

NURSING KNOWLEDGE AS A RESPONSE TO SOCIETAL NEEDS: A FRAMEWORK FOR PROMOTING NURSING AS A PROFESSION

ZNANJE MEDICINSKIH SESTER KOT ODZIV NA POTREBE DRUŽBE: IZHODIŠČA ZA PREPOZNAVANJE ZDRAVSTVENE NEGE KOT PROFESIJE

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Abstract

Introduction: As the population needs for health care at the local level become integrated into the global context, nurses are given the opportunity to make a significant contribution to the modernization of the healthcare system and gain importance and recognition from the political perspective. Nursing today is confronted with the needs and demands of both healthy and ill populations — these can be the result of changing demographics, new technologies, a growing awareness of the rights and voiced expectations of service users etc. Slovenian nurses have the opportunity to make a significant contribution to the modernization of the Slovenian healthcare system. This can be achieved by learning from the experiences of other countries and by exploring and addressing existing aspects of the need to gain professional status.

Methods: A review of the international literature indexed in the CINAHL database was performed for the period January - August 2010. The key phrases used were: 'nursing skills and knowledge', 'nursing future and politics', 'nursing future and responsibility', 'nursing future and leadership'. We used only abstracts in English. A total of 343 abstracts were retrieved and assessed. All abstracts that did not include issues related to the importance of nursing knowledge and the importance of connecting nursing knowledge with patient needs were excluded. Twenty-two articles in total were included. A qualitative synthesis of the conclusions from each of the articles included was conducted, from which content codes were generated. The codes were then placed into content categories.

Results: Forty-seven qualitative codes were identified and semantically divided into 7 categories: public perception of nurses and the importance of knowledge; awareness at the personal and professional levels; adapting health care skills and knowledge, and the number of health care professionals, to future needs; importance of new nursing skills and knowledge, and of skill transfer; research as the source of new knowledge and development; assuming responsibility for conducting evidence-based nursing; emphasizing cooperation and communication.

Discussion: Based on the established qualitative categories in our research, we developed an explanatory model that is a good starting point for reflecting on where nursing is today and where it should be heading in the future, and is recommended for nurses, nursing managers, deans of nursing colleges, officials in nursing associations and others. Research findings are especially relevant for countries in which nursing is currently a poorly developed scientific discipline and in which steps need to be taken fast to promote knowledge development and the role of nurses in society.

Key words: knowledge, nursing, responsibility, research, evidence, professional development

Pregledni znanstveni članek
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Izvleček

Uvod: Lokalno raven potreb prebivalstva po zdravstveni obravnavi umeščamo v globalni kontekst, kar medicinskim sestram ponuja priložnost, da pomembno prispevajo k modernizaciji zdravstvenega sistema in s tem postanejo

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potrebne in prepoznavne tudi politično. Zdravstvena nega se v današnjem času sooča s potrebami in zahtevami zdrave in bolne populacije, ki so posledica demografskih trendov, razvoja tehnologije, vedno večjega zavedanja pravic in izraženih pričakovanj uporabnikov storitev ipd. Slovenske medicinske sestre imajo priložnost, da pomembno prispevajo k modernizaciji zdravstvenega sistema. To lahko dosežejo z učenjem in s spoznavanjem izkušenj tujih držav ter z raziskovanjem in s prepoznavanjem dejavnikov, ki so potrebni za pridobitev statusa profesije.

Metoda: Izbrali smo metodo pregleda literature v obdobju od januarja do avgusta 2010. Uporabili smo bazo CINAHL, napredno iskanje, Boolov logični operator »AND«, omejitev v letih in polna besedila člankov. Poslužili smo se več ključnih besednih zvez: »nursing skills and knowledge«, »nursing future and politics«, »nursing future and responsibility«, »nursing future and leadership«. Skupno smo dobili 343 zadetkov ter pregledali izvlečke teh člankov. Med njimi smo izbrali tiste, ki so obravnavali podobno raziskovalno vprašanje. V pregled smo tako uvrstili 22 člankov, pri raziskovanju pa uporabili metodo kvalitativne sinteze oblikovanja kategorij na osnovi pregledanih spoznanj raziskovalcev v znanstvenih člankih.

