

Education and Training for Quality Work at the Intensive Care Unit

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Abstract

Background: Intensive Therapy Unit is specially equipped and organized unit of a hospital that provides highly specialized care to patients at risk of life. It constitutes a specific organizational and spatial unit with the specified characteristics of the profession, nursing, facilities, technology, equipment, work organization, administration and education. Nurses at the Intensive Therapy Unit are highly educated and trained and they take care of patients with life-threatening conditions (with an unstable and rapidly changing health condition). A nurse must have well-developed knowledge base, together with special expertise and professional experience relating to technology and health care requirements of the critically ill patients, leading to the ability of a clear, quick, critical judgment in an environment of intensive treatment.

Methods: With the method of compilation we summarized the views of domestic and foreign experts and presented the main findings.

Conclusion: Possibility of education and training must be provided and accessible to all employees as they contribute to greater patient safety in health facilities. To successfully carry out the work, it is important that each employee is properly educated and professionally qualified for the performance of their duties. With training, an employee has the opportunity to expand his or her knowledge and also to apply it in practice. The purpose of the training is to master the standards and procedures in health care.

Review of the Literature

Education and training is an ongoing process, accompanying nurses throughout their careers. A labour organization acts responsibly when it promotes education of its employees, who are a key resource of the organization. Knowledge of the employees must be nurtured and developed further. Work organizations are those which identify the need for skills and competences of their employees. Training is therefore a significant part of their careers. By means of organized training, nurses have the opportunity to raise the quality of health care to a higher level [1].

Critical care nurse is a person who is creative, effective, efficient, constantly improving and perfecting the skills and knowledge needed to work with patients with life-threatening conditions. Nurses have an important role to play in safe and quality care of a patient with life-threatening condition, because they represent an indispensable link in the healthcare team. In this paper we will present the education and training of nurses at the Intensive Care Unit (hereinafter the ICU) at the University Medical Centre Ljubljana (the UMCL). We wish to emphasize the importance of education and training of nurses for quality and safe health care. We will describe the course of training of new employees as well as the additional trainings of long-term employed nurses at the ICU.

Intensive Care Unit

The ICU is a specially equipped and organized unit of the hospital that provides highly specialized care of vulnerable patients. It constitutes a specific organizational and spatial unit with highly competent personnel, special facilities, technology, equipment, work organization, administration, as well as education and training [2]. Patients from the ICU belong to category III concerning the complexity of their treatment. They have a failure of one or more organ systems, and they need constant monitoring of vital functions, intensive therapeutic measures and continuous hemodynamic monitoring [3].

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Nurses at the ICU must be highly professionally educated and trained to be able to care for vulnerable patients with unstable and rapidly changing health status. They must have a high quality knowledge base, combined with specific expertise relating to technology and health care requirements of the critically ill patients, enabling them to make clear, rapid and critical decisions in the intensive care environment.

Importance of Education and training of Nurses

Nurses with BSN degree are the holders of nursing activities and are responsible, with their knowledge, experience and results of research work, to help in maintaining, improving, promoting health, preventing diseases and coping with illness and death. They participate in the diagnosis, treatment, prevention and control of side effects of treatment [4]. The Strategy of development of health care in the health care system of the Republic of Slovenia for the period 2011-2020 defines the strategy of education and training. One of the goals is that upon completion of the education, a nurse is capable of critical thinking and exhibits problem solving skills. A nurse must be able of appropriate clinical judgment and decision-making in different contexts of providing health care [5].

It is important to raise the education of nurses to a higher level, since this provides increased critical thinking and the ability to apply knowledge in practice [6]. Training brings added value to the work process, influencing both individual development and the success of work organizations.

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Employee education is an important element, since education is strongly associated with quality patient care and personal satisfaction at work. Support to education is an important factor for nurses in their work [7].

