

# ANALYSIS OF BACHELOR STUDY PROGRAMS OF NURSING AT UNIVERSITIES OF EASTERN SLOVAKIA: A PILOT STUDY

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**ABSTRACT — Background:** The profile of the nursing studies in Slovakia is harmonized with the criteria of European Directives, enhanced by the adoption of the Declaration of Munich and implemented into the curriculum of educational institutions that provide this training. **Objective:** The main objective of the pilot study was to determine satisfaction of graduates with accredited programs of nursing (prior to the accreditation and after accreditation) at two state universities in the eastern region of Slovakia.

**Methods:** The monitored group consisted of total 132 respondents (nursing graduates) who completed the 1st degree of nursing study at University of Presov in Presov or University of P.J. Safarik in Košice in the timeframe 2007–2011. The study was realized during calendar years 2012–2013. One year of nursing clinical practice of graduates was required for this study. Data was collected through a modified questionnaire of feedback used at the University of Presov, Faculty of Health Care within the improvement of curricula program and the whole educational program.

**Results:** Statistically significant differences were observed in area of optional courses of nursing study program ( $p < 0.05$ ). Compulsory optional courses of nursing program at both universities were more interesting and important for clinical practice of graduates after accreditation than before accreditation.

**Conclusions:** The nursing study program meets the educational requirements of European Union. However, study program needs courses, which would be more interesting and effective for clinical practice.

## INTRODUCTION

Nursing education in the Slovak Republic (SR) went through several stages during its 25 year transition process. In the historical context, the education of nurses was carried out as a four-year study ended with leaving exam, two year as external post-graduate study and three-year study as a qualified general nurse at medical vocational school [1]. Currently, the university nursing education in Slovakia is implemented as: university nursing education of the 1st degree and 2nd degree in full-time study and university education of the 2nd degree in part-time study [2]. The study program of nursing at universities in Slovakia is fully compatible with the Directives of the European Commission (EC) and European Strategy of the World Health Organization for education of regulated professions. Important document relating to the nursing education is the European Directive 2013/55/EU amending Directive 2005/36/EC on the recognition of professional qualifications and

the Decree of the Government of the Slovak Republic No. 296/2010 Coll. on professional qualification for performance of health service occupation, the method of further education of health professionals, system of specialized fields and system of certified working activities that have minimum job requirements to perform occupation as a nurse [3,4]. Nursing students are trained for the profession: a registered nurse. They obtain professional competence to provide nursing care to individuals, families, and communities focused on prevention, health maintenance, health promotion, treatment, rehabilitation and help through the method of the nursing process [5]. Graduates can work as registered nurses in the clinical healthcare facilities: hospitals, home care agencies, long-term care facilities, in the community health care facilities, management of nursing care, education institutions and area of nursing research [6]. Act of the National Council of the Slovak Republic No. 363 of July 3, 2007, amending Act No. 131/2002 Coll. on higher education stipulates (§57 Clause 7) admission conditions for nursing

study program. One of the conditions for admission to the university of the 2nd degree is one year of clinical practice in health service after completion of the 1st degree at university [7]. Also, one year of clinical practice of graduates in nursing was required for this study.

## OBJECTIVE

The aim of the pilot study was to determine satisfaction of graduates of two state universities in the eastern region of Slovakia focusing on nursing. The field of research was accredited programs in nursing prior to the accreditation and after accreditation (year 2008). Satisfaction of graduates, who are completing nursing program have been evaluated according to the length of their clinical practice in healthcare facilities in Slovakia, which was at minimum one year.

## METHODS

### Design

The pilot study had a character of cross-sectional descriptive study.

### Sample

The monitored group consisted of total 132 respondents (nursing graduates) aged 23–35 (median age of respondents was 25 years, the variance was 3.24 years). Criteria for survey selection was completed full-time university education (1st degree) in the timeframe of 2007–2011 in one of these universities in the region of eastern Slovakia: Department of Nursing, Faculty of Health Care of University of Presov in Presov (FHC PU) or Department of Nursing Care, Faculty of Medicine of University of Pavol Jozef Safarik in Kosice (FM UPJS).

