

MEDICAL STUDENTS' HYGIENE TRAINING ON HEALTHY EATING AS PART OF CLASSES AT THE DEPARTMENT OF HYGIENE

Milushkina OYu, Skoblina NA, Markelova SV, Dubrovina EA, Ievleva OV ✉

Pirogov Russian National Research Medical University, Moscow, Russia

Maintaining health and commitment to a healthy lifestyle among students is the basis for their further professional activities, which is true not only for future physicians. The medical students' hygiene education is especially important during their university studies, since it is an element of the future physician personality formation. The study was aimed to substantiate the technology for the medical students' hygiene training provided as part of their classes at the Department of Hygiene. Hygiene training was performed in the group of 173 students of the General Medicine and Pediatric Faculties (index group) as part of the classes on hygiene at the Department of Hygiene, Pediatric Faculty, Pirogov Russian National Research Medical University, for one semester. The equivalent comparison group formed by the copy pair method also comprised 173 medical students of the General Medicine and Pediatric Faculties. Questioning and monitoring of the medical students' progress were used to assess the hygiene training efficiency. The data were processed with the Statistica 13 PL software package. It was shown that the General Medicine and Pediatric Faculty students' hygiene training, that involved the use of checklists and visual materials, provided as part of hygiene classes, was possible. During the classes at the Department of Hygiene 95.0% of medical students in the index group noted they had started to follow the recommendations from the checklist, while no students having 1–2 meals a day were found; the students' motivation to study hygiene as a subject improved, which was reflected in their end of semester grade that was ($M \pm m$) 86.6±0.6 points on average in the index group and 80.6±0.7 points on average in the comparison group ($p \leq 0.05$). Hygiene training of medical students provided during practical hygiene classes proved its effectiveness. The results of the test use of checklists during the semester were positive.

Keywords: hygienic education, students, classes at the Department of Hygiene, checklists, healthy eating

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✉ **Correspondence should be addressed:** Olga V. Ievleva
Ostrovityanov str. 1, Moscow, 117997, Russia; cool.ievl@yandex.ru

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ГИГИЕНИЧЕСКОЕ ВОСПИТАНИЕ СТУДЕНТОВ-МЕДИКОВ ПО ВОПРОСАМ ЗДОРОВОГО ПИТАНИЯ В РАМКАХ ЗАНЯТИЙ НА КАФЕДРЕ ГИГИЕНЫ

О. Ю. Милушкина, Н. А. Скоблина, С. В. Маркелова, Е. А. Дубровина, О. В. Иевлева ✉

Российский национальный исследовательский медицинский университет им. Н. И. Пирогова, Москва, Россия

Сохранение здоровья и приверженности здоровому образу жизни (ЗОЖ) в студенческой среде является фундаментом последующей профессиональной деятельности и не только для будущих врачей. Особенно велика роль гигиенического воспитания студентов-медиков на этапе их обучения в университете как элемент формирования личности будущего врача. Целью работы является обоснование технологии гигиенического воспитания студентов-медиков в рамках занятий на кафедре гигиены. Гигиеническое воспитание проводилось в группе из 173 студентов лечебного и педиатрического факультетов (основная группа) в рамках занятий по гигиене на кафедре гигиены ПФ РНИМУ им. Н. И. Пирогова в течение одного семестра. Равнозначная группа для сравнения формировалась методом «копия-пара», включала также 173 студента-медика лечебного и педиатрического факультетов. Для оценки эффективности гигиенического воспитания использовались анкетирование и контроль успеваемости студентов-медиков. Для обработки данных применен пакет статистических программ Statistica 13 PL. Показано, что в рамках занятий по гигиене возможно осуществление гигиенического воспитания студентов лечебного и педиатрического факультетов с помощью чек-листов и наглядных материалов. В ходе занятий на кафедре гигиены 95,0% студентов-медиков основной группы отметили, что стали придерживаться рекомендаций, сформированных в чек-листе; студенты, принимающие пищу 1–2 раза в день, выявлены не были; повысилась мотивация к изучению предмета «гигиена», что проявилось в семестровом рейтинге по предмету, который составил в среднем ($M \pm m$) 86,6 ± 0,6 баллов в основной группе и 80,6 ± 0,7 баллов в группе сравнения ($p \leq 0,05$). Гигиеническое воспитание студентов-медиков, осуществляемое на практических занятиях по гигиене, показало свою эффективность. Апробированный прием использования чек-листов в динамике семестра продемонстрировал наличие положительных результатов.

