



Basic Education of Nurses in the Republic of Croatia

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Abstract

The aim of this paper is to analyse the existing secondary education programme for nurses in the Republic of Croatia. The analysis included a review of the Curriculum for the profession of General Care Nurse/General Care Medical Technician, available on the websites of the Ministries of Science, Education and Sports, and a review of scientific and professional publications in the field. The analysis extracted data on the objectives of education, duration of education, structure of the curriculum of the general education and vocational part, and staffing conditions for teachers. This paper contributes to the understanding of nursing education in the Republic of Croatia through an analysis of the current curriculum. The analysis identifies the advantages and disadvantages of the five-year educational model, which allows for a critical insight into its compliance with the professional requirements of healthcare and modern educational standards. The paper also contributes to the discussion on the needs for improving the teaching content and organisation of the educational process.

Keywords: Curriculum, Education, Nursing

Introduction

The beginnings of nursing education in the Republic of Croatia were preceded by several important events. It is worth highlighting the establishment of the School of Nursing at St. Thomas' Hospital in London in 1860, which laid the foundations of nursing care.^{1,2} Then, the establishment of the Rudolfnerhouse School in Vienna in 1882,¹⁻⁴ which was completed by several Croatian nurses.^{1,3,4} Among other things, the development of education was preceded by the First World War, which led to the spread of infectious diseases and an increase in the number of tuberculosis patients, which further emphasized the need for educated nurses and improved health care.^{1,2,3,5,6} The first steps towards organized education of nurses in the Republic of Croatia were taken in the late 19th and early 20th centuries, and resulted in the opening of the first school for nurses – the School for Assistant Nurses in Zagreb, in 1921.^{1,3-7} The establishment of the school laid the foundations for formal nursing education in the Republic of Croatia.³ Since the establishment of the first school until today, nursing education programs have undergone transformations.^{1,3,8} Today, nursing education in the Republic of

Croatia is carried out at three levels: secondary vocational level, undergraduate level and graduate level, with the secondary level constituting the basic education of nurses.^{8,9} The introduction of the Vocational Curriculum for the profession of general care nurse/general care medical technician in 2010 led to changes at the level of secondary vocational education. Harmonization with European standards of nursing education has occurred.^{8,9} Furthermore, the duration of education was extended to five years.¹⁰ In addition, the conditions for entering the profession were prescribed, which include ten years of general education, health and psychophysical ability.¹⁰ The goal of education was defined, which is: To enable students to independently and/or in a professional team (health and multidisciplinary) prepare and implement general care - in accordance with accepted standards, legal obligations and professional ethics - to develop professional conscientiousness and humane relations towards the user of health care.¹⁰ This goal laid the foundations for the development of competencies necessary for the provision of health care. Furthermore, the introduction of the vocational curriculum led to an increase in the number of hours of theoretical classes and exercises. In three-year vocational education,

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4618 hours are planned, of which 2792 hours belong to practical teaching.^{1,8,10} Such a distribution clearly indicates the importance of practical teaching. The relevance of practical teaching is confirmed by previous research, which has shown that practical teaching contributes to the development of professional competencies.¹¹⁻¹⁶ Furthermore, between 2011 and 2016, there was an increase in the number of teachers of vocational subjects, and between 2016 and 2022, there was an increase in the number of teachers with university degrees.¹⁷ Despite the positive developments, previous research indicates the need for additional reform of the secondary school curriculum.¹⁸ In more detail, Čuka points to significant shortcomings in the distribution of teaching hours and highlights the discrepancy between the theoretical and practical parts of teaching. It emphasizes the need to increase the number of hours dedicated to exercises in order to better prepare students for work in healthcare.¹⁸ It also points to the importance of introducing modern educational tools and resources and the need for better alignment of the curriculum with the needs of the labor market, as well as better working conditions.¹⁸ Complementary insights are also presented by Abou Aldan¹ in the teacher manual *Healthcare Methodology*. Given that the current vocational curriculum for the profession of general care nurse/general care medical technician in the Republic of Croatia has prompted numerous changes, the aim of this paper is to analyze these changes and highlight the advantages and disadvantages of the five-year educational model. The paper focuses on the analysis of the general education and vocational parts of the curriculum, with an emphasis on an overview of teaching subjects, cross-curricular topics, teaching hours, staffing requirements, and subject objectives in the context of developing student competencies. Unlike previous works, this paper offers a critical insight into the current educational model, highlights its advantages and disadvantages, and opens up space for professional and scientific discussion on the advantages, challenges, and potential directions for improvement.

