

## CONTRACEPTIVE BEHAVIOR AS RISK FACTOR FOR REPRODUCTIVE HEALTH OF JUNIOR STUDENTS ATTENDING A MEDICAL UNIVERSITY

**T.N. Govyazina, Yu.A. Utochkin**

Perm State Medical University named after Academician E.A. Wagner, 26 Petropavlovskaya Str., Perm, 614000, Russian Federation

---

*1–3 year students attending medical and preventive faculty of a medical university were our research object. Our research had many stages, and at the first one our goal was to examine and to assess basic behavioral risks for reproductive health of students attending medical and preventive faculty of a medical university. We conducted a sociological examination via questioning. 428 students were questioned as per materials collecting program which included 74 parameters; they accounted for 91.6 % out of the overall official number of students, 45.0 % male students and 40.0 % female students combined work and studies.*

*We detected that, as per questioning results, the specific weight of students who took care of their health amounted to 79.2 % boys and 95.2 % girls. However, the students tended to have bad habits, i.e. constant alcohol intake or smoking. And although information on diseases prevention and on how to pursue healthy lifestyle was perfectly available to them, students didn't try to use it and preserve their health. All the respondents said they were against abortion. Girls were likely to adopt a complex approach when choosing a contraceptive, they resorted to hormonal agents, and, with their partners' consent, to condoms. But they often took hormonal agents without any consultations with a gynecologist or an endocrinologist. Contraceptives were rarely applied, and students appeared to have no knowledge on risk factors causing reproductive health deterioration. They also tended to be negligent and too self-confident when it came to reproductive health protection. A risk of abortions was very high for girls who didn't use contraceptives, and also all students ran rather high risk of catching sexual diseases.*

*Sexual education is needed to correct contraceptive behavior; medical workers are a main source of information on reproductive health of young people in 7–10 % cases only. We need to create interactive educational programs on health protection at university level and to involve specialists from health centers and ante-natal clinics to participate in them.*

**Key words:** *health self-assessment, students, behavioral risk factors, contraceptive behavior, healthy lifestyle, medical activity, organization of specialized medical aid, prevention, reproductive health protection program, management.*

---

There are 5 million students in HEE all over the RF. Without any doubt, students are our country's intellectual potential and it is quite understandable that they are to have strong physical and mental health. We are now conducting pilot medical and social research at the Public Health and Healthcare department; its subject is "Assessment of basic behavioral risks for health of medical university students". The research goal is to study and to assess basic behavioral health risks for students of a medical-prevention faculty; it is also

meant to create grounds for working out a program on HEE students' healthy lifestyle.

A part of our research deals with assessing students' reproductive health and contraceptive behavior. Later on we plan to compare the obtained data with the results of medical examinations.

In spite of positive trends which have occurred over the last five years, reproduction of population in the RF, and in Perm region and Perm city as well, is still characterized with high mortality and low birth rate. Reproduc-

---

Ó Govyazina T.N., Utochkin Yu.A., 2017

**Tatyana N. Govyazina** – Candidate of Medical Sciences, associate professor at Public Health and Healthcare Department (e-mail: [super.oziz@yandex.ru](mailto:super.oziz@yandex.ru); tel.: +7 (342) 233-23-36).

**Yuriy A. Utochkin** – Candidate of Medical Sciences, associate professor at Public Health and Healthcare Department (e-mail: [super.oziz@yandex.ru](mailto:super.oziz@yandex.ru); tel.: +7 (342) 233-23-36).

tion depends on population health and on the state of their reproductive system.

WHO describes reproductive health as a state of complete physical, mental, and social wealth in all matters concerning reproductive system functioning as well as psychosocial relations at any age [6].

Reproductive health (RH) is a significant part of health as a whole; it takes a leading role in human development and matters a lot for personal and valued aspect of youth lives. Reproductive health is a true reflection of children' and teenagers' health; it stimulates reproduction and it also gives grounds for good health in older age when reproductive years both for a man and a woman are over [1, 5].

To achieve simple reproduction of population, it is necessary to have two or three children in each family. Besides, a specific weight of middle-ages and old people is growing every year. Therefore, availability of young qualified specialists reduces and it leads to problems in our economy. One of the tasks which our state considers to be a top priority is to create such social and economic conditions which are truly favorable for giving birth to healthy children, including support provided for a young student family.