Rezultati: Identificirali smo 47 kod, ki smo jih vsebinsko združili v 7 kategorij: javna podoba medicinskih sester in pomen znanja; zavedanje na ravni osebe in na ravni strokovnjaka; znanje in število kadrov v zdravstvu prilagoditi potrebam v prihodnosti; potrebne nove razsežnosti znanja v zdravstveni negi in prenos pristojnosti; raziskovanje kot vir novega znanja in razvoja; prevzemanje odgovornosti za izvajanje na dokazih podprte zdravstvene nege; usmerjenost v sodelovanje in komuniciranje.

Razpravljanje: Na osnovi oblikovanih kvalitativnih kategorij smo razvili pojasnjevalni model, ki je dobra osnova za refleksijo na današnje razmere v zdravstveni negi in kaže, kakšna naj bo vloga zdravstvene nege v prihodnosti z vidika potreb zdrave in bolne populacije. Model predstavlja priporočila za medicinske sestre, managerje v zdravstveni negi, dekane visokošolskih zavodov, predstavnike združenj idr. Rezultati pregleda literature so zlasti pomembni za države, v katerih je zdravstvena nega slabo razvita znanstvena disciplina in kjer bodo potrebni hitri premiki v smeri razvoja znanja v zdravstveni negi in pri oblikovanju vloge medicinskih sester v družbi.

Ključne besede: znanje, zdravstvena nega, raziskovanje, dokazi, profesionalni razvoj

1 Introduction

Few studies describe the importance of nursing for modern society, especially on a global level. Most studies deal with nurse-patient or nurse-nurse interactions, or nurses' job satisfaction. Nursing still does not receive enough attention as a profession and the result is a subordinate and inappropriate position of nursing within the healthcare system (1). In addition to not receiving due recognition as a profession, nursing has to meet the needs and demands of both healthy and ill populations, which are greater as a result of demographic changes, new technologies, an increasing awareness of the rights and expressed expectations of service users, among other reasons (2). As population needs for health care at the local level become integrated into the global context, nurses have the opportunity to make a significant contribution to the modernization of the healthcare system, and to gain importance and recognition from the political perspective (1). Benton (3) highlights the issues of rigidity of the educational system at the university level and a lack of interconnectedness with the clinical practice setting and societal needs. The general population needs nurses who are concerned with the current situation rather than being preoccupied with

themselves. Colardyn and Bjornavold (4) have stressed the importance of different qualification levels within the European Quality Assurance Reference Framework and firmly believe that nursing must be placed at level 6, the university level for vocational training (level 5 represents traditional vocational training). Every country and their respective nursing associations, together with nursing associations at the European level, must work towards this goal. Nursing professionals should be asking themselves what level of knowledge they require, since the European directive for regulated professions is 35 years old and although it has undergone some minor amendments since then, these have not included a decision on the level of education, as is the case with doctors.

Skela Savič (5) has shown that nurses are not the most desired group at universities. She also highlights the difficulties in integrating 4,600 hours of theoretical and practical nursing programme, as stated in the EU directive and the Bologna Process. She believes that the EU directive should include a training period for nurses. Under the current legislation, nurses are required to make independent decisions from the first day of work, which is not realistic. On the other hand, Benton (3) highlights the case of Iceland, where nurses were made redundant during the time of economic

downturn, despite actual deficits in the number of nursing professionals, which means that a nursing job is not in fact as safe and permanent as many like to think. Slovenia is currently going through a period of conflicting interests on professional nursing development and education. According to Skela Savič (5), Slovenian policy makers and healthcare managers are having to come to terms with the fact that higher education in nursing has become the norm and that nursing education programmes must be implemented in accordance with the EU Directive for regulated professions, the Bologna reform and other international policies.

The first master degree course in nursing in Slovenia was open for enrolment in 2007, with the first masters of nursing commencing work in 2010. The basic conditions for the development of clinical research in nursing were thus met. Until then, the main areas of research for nurses studying in other university or college programmes, and master or PhD programmes, were related to management, quality implementation and the perception of the profession of nursing itself, because existing programmes did not provide them with sufficient theoretical knowledge and know-how for carrying out clinical research in nursing (Skela Savič, 2009).

