

The compatibility of the new undergraduate nursing curriculum with occupational needs from the viewpoint of the faculty members of some north and north-west Universities of Medical Sciences of Iran

Morteza Behnam¹, Aziz Kamran², Mohamad Taghi Savadpoor³, Khadijeh Nasiri^{4,5}, Mehran Khaki¹, Nima Ghassemi¹, Fatemeh Mohamadi¹, Fatemeh Gholinezhad¹, Mehrnaz Kooshanfar¹, Samira Emami⁵, Rozita Cheraghi⁶
¹BSc Student, Department of Nursing, Khalkhal University of Medical Sciences, Khalkhal, Iran
²Health Education Department, Ardabil University of Medical Sciences, Ardabil, Iran
³Medical-Surgical Department, Ardabil University of Medical Sciences, Ardabil, Iran
⁴Medical-Surgical Department, Khalkhal University Medical Sciences, Khalkhal, Iran
⁵Pediatrics Department, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran
⁶Medical-Surgical Department, Faculty of Nursing and Midwifery, Urmia University of Medical Sciences, Urmia, Iran

* Khalkhal Faculty of Medical Sciences
 Shahid Mozafar Azizi St. Khalkhal, 5681761351 Iran
 Tel: +984532432002
 Fax: +984532421979
 Email:
 Kh.Nasiri@Khalums.ac.ir

Background: Nursing education is part of the higher education system that deals with human life and considering its quantitative and qualitative aspects is very important. Understanding educational needs is a prerequisite for successful education. This study aims to investigate the compatibility of nursing undergraduate curriculum with occupational needs from the viewpoints of faculty members of some north and north-west universities of medical sciences of Iran.

Methods: This is a cross-sectional descriptive study conducted with the participation of 61 nursing faculty members of Ardebil, Urmia, Zanjan, Tabriz, and Rasht Universities of Medical Sciences in the fall of 2017 using the census method. A checklist containing the curriculum of undergraduate nursing based on the approved headings of the Ministry of Health and Medical Education was used. Data were analyzed by SPSS software.

Results: The findings of this study showed that the highest compatibility with job requirements from the viewpoint of faculty members based on the checklist scores from 1 to 4 was related to biochemistry with a mean and standard deviation of 2.1 ± 1.03 , among specific courses, epidemiology with mean and standard deviation of 1.90 ± 0.99 , and among internship and field apprenticeship, adult and elderly internships with mean and standard deviation of 1.51 ± 0.03 .

Conclusion: The findings of this study indicate that the curriculum developed for the undergraduate nursing degree is not suitable for nursing job requirements and needs modifications in some aspects. Therefore, presenting the results of this study can be used developing and modification of the undergraduate nursing curriculum based on occupational needs.

Keywords: Curriculum, Faculty Member, Occupational Needs, Undergraduate Nursing

بررسی تطابق سرفصل جدید دروس کارشناسی پرستاری با نیازهای شغلی از دیدگاه اعضای هیأت علمی برخی از دانشگاه های علوم پزشکی شمال و شمال غرب کشور

زمینه و هدف: آموزش پرستاری بخشی از نظام آموزش عالی است که با حیات انسان ها سر و کار دارد و توجه به جنبه های کمی و کیفی آن از اهمیت ویژه ای برخوردار است. شناخت نیازهای آموزشی پیش نیاز یک آموزش موفق است. مطالعه حاضر با هدف بررسی تطابق سرفصل دروس کارشناسی پرستاری با نیازهای شغلی از دیدگاه اعضای هیأت علمی برخی از دانشگاه های علوم پزشکی شمال غرب کشور انجام شد.

روش: مطالعه حاضر یک مطالعه توصیفی مقطعی می باشد که با مشارکت ۶۱ نفر از اعضای هیأت علمی رشته پرستاری دانشگاه های علوم پزشکی اردبیل، ارومیه، زنجان و تبریز و رشت در پاییز سال ۱۳۹۶ و با روش سرشماری انجام شد. ابزار مورد استفاده چک لیست حاوی دروس درسی کارشناسی پرستاری بر اساس سرفصل مصوب وزارت بهداشت، درمان و آموزش پزشکی می باشد. داده ها پس از جمع آوری با استفاده از نرم افزار SPSS تجزیه و تحلیل شد.