Contraception is a tool for preventing an unwanted pregnancy, abortion and its consequences; it also helps to prevent sexual diseases. Contraceptive behavior is a set of behavioral reactions which accompany heterosexual activities and are aimed at protection from an unwanted pregnancy and sexual infections. This behaviors differs greatly from reproductive one as per its functions and properties. Reproductive behavior is a whole system of actions and relations which in the end all lead to a childbirth or to a refusal to have a child, both for a married couple or a single person. Contraceptive culture comprises all sexually mature people. Contraceptive culture matters a lot for students as they study at a HEE at such an age when human sexual activity is at its peak. Reproductive behavior norms in young age are different from those of an older man.

**Data and methods.** There are totally 3,568 students attending 5 faculties of Vagner's Perm State Medical University.

At the first stage of our work we organized and conducted sociological research via questioning. Data collection program consisted of 74 criteria; we questioned 428 students attending the medical-prevention faculty (out of 467 enlisted in the Dean's Office) or 91.6% of the total number of students. Respondents as per sex and years were distributed as follows: 84.0 % of the 1st year students; 97.4 % of the 2nd; 95.1 % third-year students; 89.0 %, the 4th; 93.3 %, the 5th; and 91.6 % the 6th. Average per cent was 91.6. Questioned students ratio as per sex at the faculty as a whole is 1:3. Such gender ratios are also characteristic for I, III and V year students (1:2.8; 1:2.9; 1:3.4 correspondingly). Second-year-students sex ratio is a bit different and is equal to 1:2; IV and VI year students are 1:4. Average sex ratio is 1:3. Consequently, we can consider our sampling to be quite representative, both in qualitative and in quantitative terms.

We chose the medical-prevention faculty as our research ground. A great part of the educational program for these students is dedicated to such matters as healthy lifestyle formation, studying and assessing risk factors which cause various diseases, as well as their prevention. We wanted to find out how students applied their academic knowledge and skills in preserving their own health, including reproductive one.

**Results and discussion.** Within the framework of our research we analyzed scientific literature on issues of studying reproductive behaviors of students in the RF. Such studies have been conducted in our country since the very beginning of this century.

Reproductive behavior of students in the RF is formed under influence of the following behavioral risk factors:

- start of sexual relations at a young age;
- a considerable number of students have experienced sexual relations but they don't think such relations imply getting married and childbirth [2];

– protection of students' reproduction health during a postponed childbirth period is inefficient [13];

– students tend to be not aware of reproductive behavior as a whole [3];

– high level of sexual diseases is detected: 8.5 cases as per 100 examined. There is strong correlation between sexual diseases and gynecological morbidity among female students. Average annual gynecological morbidity amounted to 19.3 ‰ [17];

– sexual attitudes are rather liberal now and female students tend to often change sexual partners; it leads to growth in gynecological morbidity and later on to problems with childbirth (infertility, miscarriages, giving birth to sick or disabled children) [14,15];

– as per data given in the review by the "RF Statistics" Scientific Research Institute of the Federal State Statistic Service, in 2012 74.3% young women had gynecological diseases [12].

Students' reproductive behavior has the following peculiarities:

– number of births per 1000 HEE female students is equal to 3.8; number of abortions, 3.4 [17];

– most students use contraceptives and have negative attitude towards abortion;

– they plan to have a family in the future but, as a rule, they think of a family with one or two children; they also think it possible to have children without getting married [15,17];

– smoking, drinking alcohol, taking drugs and steroids, and also a habit to constantly wear skin-tight underwear which a lot of young males have lead to problems in their reproductive system;

– bad habits are more typical among first-year students even in a higher medical school [8];

– each third young woman in the RF has bad habits and she acquired them during her student years [12];

– lifestyle which students tend to have nowadays doesn't make for health preservation. They value their health but are often neglectful and light-minded in their attitudes towards it. They think that taking care of their

health is their parents', doctors', or the state responsibility [7];

