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Nursing students' perceptions of knowledge: an international perspective Pojmovanje znanja pri študentih zdravstvene nege: mednarodna perspektiva

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ABSTRACT

Introduction: Nursing education in Europe is undergoing the development toward greater comparability under the Bologna process. Based on our mutual experiences from teaching in Slovenia and Sweden, the students' perspectives on knowledge and nursing practice became an issue. The aim was to explore Slovenian and Swedish undergraduate nursing students' perceptions of knowledge needed for future practice.

Methods: A qualitative study design was applied. A questionnaire with open ended questions was used to collect opinions of 174 nursing students from the University of Ljubljana, Slovenia, and 109 nursing students from the University of Umeå, Sweden. Textual data were analysed using qualitative content analysis.

Results: Four subcategories were identified, related to the content of knowledge: knowledge about 'bodies and diseases', about 'people and communication'; and to its purpose: 'to do nursing' and 'to be a nurse'. The main theme, 'integration', indicated the students' awareness of the complexity of their future work and the need for a wide integrated knowledge.

Discussion and conclusion: There were more similarities than differences between the Slovenian and Swedish students included in the study. The students were aware of the complex responsibilities and expressed the need for integrating various competences. Interprofessional education should become a constitutive part of nursing education programmes.

IZVLEČEK

Uvod: Izobraževanje za zdravstveno nego se v okviru bolonjske prenovne na evropski ravni razvija v smeri večje primerljivosti. Izkušnje s poučevanjem v Sloveniji in na Švedskem so v ospredje postavile tudi pomen vidika študentov, njihovo pojmovanje znanja in prakse zdravstvene nege. Namen prispevka je raziskati, kako slovenski in švedski študenti dodiplomskega študija zdravstvene nege pojmujejo znanje, ki ga potrebujejo za delo na področju zdravstvene nege.

Metode: Izvedena je bila kvalitativna raziskava. Z vprašalnikom, ki je vseboval vprašanja odprtega tipa, so bila pridobljena mnenja 174 študentov zdravstvene nege z Univerze v Ljubljani in 109 študentov zdravstvene nege s švedske University of Umeå. Tekstovno gradivo je bilo obdelano s kvalitativno analizo vsebine.

Rezultati: Prepoznane so bile štiri podkategorije. V povezavi z vsebino znanja sta bili analitično oblikovani podkategoriji »telo in bolezn« ter »ljudje in komunikacija«. V povezavi z namenom sta bili prepoznani podkategoriji »izvajati zdravstveno nego« in »biti medicinska sestra«. Glavna tema, »integracija«, je nakazala, da se študenti zavedajo kompleksnosti bodočega dela in potrebe po širokem integriranem znanju.

Diskusija in zaključek: Med vključenimi slovenskimi in švedskimi študenti je bilo več podobnosti kot razlik. Študenti so se zavedali kompleksnosti odgovornosti in so izrazili potrebo po integraciji različnih kompetenc. Medpoklicno izobraževanje bi moralo postati konstitutivni del izobraževalnih programov za zdravstveno nego.

Introduction

The Bologna Declaration was the starting point in the process of adapting higher education in Europe to the advances in scientific knowledge and in society, and has had a great impact all over Europe (European Ministers of Education, 1999). Different countries in Europe have, in various ways, tried to include the intentions of the Bologna Declaration in their educational systems.

Salminen and colleagues (2010) underlined the need for harmonizing nursing education but also pointed out that differences between countries in Europe presented challenges for the future, such as the development of cross-cultural collaboration and clinical learning environments as well as the role of patients and teacher education. The process of harmonization includes the need to reflect on the concept of nursing education and its planned outcome, the knowledge for nursing practice.

Based on experiences from visiting both countries, Slovenia and Sweden, during the last decade, and from teaching and sharing experiences with colleagues during our stays, we became interested in differences and similarities in nursing concepts. Exploring students' views on their education and the future profession from an international perspective became an issue. Therefore we start by outlining the way nursing knowledge is developed during nursing education, and how nursing education is provided in Slovenia and Sweden.