Overview of the Methodology

The main data sources include the Curriculum for the profession of general care nurses/general care medical technician and scientific and professional publications in the relevant field. The publications were selected according to the criteria of professional and thematic relevance, with the analysis including works related to nursing education and the history of nursing. The data bases Scopus, PubMed and Hrčak were used for data search. The database search identified a small number of articles dealing with nursing education in the Republic of Croatia.

General Education Part

The general education part of the curriculum follows upon completion of primary school, which in the Republic of Croatia lasts eight years. The general education part lasts two years. It is implemented with the aim of ensuring a systematic way of teaching

students, encouraging and improving the intellectual, physical, aesthetic, social, moral and spiritual development of students in accordance with the abilities and preferences of students, and with the aim of developing students' awareness of the preservation of the material and spiritual historical and cultural heritage of the Republic of Croatia, promoting awareness of the Croatian language and education for respect for diversity and participation in the democratic development of society.¹⁰ The curriculum of the general education part is adapted to the National Framework Curriculum, which promotes student-centered teaching.¹⁹ This includes adapting teaching forms, methods and resources to the needs of students, selecting and applying teaching forms, methods and resources that encourage the development of all areas of the student's personality, planning and preparing school and teaching hours according to the students' abilities, accepting different learning styles of students, accepting developmental differences between students, introducing appropriate forms and methods of teaching and developing learning skills, creating a pleasant classroom and school atmosphere, as well as identifying, monitoring and encouraging gifted students.¹⁹ During the general education part, students have a total of 980 hours of theoretical classes in the first year of education and 910 hours of theoretical classes in the second year of education. In addition, they have 70 hours of exercises in physical education and health education in the first year and 70 hours of exercises in physical education and health education and 70 hours of exercises in computer science in the second year of education. The general education part includes the following subjects: Croatian, Foreign Language, Mathematics, Latin, Chemistry, Biology, Physics, History, Geography, Physical Education and Health, Informatics, Religious Education or Ethics, depending on the student's interest, and an Elective Subject.¹⁰ Furthermore, the general education part includes planning and implementing cross-curricular topics and interdisciplinary content, which contributes to the development of students' basic and vocational competences.¹⁰ According to Sili and Drenjačević²⁰ developing competences through joint projects or modules increases students' efficiency and activity. One of the significant cross-curricular topics covered is Personal and Social Development.²¹ It is covered with the aim of training students to critically assess their own and social values. The topic of Personal and Social Development encourages the development of skills necessary for building positive relationships with others. A similar approach is used in the cross-curricular topic Health, Safety and Environmental Protection, which is promoted in all educational areas. It is implemented with the aim of developing students' responsible attitude towards their own health, the health of others, the safety and preservation of the environment, and sustainable development. This topic includes aspects of physical, mental, emotional and social health, as well as safety in various life situations. Furthermore, the cross-curricular topic Learning how to learn plays an important role. Through this topic, students are trained to effectively manage their own learning