– a very important feature which characterizes students' attitude towards their health is occurrence or absence of bad habits. Apart from smoking, alcoholism, drug addictions or toxicomania, here we can mention addiction to coffee, bear, fast food, gaming, computer, extreme leisure, as well as addiction to digital and audiodrugs. They are often used among young people to fight stress [4, 7, 11];

– students tend to have low sanitary and medical activity. They apply for medical assistance "only in case of necessity" [2, 11];

– there is a problem of unwanted pregnancies and abortions. Students usually have very little knowledge on most efficient contemporary contraception tools [10];

– students most often get information about contraception from their friends and partners, and more rarely from medical workers (7-10% cases) [9, 14];

– despite female students start their sexual life rather early and usually have several sexual partners, they possess very little knowledge on such matters as protection from unwanted pregnancies, protection from sexual diseases, and protection from cervical carcinoma [11];

– young men's health forms within the time range from a moment when a zygote appears and to a moment when a biological function of reproduction is realized. And it is important to draw their attention to reproduction function during their studies as well as to diseases which can cause its disorders [16];

– stress and over exhaustion, imbalanced nutrition, and poor ecological situation are all risk factors which can cause students' health disorders, including those of their reproductive system;

– creation of predictive program for assessing morbidity risks among socially-adapted young people proved that reproductive performance of a young student family is determined mostly by a health of a female partner [2];

– if we include courses on healthy lifestyle formation and family planning in HEE curricula it will secure better students' aware-

ness on reproductive health protection [2, 4, 10, 14];

- creation of interuniversity multi-field outpatient departments and medical education centers will help to increase quality of medical aid rendered to students [2, 13];

- control over quality of medical aid rendered to students in the sphere of reproductive health is not efficient [1].

Analysis of works focused on the results of studying students' reproductive health proves our research is vital.

So, here are the results of the sociological questioning conducted among junior students of the medical-prevention faculty. The total number of students is 252; 231 of them took part in the questioning (91.7% of all 1-3 year students and 53.9% of all the students enlisted at the faculty). Students during their 1-3- years are officially called junior students. Assistant to Dean responsible for junior years supervises their learning, scientific work and their educational activities.

The respondents ratio as per age was 1:2,5. Sampling was considered to be representative as per its main properties. The questioning program contained 74 criteria. There were ten questions on reproductive health protection. We personally distributed, collected, processes and analyzed all the materials.

We studied a very significant parameter of students' health, namely, health self-assessment; we also obtained and assessed a range of behavioral risks influencing its formation. Here are some of our conclusions:

- specific weight of junior students, male and female, who took care of their health amounted to 79.2 and 95.2% correspondingly;

- 49.2 male students and 46.4 female students assessed their health as "being good";

- there are gender-based discrepancies in assessing one's health as per all sub-groups and all reasons to preserve it.

Having bad habits is the most important feature that characterizes students' attitude towards their health. Health-preserving behavior includes giving up smoking, alcohol, and psychoactive substances. Prevalence of bad habits among students tends to grow steadily. It re-

sults in their health deterioration, including reproductive one. Smoking is considered to be a factor which causes immunity disorders both at cellular and humoral levels. And it can lead to inflammatory processes in small pelvis organs, infertility, and ectopic pregnancy.

Our research results revealed that frequency of smoking per 100 males amounted to 28.6 among the 1st year students; 36.4, among the 2nd year students; 100.0, among the 3rd year ones; as for females, 13.8 among the 1st year students; 7.5, among the 2nd year students; 15.8, among the 3rd year ones. Prevalence of this bad habit changes depending on an avademic year. We detected statistically authentic discrepancies in prevalence of smoking as per a year among male students: they smoke more often than girls ( $t > 2$ ). Most smoking respondents are heavy smokers as they tend to smoke up to 20 cigarettes a day.

To assess reproductive health we wanted to get better insight into peculiarities of our respondents' contraceptive behavior:

- sexual relations occurrence (in the past and now);

- use of contraceptives (types, consistency);

- reasons why students don't use contraceptives;

- necessity of providing information on contraceptive behavior correction.

Number of 1st year students who had sexual relations at least once in their life amounted to 80.9% among males and 43.1% females; 68.0 % of male 2nd year students and 63.0% of female 2nd year students admitted having them; and among the 3rd year students, 75.0% and 70.0%, correspondingly. On average the number amounted to 74.6% males and 58.7% females. As a rule, they started sexual relations before they entered the university.