Nursing knowledge

Nursing knowledge is the basis for practice and therefore it is important for the quality of nursing care. Carper's (1978) seminal article describing four patterns of knowing in nursing, empirical, aesthetic, ethical and personal knowing, has been further elaborated by several authors. Robinson and Vaughan (1993) described empirical knowledge as embedded in scientific research, based on the assumption that knowledge is developed through hypothesis testing. As nurses work with people, knowledge of different disciplines is relevant for them. However, in practice, the high insecurity due to lack of knowledge and autonomy, and nurses often sticking to the rules even when those limit the effectiveness of care, might be one of the main reasons for causing routinisation of nursing care. Personal knowledge is about knowing of one's self, about integrity and trust and understanding of one's own role in relation to the patient. Nurses' invasion of patients' personal space and their breaking of cultural taboos regarding bodily functions demands special preparedness not addressed enough in nursing education (Robinson & Vaughan 1993).

Mantzoukas and Jasper (2007) found five distinct types of nursing knowledge that nurses used in

practice: personal practice knowledge, theoretical, procedural, ward cultural knowledge and reflexive knowledge. They claimed that ward cultural knowledge and procedural knowledge reflect the rule-based descriptive knowledge of the early days, theoretical knowledge and personal practice knowledge reflect the explanatory dualist knowledge of the later development, and reflexive knowledge reflects the critical and integrative knowledge of the post-modern phase.

Preparing nursing students for their professional career means preparing them for demanding challenges in a changing society. Several studies were performed in order to define and describe the knowledge needed for nurses and hence for nursing students to acquire. Bonis (2009) delineated the evolution of the concept of knowing in nursing in a literature review covering a period of thirty years. The author argued that knowing in nursing refers to a unique personal type of knowledge constructed of objective knowledge interfaced with the individual's subjective perspective on personal experience.

A study aiming to elucidate registered nurses' experiences of knowledge use in work situations was performed by Skår (2009). The study illuminates experiences related to coping with frequent changes and complexity in work situations. According to this study, a challenge for nursing education is to help students understand these interpretative modes of knowledge use and to develop personal abilities. Bengtsson and Ohlsson (2010) stressed the importance of coordinating superficial knowledge with in-depth learning, and applying theoretical knowledge in practice. In another study aiming to identify predictors of knowledge, attitudes, use and future use of evidence-based practice among baccalaureate nursing students, Brown and colleagues (2010) concluded that clinically well-prepared nursing students with high confidence in clinical decision-making are most likely to use evidence-based practice.

Nursing education is a total experience: it involves not only classroom learning, but also learning in clinical settings. Precepting nurses are important for nursing students in the professional socialization process. Carlsson and colleagues (2010) found that nursing was mediated by the precepting nurses as the medical-technical, the administrative and the caring role. Preceptors taught students to reflect on what they could do independently as nurses, and they tried to verbalize their practical knowledge to make theory explicit and to contextualize it to students.

Nursing education in Slovenia and Sweden

In Slovenia, nursing education takes place both at the secondary school level and in the post-secondary education. The majority of the diploma level students would have finished secondary nursing education and

they would have already some experience in nursing care. Nurse education at the postsecondary level, following the Bologna regulations introduced between 2007 and 2009, consists of 180 ECTS. It is supposed to provide nursing students with knowledge and competences which will enable them to start practicing nursing in different health care settings. Competences expected from a diploma level (professional degree) nurse include knowledge and skills for independent practice, ability to understand and use knowledge, to make decisions, to communicate and to acquire knowledge independently. The competences also include the ability to integrate the knowledge from related disciplines and apply it to nursing, so the curriculum combines core nursing courses with supportive courses from medical, natural and social sciences. Those supportive courses, taught by the university teachers from relevant fields, amount to one third of the curriculum (Visokošolski strokovni študijski program Zdravstvena nega, 2009).