and develop a positive attitude towards learning, which is an important component for lifelong learning.^{21,22} Furthermore, the curriculum prescribes the cross-curricular topic Entrepreneurship, which is focused on developing students' entrepreneurial competences. It is implemented with the aim of training them to recognize opportunities, take the initiative and make responsible decisions in various life and professional situations. By integrating entrepreneurial content into the teaching of all subjects, the ability to plan, solve problems and work in teams is encouraged, thus preparing students for entrepreneurial action in education, work and everyday life.²³ The Use of Information and Communication Technology is also applied as a cross-curricular topic. Numerous authors emphasize the importance of integrating information and communication technology into the educational process.^{24,25} Furthermore, the curriculum includes the cross-curricular topic Civic Education. This topic encompasses the acquisition of knowledge, skills, abilities and attitudes that encourage the development of democratic awareness and motivation for active participation in building democratic relations in school, local community and society.^{26,27} Cooperation between teachers is necessary for the implementation of cross-curricular topics and interdisciplinary content.^{10,28} Namely, joint discussions on the integration of cross-curricular topics into different subjects and the exchange of opinions on teaching methods enable a comprehensive processing of content, which motivates students to work and prepares them for lifelong learning.²⁸ Equally important is the continuous cooperation of the school with parents and the community.²⁹ Quality communication and partnership between teachers and parents have a positive impact on students, providing them with a sense of support and togetherness. Mršo³⁰ points out that students are proud when they see their parents actively participating in school activities, which in turn increases their

motivation and engagement in learning. The implementation of cross-curricular topics is the responsibility of schools. Schools develop cross-curricular topics and determine how they will be implemented.¹⁰ According to Kovačić³¹ the achievement of cross-curricular competencies is greater if cross-curricular topics are implemented through joint projects. Upon completion of the general education part, students receive a Certificate of Completion of a Two-Year General Education Program for Acquiring a Health Qualification.¹

Mandatory Vocational Module

From the third year of education, students in the profession of general care nurse/general care medical technician attend a mandatory vocational module. The vocational module is designed to help students acquire specific knowledge and skills that they will use in their future professional work. The vocational module is implemented in school practicums, hospitals, health centers, nursing homes, kindergartens and numerous other institutions.^{1,19} Although the subjects of the vocational module are mostly taught by bachelors of nursing, masters of nursing and university masters of nursing, the current staffing requirements for teaching include only bachelors of nursing and graduate nurses.¹⁷ The mandatory vocational module is implemented for 2792 hours and includes Basic Social Sciences in Nursing, Basic Medical Sciences, Community Nursing, Public Health and Health Protection, Nursing Care and Clinical Practice.^{10,19}

Basic Social Sciences Module

The Basic Social Sciences Module is implemented through the subjects Ethics in Nursing, Psychology and Principles of Teaching in the third year of education and the subject Sociology in the fourth year of education Table 1.

Table 1: Structure of the Basic Social Sciences Module (Ministry of Science, Education and Sports, 2011)

Module: Fundamental Social Sciences	Year	Lectures (hours)	Practical Exercises (hours)	Lecturer
Ethics in Nursing	3rd	74	37	Bachelor of Nursing Graduate nurse
Psychology	3rd	74	-	Master of Psychology
Principles of Teaching	3rd	74	-	Master of Pedagogy
Sociology	4th	37	-	Master of Sociology

The module is a combination of theoretical and practical teaching. Through the course Ethics in Nursing, students acquire knowledge of ethics and moral philosophy, as well as nursing ethics and deontology. In addition, they consider ethical dilemmas of modern medicine and the responsibility of nurses towards life, from birth to death, in accordance with basic ethical principles.¹ Through the course Psychology, they acquire knowledge about the historical

development of psychology and the methods of modern psychology, with an emphasis on the connection between the functioning of the human body and psychological processes. Then, through the course Principles of Teaching, students acquire basic pedagogical concepts. They learn about the importance of socio-historical frameworks and life values in shaping educational approaches, thereby laying the foundations for the development of all human possibilities.

The course also addresses the role of the family as the basic unit of society and its influence on the development of each individual. In the fourth year of education, through the Sociology course, students acquire knowledge about the development of sociology and basic sociological theories, as well as the impacts of health and social policy on the overall health of the population.¹⁰

Module of Basic Medical Sciences

The Basic Medical Sciences module is realized through teaching subjects in the third year of education, which include: Anatomy and Physiology, Bacteriology, Virology and Parasitology and Biochemistry. Then, through the subjects in the fourth year of education, Biophysics, Pathology, Radiology and Pharmacology, and through the subjects in the fifth year of education, Dietetics Table 2.