Ключевые слова: гигиеническое воспитание, студенты, занятия на кафедре гигиены, чек-листы, здоровое питание

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✉ **Для корреспонденции:** Ольга Владимировна Иевлева
ул. Островитянова, д. 1, г. Москва, 117997, Россия; cool.ievl@yandex.ru

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The data on the growing number of overweight students are provided in scientific literature [1–3].

At the same time, literature data suggests that the students' understanding of healthy lifestyle is on a tabloid level and is mainly associated with no bad habits. Many students do not consider the fact that a balanced diet, sufficient physical activity, the ability to handle stress, and the ability to properly organize free time are also essential [4–11].

The importance of maintaining health and commitment to a healthy lifestyle among students is the basis for their further professional activities and beyond [12, 13].

The medical students' hygiene training is especially important during their university studies, since it is an element of the future physician personality formation.

Aim: to substantiate the technology for the medical students' hygiene training provided as part of the classes at the Department of Hygiene.

METHODS

Hygiene training was performed in the group of 173 students of the General Medicine and Pediatric Faculties (index group) as part of the classes on hygiene at the Department of Hygiene, Pediatric Faculty, Pirogov Russian National Research Medical University, for one semester. The equivalent comparison group formed by the copy pair method comprised 173 medical students of the General Medicine and Pediatric Faculties, who received no hygiene training. The size of each age-gender group exceeded 100 observations, which, according to the method by K. A. Otdelnova, ensured 95.0% reliability of the study results. The questionnaires developed by the teachers of the Department and monitoring of the medical students' progress were used to assess the efficiency of the provided hygiene training. The questionnaires included questions about the students' commitment to a healthy lifestyle, their self-management in terms of upholding the principles of healthy lifestyle, and implementation of measures aimed at maintaining a healthy lifestyle, etc. [14].

Inclusion criteria for the index group: medical student at the General Medicine or Pediatric Faculty of the Pirogov Russian National Research Medical University, availability of the submitted informed consent, availability of the correctly filled questionnaire. Exclusion criteria: a different group, no informed consent, no correctly filled questionnaire, chronic disorders allowing to assign the student to the health group 4 or 5.

The study did not endanger the subjects, it was consistent with the principles of biomedical ethics and the Declaration of Helsinki; the study involved obtaining the informed consent.

The Statistica 13 PL software package (StatSoft, USA) was used to process the data obtained. The database "Assessment of the Hygiene Training Program Impact on the Awareness of the Non-Compliance with the Basics of Healthy Lifestyle Risk Factors and Safe Use of Electronic Devices, and on the Formation of Skills for the Electronic Device Safe Use in Students of the Secondary and Higher Medical Educational Institutions" № 2021621538 of 16 July 2021 was created based on the findings.

RESULTS

Currently, training of medical personnel is regulated by the Federal State Educational Standard of Higher Education issued in 2020. The standard provides for formation of universal competences (UC) and common professional competences (CPC) in the fields of General Medicine (31.05.01) and Pediatrics (31.05.02) in medical students:

- UC-7 "self-management and self-development (health preservation)";
- UC-8 "to ensure and maintain safe living conditions in both everyday life and professional life...";
- CPC-2 "to control the efficiency of measures for prevention, promotion of healthy lifestyles and health education of the population";
- CPC-10 "to perform standard professional tasks using information technologies, ... information and communication technologies, taking into account the main information security requirements".

During the survey conducted at the beginning of the course, students of both groups noted that the main health preservation strategies they used in their life were as follows: "live communication with friends and loved ones" (68.0%), compliance with the work and rest regime (49.0%); however, 14.0% of medical students did nothing to preserve their health (Fig. 1). Only 16.0% of medical students considered the balanced diet as preventive factor and stuck to it in order to maintain their health. When assessing meal frequency, 49.2% of medical students said they had meals three times a day, 27.0% reported they had four or more meals a day, 22.0% eat twice a day, while 1.8% eat once a day.