یافته ها: یافته های مطالعه حاضر نشان داد که بیشترین تطابق با نیازهای شغلی از دیدگاه اعضای هیأت علمی بر اساس نمره دهی چک لیست از ۱ تا ۴ مربوط به درس بیوشیمی با میانگین و انحراف معیار $2/1 \pm 1/03$ در بین دروس اختصاصی، اپیدمیولوژی با میانگین و انحراف معیار $1/90 \pm 0/99$ و در بین کارآموزی و کارآموزی در عرصه ها نیز کارآموزی بزرگسالان و سالمندان $1/51 \pm 0/03$ می باشد.

نتیجه گیری: مجموع یافته های مطالعه حاضر نشان می دهد که سرفصل تدوین شده برای رشته کارشناسی پرستاری از نظر تناسب با نیازهای شغلی حرفه پرستاری مناسب نمی باشد و نیازمند تغییراتی در محتوای برخی واحدهای درسی می باشد. لذا ارائه نتایج مطالعه حاضر می توان در تدوین و اصلاح سرفصل رشته پرستاری بر اساس نیازهای شغلی مورد استفاده قرار گیرد.

واژه های کلیدی: سرفصل دروس، کارشناسی پرستاری، نیازهای شغلی، هیأت علمی

دراسته حول تطابق الفصول الجديده لمواد مناهج كليات التمريض مع الاحتياجات العمليه من وجهة نظر أعضاء الهيئات التدريسية في بعض جامعات العلوم الطبية الشمالية والشمالية الغربية

الخلفية والهدف : يعد تعليم التمريض جزءاً من نظام التعليم العالي الذي يتعامل مع الحياة البشرية والإهتمام بجوانبه الكمية والنوعية بعد أمراً مهماً للغاية. فهم الاحتياجات التعليمية هو شرط أساسي للتعليم الناجح. الهدف من هذه الدراسة هو التحقق من توافق مناهج المرحلة الجامعية للتمريض مع متطلبات الوظيفة من وجهة نظر أعضاء هيئة التدريس في بعض جامعات العلوم الطبية في شمال غرب إيران. الطريقة: أجريت هذه الدراسة الوصفية المستعرضة بمشاركة 61 من أعضاء هيئة التدريس في جامعات أردبيل، اروميه، زنجان، تبريز ورشت للعلوم الطبية في خريف عام 2017 وأجريت بطريقة التعداد. الأداة المستخدمة هي قائمة مرجعية تحتوي على دورس منهج التمريض حسب التعاون المعتمدة لوزارة الصحة والتعليم الطبي. تم تحليل البيانات بواسطة برنامج SPSS.

النتائج: أظهرت نتائج هذه الدراسة أن أعلى درجة من التوافق مع المتطلبات الوظيفية من وجهة نظر أعضاء هيئة التدريس كانت مبنية حسب درجات قائمة الأسئلة الإستفسارية من 1 إلى 4 وكانت أعلى درجة للكيمياء الحيوية مع متوسط وانحراف معياري قدره $2/1 \pm 1/03$. بين الدروس الإختصاصية، الوبائية مع متوسط وانحراف معياري $1/90 \pm 0/99$. وبين التدريب المهني والتلمذة الصناعية كان التدريب في مجالات تعليم الكبار والمسنين $1/51 \pm 0/03$.

الخلاصة: تشير نتائج هذه الدراسة إلى أن المنهج الذي تم تطويره للحصول على درجة البكالوريوس في التمريض لا يناسب الاحتياجات المهنية للتمريض ويتطلب تغييرات في محتوى بعض المناهج الدراسية. لذلك، يمكن استخدام نتائج هذه الدراسة في صياغة وتعديل مناهج التمريض على أساس الاحتياجات المهنية.

الكلمات المفتاحية: منهج المقرر الدراسي، الإجازة في التمريض، متطلبات الوظيفة، الهيئة التدريسية

نرسنگ كى گريجوئ طلبا كى نيا نصاب كيا پيشه ورانه ضرورتوں سے ہمانگ ہے؟ اس كاجائزہ شمالى اور شمال مغربى يونيورسيوں كى اكيڈميك كميشن كى اساتذہ كى نظر سے كيا كيا ہے