Through the subject of Anatomy and Physiology, students acquire knowledge about the structure and functioning of the human body, thereby gaining a deeper understanding of anatomical and physiological principles that are the basis for further medical education. Through Biophysics, students acquire knowledge about the role and importance of physics in medicine, recognizing the types of levers in the body and the blood system as a fluid. On the other hand, Pathology enables the acquisition of knowledge about the basic concepts of damage to the structure of the human body, Biochemistry enables the acquisition of knowledge about

the structure of biomolecules, metabolic processes and applied chemistry, then Radiology enables the acquisition of knowledge about X-ray equipment and the skills of preparing patients for a radiological procedure, while Pharmacology enables the acquisition of knowledge about the basic groups of drugs. In the fifth year of education, students acquire knowledge about the metabolism of nutrients and water and the principles of nutrition through the subject of Dietetics.¹⁰

Community Nursing Module

The Community Nursing module is implemented through the fourth-year courses Social and Health Legislation and Legal Aspects of Care and Principles of Administration, as well as through the fifth-year courses Health Education Methodology Table 3.

Through the course Social and Health Legislation and Legal Aspects of Care, students acquire knowledge about their responsibilities in accordance with European and national legislation, national guidelines and local policies and protocols. Furthermore, the course Principles of Administration prepares students to keep nursing and other records in accordance with legal regulations. Through the course Methodology of Health Education, students acquire knowledge in the field of health education, health awareness and health propaganda.¹⁰

Table 2: Basic Medical Sciences Module (Ministry of Science, Education and Sports, 2011)

Module: Fundamental Medical Sciences	Year	Lectures (hours)	Practical Exercises (hours)	Lecturer
Anatomy and Physiology	3rd	148	-	Doctor of Medicine
Bacteriology, Virology and Parasitology	3rd	74	37	Doctor of Medicine
Biochemistry	3rd	74	-	Master of Science in Chemistry
				Bachelor of Science in Biochemistry
Biophysics	3rd	37	-	Master of Science (MSc) in Physics
Pathology	4th	74	-	Doctor of Medicine
Radiology	4th	37	-	Doctor of Medicine
Pharmacology	4th	74	-	Doctor of Medicine
				Master of Pharmacy
Dietetics	5th	68	-	Bachelor of Nursing
				Graduate nurse Master of Science in Nutrition

Table 3: Community Nursing Module (Ministry of Science, Education and Sports, 2010)

Module: Community Nursing	Year	Lectures (hours)	Practical Exercises (hours)	Lecturer
Social and Health Legislation and Legal Aspects of Care	4th	74	-	Doctor of Medicine
Principles of Administration	4th	74	-	Doctor of Medicine
Methodology of Health Education	5th	34	68	Bachelor of Nursing
				Graduate nurse

Module Public Health and Health Care

The module is implemented in the third year of education through the subjects General Principles of Health and Care and in the fourth year of education through the subject Hygiene - Preventive Medicine Table 4.

Through the course General Principles of Health and Care, students acquire knowledge about concepts related to health and illness, principles and measures and levels of health care,

disinfection and sterilization, health institutions, the historical context of nursing and medicine, and organizational models of health care. Through the course Hygiene and Preventive Medicine, they acquire basic concepts related to medical, infectious, sharp and municipal waste. They acquire skills in proper waste classification, waste labeling in accordance with legal regulations, and proper disposal of contaminated material, including preparation for transport.¹⁰

Table 4: Structure of the Module Public Health and Health Care (Ministry of Science, Education and Sports, 2010)

Module: Public Health and Healthcare	Year	Lectures (hours)	Practical Exercises (hours)	Lecturer
General Principles of Health and Care	3rd	70	35	Bachelor of Nursing Graduate nurse
Hygiene - Preventive Medicine	4th	70	35	Bachelor of Nursing Graduate nurse Doctor of Medicine

