
PRACTICAL SKILLS OF STUDENTS FROM THE "HEALTH CARE" DIRECTION FOR PARTICIPATION IN LIFE-THREATENING SITUATIONS

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Abstract: The problems of formation of professionals in the field of health care are determined by the demands of society towards these specialists; the objective conditions under which they are formed; the personal qualities of the students; the conditions under which they are formed, prepare and are stimulated to self-development and self-improvement. Health care in intensive care sectors is very dynamic, is associated with certain professional responsibilities and requires practical skills from specialists to respond adequately to life-threatening conditions of patients. The purpose of the present study is to determine the practical skills of the students from the "healthcare" field in terms of activities and intensive care for performing resuscitation and behavior during cardiopulmonary resuscitation. Material and methods. The study included students from the "Nurse", "Midwife" and "Physician Assistant" majors who are studying at the Faculty of Public Health of the Medical University - Sofia. As part of a research project, cardiopulmonary resuscitation dummies were purchased and conditions were prepared for student training. Two surveys were conducted - before and after the practical training. The training was carried out during the winter semester of the academic year 2022-2023. Results and conclusions. As a result of the practical training, students develop their practical skills for measuring indicators, analyzing the patient's condition and conducting oxygen therapy, intravenous therapy and participation in cardiopulmonary resuscitation activities. Defibrillation skills are significantly improved. The active involvement of students in the intensive care of patients is determined to a significant extent by their training in laboratory conditions using mockups and simulation techniques.

Keywords: practical skills, intensive care, life-threatening conditions

1. INTRODUCTION

The education of health care students faces an important challenge, namely the intensive development of medical science and the introduction of new technologies into practice. In addition, the training must be tailored to the expectations of the new generation of students, who have increased demands on both the teachers and the methods used. The formation of professional knowledge, skills and habits is the foundation of any professional training. The assimilation of a sufficient volume of theoretical knowledge and practical skills, including specific professional competences, can be considered as quality professional training. In the medical professions, practical training constitutes half of the training. On the basis of theoretical knowledge, manipulative techniques, medical activities and health care should also be mastered at a high level [1].

The methodology of training in health care is directly related to the methodology of the theoretical and practical training of the training health specialists in the higher school. The common, unifying thing between them is that both phenomena include formative forms, methods, means and concepts. The difference is in their scope, breadth and function. The role and place of the health care education methodology for the formation of professional competencies in future nurses and midwives depends on the pedagogical mastery, pedagogical tact and pedagogical skills of the health care educator [5].

Health care in intensive care sectors is very dynamic, is associated with certain professional responsibilities and requires practical skills from specialists to respond adequately to life-threatening conditions of patients.

Within the framework of an interprofessional project to improve the quality of medical education, the author's collective conducts training of interns for their more active participation in the treatment process and reduction of patients' hospital stays. The implemented intervention included three components: daily interprofessional meetings to discuss the patient's condition, training in completing medical documentation to improve the accuracy of clinical data collection. As a result of the conducted research, a model is proposed to academic institutions for common programs for training students to work in a team and to improve relationships between different medical professions.

The events and activities in the field of intensive care in most cases require the participation of various specialists who are well prepared and trained especially in cardiopulmonary resuscitation. [9]

A team of authors introduces an innovative interprofessional critical care educational intervention for medical and nursing students. The survey data show that students experience difficulties in clinical settings, lacking confidence and skills in professional behaviour. [10] Therefore, it is necessary to provide opportunities for the development of professional competencies in the field of intensive care, both during university studies and in the forms of postgraduate training.

A significant improvement in students' knowledge and skills is reported when training students in intensive care in neurosurgery using a simulator. A high-quality, realistic human patient simulator was used to simulate realistic scenarios. Critical care training in neurosurgery is essential to providing safe and effective patient care. Clinical experience and didactic assignments help students gain a solid knowledge base, but training is needed in terms of the occurrence of critical situations in real practice. [11]

Intensive care training for students from the "nurse", "midwife" and "medical assistant" specialties aims to provide basic theoretical and practical training. The active educational and cognitive activity of the students is aimed at acquiring professional knowledge, skills and competences, as well as at forming professional significant personal qualities necessary for practicing the profession [2]. The behavior of health care professionals in life-threatening situations requires the development of competencies for the use of medical equipment and for rapid and adequate involvement in medical activities.

The purpose of the present study is to determine the practical skills of the students from the "healthcare" field in terms of activities and intensive care for performing resuscitation and behavior during cardiopulmonary resuscitation.