بيك گراؤنڈ: نرسنگ كى تعليم اعلى تعليم كا مرحله جو انسانوں كى حيات سے براه راست رابطہ ركھتا ہے۔ نرسنگ ميں كمى اور كيفى پہلوؤں كا جائزہ لینا نہایت ضرورى ہے۔ تعليمى تقاضوں كو پورا كرنا كامياب تدریس كے لئے ضرورى ہے۔ ہمارى اس تحقيق ميں نرسنگ كے نئے نصاب كا پيشه ورانه كام كى ضرورتوں سے ہمانگ ہونے كا جائزہ ليا كيا ہے۔

روش: اس تحقيق ميں اردبيل، اروميه، زنجان اور تبريز نيز رشت كے ميڈيكل يونيورسيوں كى اكيڈميك كونسل كے اڪسپت ركن شامل تھے۔ يہ تحقيق گذشتہ برس سردیوں كے موسم ميں انجام دى گئی۔ اس جائزے ميں چيڪ لسٹ استعمال كى گئی جس ميں ايران كى وزارت صحت كے بنائے نصاب شامل ہے۔ ڈيٹا كى جمع آورى كے بعد يى يى يى سافٹ وير سے ڈيٹا كا تجزيہ كيا كيا۔

نتيجے: چك لسٹ كے مطابق نصاب كا پيشه ورانه كام سے مطابقت ركھنے كو ايڪ سے چار نمبر ملے يں اور يہ بايو كميستري كے شعبہ كو ملے يں۔

سفاارش: مجموعى طور پر اس تحقيق سے يہ معلوم ہوتا ہے كہ نرسنگ ميں گريجوئشن كى سطح پر پيش كيا كيا نصاب نرسنگ سے پيشه ورانه كام سے مناسبت نہيں ركھتا يعنى ہمانگ نہيں ہے۔ اسى وجہ سے نصاب كے بعض حصوں ميں تبديلى لانا ضرورى ہے۔ اس تحقيق كے نتائج كو مد نظر ركھتے ہوئے نرسنگ گريجوئشن ليول كے طلبا كے لئے نصاب ميں ايसे دروس شامل كئے جاسكتے يں جو نرسون كے پيشه ورانه كام سے مطابقت ركھتے ہوں

كليدى الفاظ: نصاب گريجوئشن، نرسنگ، پيشه ورانه كام

INTRODUCTION

Education is the foundation of learning and promotes productivity (1). In every society, higher education is considered as the main factor in the development of the society. Universities, as the executive branch of higher education, have an undeniable effective role in the development of human resources (2). The training of human resources in medical sciences must lead to the provision, maintenance and promotion of the community's health (3). Therefore, the use of appropriate training, suitable space, supply of materials and tools can help societies achieve this goal (4). Nurses constitute a huge group of treatment team members. An important part of the care and treatment process is related to the nursing staff, and their effectiveness affects the success and effectiveness of the organization (5,6). After passing general, basic, specialized, internship and field internship courses in universities, nurses provide services as a member of the health team in various fields related to providing health, education, research, counseling, prevention, management, support and care, and rehabilitation (7). Nursing education is a regular, ongoing and planned process (8). It includes practical and theoretical processes. Skills are taught during clinical education, and students are introduced to real environment of the workplace (9-11). Nursing education in Iran has been faced with many ups and downs. The nursing education of Iran was established in 1915 in Tabriz School of Nursing based on the American nursing view and emphasized practical aspects of nursing and by the year 1934, graduated nurses were called "doctor's assistants". After the Islamic Revolution and the Cultural Revolution, the nursing curriculum has undergone many changes; at that time, the period of nursing education lasted 3 years, which was reduced to 2 years after the start of the war (12). At the time of the war, the Ministry of Health worked out a description of the nursing duties with no continuous education (13). By 2014, nursing education was conducted based on a curriculum developed by the Ministry of Health in 2005. In 2014, the Ministry of Health developed a new nursing curriculum, and the nursing education in the country was based on the new curriculum from October 2014. Our goal and expectation in student education is that students should be able to apply theoretical knowledge in clinic after completing their education and employment as different nursing positions (14). Studies have shown that lack of adequate skills and incompatibility of educational goals are related to the professional needs of nursing and midwifery graduates which have been associated with several factors, including the curriculum, facilities and equipment, and theoretical and clinical education environments (15-17). The most important elements of the curriculum are that they must be appropriately suited to their respective goals, tasks, and developments in order to play their effective role (18). Understanding educational needs is a prerequisite for a successful education (19). In order to identify the educational needs in the curriculum development process based on community needs, it is necessary to use the views of those who are well aware of professional issues (20). Nursing instructors, as one of the components of the