At present on average each second male student (55.0%) has sexual relations (55.0% 1st year students, 54.0% second year students and 55.0% third year students). 24.0% 1st year female students are sexually active; 42% among the 2nd year ones, and 65.0%, at the 3rd year (44.0% on average). Our data correlate with the results obtained by T.P. Reznikova (2012)

When asked if they used contraceptives, 1st year male students answered "yes" in 18.0% cases; 2nd year students, in 8.0%, and 3rd year students, in 15.0%. As for females, in 82.3, 28.0 and 42.0% cases correspondingly. Parameters for males as per all academic years were lower than among females ( $t > 2$ ). It proves that female students are more responsible when it comes to their reproductive health. Only each 10th male student uses condoms as a contraceptive.

Birth rate in the RF amounted to 13.3 per 1,000 people in 2014 and for the first time since 90ties last century it exceeded death rate. Women in the RF actively use contraceptives as a tool to plan childbirth. Hormonal contraception tends to become more widely used in most regions in our country as intrauterine contraceptives are used more rarely. Experts state it happens because living standards become lower and medical assistance gets more expensive. Hormonal contraception level in Volga-Vyatskiy region is equal to 6.8 per 100 women; In Zapadno-Sibirskiy, 11.8 [12].

Our questioning revealed that female students constantly took hormonal pills except 1st year ones; 3 out of 100 among the 2nd year females, and 21 out of 100, among 3rd year ones.

Frequency of using condoms with a partner's consent amounted to 8.6 out of 100 among the 1st year students; 32 out of 100, among the 2nd year ones; 36.8 out of 100, among the 3rd year students. The older the students, the more often girls use condoms. Choice of contraceptives is not made after consulting a gynecologist from an antenatal clinic or a doctor from a polyclinic for students.

As we questioned students who didn't use condoms we detected some reasons for doing that; on average, 73.0% males and 64.0% females didn't answer this question; 9.2 and 5.4% correspondingly told "they were self-confident"; on average, 4.5% females "were planning to have children" (0.0% among boys); 14.0% males and 15.5% females "didn't know why". Even these reasons persuade us that young people really don't give a lot of thought to their reproductive health.

The total number of abortions in the RF amounted to 814,162 in 2014: there was a 7.6% decrease in comparison with the previous year. This parameter dropped by 6.5% among women aged 15-49 and it amounted to 22.9 per a 1,000 women; there was a 20.5% decrease among young females aged 15-17 [12]. Our questioning revealed that students attending our faculty has negative attitude towards abortions.

On average, 13.3% males and 18.7% females gave a positive answer to a question "do you need any information on how to improve your sexual health?". Information on such matters is most often discussed with peers; any consultations with medical specialists are sporadic.

Practically all respondents apply for medical aid only in case of emergency. Visits to doctors at a polyclinic for students are not made for prevention reasons. No one knows about medical consultations which are provided by health centers. In students' opinion, paid-for medical aid is not affordable.

**Conclusions.** As we studied literature on our research theme and conducted our questioning among students attending the medical-prevention faculty, we revealed that:

- students' health, including reproductive one, is a significant parameter of the society intellectual potential;
- specific weight of male and female students who took care of their health amounted to 79.6 and 95.2 % correspondingly;
- number of males and females with health self-assessment as "good" amounts to 49.2 and 46.4 % correspondingly;
- there are gender-based discrepancies in health self-assessment as per all sub-groups and reasons for its preservation;
- 45.0 % males and 40.0 % females with different health self-assessment combined work and studies;
- students tend to have bad habits, including constant alcohol drinking and smoking;
- despite a lot of information on diseases prevention and healthy lifestyle formation is quite available, students don't try to use it and to preserve their health;

– basic problems of students' lifestyle are irrational nutrition, insufficient physical and medical activity.