2. MATERIAL AND METHODS

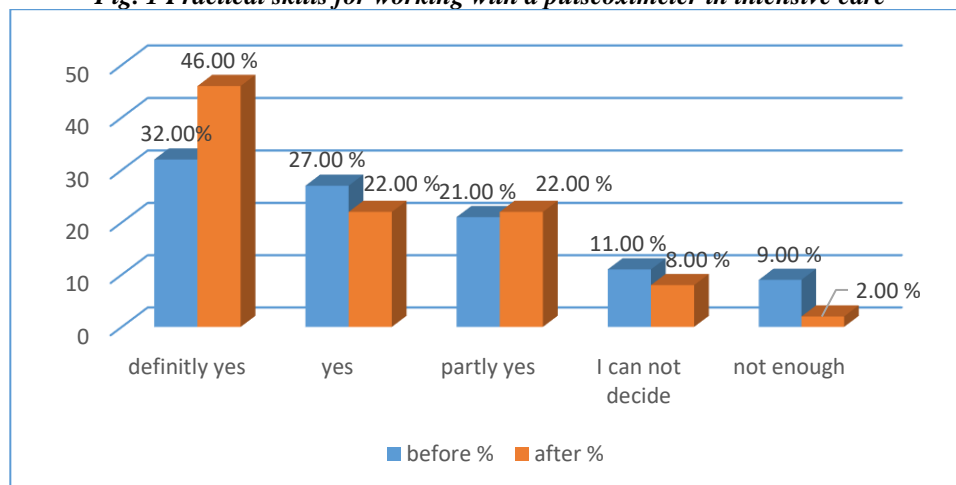
The study included students from the "nurse", "midwife" and "medical assistant" specialties - a total of 250 participants who study at the Faculty of Public Health of the Medical University - Sofia. As part of a research project, cardiopulmonary resuscitation dummies were purchased and conditions were prepared for student training. Two surveys were conducted - before and after the practical training. The training was carried out during the winter semester of the academic year 2022-2023.

3. RESULTS AND DISCUSSION

Within the project, models, medical consumables and materials for equipment of an intensive care unit were purchased. The training is aimed at providing theoretical knowledge and developing students' practical skills regarding: measurement of saturation with a pulse oximeter; put on a peripheral cannula and carry out an intravenous infusion with an infusomate; participation in performing mock defibrillation; participation in performing cardiopulmonary resuscitation on a model.

Data on the development of students' competencies in measuring saturation with a pulse oximeter are presented in Fig.1.

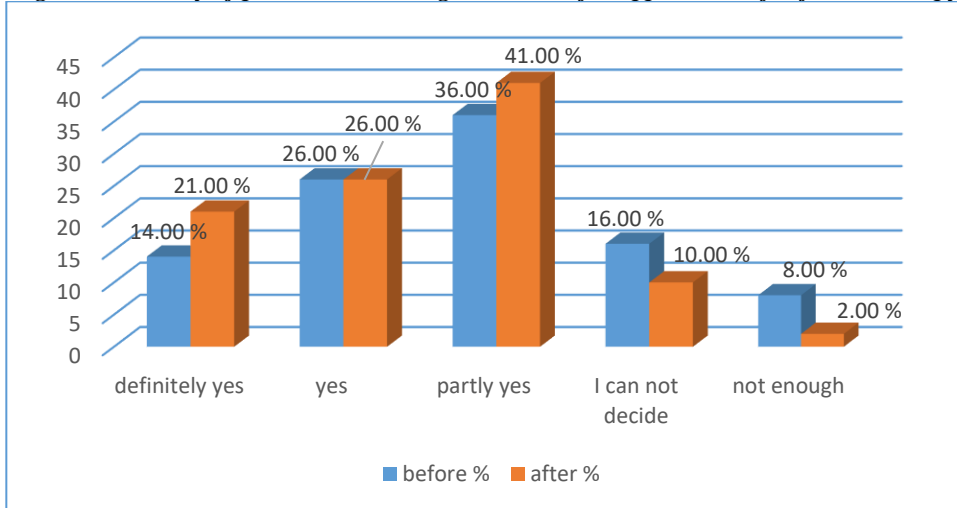
Fig. 1 Practical skills for working with a pulseoximeter in intensive care



According to the obtained results, a significant proportion of the students indicated a "definitely yes" answer after the training. This answer was indicated by 46.00% of the respondents. It should be borne in mind that more than half of the surveyed students indicate a different answer than this. In order to carry out effective practical training of students, it is necessary to provide enough time for exercises with the medical apparatus when measuring various indicators.

