occur between the ages of 15-19. In Germany, the rate is 13 out of 1000. In Holland (which is a sexually liberated country) only seven out of 1000 full-term pregnancies are of females between 15 and 19 years old. In the U.S., the rate is 54.7" [8]. According to the majority of researchers, the reason for this is the access that teens have for information necessary for healthy behavior.

Families—more specifically, parents—have occupied the third place rank among sources of information concerning sex, irrespective of financial position and education of parents. It is revealed that the completeness of a family does not so much define the quality of functional information in a family, in contrast with the level of the mother's participation in the raising of the child. Statistically, teenagers from families "with mum" specify much more often that parents and family are the basic sources of the information concerning sexual education.

The influence of social environment on teenagers can be accurately traced using the example of smoking. Therefore, it has been revealed that smoking in Russian teenagers is closely connected with the type of settlement that the teens live in [9]. A more detailed analysis reveals that a high frequency of smoking in males from villages and in females from large cities is caused by different factors of social character. Therefore, in females from large cities, it was the factor of a smoking mother. In males from villages, it was the low self-estimation caused by an accessory to the stigmatized group of inhabitants of the small settlement [10].

According to our results, irrespective of gender, financial position and structure of a family, accommodation in a city or in a village had effect on the seeking for medical care. Hence, the availability of medical aid is equal in males and females, in teenagers from cities and villages, and in families with various levels of income.

The share of teenagers urgently addressing for medical care from those who live in rentals significantly exceed those who have their own apartment ($p=0.018$). However, our results demand a further study of directly constructed samples because of the small number of respondents living in hostels or rented rooms. The tendency for a positive dependence on the timely reference behind medical aid from the educational level of parents is revealed also; the higher the educational level of the mother (or father), the more likely it is that teenagers.

Only half of the teenagers had positively answered the question of whether they were given the opportunity to have organized conversations with gynecologists (or urologists) at school. About half of the teenagers noted that a preventive medical inspection of their reproductive system had been conducted. Only one-fifth of the males and one-half of the females had visited the gynecologist (or urologist); thus, the presence of "problems of medical character connected with the sexual sphere" was marked by 7.4% of males and 10.6% of females.

CONCLUSIONS

Knowing the medical activities of teenagers is insufficient; medical knowledge often mismatches their requirements for health. Among social factors such as accommodation, education of parents, financial position and family structure, the last factor (family structure) has appeared to be the most significant. Teenagers from families "with mum" receive information concerning reproductive health more often than those "without mum." The tendency for a positive dependence on the timely reference behind medical aid from the educational level of parents was found.

Conflicts of interest

None of the authors have any conflicts of interest.

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