Nursing Care Module

The Nursing Care module is the most comprehensive vocational module. It consists of eleven teaching subjects. They are conducted throughout the entire vocational part of the education. According to staffing requirements, it is conducted by bachelors of nursing and graduate nurses (Ministry of Science, Education and Sports). In the third year of education, it is achieved through Health Care - General (74 hours of lectures and 222 hours of exercises) and Health Care of Healthy Children and Adolescents in the third year of study (37 hours of lectures and 148 hours of exercises). Through the subject Health Care - General in the third year of education, students acquire basic knowledge and skills in the field of health care. They apply nursing procedures that include health care, patient observation, measurement of vital functions, administration of oral medications, preparation of parenteral therapy, performing enemas, catheterization of the urinary bladder of women, take care of meeting the basic human needs of users, prevent complications of long-term bed rest, take samples for laboratory analysis and prepare patients for certain procedures. Through the subject Health Care of Healthy Children and Adolescents, students acquire knowledge and skills related to the care of the health of children and adolescents with the aim of distinguishing individual developmental periods of children and adolescents. Furthermore, they acquire the knowledge necessary to recognize an abused child. Then, they apply the procedures of proper personal hygiene, dressing and dressing a child and explain the characteristics of natural and artificial nutrition. They also take care of the child's safety and proper communication with the child. In the fourth year, the module is implemented through Health Care - Special (74 hours of lectures and 148 hours of exercises), Health Care of Surgical Patients - General (74 hours of lectures and 148 hours of exercises), Health Care of Sick Children and Adolescents (37 hours of lectures and 148 hours of exercises) and Health Care - Mental Health Protection (37 hours of lectures and 37 hours of exercises). Through the subject Health

Care - Mental Health Protection in the fourth year of education, students acquire knowledge and skills related to the protection of mental health. Through the course Health Care - Special, in the fourth year of education, students acquire knowledge and skills specific to nursing care in various specialized areas (cardiology, gastroenterology, endocrinology, pulmonology, nephrology, diabetes and infectology). Through the course Health Care of Surgical Patients - General, students acquire knowledge and skills necessary for working in a surgical department and knowledge and skills in the field of transfusion treatment. Through Health Care of Sick Children and Adolescents, students acquire specific knowledge and skills necessary for providing nursing care to sick children and adolescents. Furthermore, in the fifth year of education, the module is implemented through Health Care of Surgical Patients - Special (34 hours of lectures and 238 hours of exercises), Health Care - Special (68 hours of exercises), Health Care of Mothers (34 hours of lectures and 136 hours of exercises), Health Care of Psychiatric Patients (34 hours of lectures and 102 hours of exercises), Health Care of the Elderly (34 hours of lectures and 102 hours of exercises) and Health Care in the Home (34 hours of lectures and 102 hours of exercises). Through the course Surgical Patient Care - Special, students in the fifth year acquire knowledge and skills specific to providing healthcare to neurosurgical patients, patients undergoing heart and blood vessel surgery, patients undergoing chest/lung surgery, patients undergoing thyroid surgery, patients undergoing breast surgery and gynecological surgery, as well as patients undergoing digestive system surgery, urinary system surgery, bone and joint fractures, spinal injuries, burns, and eye surgery. Through the subject Health Care of Psychiatric Patients, they acquire the knowledge and skills necessary for the implementation of nursing care for psychiatric patients. Through the subject Health Care of the Elderly, they acquire basic knowledge and skills in the field of health care for the elderly. Through the subject Health Care in the Home, they acquire basic knowledge and skills in the field of

