

## AWARENESS OF REPRODUCTIVE HEALTH PROTECTION ISSUES AMONG FEMALE STUDENTS

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The study was aimed to define the female students' awareness of the reproductive health protection issues. A survey was conducted in 2021–2022 in order to study the onset of menstrual cycles and age at menarche in 372 female students of medical and non-medical universities and colleges of the Central Federal District. The survey of 530 female students concerning their knowledge about the reproductive health protection issues and their attitude towards sexuality education for children and adolescents was also conducted. Statistical processing was performed using the Statistica 10.0 software package (StatSoft, USA). Insufficient knowledge about the reproductive health protection issues among students was reported: the contingency coefficient for the presence of real menstrual disorder and the students' belief of having problems was low (Pearson contingency coefficient = 0.31,  $p \leq 0.05$ ).

**Key words:** menstrual function, female students, reproductive health care

**Author contribution:** all authors contributed to manuscript preparation equally.

**Compliance with ethical standards:** the study was approved by the Ethics Committee of Pirogov Russian National Research Medical University (protocol No. 159 dated November 21, 2016) and conducted within the framework of the research project (R&D project national number AAAA-A19-119021890068–7, February 18, 2019); the study did not endanger the participants and complied with the principles of biomedical ethics; the informed consent was obtained for all subjects.

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## ИНФОРМИРОВАННОСТЬ СТУДЕНТОК ПО ВОПРОСАМ ОХРАНЫ РЕПРОДУКТИВНОГО ЗДОРОВЬЯ

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Целью исследования явилось установление информированности студенток по вопросам охраны репродуктивного здоровья. Методом анкетирования в 2021–2022 гг. было изучено становление менструальной функции и возраст менархе у 372 студенток медицинских и немедицинских вузов и колледжей, обучающихся в ЦФО, и также проведено анкетирование 530 студенток, связанное с их информированностью по вопросам охраны репродуктивного здоровья и субъективным отношением к проведению полового воспитания детей и подростков. Статистическая обработка проводилась с использованием пакета Statistica 10.0 (StatSoft, США). Показан недостаточный уровень информированности студенток по вопросам охраны репродуктивного здоровья: коэффициент сопряженности наличия реальных нарушений менструального цикла у студенток с их мнением о наличии у них нарушений оказался невысоким (коэффициент сопряженности Пирсона 0,31,  $p \leq 0,05$ ).

**Ключевые слова:** менструальная функция, студентки, охрана репродуктивного здоровья

**Вклад авторов:** все авторы сделали эквивалентный вклад в подготовку публикации.

**Соблюдение этических стандартов:** исследование одобрено ЛЭК РНИМУ им. Н. И. Пирогова (протокол № 159 от 21.11.2016) и выполнялось в рамках НИР (номер государственного учета НИОКТР AAAA-A19-119021890068–7 от 18 февраля 2019 г.), не подвергало опасности участников, соответствовало требованиям биомедицинской этики, для каждого участника было получено добровольное информированное согласие.

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As defined by the WHO, reproductive health is the ability to conceive and give birth to a child, protection against sexually transmitted infections, access to family planning, protection and safety during pregnancy and labor, maintaining maternal and child health [1].

The importance of the youth reproductive health protection was noted at the federal level with the Demography project implemented in 2019.

Researchers distinguish the following factors contributing to the reproductive health challenges faced by girls: low quality healthcare, unfavourable socio-economic conditions, low income family, healthcare system weakness at the state level, low medical activity, and the lack of awareness about the reproductive health protection issues [2–11].

**The study was aimed** to define the female students' awareness of the reproductive health protection issues.

## METHODS

An online survey was conducted in 2021–2022 in order to study the establishment of menstrual cycles and age at menarche in 372 female students of medical and non-medical universities and colleges of the the Central Federal District, which, according to the method by Otdelnova KA, ensured a 95.0% confidence level of the results [12]. The average age of the surveyed students was  $19.5 \pm 0.3$  years. The database “Status of Reproductive Function in Schoolchildren, Students

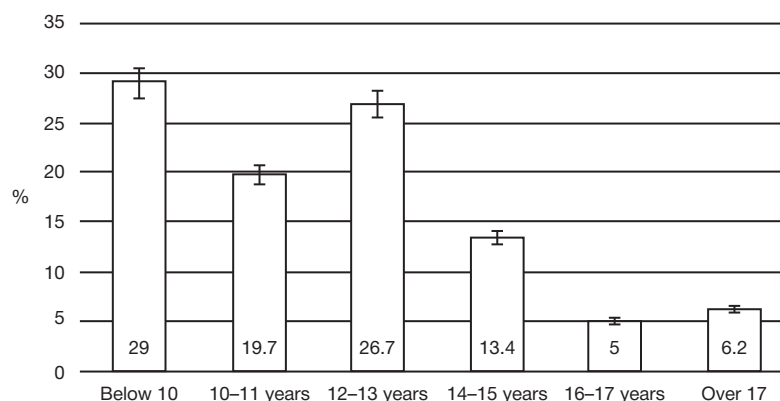


Fig. Distribution of students based on their answers about the age of starting sexuality education for children and adolescents, %

and Medical Students, and Their Awareness of Possible Menstrual Disorders” was created based on the findings.