In Sweden, higher education has been following the Bologna process since 2007 (Government bill 2004/05: 162). To become a registered nurse one needs to complete a three-year full-time study at the university level, graduating with a professional degree and a Bachelors' degree in nursing based on national goals for both degrees, each university may develop additional local goals in their curricula. The Swedish students in this study follow a curriculum that includes nursing, research-based theory and practice, including communication, environment and ethics in nursing based on a specific concept of nursing. Anatomy, physiology, pharmacology, pathology and medical treatments are taught by university teachers from these disciplines (Syllabus Nursing Programme, 2007; Lundman & Sandman, 2009).

Aim and objectives

As studies reflecting the students' perspectives are scarce, the aim of this study was to explore the Slovenian and Swedish undergraduate nursing students' perceptions of knowledge needed for future nursing practice. So, our research question was: How do students describe knowledge they think they will need in nursing practice? The purpose of the study was to identify elements of students' perceptions and their structure.

Methods

A qualitative descriptive approach was used in order to obtain the students' perceptions expressed in their own words. This approach is useful when the aim is to describe a phenomenon in order to understand its dimensions and structure. Sandelowski (2000; 2010) who directed attention to this method, warned against the general view of descriptive research as a lower level form of inquiry and against researchers' habit

of claiming methods they are really not using (like phenomenology, grounded theory, ethnography or a narrative study). The goal of a qualitative descriptive study is to provide a comprehensive summary of events in the everyday terms of those events, which is not theory-based, but can provide useful starting point for further development of hypotheses and theories, as Neergaard and colleagues (2009) argue in their clear and concise overview of its potential benefits, strengths and weaknesses together with examples of use.

Description of the research instrument

A questionnaire with three open ended questions was developed and administered. The question, "You are in the beginning/end of your education. Please, describe what you think today about what knowledge you will need as a registered nurse", is in the focus of this paper. The answers were provided in writing.

Description of a sample

The study included the first and final year nursing students who were recruited from a three-year BSc programme at the University of Umeå in northern Sweden, and from a three year Diploma level programme at the University of Ljubljana in Slovenia. It was a purposeful sample of students who were present during lectures.

In Slovenia 174 students participated in the study. Most of the first-year students ($n = 99$) were 19 years old, only nine of all Slovenian participants were over 25 years old. Most of the Slovenian third-year students ($n = 75$) were 22 years old. Approximately two thirds of the students had completed secondary school for nursing assistants before entering the nursing programme. In Sweden 109 students participated in the study. The majority of Swedish students were older, only a few of the first-year students ($n = 61$) were 19, and 25 of all participants were 25 or older. With a few exceptions, the Swedish students had completed a general secondary education preparing for higher education before entering the programme.

Description of the research procedure and data analysis

Permission for collecting the data was given by the Head of the Department of Nursing, Umeå University and the Dean of the Faculty of Health Sciences, University of Ljubljana. The data were collected during non-compulsory teaching sessions at both universities simultaneously in October 2009 (the first-year students) and in January 2010 (the third-year students). The students were informed in advance about the purpose of the study, the procedure for data collection, and their participation was voluntary. They were also told that they could leave the rooms any time or just not hand in the questionnaires. The questionnaires were anonymous.

The authors were not present and an appointed person, not involved in the study, distributed and collected the questionnaires. Each participant could spend as much time as they needed for filling in the questionnaire.

Within the framework of the qualitative descriptive method, the data were analysed using thematic qualitative content analysis inspired by Hsieh and Shannon (2005). The method was chosen in order to fulfil the aim and was familiar to authors. The answers were written in the Slovene and Swedish languages so the initial reading was done separately by two authors (MP and EL). The first impressions were shared and discussed and further ideas for the interpretation process were developed. The text was read through line by line and subcategories were constructed. Subcategories were then organised into categories and finally an overall theme was formulated. The analytic process was performed in English. It is the communication language of the authors, but two of them are to a certain level familiar with the each other's language and could study the data obtained to capture the important points of the content. Further, a random sample of the answers was translated into English, translations were discussed and reflected upon, so the authors were familiar with all the data. All interpretations were read, reread and discussed between the two authors during regular Skype meetings until the consensus was reached. At the end, the results and interpretation were independently considered also by the third author (BD) to obtain a second opinion.