A series of checklists on the balanced diet, motor activity, etc., was developed for hygiene training of medical students provided as part of their hygiene classes at the Department of Hygiene. Thus, the balanced diet checklist included the following recommendations:

- remember that food is required to ensure the body's energy supply; do not use food to escape from or relieve negative emotions (comfort eating).

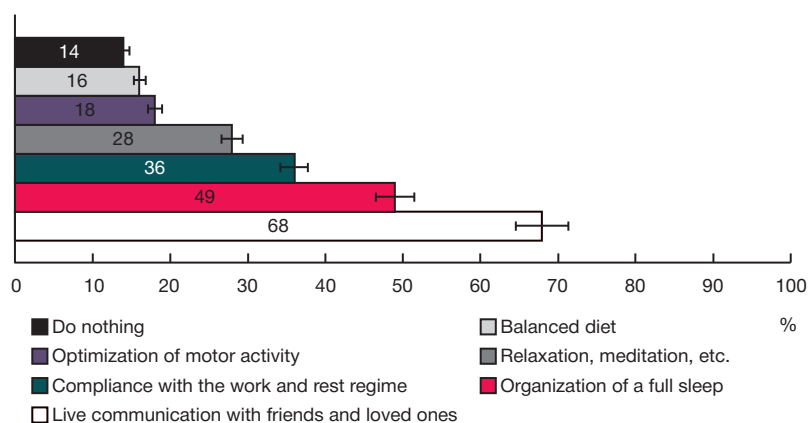


Fig. 1. Popularity of various health preservation strategies used by medical students, %



Fig. 2. Examples of posters "4 Principles of Balanced Diet"

- to fight the habit of comfort eating, it is better to "drink a glass of water" every time you feel tense.
- both clear daily routine and eating pattern (particularly, the number of meals) are essential for proper digestion.
- late supper imposes a heavy burden upon both the stomach and the whole body.
- do not use electronic devices when eating. Don't forget that food should not be consumed along with information.

Posters, that had been created by the Design for School educational space design studio supported by the Center for Hygienic Education of the Population of Rospotrebnadzor and staff of the Department of Hygiene of the Pirogov Russian National Research Medical University, were used as visual materials on healthy eating (Fig. 2). The posters were hung in the classrooms of the Department.

Following the classes at the Department of Hygiene, 95.0% of medical students in the index group noted that they had started to follow the recommendations from the checklist, while no students showing insufficient meal frequency (1–2 times a day) were found. In the comparison group this indicator did not change compared to baseline.

During the index group medical students' training at the Department of Hygiene, their motivation to study hygiene as a subject improved, which was reflected in their end of semester grade that was ($M \pm m$) 86.6 ± 0.6 points on average in the index group and 80.6 ± 0.7 points on average in the comparison group ($p \leq 0.05$).

DISCUSSION

Teaching future physicians the principles of healthy lifestyle is a priority, as evidenced by the literature data on the decrease in the number of students maintaining healthy lifestyle by the date of graduation [15–19].

During their university studies, medical students experience significant intellectual and emotional strain, which results in disturbance of their daily routine and eating, reduced sleep duration and decreased motor activity. The total effect of these factors results in stress, overexertion, reduced body's adaptive capacity, which is a premise for the development of functional impairment and eventually leads to disorders. That is why providing a clear justification for the medical students' hygiene training priority areas is

an important milestone of preventive work, along with the students' motivation to adhere to the health preservation principles, improvement of their awareness of these issues, creation of prerequisites for implementation of health preserving approach during training and in their future professional activities [20–23].

However, the literature describes not many methods of the medical students' hygiene training that facilitate the development of health preservation skills.

Professors of medical universities are mostly responsible for the students' commitment to the principles of healthy lifestyle. This fact may possibly make it necessary to actively search for new forms, methods and teaching aids, together with the personal example of the professor [24, 25].

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CONCLUSIONS

Thus, the study shows that the General Medicine and Pediatric Faculty students' hygiene training on the issues of managing healthy eating, that involves the use of checklists and visual materials, provided within the framework of hygiene classes, is possible. During the index group medical students' training at the Department of Hygiene, their motivation to study hygiene as a subject improved, which was reflected in their end of semester grade.

Hygiene training of medical students provided during practical hygiene classes proved its effectiveness. The results of the test use of checklists during the semester were positive.

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