The aim of this study is to develop a framework and illustrate where future improvements in nursing knowledge as a response to societal needs can be addressed, using a systematic analysis of the literature on factors for developing nursing as a profession.

2 Methods

A systematic methodology was used, which involved a search, descriptive synthesis, assessment and appraisal of quality of the subject area. The literature for the period January - August 2010 was reviewed using the Cumulative Index to Nursing and Allied Health Literature (CINAHL), advanced search, and Boolean logical operators for year limitations. The following search terms in English were used in the search:

- With the search term “nursing skills and knowledge”, we retrieved 290 abstracts and 132 full-text articles for the period 2005 – 2010, and 439 abstracts and 176 full-text articles for the period 2000 – 2010;
- With the search term “nursing future and politics”, we retrieved 8 abstracts and 3 full-text articles for the period 2000 – 2008;
- With the search term “nursing future and responsibility”, we retrieved 11 abstracts and 3 full-text articles for the period 2000 – 2010;
- With the search term “nursing future and leadership”,

we retrieved 34 abstracts and 12 full-text articles for the period 2000 – 2010.

A selection of the abstracts was made according to the following criteria:

- We used only abstracts in English (343);
- We excluded all studies that did not deal with the importance of nursing knowledge and the importance of connecting nursing knowledge with patient needs (316);
- From this selection of abstracts (27), we excluded abstracts of systematic review studies (5).

Twenty-two abstracts thus remained. These were full-text articles from the CINAHL database, from ScienceDirect, PubMed or Medline. We used qualitative synthesis of the conclusions from the included articles and generated content codes to be used as the basis for forming content categories. The research was conducted by two researchers, from Slovenia and Great Britain, both college professors with many years of experience in nursing. Consensus decision-making was adopted for formulating codes and categories.

3 Results

The total number of retrieved abstracts was 343. The applied criteria yielded 22 articles for qualitative synthesis; 5 articles were eliminated because they were not original scientific work. Table 1 lists the authors of the included articles and the type of research of each study.

Table 2 shows a qualitative synthesis of the conclusions of the included articles. A qualitative method was used and included an overview of the researchers' conclusions in the scientific articles. Secondly, content codes were generated and used as the basis for forming content categories. A total of 47 codes were identified and grouped into 7 categories on the basis of content:

- Public perception of nurses and the importance of knowledge,
- Awareness at personal and professional levels,
- Adapting healthcare skills and knowledge, and the number of health care professionals, to future needs,
- Importance of new nursing skills and knowledge, and of skill transfer,
- Research as the source of new knowledge and development,
- Assuming responsibility for conducting evidence-based nursing,
- Emphasizing cooperation and communication.

The results of these findings will be addressed under the seven content categories.

Table 1. Reviewed articles according to research type and authors.
Tabela 1. Pregled člankov glede na vrsto raziskave in avtorje.

Research type	Number of studies (n=22)	Authors
Descriptive, quantitative design (survey study)	5	Karkos, Peters (6); McCleary, Brown (7); McCloskey (8); Happell, Martin (9); Melnyk and Fineout-Overholt (10)
Cross-sectional, descriptive design	1	Carrion et al. (11)
Case study with non-experimental design	1	Green et al. (12)
Action research	1	Schofield et al. (13)
Qualitative research - Discourse analysis	1	Fealy, McNamara (14)
Qualitative research - Historical analysis	2	Lorentzon (15), Sheer and Wong (16)
Qualitative research - Case study	1	French (17)
Qualitative research - Focus groups	1	Hannes et al. (18)
Cross-sectional analysis	2	Aiken, Clarke, Cheung, Sloane, Silber, (19); Rafferty et al. (20)
Systematic literature review	4	Pearson et al. (21), Curson et al. (22); Wells, Free and Adams (23); Dubois, Singh (24)
Literature review	3	Darbyshire et al. (25), Green et al. (26) (2007), Tagney and Haines (27)

Table 2. Overview of codes and categories.
Tabela 2. Pregled kod in kategorij.