Basic peculiarities of contraceptive culture which junior students have are as follows:

– considerable number of them pursue unhealthy lifestyle;

– students prefer condoms among all contraceptives as they are reliable and quite available;

– all respondents reject abortions;

– female students tend to have more complex approach to choice of contraceptives and they use both hormones and condoms;

– girls take hormones without any consultations with gynecologists and endocrinologists. Besides, we don't have such specialists in our students' polyclinic;

– a paid-for consultation in a private polyclinic where students can get highly qualified medical assistance is very expensive;

– most sexually active students don't plan to have children in the nearest future;

– frequency of using contraceptives is rather low;

– students are now aware of risks factors which deteriorate reproductive health;

– students tend to be neglectful and too self-confident when it comes to reproductive health protection;

– girls who don't use contraceptives run very high risks of abortions; all students who don't do it run high risks of sexual diseases;

– junior students need knowledge on sexual education matters to correct their contraceptive behavior;

– gynecology and andrology are included in the senior courses curricula;

– medical workers are the primary source of information on protection of young people's reproductive health only in 7-10% cases.

Our research results indicate that:

– junior students of the medical-prevention faculty at our university have problems with protection of their reproductive health;

– contraceptive behavior is a health risk factor for medical students;

– it is necessary to create a set of educational programs on students' health protection on the university level with participation of experts from health centers and antenatal clinics.

## References

1. Davidyan O.V., Davidyan K.V. Planirovanie sem'I I okhrana reproduktivnogo zdorov'ya [Planning a family and reproductive health protection]. *Molodoi uchenyi*, 2011, no. 1, pp. 256–257 (in Russian).

2. Egorova E.I. Puti sovershenstvovaniya okhrany reproduktivnogo zdorov'ya studentov vysshikh uchebnykh zavedenii [Ways of perfection of protection of reproductive health of students of higher educational institutions]. *Rossiiskii mediko-biologicheskii vestnik im. akademika I.P. Pavlova*, 2010, no. 1, pp. 80–84 (in Russian).

3. Zaitseva M.A., Shamatonova G.L. Reproduktivnoe zdorov'e studencheskoi molodezhi: sostoyanie i problemy [Reproductive health of young students: status and issues]. *Formy i metody sotsial'noi raboty v razlichnykh sferakh zhiznedeyatel'nosti: Materialy V mezhdunarodnoi nauchno-prakticheskoi konferentsii, posvyashchennoi 25-letiyu sotsial'noi raboty v Rossii [Forms and techniques of social work in various fields of activities: Materials of the V international theoretical and practical conference, devoted to 25-th anniversary of social work in Russia]*. Ulan-Ude, 2016, pp. 126–127 (in Russian).

4. Kozachuk L.V. Profilaktika narushenii reproduktivnogo zdorov'ya u studentov [Prevention of reproductive health disorders in students]. *Nauchnyi al'manakh*, 2015, vol. 10, no. 8, pp. 496–498 (in Russian).

5. Opyt razrabotki prognosticheskoi modeli dlya otsenki sostoyaniya reproduktivnogo zdorov'ya sotsial'no-adaptirovannoi molodezhi / T.I. Dolgikh, G.V. Chekmarev, D.A. Serbaev, T.V. Kadtsyna [Creation experience of predictive model to assess the reproductive health status of social-adapted youngs]. *Sibirskii meditsinskii zhurnal (Irkutsk)*, 2013, vol. 123, no. 8, pp. 97–101 (in Russian).