When conducting the online survey in 2021, the students were given questions concerning their awareness of the reproductive health protection issues and their subjective attitude towards sexuality education for children and adolescents. A total of 530 female students were surveyed, their average age was  $19.3 \pm 0.3$  years. The database “Attitude of Students and Medical Students towards Hygiene Education, and the Role of Online Resources in the Process (Illustrated by The Younger Generation Reproductive Health Protection)» 2021622290 dated October 26, 2021.

The questions in the questionnaire were prepared with the involvement of teachers at the Department of Hygiene having the following certificates: “Hygiene of Children and Adolescents”, “Hygiene Education”. Inclusion criteria: correct fill-in of the questionnaire that was considered the informed consent, students belonging to the relevant gender and age group, residence in the Central Federal District.

The data obtained were processed using the Statistica 10.0 software package (StatSoft, USA). The results were tested for normality prior to processing. Descriptive statistics was used: the mean (M) and standard deviation (σ). Student's t-test was used to assess the significance of differences between the mean values (the differences were considered significant when  $p \leq 0.05$ ). Pearson contingency coefficients were calculated ( $95.0\%, p \leq 0.05$ ).

## RESULTS

In 87.6% of students, menarche occurred between the ages of 11–14, the onset of menstruation took place under 10 of age in 5.7% of students, and 7.0% of students had menarche at the age of 15 or older.

The features of menstrual cycle were studied in students. At the time of the survey, menstrual cycles less than 21 days (epimenorrhea) were reported in 1.6% of students; the menstrual cycle length exceeding 35 days (opsomenorrhea) was found in 9.9% of students. The period length exceeding 7–8 days was noted by 14.8% of students; the period delay of 9 days and more was reported by 35.2%.

A total of 35.5% students replied positively to the question “Do you have problems with menstrual cycle?”, however, contingency coefficient for the presence of real menstrual disorder and the students' belief of having problems was low (Pearson contingency coefficient = 0.31,  $p \leq 0.05$ ), which was indicative of the lack of awareness of the reproductive health protection issues. This argument was supported by the fact that 34.0% of students had never received any information about the reproductive health protection, and another 45.0% were hardly ever provided such information.

Probably it was the lack of up-to-date information and knowledge about the reproductive health protection issues that resulted in the following distribution of the students' answers to the question “At what age should sexuality education begin?” (Fig.): a quarter of students (24.6%) suggested to discuss the issues of sexuality education with children and adolescents older than 13, which was irrelevant based on the age at menarche.

## DISCUSSION

In recent years, Russian researchers are increasingly focusing on protecting the youth reproductive health due to the demographic situation. Reproductive health of students is the most exposed to negative lifestyle and social factors, which make it a multifaceted problem. High social expectations of this group of young people requires the utmost attention to the issue [13].

Knowledge about the reproductive health is an important aspect of the girl's life after reaching puberty, since the ability to conceive and bear children depends on her reproductive health. The basic knowledge of reproductive health is necessary to ensure sufficient control and timely medical activity. However, according to a number of authors, even the basic knowledge among female medical students is insufficient and requires focusing on the issues of reproduction during junior years [14].

Among female college students, the level of knowledge about the cultural context of reproductive health is below 35.0% [15].

Our study also shows low awareness of the reproductive health protection issues among female students.

Various educational programs are one of the efficient tools for prevention of menstrual disorders and reproductive health protection [16, 17].

The earlier quasi-experimental operational research aimed at assessing the efficiency of the two types of reproductive health training programs for female students showed that, regardless of the intervention (lectures for the year group or training seminars in the groups), both reproductive health training programs had equal efficiency and contributed to better understanding of reproductive health among students [18].

## CONCLUSIONS

The study revealed the features of menstrual cycle in female students of medical and non-medical universities and colleges of the Central Federal District. Insufficient level of knowledge about the reproductive health protection issues was reported: the contingency coefficient for the presence of real menstrual disorder and the students' belief of having problems was low (Pearson contingency coefficient = 0.31,  $p \leq 0.05$ ).

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