Categories (N=7)	Codes (N=47)	Authors
Public perception of nurses and the importance of knowledge	Influence of Catholicism on nursing Nursing is subordinate to medicine Nursing work goes without saying Generally accepted belief that nursing does not belong in academia Bedside training is emphasized Academic dimension does not exist in training programmes Practical knowledge is favoured Dichotomy between the importance of clinical and theoretical knowledge Higher level of education is desirable mostly because of higher pay	Fealy, McNamara (14) Lorentzon (15)
Awareness at the personal and professional levels	Awareness of personal characteristics that define us Awareness of our own professional work Professional conduct, positive values for the nursing profession, personal initiative, self-confidence, desire for involvement	Pearson et al. (21)

<p>Adapting healthcare skills and knowledge, and the number of healthcare professionals, to future requirements</p>	<p>Different nursing education systems in the developed world Differences between university nursing programmes and higher education programmes The higher the level of nurses' education, the better the patient outcomes The need for continuous education of nurses In order to gain credibility, nursing must be supported by a solid education; higher education as the starting point of nursing professionals Importance of skilled and competent nursing staff in healthcare institutions Knowledge must be adapted to demographic changes in society The need for an increase in the number of healthcare professionals Study bases should be adapted to accommodate educational training Nurses must know how to improve their work Importance of knowledge transfer (mentorship)</p>	<p>Pearson et al. (21) Aiken, Clarke, Cheung, Sloane, Silber (19) Rafferty et al. (20) Curson et al. (22) Schofield et al. (13)</p>
<p>Importance of new nursing skills and knowledge, and of skill transfer</p>	<p>Upgrading competencies with skills Postgraduate education as a global trend As the number of nurses with higher education increases, doctors are expected to delegate more responsibility to nurses Master degree programmes must focus on current and future nursing needs and on the required knowledge and skills Required skills connected with clinical practice are: open approach, critical thinking, decision-making abilities and an integral approach.</p>	<p>Sheer and Wong (16) Dubois, Singh (24) Pearson et al. (21)</p>
<p>Research as the source of new knowledge and development</p>	<p>Research is connected with nurses' knowledge A lack of skills and knowledge for interpretation of research results Research development is hindered by a lack of time and a low level of support Managers should encourage research Not enough funding for research The need for more cooperation among researchers, lecturers and students Nursing research is inhibited due to the hierarchical culture in healthcare organizations Nurses' values do not favour research Fear of change The culture of acting has preference over the culture of thinking</p>	<p>Karkos, Peters (6) McCleary, Brown (7) Wells, Free and Adams (23) McCloskey (8) Happell, Martin (9) Darbyshire et al. (25) Green et al. (12) Tagney and Haines (26) French (17) Carrion et al. (11)</p>
<p>Assuming responsibility for conducting evidence-based nursing</p>	<p>Low level of responsibility for conducting evidence-based nursing Insufficient understanding of the concept of evidence-based nursing A higher level of education in nursing is connected with the introduction of evidence-based nursing</p>	<p>Hannes et al. (18) Melnik and Fineout-Overholt (10)</p>

<p>Emphasizing cooperation and communication</p>	<p>Teamwork within the nursing profession Teamwork and cooperation in a healthcare team Effective communication (listening, providing feedback) with co-workers and other health care professionals, with patients and their family members Transferring knowledge to patients and improving their competencies Knowledge exchange and transfer among co-workers</p>	<p>Pearson et al. (21)</p>
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Public perception of nurses and the importance of knowledge

The discourse on the ‘good nurse’ is historically marked by Catholicism and the subordinate position of nursing to medicine. Since medicine is a highly esteemed branch of science, with privilege, prestige and power attached to it, many people still tend to think that the development of nursing as a separate scientific discipline is unnecessary. The predominant image is of nurses as assistants to doctors and as women who manage bedside activities on their own accord. Such stereotypes foster the conviction that nurses do not require the same level of education as other professions and do not need academic development at the tertiary level. Their training is mainly associated with bedside training (14).