### Data collection

The study was carried out in healthcare facilities in the region of eastern Slovakia during 38 weeks of the calendar years 2012–2013 (July to April). In order to identify requirements to improve the nursing study program, was for this purpose minimum one year of clinical practice in health care in Slovakia.

Data was collected through a modified questionnaire of feedback used in the FHC PU in Presov within the improvement of curricula program and the whole educational program.

The questionnaire contained 22 items covering the following areas of the investigation:

1. acquired education of the respondents in the nursing study program
2. clinical practice of the profession
3. curriculum of the study program
4. educational system in nursing.

## Data analysis

In order to statistically process our data, SPSS 15.0 software was used. To statistically compare the monitored groups, we used parametric Pearson's correlation coefficient ( $r$ ), multifactorial analysis ANOVA and Chi-square test, for comparison of several study groups Kruskal-Wallis H test. The statistically determined results were evaluated at a level of relevancy 5%. Through Likert scale (score 1–5) the objective was to get the most relevant data for the study. Response rate of questionnaire was 82.50%. The main results are outlined below.

## RESULTS

Total 132 respondents (96.97% women and 3.03% men) of this study completed the 1st degree of full-time university education in nursing in academic years 2007/2008, 2008/2009, 2009/2010, 2010/2011 (see Table 1).

We analyzed opinions of respondents on the nursing study program by means of a Kruskal-Wallis H test. Two groups of nursing graduates (1st and 2nd group) completed their studies prior to the accreditation in the timeframe of 2007–2009 and other two groups (3rd and 4th group) completed their studies after accreditation in the timeframe of 2009–2011. The accreditation of nursing study programs was conducted at both universities in year 2008. Statistically significant differences were observed in area of optional courses of nursing study program ( $p < 0.05$ ). We observed a higher level of perspective of the study program in 4th group of the academic year 2010/2011 (see Table 2). The 4th group of respondents had the highest score in items: *study of nursing study program allowed me (as a student) to select the optional courses which broadened my sphere of interests (M = 3.75)* and *courses of nursing study program were predominantly interesting for me (M = 2.68)*.

In 1st and 2nd group was expressed a lowest level of perspective of the nursing study program. The lowest rated in this groups were in items: *study of nursing study program allowed me to select the compulsory optional courses which are currently important for my clinical practice (M = 2.00)*, *courses of nursing study program were predominantly interesting for me (M = 2.34)* and *structure of the courses of nursing study program was logical for me (M = 2.37)*.

Pursuant to Act of the Ministry of Health of the Slovak Republic No. 455/2012 Coll. which amends and supplements Act No. 131/2002 Coll. on universities, study program of nursing is a set of subjects consisting of educational activities represented especially by lectures, seminars, practicals, laboratory practice, practical training, continuous clinical practice, summer clinical practice, project thesis, internship, final thesis, state exam, and their combinations [8]. Each course of

**TABLE 1.** Analysis of monitored nursing graduates (n = 132) from the perspective of the completed the 1st degree of full-time university education in nursing

Order of groups	Completed academic years of monitored nursing graduates	FHC PU in Presov		FM UPJS in Kosice	
		n	%	n	%
1.	Academic year 2007/2008	14	15.00	14	37.00
2.	Academic year 2008/2009	20	21.00	10	26.00
3.	Academic year 2009/2010	20	21.00	12	31.50
4.	Academic year 2010/2011	40	42.50	2	5.00

n = number of respondents

**TABLE 2.** Statistical evaluation of contribution to the study program from the perspective of nursing graduates for each academic year through Kruskal-Wallis H test