health care in the home. Through the subject Health Care - Special, in the fifth year of education, students acquire knowledge and skills specific to the nursing care of patients suffering from diseases of the nervous system, patients with diseases of the blood and blood-forming organs, then patients with diseases of the muscles and joints, diseases of the immune system, and skin and sexually transmitted diseases. Through this module, students acquire knowledge and skills from different areas of health care that are repeated and improved throughout all three years of education through the learning outcomes. The learning outcomes represent specific goals that students need to achieve during their education.¹⁹ The transferable outcomes are focused on the development of professional competencies, including the ability to provide quality nursing care, critical thinking, communication skills and the ability to work in a team. Furthermore, students develop the ability to work in teams, critical thinking and the application of ethical principles in everyday practice. They also adopt the basic principles of nursing care, such as identifying priorities in the care of users. They are introduced to techniques that enable safe and effective management of all phases of healthcare, from the admission of

users to discharge or transfer. Through the module, students learn about the importance of properly preparing space and equipment for nursing procedures, as well as implementing measures to maintain hygiene and sterility. In addition, they develop the skills necessary to monitor vital functions, recognize abnormalities in physiological indicators, as well as apply interventions in emergency medical situations. Furthermore, they develop practical skills to provide continuous and dignified health care, to provide assistance with basic human functions such as feeding, elimination, personal hygiene, dressing and maintaining body temperature. Finally, through the vocational module, students develop a holistic approach to nursing care, which includes an understanding of the physical, emotional and social needs of the users.¹⁰

Clinical Practice Module

The mandatory Professional Module includes the Clinical Practice Module Table 5. The module is implemented through Health Practices in the third, fourth and fifth years of education, during which students practice nursing procedures and connect theoretical knowledge with practical experience.¹⁰

Table 5: Clinical Practice Module (Ministry of Science, Education and Sports, 2010)

Module: Public Health and Healthcare	Year	Lectures (hours)	Practical Exercises (hours)
Health Practice I	After 3rd	-	120
Health Practice II	After 4th	-	120
Health Practice III (including final thesis)	5th	-	240

Elective vocational module

The elective vocational module is implemented in the last three years of education Table 6. In the third and fourth years of education, students choose two elective subjects, and in the fifth year of education, they choose three elective subjects. In the third year of education, the module is implemented through the following subjects: Professional Communication in Nursing, Croatian Sign Language, Basics of Physical and Occupational Therapy, and Nurse in Primary Health Care. In the fourth year of education, the module is implemented as part of Emergency Medical Procedures and Chronic Wounds, while in the fifth year of education, it is implemented through Instrumentation, Nurse/Technician Skills in the Cast Room, Intensive Care, and Nursing Care in the Dialysis Unit. Through the subject Croatian Sign Language, students acquire Croatian Sign Language and use sign medical terminology in communication with deaf people. Through the subject Basics of Physical and Occupational Therapy, they acquire knowledge about physical medicine, rehabilitation, and the application of kinesitherapy exercises in health care. The subject Nurse in Primary Health Care enables the acquisition of knowledge from the primary level of health care. On the other hand, the course Professional

Communication in Nursing enables the acquisition of concepts related to communication and the development of communication skills. Through the course Chronic Wounds, students acquire knowledge about the physiology of wound healing and factors that influence healing, the characteristics of chronic wounds, diagnostic procedures for chronic wounds, and nursing care. Furthermore, through the course Emergency Medical Procedures, they acquire knowledge about providing first aid in accordance with national guidelines. Through the courses in the fifth year of education, they acquire the knowledge and skills necessary for working in the plaster room, operating room, intensive care unit, and dialysis department. The teaching process of elective courses in the fifth year of education is carried out entirely practically, through practical classes.¹⁰ Of the ten elective courses, according to the current staffing requirements, bachelor's degree holders in nursing and graduate nurses have the opportunity to teach eight courses.¹⁰