Lorentzon (15) and Fealy and McNamara (14) claim that traditional professional training prepares nurses primarily for the role of an assistant and thus disregards the need for professional training in higher education institutions. As a result, clinical practice has been favoured over research and theory. Head nurses who saw Nightingale as their role model disregarded the need for theoretical nursing training, thus hindering the concept of professional nursing education in academia (14). This view is erroneous, however, since Nightingale did favour educated nurses and her use of statistics demonstrated that soldiers did not for the most part die from war wounds – but from the complications of being in hospital.

Awareness at personal and professional levels

A higher level of awareness at personal and professional levels should be achieved by reflecting on one’s own work and therefore enhancing professional values, the process of evaluation and belief in one’s own practice and autonomy. Professional conduct includes positive values for the nursing profession, personal initiative, self-confidence and a desire for involvement (21). Professional training for nurses can last anything from one to four years and is not always conducted at

the tertiary level. Pearson et al. (21) summed up the findings of different approaches in nursing education, which showed that nurses with a university degree achieve a higher level of autonomy in their work than nurses with vocational college education or secondary-level education. Graduate nurses were more skilled in communicating, problem solving and passing their knowledge on to others than the other two groups of nurses. While nurses with a vocational college degree are ready to start working immediately in a clinical setting, nurses with a university degree function much better in a complex setting such as modern healthcare organizations.

Adapting healthcare skills and knowledge, and the number of healthcare professionals, to future needs

When comparing nursing to other, more socially prestigious professions, such as medicine or law, in which education is conducted exclusively at the university level, Pearson et al. (21) pointed out the significant variation in the education of nurses in different countries. How to maintain and improve the quality of nursing today is a question that is closely connected with the issue of ensuring skilled and professional nursing staff. In order to predict the needs for healthcare professionals in the future efficiently, it must first be established what knowledge and skills will then be required (22). Schofield et al. (13) believe that as many of the current healthcare professionals age, a larger number will have to be trained to replace them (both doctors and nurses). Given that nursing is accepted as a profession in many developed countries and there is clear evidence that other countries will follow, knowledgeable and skilled educators need to be developed for future demand.

Research results have shown that nursing members of healthcare teams with a higher level of education significantly contribute to better patient outcomes, while higher levels of patient mortality and disability and more frequent nursing mistakes, have been shown

to correlate with a lower education of nurses (19, 20). Nursing practice can only be improved if educated and experienced nurses transfer their knowledge to younger colleagues. Mentorship should be embraced and perceived in a positive light. The suggested mentorship model combines new knowledge, competencies and capabilities with the capacity to improve one's own work and supervision (21).

Importance of new nursing skills and knowledge, and of skill transfer

Skills related to clinical practice are an open approach, critical thinking, decision making abilities and an integral approach (21).

Sheer and Wong (16) view postgraduate education as a global trend. The International Council of Nurses defines an advanced practice nurse as a registered nurse who has acquired the expert knowledge base, complex decision-making skills and clinical competencies for expanded practice in a given field of work. In order to obtain the competencies for an advanced practice nurse, nursing practitioners are expected to have a master's degree in nursing.

In the UK for example, many nurses in general practices have been responsible since 1992 for carrying out services in health promotion, health screening, discharge follow-up, health counselling, interventions in accordance with treatment guidelines and managing patients with chronic diseases (24).

Master's programmes have to meet the constantly changing needs of nursing practice and include such new knowledge and skills as work autonomy and decision-making. The educational process for nurses must be continuous; the profession will gain credibility with commitment to higher education. The basic level of education for nurses should be tertiary education (21).

Research as the source of new knowledge and development

Nursing education plays a crucial role in the development of nursing research and its perceived importance. The more educated the nurses, the greater their awareness of the importance of research (6, 7). Wells, Free and Adams (23) describe the obstacles preventing nurses from applying evidence-based nursing practice and mention lack of knowledge as the greatest one.

McCloskey (8) summarizes the findings of multiple studies that looked into obstacles preventing the development of research in nursing. The key barriers are lack of time for reading scientific articles and participating in research activity and, consequently,

a lack of support from colleagues to become actively involved in research. Green et al. (12) stressed the importance of close cooperation between established researchers, lecturers and students in practice.