academic system and as policymakers, can move toward the empowerment of the field as a profession (21). Due to their familiarity with the factors affecting the curriculum, the faculty members are among the key sources involved in the curriculum, who can design training courses, design, modify, organize, and evaluate the curriculum (22). In a study conducted in Mazandaran University of Medical Sciences, 87% of the faculty members of this university considered the courses in nursing education necessary, but they mentioned the use of these courses in the clinic was 12.08%. In this study, the necessity of nursing courses from the viewpoints of instructors was reported as 16.35% (23). However, due to the modification of the nursing curriculum from 2014, no study has been done on the new headings. Due to the complex nature of the nursing and the diversity of the situations of the existing health care systems faced by nurses, the university should train qualified nurses with the scientific and practical abilities to provide quality care. The need for quality improvement, rapid development of technology and the increasing complexity of health-care systems, necessitate continuous review and revision of the academic system (24). Considering the fact that the faculty members are the main implementers of this curriculum, the present study aims to investigate the compatibility of nursing undergraduate curriculum to occupational needs from the viewpoint of faculty members of some universities of medical sciences in the northwestern Iran.

METHODS

This is a descriptive cross-sectional study. After obtaining permission and ethics code IR.ARUMS.REC.1396.187 from Khalkhal University of Medical Sciences with the participation of 61 faculty members of Northwestern Universities of Medical Sciences this study was conducted using the census method (due to limited faculty members of the nursing group). After identifying the number of nursing faculty members in the nursing and midwifery schools of Tabriz, Urmia, Zanjan, Ardebil and Gilan universities of medical sciences, after explaining the goals of the study and obtaining informed consent and willingness of participation in the study, the questionnaires were given to faculty members by researchers. A total of 70 questionnaires were distributed, among which 61 questionnaires were investigated. The inclusion criteria were contract and service commitment faculty members, and faculty members who have theoretical and clinical teaching, and the exclusion criteria was unwillingness to participate in the study.

The population is all nursing faculty members of Ardabil, Urmia, Zanjan, Tabriz, and Rasht Universities of Medical Sciences. Sampling was performed in nursing and midwifery schools in fall 2017 using the census method. All nursing faculty members were enrolled in the study.

The tool used in this study is a two-part questionnaire. The first part is related to the demographic characteristics of the faculty members participating in the study and the second part of the questionnaire is questions related to nursing courses. The second part of the questionnaire consists of four sections A, B, C, D. Part A contains 46 titles of undergraduate nursing courses, which is designed in the

form of a table to accommodate each of the undergraduate nursing courses in terms of compatibility with occupational needs with a score of 1 to 4. The score for each course from 1 to 4 was reported as mean and standard deviation; the higher score in each lesson reflects more compatibility. It should be noted that regarding the 8 questions of the basic sciences courses, considering the history of the majority of faculty members as counselor professor and their knowledge about the content of these courses, all faculty members were surveyed. Regarding other questions, faculty members were asked to provide their ideas for their specialized courses. The total score was between 46 and 184, with a higher score indicating that the entire course syllabus is compatible to the occupational needs. Part A includes 9 questions in the field of basic sciences courses, 26 questions in specialized courses, 11 questions related to internship and field internship of nursing. Section B includes an open question asking the participants to comment on which of the basic, specialized, and internship courses can be removed from the curriculum of the course. In Section C, participants were asked to comment on adding their required courses in each of the three basic, specialized, and internship courses, and in section D, participants were asked to submit suggestions as well as advantages and disadvantages of the new curriculum to promote the nursing undergraduate curriculum. After completing the questionnaire, participants' demographic information and section A of the questionnaires were coded and entered into SPSS software. Using descriptive statistics, the frequency and percentage of demographic information and the agreed and disagreed opinions regarding titles of undergraduate nursing curriculum were determined. Parts D, B and C were also descriptively analyzed using the Delphi method. In the first stage, the questionnaires were given to faculty members as open questions. Then, the basics and the main issues were extracted from them and presented as frequency and percentages. To determine the validity of the tool, it was presented to 10 faculty members of Ardabil and Khalkhal Nursing and Midwifery faculties and their comments were applied. The reliability was also determined using Cronbach's alpha of 0.79.