Results

The presentation of the findings is organized following the steps of the research process. Each subcategory of the findings is illustrated by quotations. To assure anonymity, quotations are coded - letters mean country (SI= Slovenia, SW= Sweden), numbers refer to the study year (1= year one, 3= year three) and the interview number. Table 1 summarizes the main findings from subcategories to the key theme. Category 'content' was constructed by joining subcategories related to bodies, diseases, people and communication.

Bodies and diseases

Areas of knowledge related to topics like anatomy, physiology and various medical topics including medical treatments were mentioned by students in both countries, more frequently by the first-year students.

"As a nurse I will need knowledge about basic structure of the human body, procedures I will use at my work, about diseases – process and treatment, functioning of the human body." (SI-1-92)

"...how the human body functions, how you in the best way help someone, when it does not function - so, knowledge in pathology." (SW-3-39)

People and communication

It seemed important to the students to have knowledge about differences between individuals and how to communicate in various situations with patients, relatives and co-workers. The first-year students emphasized its importance more frequently than the third-year students.

"I will need knowledge how to communicate professionally, to express myself correctly and not offend somebody." (SI-1-9)

"Communication is very important, you must know a lot about it, both regarding communication with co-workers and also with patients." (SI-3-22)

"I want to be good at encountering patients and relatives, understand their perspectives." (SW-1-58)

"I need to be a skilled communicator to get through to physicians, and direct enrolled nurses and be sure that relatives and patients take in all the information I give them." (SW-3-21)

Category 'purpose' was analytically constructed by joining subcategories related to nursing practice and professional identity.

To perform nursing

All students were aware of hands-on skills needed, procedures and treatments they have to learn to be able to perform professional work properly, to organize work and help patients.

"Knowledge how to intervene quickly and conscientiously and keep calm in situation of crisis." (SI-1-59)

"How to work with another human being, how to come close to them, how to develop empathy ... all other technical knowledge come with experience and exercise." (SI-3-37)

"Practical knowledge about blood samples, catheters etc., how to organise. How to contact different authorities. Ethical thinking, how to treat patients and co-workers ... how to perform in a situation of crisis." (SW-3-3)

Table 1: *Summary of the findings*

Tabela 1: *Povzetek rezultatov*

Theme	Integration		Purpose	
Categories	Content		Purpose	
Subcategories	Bodies and diseases	People and communication	To perform nursing	To be a nurse

"I need knowledge about how to find and read research, because I need that to keep myself updated, which is demanded of me as a registered nurse." (SW-3-38)

To be a nurse

Students described their concerns about how to become good nurses, the first-year students less often than the third-year ones. They expressed the need for personal development as well as professional knowledge within various fields.

"Nurses need to have a human relation to people, I mean that she talks to people as everybody would wish to be talked to." (SI-1-94)

"I will need knowledge to be self-confident at my work. I am not sure that I will have that when I graduate." (SI-3-55)

"To be able to gain new knowledge over time during your work. To be curious and receptive for changes but also to assess them in relation to experiences. To be sure that new knowledge is peer-reviewed, evidence-based, how the research is performed and on what groups, if it is applicable to my patient." (SW-3-10)

"I hope to continue reflecting on ethical issues and encounters. It will be important to think critically, to reflect on one's actions to be able to improve all the time." (SW-3-8)

Integration

Integration, as an overall theme, was formulated as a final interpretation. Students often mentioned the complexity of caring situations and patients' needs, and expressed the need for 'integration' of various types and contents of knowledge and skills. 'Integration' applies to answers that see nursing knowledge as a new quality, growing out from a mixture of natural and social sciences background, combined with practical, communicative, collaborative and leadership skills. Slovenian students, more often than Swedish students, asserted that knowledge is developed not only during undergraduate education but also through professional practice and life-long learning. 'Integration' is connected both to the content and purpose. Regarding purpose (illustrated above) the differences were detected between the first and the third-year students, the latter seemed to be more concerned with how to become good nurses. The reason might be that such concerns come to the front when one is getting closer to work independently and to becoming a responsible professional who is expected to integrate skills such as self-confidence, lifelong learning, critical thinking and ethical (self)reflection. Regarding content there were differences between the Slovenian and Swedish students: the Slovenian students more often mentioned several academic fields as their knowledge background than the Swedish students, and they also frequently used the expression the 'width' of knowledge.