Tagney and Haines (26) favour innovative approaches when introducing nursing research, both in terms of organizational structure and organizational culture—the latter should foster evidence-based research. Happell and Martin (9) describe the positive outcomes of forming nursing clinical development units, including a greater focus on development, research and evidence-based practice and an increase in professional development activities, among other things. Darbyshire et al. (25) discuss problems in research connected to lack of funding. Carrion, Woods and Norman (11) found that the greatest barriers to research application were those related to the characteristics of the setting in which nurses work or the personal characteristics of nurses themselves. However, nurses reported that it is especially difficult to trust research findings because they feel that it is not always possible to apply such findings to their particular work environment. The main implications for policy are a need for an increase in support from management, programmes of advanced education to provide nurses with research skills, an improvement in the accessibility and availability of research reports and an increase in time available to read and to implement research.

Clinical specialists acting as organisational boundary spanners require skills in the informal cultural work of organising, facilitating, and maintaining links across professional, team, and organisational boundaries. If their role in the negotiation of evidence-based practice patterns across professional and organisational boundaries is to be successful, wider skills than information management need to be recognised and their development and enactment supported (17).

Assuming responsibility for conducting evidence-based nursing

Hannes et al. (18) report low levels of nurses' responsibility for implementing an evidence-based nursing approach. Melnyk et al. (10) found a statistically significant correlation between the implementation of an evidence-based nursing approach and the level of nurses' education and their ability to assume responsibility at the workplace. Hennes et al. (18) found that evidence-based nursing in practice is reportedly impeded by lack of time, difficult access to resources, a hierarchical structure, a lack of support from doctors or management, a lack of relevant studies for nursing,

a lack of computer and other skills, little motivation to carry out evidence-based practice, a reluctance to change practice, the impact of pharmaceutical companies on evidence, a culture promoting ‘acting’ instead of ‘researching’ and the experience of patients as an important outcome measure for evaluating clinical practice.

Concepts of evidence-based practice can be introduced into educational curricula at all levels. In associate degree education, nursing students can be taught the evidence-based practice paradigm, helped to develop a spirit of inquiry and shown the importance of data-driven decision making. Furthermore, baccalaureate programmes should teach students the steps of evidence based practice so that they can use this problem-solving approach to deliver the highest quality of care. Graduate education programmes should emphasise the need to expand the science of evidence based practice principles and measure the effect of evidence based practice on clinical outcomes (10).

Emphasizing cooperation and communication

Pearson et al. (21) produced a synthesis of factors influencing nurses’ work in the area of cooperation and communication. Cooperation is an important part of nursing practice. It requires the capacity for teamwork and the ability to cooperate with healthcare team members and others. Nurses can only carry

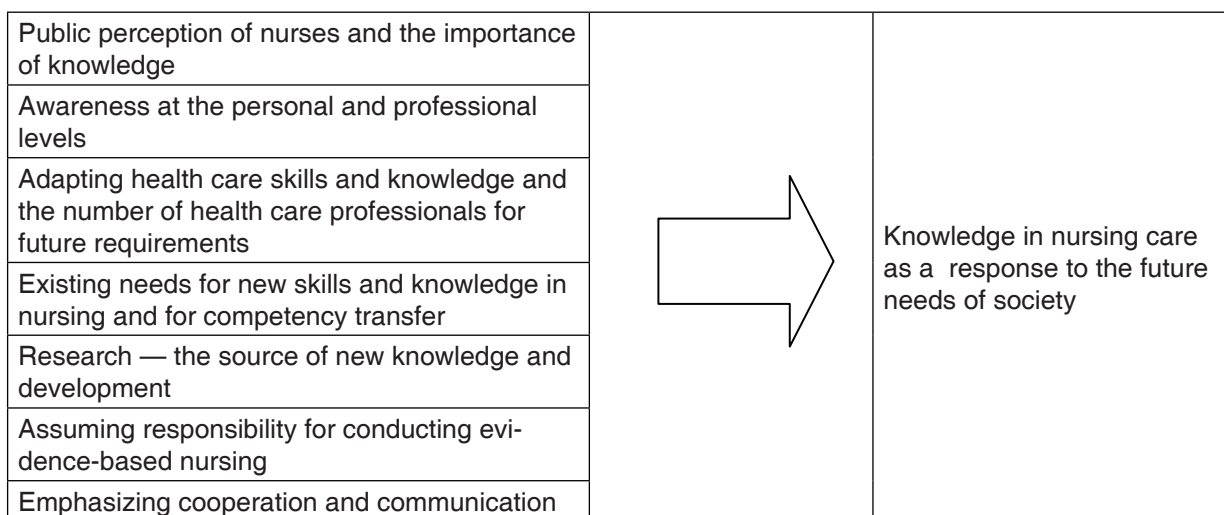
out their work professionally if they know how to communicate efficiently (listening, providing feedback) with co-workers and other health care professionals, patients and their family members. This also includes transferring knowledge to patients, improving patients’ competencies, exchanging knowledge and transferring knowledge to co-workers, all of which fosters better clinical practice.