Items	Order of groups	M	SD	Chi-square test	p
Courses of nursing study program were predominantly interesting for me (as a student).	1.	2.50	0.85	0.093	0.9544
	2.	<b>2.34</b>	0.86		
	3.	2.65	0.78		
	4.	<b>2.68</b>	0.92		
Study of nursing study program was demanding for me.	1.	2.73	1.15	1.311	0.4937
	2.	2.59	0.98		
	3.	2.45	1.02		
	4.	2.39	0.79		
Structure of the courses of nursing study program was logical for me.	1.	2.44	0.73	1.025	0.6019
	2.	2.37	0.99		
	3.	2.50	0.69		
	4.	2.47	0.79		
Study of nursing study program allowed me to select the compulsory optional courses which are currently important for my clinical practice.	1.	<b>2.00</b>	0.92	1.470	0.4126
	2.	2.54	1.03		
	3.	2.72	1.02		
	4.	2.59	0.94		
Study of nursing study program allowed me to select the optional courses which broadened my sphere of interests.	1.	2.70	1.06	6.945	<b>0.0487*</b>
	2.	3.03	1.02		
	3.	3.59	1.01		
	4.	<b>3.75</b>	0.98		

\* p < 0.05; \*\* p < 0.01; \*\*\* p < 0.001

M = mean, SD = standard deviation, p = level of statistical significance

1. = academic year 2007/2008, 2. = academic year 2008/2009, 3. = academic year 2009/2010, 4. = academic year 2010/2011

Score: 1 – lowest level of satisfaction, 5 – higher level of satisfaction

the study program reflects the job market's needs. In the EU countries, study program of nursing is based on competence of nurses who are regulated by the legislation of the country and also by the current European Directives. According this European Directives 2005/36/EC and 2013/55/EU, the minimum requirements for the content of nursing education in Slovakia are divided into 2 sections: theoretical disciplines (nursing disciplines, basic medicine disciplines and social science disciplines) and practical disciplines. Courses of the nursing program are divided into: compulsory (comprise 75–80% of study program), compulsory optional (comprise 15–20% of study program), and optional (comprise 5% of study program) [9]. The

entire extent of study is minimally 4 600 contact and non-contact hours, where half of it is practical education and a minimum of one third is theoretical education. A condition to be met for student's advancement to the next year is acquirement of prescribed number of credits in the individual years = 60 ECTS credits (European Credit Transfer System). Each course of the nursing study program is evaluated by certain number of credits expressing student's workload [10].

The findings of the study aimed at analyzing the bachelor nursing study program by us observed universities of eastern region of Slovakia shows that the recommended study plan for academic year 2010/2011 was based on accreditation (year 2008), included in

**TABLE 3.** Correlations in terms of length of clinical practice of nursing graduates

Items	r
Graduates of the 1st degree of university study have sufficient theoretical knowledge for their application in clinical practice.	0.039577
During university study of the 1st degree students can to acquire the knowledge and practical skills in foreing countries.	0.050491
Graduates of the 1st degree of university study have sufficient practical skills for their use in clinical practice.	0.001344
Hourly allocation of practical training is sufficient.	-0.055384
There is a close link between theoretical and practical training of nurses.	-0.091612
Possibility to study on the 2nd or the 3rd degree of the nursing study program.	-0.054312
Possibility to study at other universities/faculties with identical content of the nursing study program due to interruption of the study.	0.030118
Recognition of the ECTS credits within the framework of the EU countries.	0.042653
Recognition of the competences within the framework of the EU countries.	0.052655

*r* = Pearson's correlation coefficient

the study program of the 1st up to 3rd year on FHC PU in Presov in optional courses of predominantly preventive focus, for example Prevention of Drug Addiction, Psychohygiene of Health Service Personnel, Basic of Dietetics, but also courses focused on Basics of Administration in Health Care, for example Modern Imaging Procedures in Medicine etc. [9]. For graduates of FM UPJS in Kosice have in the same academic year been recommended these optional courses: Alternative Nursing Procedures, Nursing Communication in Foreign Language, Philosophical Anthropology and Physical Education [11].