"Great knowledge, in various fields ... depending on where you will be working. I need knowledge and a holistic perspective of patients from both a nursing and a medical perspective." (SW-3-9)

"... to identify needs of care, covering the whole person; physically, psychologically, socially, spiritually, through all these dimensions interacting to achieve best possible health. Practical knowledge is needed to deliver individual care...to evaluate and reflect on situations." (SW-3-2)

"Practical, social and theoretical competences. Being able to perform nursing interventions based on knowledge in a good practical way, with a good treatment and the psychological competence." (SW-1-29)

"Knowledge from natural sciences will serve me as the basis for practice, and knowledge from social sciences – especially ethics, psychology and sociology will give me a kind of width and will help me establish relationships with patients and in the health care team." (SI-1-21)

"As a graduate nurse one needs to have knowledge from all fields of health care and also general knowledge. On this basis, she will know how to learn about individual patients and how to express and argue for her perspective and observations." (SI-3-11)

"Knowledge that will enable me to understand why something is as it is, why a process develops as it does and not differently." (SI-1-21)

Discussion

Our main finding was that the students described knowledge they think they will need in nursing practice as an entity that will enable them to face complex situations. We will discuss findings by following the interpretation process, addressing 'content' and 'purpose' in the first step and then highlighting 'integration'. Where applicable, the differences between Slovene and Swedish as well as the first and the third-year students will be exposed. By Slovene and Swedish students, we refer to the students included in our study, although nursing is a regulated profession and similarities in the curriculum outline could be expected to be substantive across all nursing educational programmes in Slovenia and Sweden.

All students listed similar topics regarding both 'content' as well as 'purpose' of nursing knowledge. Regarding 'content', knowledge about 'bodies and diseases' as well as 'people and communication' were included in most of the answers. The general organisation of students' answers generated an assumption about a 'common nursing knowledge culture'. However, the emphasis on the width of knowledge, on the importance of general knowledge and knowledge from other fields in order to perform nursing was more pronounced in the Slovenian students' answers. The differences between the first and the third-year students were proved to be greater in Sweden than in Slovenia. The Slovenian students wrote more confidently about

knowledge they will need already in the first year, while the Swedish students seemed to grasp the complexity of the profession more clearly at the end of their studies. It might be a consequence of differences in entry requirements to the programme in the two countries. Most Slovenian students had, similar to other central European countries like Germany and Austria (Spitzer & Perrenoud, 2006), completed secondary nursing education and might have acquired a nursing identity even before entering the programme. In Sweden nursing education is offered only at the university level. Hence, for the Swedish students entering the programme it was their first encounter with nursing and nursing care, and they might have problems with seeing themselves as future nurses, especially in the beginning of the programme. If we relate this to Safadi and colleagues (2011) and Apesoa-Varano (2007) we can assume that the change towards professional perception of nursing would start for the Swedish students in the beginning of the university programme. For the Slovenian students this process was already on-going.

Regarding 'purpose', the Swedish students more often dwelt on the theme of 'how to be a nurse', and the Slovenian on 'how to do nursing'. In students' answers the historical professional development might be reflected. In the Swedish context it seems that the holistic perspective from the beginning of the last century is replaced with fragmentation (Lindahl, et al., 2007), which could explain why students in this study request integration. In the past 'doing' was important, while today the demands are different and 'being' is more in focus. If we look at our findings from the perspective of Mantzoukas and Jasper's (2007) typology of knowledge that nurses use in practice, it is clear that the answers of the young students in this study, with limited clinical experience, emphasized mostly theoretical, personal and procedural knowledge and much less ward cultural and reflexive knowledge. The Slovenian students less frequently stated their concerns about being a nurse. The differences between the south and the north of Europe might be an explanation for the differences in students' ways of reasoning (Pahor & Rasmussen, 2009).