RESULTS

The average age of faculty members participating in the study was 42.81. Forty-five participants (73.8%) were female and 16 (26.2%) were male and the average work experience of participants was 14.88 years. The demographic information of the participants in the study are presented in Table 1.

The analysis of the results of the first part of the questionnaire showed that the highest average score in terms of compatibility with occupational needs from the viewpoint of faculty members in the basic courses related to the biochemistry course with a score of $1/2 \pm 1/3$ and the lowest score was related to the physiology course. Among the specialized courses, epidemiology with the mean score of 1.90 ± 0.99 and adult and elderly nursing had the lowest mean score of 1.29 ± 0.32 . Among internship and field internship courses, adults and elderly's internships had the lowest mean score (1.15 ± 0.31). The mean and standard deviation of the score of compatibility with occupational needs from the viewpoint of faculty members is 63.87 ± 16.22 . The results of the second part of the questionnaire are presented in Table 2.

In the third part of the questionnaire, which was a survey on the removal of lessons from the undergraduate nursing curriculum, the results showed from the viewpoint of most faculty members, it would be better to consider the removal of parasitology and nursing of environmental health (11.47). Some of the suggested courses for removing from the curriculum are given in Table 2.

In the fourth part of the questionnaire, which asked the advantages and disadvantages of the new undergraduate nursing curriculum, the summary of the opinions showed that the addition of courses such as home care, due to the lack of a suitable platform for the implementation of this unit in Iran is not necessary. Also, reducing the number of basic and community health courses is the benefits of the new curriculum. It is suggested that the community's health internship and field internship courses to be reduced. The incompatibility of the time schedule with the content of the curriculum for most courses, especially adult and elderly's nursing courses are inadequate and the number of sessions considered does not comply with the content of the courses.

Table 1. Demographic information of the faculty members participating in the study

Variable	N (%)	Variable	N (%)
Gender	Male	Position	Head of Faculty
	Female		Deputy of Education
Field	Internal Surgery	Head of Department	10 (4.16)
	Pediatrics NICU	Instructor	49 (3.80)
	Psychiatric Nursing	Lecturer	43 (5.70)
	Public Health	Scientific Degree	Assistant Professor
	Special Nursing	Associate Professor	14 (23)
	Elderlies	Professor	3 (9.4)
	Mother and Infant		1 (6.1)

Table 2. The mean and standard deviation of nursing undergraduate grades in terms of compatibility with occupational needs from the viewpoint of faculty members

Course Type	Course Title	Mean ± SD	Course Type	Course Title	Mean ± SD
Specialized Courses	Nutrition and Nutrition Therapy	1.60±0.77	Basic Sciences	Pediatric Diseases Nursing	1.31±0.63
	Principles of Epidemiology and the defending against common diseases in Iran	1.90±0.99		Mental Health Nursing	1.32±0.58
	Individual-Social Psychology	1.67±0.94		Mental Diseases Nursing	1.48±0.61
	Pharmacology	1.32±0.75		Anatomy	1.55±0.79
	Specialized English	1.46±0.69		Physiology	1.46±0.81
	Patient education process	1.36±0.62		Biochemistry	2.1±1.03
	Nursing Principles and Skills	1.49±0.82		Information Technology in Nursing	1.9±1.18
	Nursing ethics and professional communication	1.65±0.94		Bacteriology	1.8±0.91
	Individual and Family Health Nursing	1.48±0.77		Parasitology	1.91±0.88
	Community health nursing	1.56±0.78		Genetics and Immunology	1.95±0.99
	Nursing and environmental health	1.88±1.01	Basic vital statistics	1.60±0.77	
	Health status nursing	1.37±0.59	Principles and Skills Internship	1.32±0.64	
	Maternal and Neonatal Health Nursing	1.27±0.48	Emergency Internship	1.38±0.59	
	Nursing in maternal and neonatal health disorders	1.23±0.46	Senior Adult	1.15±0.30	
	Basic Nursing Concepts	1.38±0.69	Maternal and Neonatal	1.36±0.63	
	Senior Adult Nursing 1	1.11±0.37	Pediatric Internship	1.21±0.60	
	Senior Adult Nursing 2	1.15±0.53	Health Internship	1.17±0.43	
	Senior Adult Nursing 3	1.15±0.37	Internship of the Principles of Nursing Services Management	1.18±0.48	
	Home care nursing	1.31±0.58	Nursing of Special Care Internship	1.12±0.32	
	Comprehensive nursing care in special sectors	1.19±0.49	Mental Health Internship	1.18±0.48	
Emergency nursing in crisis and unexpected accidents	1.23±0.61	Pharmacology Internship	1.25±0.65		
Principles of Nursing Services Management	1.48±0.61	Common Problems in Iran Internship	1.42±0.73		
Healthy child nursing	1.55±1.51				