Training is an important part of nurse career, because nurses are trained for the work they perform. With training, they get the opportunity to expand their knowledge and also to apply it in practice. The aim is to conquer the standards and procedures in intensive nursing care of a patient, competence development and upgrading of skills.

The option of continuing professional development, advancement and growth gives nurse the opportunity for a better job, better working conditions, better position and valuation of the profession. With the help of continuing education and professional training, they perform their job with greater satisfaction and contribute to gaining greater autonomy of the profession [8].

The Process of Training and Education of new Employees at the Intensive Care Unit of the UMC Ljubljana

Nurse training constitutes of developing the competencies of a nurse, complementing theoretical knowledge, gaining experience and upgrading skills to work with patients. A nurse must ensure the safety of patients and work according to the prescribed and accepted standards and protocols. In their work, nurses must comply with the instructions of the Service for the management and prevention of nosocomial infections and the Code of Ethics, the rules of official behaviour and other important rules of the UMC organization.

In the framework of the pedagogical work with new and existing employees at the ICU, over the years a program has been developed that has proven to be very successful, since it significantly raises the level of basic knowledge in a short time and trains nurses for the highly professional work with patients in need of intensive care. The program was developed by the Unit based on the needs for knowledge and the need for continuous upgrading of knowledge.

It is made according to the guidelines and recommendations of evidence-based nursing care and is comparable and made according to the guidelines and recommendations [9, 10].

Introducing improvements in teaching is an integral part of healthcare professional development. General recommendations and guidelines for teaching are: a combination of theory in relation to practice, where changes and improvements in the medical nursing care are introduced, the level of skills is assessed and training program is carefully prepared [9]. The program aims at informing nurses of the competencies needed in intensive therapy, professionally training them to work with vulnerable patients and teach them how to act when complications occur. Participants in the training program at the ICU are nurses with BSN degree from the Department of Anaesthesiology and Surgical Intensive Therapy, and nurses of the majority of departments of the Surgical Clinic and other clinics of the UMCL. The implementation of the program is the responsibility of head nurse of the Clinical Department in cooperation with professional heads of the Department of Nursing. The program is organized, coordinated and implemented by the teaching nurse with the help of all employees at the ICU.

The program begins with an introductory seminar, which takes 10 working days and is organized with the aim of informing the nurses and their better integration in the process of work. The introductory seminar takes place at the Cabinet, where new employees become familiar with the theoretical contents, at the Unit and the Medical Simulation Centre, where the practical part is conducted.

The introductory seminar includes:

- Outline of nursing care at the ICU,
- Compliance with hygiene rules at the ICU,
- Admission of patients to ICU, direct supervision and provision of intensive medical care,
- Understanding and management of medical appliances,
- Assessing the respiratory rate (breathing)
- Safe application of oxygen,
- Endotracheal intubation,
- Concern for mechanical ventilation of patients,
- Aspiration through an artificial airway with mechanical ventilation of patients
- Maintaining security in sedated patients
- Prevention of pressure sores,
- Supply and management of central venous catheter,
- Peripheral intravenous route,
- Evaluation of the cardiovascular system,
- Care and management of the arterial line,
- Withdrawal of blood sample and laboratory analysis,
- Assessing neurological features and peculiarities of clinical care,
- Transportation of patients with life-threatening conditions

After completing the introductory seminar, new employees pass a written examination, followed by a three-month training. Each new employee is assigned an immediate supervisor/mentor, and they act together in performing the work. Mentor helps the new employee in his or her professional development, guiding and providing advice and explanations. The employee gets familiar with the socialization at the work place and the organizational culture of the organization [11].

In the training period, the new employee records the processes that he or she has mastered in a "Portfolio of Achievements", which serves as a tool for continuous assessment of skills to the mentor. After three months of working with their mentor, a re-examination follows, comprised of a theoretical and practical part. After passing the exam, the new employee can start working individually in practice, under the supervision of experienced nurses. When it comes to the prevention of errors, direct supervision of job training is very important [10].