4 Discussion

This study showed that nurses’ knowledge is an important factor in assuring a correct response of nursing to the future needs of society. The study demonstrated that there are many important factors in a variety of areas, such as public perceptions of nursing, the professional self-confidence of nurses, the politics of employment in the healthcare system, the internal impetus for development in nursing in research and evidence based practice, collaboration within the healthcare team.

Based on the established qualitative categories in our research, we developed an explanatory model, which is a good starting point for reflection on where nursing is today and where it should be heading in the future, recommended for nurses, nursing managers, deans of nursing colleges, officials in nursing associations and others (Figure 1).

*Figure 1. Factors that explain nursing knowledge.
Slika 1. Dejavniki, ki pojasnjujejo znanje medicinskih sester.*



The research findings are especially relevant for countries in which nursing is currently a weakly developed scientific discipline and in which steps will have to be taken fast to promote knowledge development and the role of nurses in society. In order to achieve this goal, officials in healthcare organizations (especially healthcare managers) will play a crucial role. Research by Skela Savič and Pagon (27) has demonstrated that the professional growth of nurses in Slovenia has been mainly threatened by organizational factors, such as hierarchy, control and market orientation, a lack of cooperation and team building between doctors and nurses, and insufficient involvement of both doctors and nurses in implementing change. Hannes (18) found in Belgium that the hierarchical structure of clinical professions, in which the position of nurses appears to be close to the bottom, is reflected in differences in status, power, authority and salary.

The many reforms of hospital nursing practice and overall nursing policies still indicate a dichotomy between knowledge obtained in a clinical setting and theoretical knowledge (28). Calls to make nursing a graduate profession have all too often been connected with a desire for better professional status and higher income, rather than reflecting the actual need for nurses to follow the latest developments and trends in their profession. McNamara (28) believes that substantiating the need for entry into academia by a better professional status for nurses and the advancement of the profession have led to criticism that the real reasons are not, in fact, increasing nurses' knowledge and skills in order to improve patients' nursing care but rather a desire for greater recognition, better professional status and higher pay.

Demographic change will play a key role in future healthcare provision of most European countries, not only in terms of the healthcare needs of the general aging population, but also in terms of the aging of healthcare professionals. We might consequently be confronted with a lack of university professors and training possibilities in the clinical setting for educating future doctors and nurses (29). According to Watson and Shields (30), only students with a higher education in nursing obtain the necessary knowledge to care for patients in an age characterized by modern technologies in health care, complex treatment procedures, the occurrence of new diseases, complex patient monitoring systems, new infectious diseases, etc. Nurses must have the ability to establish good patient rapport, to think critically, to embrace lifelong learning, and to apply their theoretical knowledge in clinical practice. Research has shown that the

outcomes of certain bedside activities conducted by either doctors or registered nurses, depending on health care institutions, do not differ significantly. In fact, patients have expressed greater satisfaction with the work of registered nurses than doctors in terms of communication and interaction (31).