During the interpretation process it became obvious that the issue of 'integration', although significant to both national groups, was much more pronounced by the Slovenian students. We can assume that these differences result from different structures of the curricula. The Swedish programme, based on nursing science and additional medical topics (Syllabus Nursing Programme, 2007), is the result of the development of nursing science in Sweden which has produced theoretical basis for nursing research and university teaching. The local Swedish nursing programme in this study is based on the concept of nursing developed from research within various fields, including nursing. In this concept, various fields are already integrated in the concept of nursing practice, which is presented by nurse academic teachers as well as other

specialists within the medical faculty (Lundman & Sandman, 2009). Slovenia has experienced a different developmental process. The Slovenian programme is more interdisciplinary and wider based (Visokošolski strokovni študijski program Zdravstvena nega, 2009). The need for nurse professors and nurse academic teachers is significant also in Slovenia, but other experts take part in the nursing education (like health lawyers, physicists, psychologists, microbiologists etc.) on a larger scale than in Sweden. This might also be an advantage, bringing to future nurses the width of knowledge they often mentioned in their answers as a prerequisite to good nursing care.

Addressing differences between the Slovenian and the Swedish programmes, many questions remain open. If we relate to Lipscomb (2011) and Rolfe (2010) ideas that nursing research should be more interdisciplinary, this might apply to education as well. Integrative thinking as an outcome of nursing education is mentioned in literature, emphasizing that students should be exposed to many kinds of activities in order to achieve this growth (Dickieson, et al., 2008). The requirements for evidence-based nursing today call for well-educated nurses who can provide research-based nursing care. Also, collaborative skills enabling nurses to work effectively within an interdisciplinary healthcare team can be importantly enhanced by interprofessional education (Reeves, et al., 2013), which should therefore be an integral component of a nursing study programme.

Nursing knowledge could be described as a kind of a journey, constantly creating understanding of complex situations (James, et al., 2010). The journey through the 'caringscapes' (McKie, et al., 2002) is not easy, and it is not clear what kind of luggage nurses need when undertaking it in different countries (Pahor, 2003). According to Binding and colleagues (2010), reflective writing and 'seeing the other' seem to help students relate more confidently to patients, and accordingly integrate theoretical knowledge with bedside work. This is in line with what our students emphasized; the difficulties of 'the journey' towards providing good care and the need for relevant 'tools' in order to be professional nurses. This is a challenge for nursing education across countries.

Methodological considerations

This is a cross-sectional study where the same cohort was not followed, so it is not possible to evaluate a process of change from year one to year three. Even though the authors thoroughly considered language issues, there might be a loss of meaning in translations. As the answers were not very extensive, we had no difficulty with understanding and therefore we find the process satisfactory.

We are aware of cultural issues in the national as well as the educational contexts. Words and expressions

may be used and understood in different ways. Students might be more or less extensive in writing due to expectations and traditions. There might be an authority issue and the students might have been trying to please and therefore gave answers they thought were expected as their teachers were responsible for the study.

Conclusion

At this level of analysis, the similarities between the Slovenian and Swedish participants seem to surpass the differences. As mentioned in the introduction, the educational backgrounds of Slovenian and Swedish students differ. This might explain for some of the differences – Slovenian students seem to be more aware of the challenges of their future profession due to their experiences in nursing care. Also the curriculum at the Ljubljana University includes more knowledge about natural and social sciences, taught in separate courses by experts in those fields.

The so called semi-professions do not yet have a robust theoretical base of their own and they need to rely upon theories of other academic fields (Brante, 2010). This might not be a deprivation but it might point to an expert of the future, not educated only within the limits of their own discipline, but with insights into a vast territory of health-related relevant knowledge. As Lipscomb (2011) pointed out, nurses' engagement with wider academic knowledge could not but improve their preparedness to perform nursing. In this context interprofessional education where experts from different fields learn with, from and about each other to deliver better health care (CAIPE, 2002), gains its full significance and should become an integral educational experience of every nursing student.

What remains an open question for further discussion and research is the integration of various sources into a body of nursing knowledge. More research is needed to understand whether nursing knowledge should be offered as an integrated whole or as a multifaceted entity to be integrated by the students later during practice, or, hopefully, already during a reflective educational experience.

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