The results of the conducted training on the application of infusion therapy in intensive care are presented in Fig.2

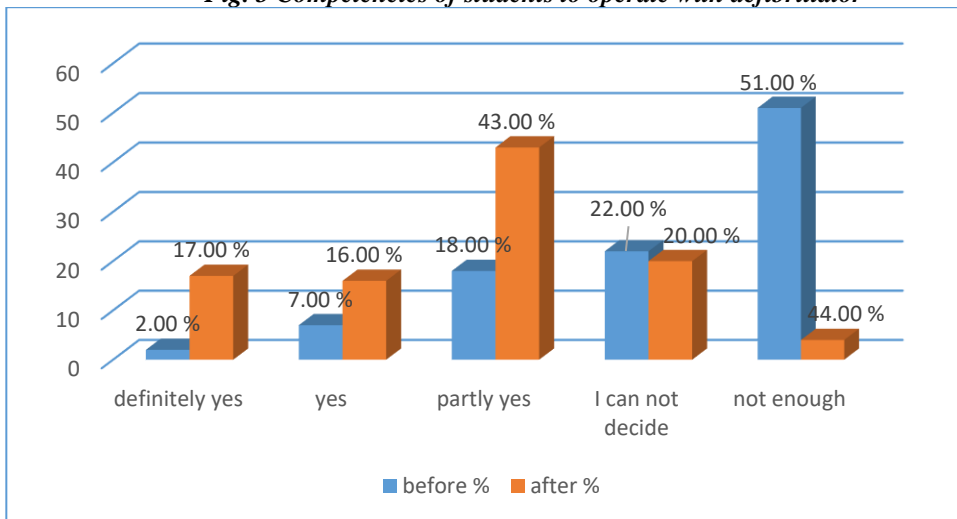
Fig. 2 Availability of practical knowledge and skills for application of infusion therapy



Speed and accuracy are important conditions when implementing infusion therapy in intensive care and emergency medicine. The significant part of the students is only partially prepared for this activity. These results indicate that students will find it difficult to place a peripheral venous cannula and administer infusion therapy in real-world practice. It is necessary to use simulation learning opportunities to increase students' confidence and their manipulative skills.

Skills for using a defibrillator are presented in Fig.3

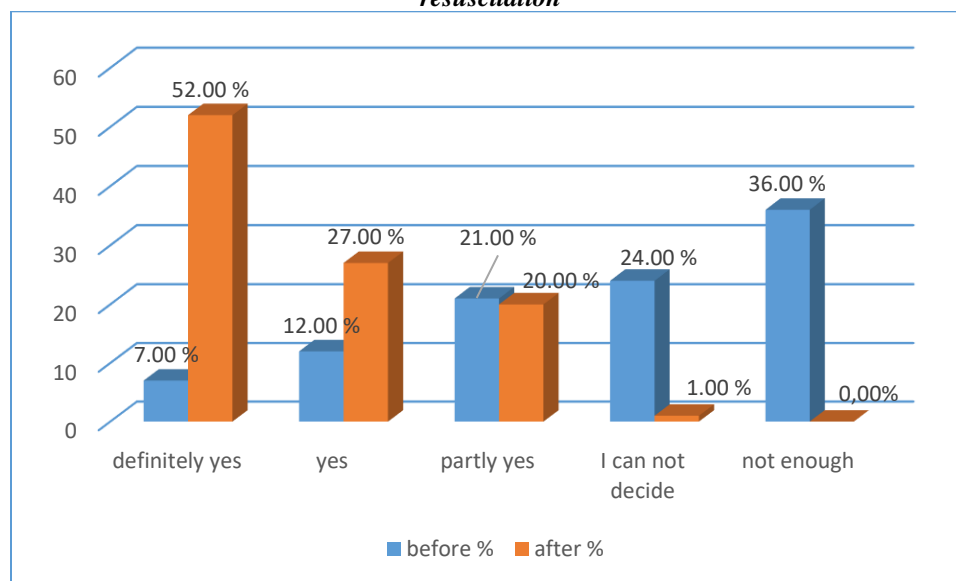
Fig. 3 Competencies of students to operate with defibrillator



According to a significant part of the surveyed students - 51.00%, their competences for participating in defibrillation are not sufficient before the training. After the training, 43.00% of the students indicated that they were partially prepared. These data show that the use of simulation technique in the training of healthcare professionals enables them to significantly develop their professional skills.

The results of the students' opinion regarding their competences for participation in cardiopulmonary resuscitation measures are presented in Fig. 4

Fig. 4 Preparing students for the assessment of clinical death and the application of cardiopulmonary resuscitation



Before the training, 36.00% of the students are not sufficiently prepared, and after the training, 52.00% of the students indicate the answer "definitely yes". These results definitely show the effectiveness of the conducted training. Intensive care requires the development of qualities and skills that can be achieved with a good structuring of the learning process, but also with the mandatory use of simulation techniques, models and medical equipment.

4. INFERENCES AND CONCLUSION

The problems in the training of professionals in the field of health care are determined by the increased demands of society towards them, the objective conditions of real practice, the personal qualities of students, as well as the influence of teachers on their preparation and their stimulation towards self-development and self-improvement. Intensive care training for students from the "nurse", "midwife" and "physician assistant" specialties is included in the main academic disciplines of the bachelor's program, but it is necessary to provide students with conditions for further development of professional competencies. The participation of health care professionals in medical teams when performing cardiopulmonary resuscitation or other life-threatening situations requires very good theoretical and practical training, which can be achieved by expanding the opportunities for self-training of students and additional exercises in a sector equipped with simulation mockups and medical equipment.

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