According to recommended study plan for academic years 2007/2008 and 2008/2009 of the 1st degree of university education at the FHC PU in Presov were recommended to select the optional courses mainly of preventive orientation, for example: Basic of Health Dietetics, Prevention of Drug Addiction, Psychohygiene of Health Service Personnel, Prevention in Oncology, Health Education in Community, Basic of Nursing Rehabilitation and Physiotherapy, and other courses: Sexual Health Education and Family Planning, Palliative and Hospice Care, Pain Management, Multicultural Nursing and Communication with Persons with Disabilities [12]. For graduates of FM UPJS in Kosice have in the same academic year been recommended these optional courses: Physical Education, Philosophical Anthropology, Alternative Nursing Procedures, Nursing Communication in Foreign Language and course Human Needs in Nursing, omitted from the compulsory courses [13]. Requirements for state exam in the 1st degree of university education of nursing at both universities are following: bachelor thesis defence; practical state exam from clinical practice in nursing (clinical nursing in internal medicine, in surgery, in paediatrics); and nursing state exam. In this pilot study, our attention was focused on the hourly duration of courses which are courses to the final state exam: Nursing and Nursing Process, Nursing

Procedures, Communication in Nursing, Nursing Research, Nursing Management, Practical Training in Internal Nursing, Practical Training in Pediatric Nursing and Practical Training in Surgical Nursing. Hourly duration of Nursing Procedures at FM UPJS in Kosice was 8 hours per week, equally spreaded over winter and summer semester in the 1st year of nursing study. However, the content and scope of the course corresponds to the set of 9 hours per week at FHC PU in Presov taught only in winter semester in the 1st year of the particular study program. At the both universities, the practical training of students started in the summer semester of the 1st year of nursing study.

Competences of nurses are very significant tools because reflects the roles of a nurse and professional preparation for performance of this occupation. The field of competences for nurses (and midwives) is regulated by Decree of the Ministry of Health of the Slovak Republic No. 364/2005 Coll., which determines the scope of nursing practice provided by nurses independently and in conjunction with a doctor and the scope of midwifery practice provided by midwives independently and in conjunction with a doctor (as amended by No. 470/2006 Coll.) [5]. These activities can be realized only by a nurse or a midwife who is registered in the Slovak Chamber of Nurse and Midwives [14,15]. In our study we observed correlations from the perspective of the length of clinical practice in case of the graduates (see Table 3) and the significant relationship between the variables evaluated in the group has not been expressed. Variables was related to the recognition of ECTS credits, degrees of study programs, competences, and other advatages of the study program of nursing.

Table 4 shows the statistical evaluation of preferred innovative methods of educational process from the graduates' point of view.

Statistically significant differences were observed in one of the items, where respondents of FHC PU in

**TABLE 4.** Statistical evaluation of preferred innovative methods of educational process from the nursing graduates' point of view

Items	FHC PU in Presov		FM UPJS in Kosice		p
	M	SD	M	SD	
In educational process I preferred more innovative teaching methods (e-learning, brainstorming etc.).	2.30	1.06	2.45	1.02	0.491
In educational process I preferred more traditional teaching methods (lecture, construction etc.).	3.15	1.03	3.58	0.94	<b>0.029*</b>

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

M = mean, SD = standard deviation, p = level of statistical significance

Score: 1 – lowest level of satisfaction, 5 – highest level of satisfaction

Presov were more inclined to the traditional methods of teaching. The effectiveness of the learning process and good academic performance can be achieved by creating an optimal psychosocial climate for all participating parties, i.e. teachers and learners.

Due to didactic-methodological level of teacher, efficiency can be increased, that would allow them to apply didactic principles, as well as continuous teacher preparation for lesson or administrative relationship with students. Given that, each student is unique and demands of the course require different teaching methods, it intrigued us, which of the methods are most preferred by the graduates. The following teaching methods for the theoretical subjects were the most frequently preferred from part of graduates: lectures (45.25%), presentations (34.45%), that are traditional teaching methods; for the applied courses: brainstorming (33.03%) and instructions (42.81%), that are innovative teaching methods.

However, respondents mentioned that during teaching positive was application of practical examples, casuistry, from part of teachers by means of which they referred to connection of theory and clinical practice. The graduates of FHC PU in Presov expressed higher satisfaction with the teachers creating space for discussion, critical and independent thinking of students in the course of teaching process.