Final Thesis

Nursing education in the Republic of Croatia ends with the preparation and defense of a Final Thesis in accordance with the Regulations on the Preparation and Defense of Final Thesis (Official Gazette, No. 118/09). The final thesis includes practical work with

a dissertation. It is carried out as part of the fifth year of education. Depending on the topic, practical work (healthcare exercises) is carried out in various health institutions (hospitals, clinical hospital centers, nursing homes). Students perform 70 hours of practical work during the second semester of the fifth year (7 hours per day in 10 working days, including Saturdays). During the preparation of the final thesis, the student prepares a dissertation

in which he or she elaborates in detail the aspects of health care related to the topic of the thesis. After completing the dissertation, the defense of the final thesis follows. After completing vocational education, students acquire the title of general care nurse/general care medical technician and are entered in the Register of Nurses without the obligation to attend an internship or take a professional exam.¹⁰

Table 6: Elective vocational module (Ministry of Science, Education and Sports, 2010)

Module: Community Nursing	Year	Lectures (hours)	Practical Exercises (hours)	Lecturer
Professional Communication in Nursing	3rd	37	74	Bachelor of Nursing
				Graduate nurse
Croatian Sign Language	3rd	37	74	Master of Speech Therapy
				Master of Educational Rehabilitation
				Master of Pedagogy Master of Psychology
Basics of Physical and Occupational Therapy	3rd	37	74	Bachelor of Physiotherapy
				Doctor of Medicine
Nurse in Primary Healthcare	4th	37	74	Bachelor of Nursing
				Graduate nurse
Emergency Medical Procedures	4th	37	74	Bachelor of Nursing
				Graduate nurse
				Doctor of Medicine
Chronic Wounds	4th	37	74	Bachelor of Nursing
				Graduate nurse
				Doctor of Medicine
Instrumentation	5th	-	68	Bachelor of Nursing
				Graduate nurse
Nursing Skills in the Plaster Room	5th	-	68	Bachelor of Nursing
				Graduate nurse
Intensive Healthcare	5th	-	68	Bachelor of Nursing
				Graduate nurse
Healthcare in the Dialysis Unit	5th	-	68	Bachelor of Nursing
				Graduate nurse

Results of the Analysis

The aim of this paper was to analyze the existing Vocational Curriculum for the profession of general care nurse/general care medical technician. The conducted analyses of the Vocational Curriculum for general care nurses/general care medical technicians and previous publications show that the secondary school nursing education program strives to meet the requirements of European educational standards.^{1,9,19} Furthermore, the results of the analysis indicate the changes that occurred with the introduction of the Vocational Curriculum for the profession of general care nurse/general care medical technician, which include: extending the duration of education, introducing the general

education part of the program in the first two years of education after completing primary school and the vocational part of the program in the last three years of education, increasing the hours of practical classes, introducing elective subjects and abolishing internships.¹ Furthermore, the analysis shows that the general education part of the program offers a broad framework for the development of students' competences, including intellectual, social and moral development. Through cross-curricular topics and the integration of different teaching topics, students have the opportunity to develop competencies important for building positive interpersonal relationships and responsible participation in society. This is particularly evident in thematic units such as Personal and Social Development, Health, Safety and Environmental

Protection, and Civic Education, which enable students to acquire the knowledge and skills necessary for further personal and professional development. However, the question arises to what extent these cross-curricular topics are truly integrated into the teaching process, given that their impact largely depends on the quality and consistency of implementation within individual subjects. Research shows that cross-curricular competencies are more pronounced when these topics are implemented through joint projects.³¹ Furthermore, an analysis of the mandatory vocational module in the education of general care nurses/general care medical technicians indicates a number of advantages. Among the most significant is the introduction of teaching subjects that enable orientation and specialization in different areas of nursing, which provides students with the opportunity to deepen their knowledge and develop specific competencies. Through modules such as Basic Social Sciences, students are introduced to ethics, psychology, sociology and pedagogical approaches, which encourages the development of critical thinking and enables a deeper understanding of the role of nurses in the broader social context.³² Such an interdisciplinary approach contributes to the formation of a complete professional person – a nurse who is not only trained to perform medical procedures, but also to communicate effectively with patients and their family members.³³ On the other hand, a significant advantage is the practical orientation. According to Kurtović³⁴ a large number of hours dedicated to practical learning through clinical exercises enables the acquisition of specific skills necessary for performing the work of a nurse. Given the large number of hours of practical teaching and the results of research indicating that not all students have the same working conditions¹⁸ and the identified shortcomings in the transfer of knowledge from the classroom to clinical practice,³³ the need for a systematic evaluation of the quality of practical teaching has been identified. On the other hand, the analysis shows that the modules are based on the principle of a holistic approach. Through the Professional Module, students are introduced to various aspects of healthcare, including ethical, sociological, medical and administrative aspects, which allows them to acquire the competencies necessary to work in various health and social institutions. On the other hand, the analysis shows that the curriculum is focused on learning outcomes and the acquisition of competencies that enable students to actively participate in the provision of healthcare, which is in line with previous knowledge.^{1,10} The analysis identified certain shortcomings. From the table of contents, it can be seen that some subjects do not have any theoretical teaching at all. The lack of theoretical teaching can make it difficult for teachers to prepare students. According to Abou Aldan¹⁴ exercises should be planned after the teaching content has been covered in lectures, in order to enable a better understanding of the content. In more detail, this approach was not applied in elective subjects in the fifth year of education, nor in the subject of Special Health Care in the fifth year of education. On the other hand, it is evident that certain