6. Okhrana zdorov'ya materi i rebenka i planirovanie sem'i: kachestvo pomoshchi: reproduktivnoe zdorov'e: rol' VOZ v global'noi strategii: doklad General'nogo direktora [Protecting a mother and a child's health and planning a family: quality of aid: reproductive health: a role WHO plays in the global strategy: report by Director-General]. Geneva, World Health Organization, 1995, 19 p. (in Russian).
7. Pavlova L.A., Ermolaeva E.V. Zdorov'e i zdorovyi obraz zhizni rossiiskogo studenchestva [Health and healthy lifestyle of Russian students]. *Byulleten' meditsinskikh internet-konferentsii*, 2016, vol. 6, no. 1, pp. 101–102 (in Russian).
8. Pakhomova Zh.V. Uroven' informirovannosti studentov v voprosakh reproduktivnogo zdorov'ya [Students' awareness on reproductive health issues]. *Zhurnal nauchnykh statei Zdorov'e i obrazovanie v XXI veke*, 2011, vol. 13, no. 4, pp. 391–392 (in Russian).
9. Pakhomova Zh.V., Pakhomova A.I., Pakhomova N.I. Rasprostranennost' vrednykh privyчек sredi studencheskoi molodezhi kak pokazatel' otnosheniya k svoemu zdorov'yu [Bad habits prevalence among young students as a parameter showing attitude towards one's health]. *Zhurnal nauchnykh statei Zdorov'e i obrazovanie v XXI veke*, 2012, vol. 14, no. 1, pp. 161–162 (in Russian).
10. Petrov Yu.A. Informirovannost' studentov meditsinskikh vuzov v voprosakh kontratsepsii [The features of contraceptive behavior of the medical students]. *Mezhdunarodnyi zhurnal prikladnykh i fundamental'nykh issledovaniy*, 2016, no. 5–5, pp. 751–753 (in Russian).
11. Kutsenko I.P., Kravtsova E.I., Danilova N.R., Khorol'skaya A.E. Razrabotka i vnedrenie informatsionno-obrazovatel'noi programmy po okhrane reproduktivnogo zdorov'ya studentov [Creation and implementation of information and educational program on students' reproductive health protection]. *Mezhdunarodnyi zhurnal eksperimental'nogo obrazovaniya*, 2012, no. 4–2, pp. 130–133 (in Russian).
12. Reproaktivnoe zdorov'e naseleniya Rossii 2011: Rezyume otcheta [Reproductive health of the Russian Federation population in 2011: Summary of the report]. Moscow, Federal'naya sluzhba gosudarstvennoi statistiki Publ., 2012, 60 p. (in Russian).
13. Sazhina N.S. Okhrana reproduktivnogo zdorov'ya podrostkov kak problema sotsial'noi bezopasnosti v Rossii [Protecting teenagers' reproductive health as a social security issue in Russia]. *Sborniki konferentsii NITs Sotsiosfera*, 2014, no. 27, pp. 21–23 (in Russian).
14. Stetsenko A.P., Govyazina T.N. Rol' akusherki v sokhranении reproduktivnogo zdorov'ya zhenshchin [A midwife's role in preserving women's reproductive health]. *Innovatsionnye podkhody v reshenii aktual'nykh problem srednego professional'nogo obrazovaniya: sbornik materialov mezhhregional'noi pedagogicheskoi nauchno-prakticheskoi konferentsii [Innovative approaches in solving vital tasks of secondary vocational education: collected materials of international pedagogical theoretical and practical conference]*. In: L.A. Ponomarevoi ed. Syzran', 2016, pp. 75–78 (in Russian).
15. Stetsenko A.P., Govyazina T.N. Formirovanie reproduktivnogo zdorov'ya i profilaktika bakterial'nogo vaginoza [Reproductive health formation and bacterial vaginosis prevention]. *Luchshee iz opyta prepodavaniya: Materialy Vserossiiskoi zaochnoi nauchno-pedagogicheskoi konferentsii [The best teaching experience: Materials of All-Russian correspondence scientific and pedagogical conference]*. Saransk, Saranskii meditsinskii kolledzh Publ., 2016, pp. 161–163 (in Russian).
16. Tarusin D.N., Rumyantsev G.A., Gavrilova L.V. Okhrana reproduktivnogo zdorov'ya mal'chikov [Protecting boys' reproductive health]. *Praktika pediatria*, 2007, no. 5, pp. 12–17.
17. Sharafutdinova L.A., Gurova Z.G. Reproaktivnoe zdorov'e i povedenie studentov, obuchayushchikhsya v vysshikh uchebnykh zavedeniyakh [Reproductive health and behaviour in students of higher educational institutions]. *Meditsinskii vestnik Bashkortostana*, 2011, vol. 6, no. 1, pp. 25–27.

Govyazina T.N., Utochkin Yu.A. Contraceptive behavior as risk factor for reproductive health of junior students attending a medical university. *Health Risk Analysis*, 2017, no. 2, pp. 88–95. DOI: 10.21668/health.risk/2017.2.09.eng

Received: 08.04.2017

Accepted: 30.05.2017

Published: 30.06.2017