## DISCUSSION

Today, researchers are dealing with functionality of university system of nursing training in Slovakia and other EU countries according to the Bologna directives [16], graduate profile, curriculum and learning outcomes. The main objective of EU standards is to synchronize education, professional qualifications and competency of nurses in order to ensure continuity and compactness of learning objectives with clinical practice. The aim of the pilot study was to determinate satisfaction of graduates with accredited programs of nursing at two state universities in the eastern region of Slovakia.

The results of this study showed higher satisfaction with accredited study programs after accreditation (year 2008) at both universities of the Slovak Republic.

The perspective of study program has proven in the following items: *nursing study program allowed me (as a student) to select the optional courses which broadened my sphere of interests* ( $M = 3.75$ ) and *courses of nursing study program were predominantly interesting for me* ( $M = 2.68$ ). However, the lowest level of satisfaction of respondent was recorded prior to the accreditation of nursing study program, particularly in this item: *nursing study program allowed me to select the compulsory optional courses which are currently important for my clinical practice* ( $M = 2.00$ ).

The structure of the 1st degree nursing study program (bachelor degree) in Slovakia is designed in the way that students can gain basic knowledge throughout the study, as well as skills and understanding of discipline based on the integrated theory and teaching practice. Presentation of analytical, creative and critical thinking [17,18] and the ability to solve problems should be applied in the clinical practice, students were able to independently synthesize information for qualified decisions, depending on the findings of researches and practice. The literature indicates that the content of the university nursing program has the stronger focus on theoretical aspects and it may have different impact on clinical skills [19]. Other authors argue that the curriculum is focusing on theoretical and practical skills and requirements [16]. Even though, yearly accreditation affected changes in the curriculum of study programs, students in this study preferred more traditional learning methods such as lectures, constructions etc., because first year students were accustomed to lecture. It may be difficult to engage in self-directed learning during their first year [20,21]. More interest in traditional methods of teaching was recorded at FM UPJS in Kosice. With advancing grade or level of education, students may expect to gradually become better at self-directed learning, and may take more responsibility for their education in a self-directed manner [20].

Statistically significant differences in educational system were not recorded in graduates' views. Graduates confirmed the satisfaction with the training program and recognition of ECTS credits in EU countries. They also positively expressed a probability to continue into 2nd and 3rd degree of their study. Many EU

countries offering education only on the diploma level, demonstrating that the differences between countries are at points rather significant [22]. The reforms of education in EU have given need for harmonising nursing education. However, there are differences in nursing education system in Europe. Future challenges in nursing education are considered cross-cultural collaboration, clinical learning environment, role of patients and teacher education [23].

Results of this pilot study provide evidence to support new curriculum of nursing study program. It is essential to focus on the transformation of the new curriculum with attention on promoting innovative teaching methods and to promote individual work of students – teachers as tutors in educational process. Furthermore, it is necessary to include optional compulsory courses in the study program that would be interesting and rewarding for students' clinical practice. With an increase of patients in hospitals [24] and with the rapid changes in technology, legislation and environments, the next generation of nurses will need to adapt nursing practice [25].

The main objective of the EU standards is to synchronize education, professional capacity and nurses'

competences into clinical practice. University nursing education is to train qualified nurses that will carry out role of a nurse in clinical practice. Evaluation of curriculum, educational process and the entire university system of education are an important and integral parts of the professional teaching activities of educational institutions [26].

## CONCLUSION

In relation to the European Directive 2013/55/EU and new accreditation (2014), FHC PU in Presov plans to increase the hourly duration for practical training and to strengthen nursing courses at the expense of medical courses. FHC PU in Presov further intents to increase the hourly duration for Nursing Procedures and divide this course into two academic semesters of one year and specify conditions for completion of courses in relation to student's workload: contact and non-contact hours for theoretical and practical education.

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## CONFLICT OF INTEREST STATEMENT

Neither author has any financial or personal relationship with people or organisations that could inappropriately influence their work.

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