subjects have too few hours for theoretical teaching, which makes it difficult to acquire basic knowledge in a quality manner. At the same time, the overextended nature of the vocational program poses a challenge, which places an additional burden on students and teachers, which could be the subject of future research. Furthermore, previous research has shown that the introduction of the vocational curriculum has led to an increased employment of health care teachers.¹⁷ Accordingly, the analysis of the curriculum shows that, according to the current staffing requirements, health care teachers (bachelor's degrees in nursing and graduate nurses) are the holders of twenty subjects. However, it is important to note that the current staffing requirements do not include master's degrees in nursing, nor university master's degrees in nursing.¹⁷ In addition, the analysis shows that according to the current staffing requirements, three subjects can be taught by doctors in addition to bachelors of nursing and graduate nurses, while fourteen subjects can be taught exclusively by experts from certain fields. Given the development of university education for nurses, it is necessary to revise the staffing requirements prescribed by the Curriculum and, instead of bachelors of nursing and graduate nurses, include masters of nursing and university masters of nursing. Furthermore, based on the analysis conducted, it was determined that teachers of nursing form a key link between theoretical teaching and practical experiences of students. These findings are consistent with previous research.¹⁸ In addition, the analysis of publications shows that there is a trend towards continuing teacher education. On the other hand, although the analysis highlights the advantages of the curriculum, the results of previous research show that, according to teachers, the existing vocational education in the Republic of Croatia does not adequately ensure the acquisition of the necessary competencies for the labor market.¹⁸ This indicates the need for a systematic evaluation of the curriculum to determine the educational programs and methods that best prepare nurses to meet the challenges of professional practice.³⁵⁻⁴¹

Conclusion

An analysis of the vocational curriculum for nursing education in Croatia shows that the current model offers the foundations for the professional development of future nurses. The mandatory vocational module with Clinical Practices enables the connection of theoretical knowledge with practical experience, while the general education part contributes to the development of personal, ethical and communication competencies. The interdisciplinary and holistic approach, as well as the clearly defined module structure, represent important advantages of nursing education in secondary schools. At the same time, challenges have been identified that indicate the need for further improvement of the educational model. Therefore, it is recommended to review staffing conditions, conduct a systematic evaluation of the quality of practical classes, examine the working conditions that teachers and students have in practical classes, conduct systematic education of mentors who lead practical classes, ensure greater flexibility of the curriculum,

integrate the subject Professional Communication in Nursing into the mandatory part of the curriculum so that all students have the opportunity to acquire the competencies necessary for working with people, and design a model for evaluating student competencies upon completion of the five-year program.

In conclusion, to maintain the quality and relevance of nursing education, it is necessary to continuously evaluate the effectiveness of the curriculum, actively collaborate with healthcare institutions, and monitor the needs of the labor market and professional standards.

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