Table 3. Courses to be removed from the undergraduate nursing curriculum suggested by faculty members

Course Type	Course Name	Frequency (Percentage)	Course Type	Course Name	Frequency (Percentage)
Basic Sciences	Biochemistry	6 (9.83)	Specialized Courses	Nutrition	3 (4.91)
	Bacteriology	6 (9.83)		Epidemiology	3 (4.91)
	Parasitology	9 (14.75)		Public Health	7 (11.47)
	Information Technology	5 (8.19)	Home Nursing	4 (6.55)	
	Vital Statistics and Research in Nursing	5 (8.19)	Internship and Field Internship	Healthy Child Nursing	3 (4.91)
	Genetics and Immunology	2 (3.27)	Public Health	4 (6.55)	

Table 4. Courses to be added to the undergraduate nursing curriculum suggested by faculty members

Course Type	Course Name	Frequency (Percentage)	Course Type	Course Name	Frequency (Percentage)
Basic Sciences	Histology	1 (1.63)	Specialized Courses	Nursing knowledge and its development	1 (1.63)
	Stress Management	1 (1.63)		Professionalism in nursing	1 (1.63)
	Sociology, Anthropology, Cultural Studies	5 (8.19)		Clinical Judgment and reasoning	1 (1.63)
	Educational Technology	1 (1.63)		Evidence-Based Nursing	1 (1.63)
	Nursing Philosophy and Theories	1 (1.63)		Introduction to medical abbreviations	1 (1.63)
	Sociology	1 (1.63)		Interpretation of radiographies, MRI, and CT Scan	1 (1.63)
	Pathology	2 (3.27)		Professionalism in nursing	1 (1.63)
Internship and Field Internship	Complementary Medicine	1 (1.63)	Empowerment	1 (1.63)	
	Health Status	1 (1.63)	Tests and their applications	1 (1.63)	
	Care planning based on nursing models	1 (1.63)	Healthy Elderly, Active Elderly	1 (1.63)	
	Clinical Judgment and reasoning	2 (3.27)	Physical Examination of the Elderly	1 (1.63)	
			Disorders of the Elderly	1 (1.63)	
			Living with an Elderly Patient	1 (1.63)	
			Tele Nursing	1 (1.63)	

DISCUSSION

In general, according to the results of this study, the compatibility of the curriculum with occupational needs of nursing is not appropriate from the point of view of the faculty members, since the average total score of faculty members' opinions is very low. Therefore, the findings of this study indicate that from the viewpoint of the faculty members, the titles of the new curriculum will not fulfill future occupational needs of nurses. It seems that the reduction of the hours for essential courses, such as adult and elderly diseases, has led to a sharp decrease in the quality of classroom courses, as it is not possible to provide all the material at the intended time, and the instructor has to reduce the teaching quantity and even remove some material. On the other hand, it was expected that by changing the nursing curriculum, a fundamental change in nursing education would be created so that the students with high practical skills and theory would be delivered to the health system of the country, but this change was not only effective, but also has been ineffective in some cases according to the results of this study. In the viewpoint of faculty members, among the specialized courses, the epidemiology course and among the basic courses, biochemistry course have the highest proportionality and compatibility with the student's occupational needs; while the highest percentage of the faculty members suggested removal of relevant lessons. Therefore, given that the majority of the participants in the study are counselor professors, it seems that despite the lack

of awareness of the need for the relevant courses, the titles for these two courses in the new curriculum seem to be adequate and appropriate. Borzou et al. (25) stated in their study that the epidemiology course has the least use among specialized courses. These results are consistent with some of the findings of the present study, because from the viewpoint of nursing instructors, the exclusion of this course from the curriculum is suggested. Considering the decrease in the number of the units of the course in the new curriculum and the difference in the statistical society of the two studies, the contradiction between the two studies is partly due to the fact that in the Borzou study, the opinions of the working nurses have been studied. Also, the highest score among the specialized courses is related to the internal course of surgery, but in the current study, adults and elderly courses which have replaced internal surgery had the lowest average score, which results in the two studies being inconsistent. On the other hand, according to the survey, there is no compatibility between the time and the course material for most courses, especially specialized courses, such as adults and elderly courses.