In addition to the education and training of new employees, education of students from the Faculty of Health Sciences also takes place here, since the ICU is a learning base which facilitates the transition from theory to practice. Education, workshops, training and organization take place at the same time for all, the employees,

the employees, new employees and students of the Faculty of Health Sciences. The teaching nurse collaborates with the Faculty of Health, where students are taught the theory of the ICU and about patients with life-threatening conditions.

Upgrading of Skills of the Employees of the ICU and the UMCL

The Unit carries out lectures once a week. They present novelties in the field of intensive care medicine and intensive nursing care. The following training workshops are held at the Unit and the Medical Simulation Centre:

- Aspiration through an artificial airway in mechanically ventilated patients,
- Nursing care of patients after liver transplantation,
- Peripheral vascular approaches,
- Mechanical ventilation,
- Prevention of pressure sores,
- Non-invasive ventilation,
- Hygiene regime at the Unit and at the UMC,
- Proper handling of medical technical aids,
- Basic and advanced life support

Employees have the option of borrowing professional literature at the departmental library and the ability to access a collection of professional journals and articles in the online database. Work instructions, protocols and standards are available at the website of the UMC. Employees have the opportunity to participate in professional conferences and congresses. They are encouraged to actively participate in professional meetings, to write articles and do research. Monthly training organised by different expert services of the UMCL also takes place at the level of the UMCL.

Continuous education and training of employees increases their knowledge, they acquire new experience and ideas, they are more able to learn new skills, it becomes easier for them to adapt to change, their productivity and quality of work increase (12). Communication is improved as well, all of which increases the chances for better treatment outcomes. In the framework of the Surgical Clinic of the UMCL, intensive care nurses rotate through all other surgical departments, with a view to exchange knowledge and experience between departments. The aim of rotation is to get informed about the particularities of individual departments. Rotation in surgical wards lasts one month, and nurses are involved in the work in intensive care. The six-month rotation of the ICU nurses is conducted at the Department of Anaesthesiology, the purpose being to understand the work and competencies of anaesthetic nurses.

Training Activities at the UMC

Department for Education and Development of Employees at the UMC has the task to establish a system of a learning organization with the process of lifelong learning, with an emphasis on patient and staff satisfaction. The website of the UMC includes all the relevant information from the field of education as well as partnerships with the relevant institutions in relation to education. The UMCL provides for the importance and the balanced development of teaching specialist medical activities in the country, for the introduction of new methods of training students, doctors, nurses and other profiles as well as for the transmission of new knowledge and skills onto the employees of the UMC and other health institutions in the country, for teaching the most demanding health services and pedagogical

skills, for carrying out those measures which are necessary for the implementation of educational activities, and for implementation and coordination of quality control of UMCL educational activities [13]. It is of vital importance for UMCL as an organization to have professionally trained and qualified employees, as a result it ensures adequate education and training.

Policy Solution

Continuing education and training of nurses at the ICU is necessary because it results in quality treatment of patients. Studies show that nurses with a higher level of education have a positive impact on the outcome of medical treatment, and raise the quality of patient care, while mortality and disability of patients as well as a greater number of errors at work are associated with a lower level of education of nurses [14,15]. Application of knowledge in the care of critically ill patients is the foundation of nursing practice. Additional education and training allow nurses to perform their work well [15].

Training at the ICU has been developing and evolving over the years. The resulting system of training provides new employees with extensive basics of intensive care and work with patients with life-threatening conditions, where new nurses, with the help of their mentor, teaching nurses and a lot of self-initiative, make their first steps to working independently. The knowledge must be built upon on a daily basis, they need to participate in education and training to be abreast of new developments and trends. All the knowledge and skills acquired by nurses need to be expanded and shared with their colleagues. In this way, patients will be well cared for, which will affect the satisfaction of all, the patients, the nurses and the labour organization.

Competing Interests

The authors declare that they have no competing interests.

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