In their review of relevant literature, Gifford, Davies, Edwards, Griffin, and Lybanon (32) found that quantitative studies showed three activities that influenced nurses' use of research: managerial support, policy revisions, and auditing. Qualitative studies, on the other hand, showed organizational issues as the factor influencing managers' abilities to promote research use. Qualitative research methods have proved to be the key to understanding the process of leadership that promotes research in an organization. Hannes et al. (18) have noted that perhaps not all nurses need to become researchers, but there is no excuse for them not to develop a research-minded mentality. Nevertheless, it will be difficult for some groups of nurses to become engaged in the evidence-based movement, especially those working in rural areas with limited access to medical information and stakeholders, such as librarians, methodological experts and well-trained expert nurses.

Skela Savič (33) has conducted a meta-synthesis of scientific articles on Slovenian nursing research. A results review from the COBIB.SI database has shown that Slovenian researchers mainly stress the importance of nursing research in order to promote it, and point out reasons for a rise in nursing research, including greater knowledge about research and nurses' greater awareness of the importance of research. A parallel review of articles in the CINAHL database written by researchers from other countries has revealed that their main focus is clinical research results and analysis of conditions for future research, in addition to highlighting the advantages of research work. In these articles, not much attention is paid to basic information about the importance of nursing research and the importance of research as such. A review of the literature shows Slovenia still at a stage in which the importance of research for nursing is being emphasized and barriers for the development of research are being described. This evidence ranks Slovenia among less developed countries in research.

McEwen (34) reports that applying evidence-based nursing in a clinical setting reduces the occurrence of rituals, isolated and unsystematic clinical experiences, ungrounded opinions, and traditions as the basis of nurses' clinical work. Unfortunately, many nurses do not understand the concept of evidence-based practice

or how to integrate this approach into clinical practice settings. The application of evidence-based practice is much more than the mere application of research results — it includes all forms of practical knowledge, together with the best research evidence available currently, and finally combining it with approved clinical practice (clinical guidelines), clinical expertise and judgment and patient preferences. In other words, an evidence-based nursing approach integrates research results and experiences from a clinical setting to form a patient-oriented approach bridging research, theory and practice (35). Hannes et al. (18) report low levels of nurses' responsibility for implementing an evidence-based nursing approach. Melnyk et al. (10) found a statistically significant correlation between the implementation of an evidence-based nursing approach and the level of nurses' education and their ability to assume responsibility at the workplace.

Nursing must respond to the changing needs of healthy and ill populations — nurses' professional training programmes must be adapted, with nursing itself becoming a graduate profession (bachelor's degree as the basic level of education). Forbes and Hickey (36) have identified themes that must be covered at the university level of nursing education: organization, system leadership, quality of health care, patient safety issues, evidence-based nursing practice, information management, application of information technologies in health care, healthcare policies, healthcare funding, regulating healthcare policy in a clinical setting, inter-professional cooperation and communication, culture of continuous improvement of the quality of work, clinical prevention, population health, professionalism, professional values, and generalization of nursing practice in the society.

Our review was limited by the quality of the available studies on the hierarchy of evidence. Another limitation is that a qualitative synthesis of findings was used instead of a quantitative one.

5 Conclusion

The review of the literature highlighted themes that nurses should responsibly include in their work and which managers of healthcare institutions and officials in professional nursing bodies at the national level (associations, professional sections and the like) should incorporate into their vision of nursing development in healthcare institutions and in the country. The decisions of faculty and the clinical setting in which professional

nursing training is being conducted also play a crucial role in ensuring that nursing professionals receive the training they need. Faculty must transfer the findings of the latest research on required nursing knowledge to classrooms. At the same time, university officials must overcome the traditional culture in academia, which fails to ascribe the necessary importance to professional nursing training and which, in many countries, continues to foster the notion of a nurse as a doctor's assistant. In the future, nurses will have to perform even more responsible tasks connected to the general health care of the population and particularly to the health care of population groups at risk, which is why they will need a high level of professional training. Their work will have to be grounded in an evidence-based approach, and developed with scientific research. There is enough research work for all healthcare professionals.

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