Among the internship and field internship courses, Iran's most common problems internship unit has the highest average score. Although this course was not in the old curriculum, the material of this unit is derived from the internal course of the former curriculum. In this study, nursing educators proposed adding courses, such as evidence-based clinical teaching, critical thinking, and judgment and clinical reasoning, to improve the quality of

education and increase the effectiveness of the new curriculum. In other studies, teaching critical thinking and teamwork during the course of study is considered appropriate in making appropriate clinical decisions, increasing self-confidence and effective professional empowerment (26-31). In his study, Biabangardi reported that some courses needed to be changed, and some did not fit nursing career, and some nursing courses were either not relevant or not applicable (32). In Toulabi and Salehi studies, students considered the adequacy and compatibility of theoretical and clinical courses to be completely inappropriate, and argue that university training responds to their professional needs at a moderate level, which puts pressure on nursing students in this regard. (15, 17). In most studies conducted on the old curriculum, it is suggested that changes be made to the curriculum and provide of appropriate educational programs during university education that would enable nursing graduates with more preparation to work in the field. However, the new curriculum seems to have failed to fulfill faculty members' satisfaction as key implementers of nursing education, and

the nursing education program in Iran still needs to be modified and developed. Given the limited access to all faculty members in the field of nursing and the lack of cooperation of faculty members for various reasons such as time constraints, it is suggested that a broader study be conducted by the Ministry of Health's nursing education and with the cooperation of all medical faculties to examine the deficiencies of the new nursing curriculum.

The results of this study show that the curriculum for undergraduate nursing is not only suitable for the occupational needs but also requires modifications in the content and time considered for each unit.

ACKNOWLEDGMENTS

The researchers appreciate all faculty members who participated in the study.

Conflict of interest: None declared.

Financial Support: This study was sponsored and supported by Khalkhal University of Medical Sciences with ethics code IR.ARUMS.REC.1396.187.

REFERENCES

- Ebadi A, Vanaki Z, Nahir B, Hekmatpou D. Pathology of continuing educational programs in Iran medical society. *Stride in Development of Medical Education* 2008; 4(2): 140-5. Persian.
- Gahrman Tabrizi K, Tondnevis F, Amirtash A, Kadivar P. Relationship between organizational culture and creativity of faculty members in physical education groups at Iranian state universities. *Journal of Motion Sciences and Sport* 2005; 6(1):139-50. Persian.
- Allen DL, Caffesse RG, Bornerand M, Frame JW, Heyboer A. Participatory continuing dental education. *Int Dent J.* 1994; 44(5): 511-19.
- Dagenais ME, Hawley D, Lund JP. Assessing the effectiveness of a new curriculum: Part I. *J Dent Educ.* 2003; 67(1):54-47.
- Doglas L. The effective nurse: leader and manager. Nikshoknia F, translator. Tehran: Boshra publication; 1996.
- Dehghan Nayeri N, Nazari AA, Salsali M, Ahmadi F, Adib Hajbaghery M. Iranian staff nurses' views of their productivity and management factors improving and impeding it: a qualitative study. *Nurs Health Sci.* 2006; 8(1):51-6.
- Azizi F. *Medical education: mission, vision and challenges.* 1st ed. Tehran: Ministry of Health and Medical Education. 2003: 186-200. Persian.
- Abdolahyan M. *Methods of teaching and learning in nursing education.* Babel Medical Publishing; 2003. Persian.
- Bourbannais FF, Langford S, Giannantoni L. Development of a clinical evaluation tool for baccalaureate nursing students. *Nurse Educ Pract.* 2008; 8(1): 62-71.
- Elcigil A, Yildirim Sari H. Determining problems experienced by student nurses in their work with clinical educators in Turkey. *Nurse Educ Today* 2007; 27(5): 491-8.
- Hadizadeh F, Firoozi M, Shamaeyan Razavi N. Nursing and midwifery students' perspective on clinical education in Gonabad University of Medical Sciences. *Iranian Journal of Medical Education* 2005; 5(1):70-78. Persian.
- Nikbakht AR, Lipson JG, Emami A. Professional nursing in Iran: an overview of its historical and Socio cultural framework. *J Prof Nurs.* 2004; 20(6): 396-402.
- Adib Hajbaghery M, Salsali M. A model for empowerment of nursing in Iran. *BMC Health Serv Res.* 2005; 5(24): 2-11.
- Sohrabi S, Deris F, Hashemi SM. Causes for uselessness of theoretical instructions in patients' bedsides: investigation of nurses and Midwives viewpoints. *Research in Medical Sciences* 1998; 3(1): 71-3. Persian.
- Salehi SH, Tavakol z, Hasanzahraie R, Bashardost N, Mahjur SR. The performance evaluation of BS nursing graduates based on their own perspectives and their head nurses in the hospital affiliated to Isfahan University of Medical Sciences in 2002. *Iranian Journal of Medical Education* 2002; 4: 44-55. Persian.
- Abdolahzadeh F, Niknam F, Alizadeh M. Determining the most influential factors in educational planning from the perspective of students. *Special Supplement for 8th National Congress of Medical Education .Kerman.* 2007; March 6-8:232. Persian.
- Toulabi T, Janani F, Qurbanmohammadi E. The appropriateness of educational programs' objectives for professional needs: The viewpoints of Khorramabad School of Nursing and Midwifery graduates. *Iranian Journal of Medical Education* 2009; 8(2): 263-73. Persian.
- Arefi M. *Strategic curriculum in higher education.* Tehran: Shahid Beheshti University of Medical Sciences; 2005. Persian.
- Jahangiri L, Mucciolo TW, Choi M, Spielman AI. Assessment of teaching effectiveness in U.S. Dental schools and the value of triangulation. *J Dent Educ.* 2008; 72(6):707-18.
- Farahani M, Ahmadi F. Doctoral nursing students' viewpoints about the nursing PhD curriculum. *Iranian Journal of Medical Education* 2006; 6(1): 83-92. Persian.
- Mirzabeigi Gh, Sanjari M, Shirazi F, Heidari Sh, Salemi S. Nursing students' and educators' views about nursing education in Iran. *Nursing Research* 2011; 6(20):68-74.
- Bouzarjomehri F, Nafisi Moghadam R. Attitude of medical students of Shahid Sadoughi University of Medical Sciences towards change in the medical physics curriculum. *Journal of Medical Education and Development* 2012; 7(3):58-66. Persian.
- Nouhi E, Kohan S, Haghdooost A, Nazari R. Theoretical nursing courses application in clinical field: clinical nurse teachers & students perspectives in Mazandaran University of Medical Sciences. *Iran Journal of Nursing.* 2007; 20(52):29-38. Persian.
- Way M, Macneil M. Baccalaureate entry to practice: A system view. *J Contin*

- Educ Nurs. 2007; 38(4):164-9.
25. Borzou R, Safari M, Khodavisi M, Torkaman B. The viewpoints of nurses towards applicability of nursing curriculum in hospitals affiliated to Hamedan University of Medical Sciences. Iranian Journal of Medical Education 2009; 8(2):205-11. Persian.
26. Babamohammadi H, Khalili H. Critical thinking skills of nursing students in Semnan University of Medical Sciences. Iranian Journal of Medical Education 2004; 4(2): 23-31. Persian.
27. Adib Hajbagheri M, Salsali M, Ahmadi F. Clinical decision-making: a way to professional empowerment in nursing. Iranian Journal of Medical Education 2003; 3(2): 21-5. Persian.
28. Wagner EH, Reid RJ. Are continuity of care and teamwork incompatible? Med Care 2007;45(1): 6-7.
29. Brazil K, Howell D, Marshall D, Critchley P, Van den Elzen P, Thomson C. Building primary care capacity in palliative care: proceedings of an interprofessional workshop. J Palliat Care. 2007; 23(2):113-16.
30. Bégat I, Ellefsen B, Severinsson E. Nurses' satisfaction with their work environment and the outcomes of clinical nursing supervision on nurses' experiences of well-being: a Norwegian study. J Nurs Manag. 2005 May; 13(3): 221-30.
31. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today 2004 Feb; 24(2):105-12.
32. Biabangardi Z, Parsa S, Haji Kazemi E, Khanjari S, Shahpurian F, Mashayekh F. Program evaluation of nursing educational opinions of graduates and undergraduates. Research in Medical Sciences 1998; 3(1): 28- 32. Persian.