

Current Trends in Vocational Training of Nurses and Health Needs of the Society

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Abstract

Introduction. The current time perception has become a metaphor of remarkable challenges and possibilities available for nursing and for academic institutions responsible for the preparation of the next generations of nurses.

Methodology. Trends in vocational training of nurses will be presented on the basis of a thematic review of literature which allows to indicate the directions of transformation in the training of nurses around the world including Polish nursing. It will also enable a comparison of these changes with the health needs of the Polish people – both current and forecasted.

Results. In the review, the attention is drawn to a detailed and quite extensive analysis of the usefulness of the training method of nurses in the conditions of high-fidelity simulation and accompanying conclusions that indicate its effectiveness in creating skills and knowledge of nursing students. At the same time, only a few studies show that this method forecasts a safer care provided by the same students in clinical conditions.

In providing cultural safety in the process of globalization, the significance of national minorities is emphasized and transcultural training is expected from nursing.

Conclusions. Summing up, the directions of changes in nursing training are based on indicators built on socio-demographic and psychosocial processes relating to both individuals and the whole communities. However, in Polish nursing, the same process is usually related to biomedical indicators.

Key words: transformations of nursing training, society health needs, determinants of changes in training

Słowa kluczowe: kształcenie pielęgniarek, potrzeby zdrowotne społeczeństwa, zmiany w systemie kształcenia



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Introduction

Dynamic changes in nursing and the educational system of nurses, constitute a current indicator of civilizational development and a specific consonance of nursing with other occupations providing personnel for health care and consequently – the quality of health care.

At the turn of the century, vocational training of nurses in Poland and also in the EU countries, underwent significant system changes resulting from the implementation of recommendations of the Bologna Declaration and the corresponding documents which provide the quality of education [1–3], as well as the recognition of occupa-

tional qualifications on the Bachelor's Degree in nursing level in the countries of the European Union [4, 5].

Another significant condition creating the working environment and indicating directions for the development of vocational training system, are legal regulations relating to the training programmes, to their formation process and to the assessment criteria [6, 7]. The work legislation is very significant for training nurses. It defines the range of vocational independence of a nurse, the determinants of vocational undergraduate, graduate and postgraduate education, as well as the method of ensuring its quality [8, 9].

The directions of changes in the vocational training of nurses and the emerging regularities in the development

of nursing in future, are based on single, mostly negative, quantity indicators concerning a decrease in the number of nurses in the health care system, the average nurse's age, the number of nursing students or the number of graduates undertaking the nursing profession [10].

At the same time, the report of the Supreme Council of Nurses and Midwives indicates that the changes in the educational systems of nurses and midwives caused a significant decrease in the number of nurses (between 1998–2009 by 36 thousand).

The average age of Polish nurses and midwives is currently 44, and according to forecasts of the Supreme Chamber of Nurses and Midwives¹, over 80 thousand of nurses will reach the retirement age, and only 20 thousand of them will work in the nursing profession in Poland, in the years 2010–2020. Consequently, in 2020 there will be a shortage of 60 thousand nurses [10].

One of the measures combining the social health needs together with the potential of nursing care in the time perspective directly connected with the educational system and presented in the report of the Supreme Council of Nurses and Midwives "The protection of the Polish society in the provision of services by nurses and midwives" [10] is the indicator of the number of nurses per 1 thousand inhabitants. In Poland in 2015, on average there were 4.82 nurses per 1 thousand inhabitants, while in the OECD countries there were on average 8.8 nurses per 1 thousand inhabitants. The forecasts for 2025 are even less optimistic as it is predicted that this indicator will fall to 4.35 nurses per 1 thousand Polish people.

The aim of the article is to present the selected trends in the transformation of the nursing vocational training system including their origin, and in particular their health needs.

In the study, the method of subject literature review and its analysis including legal acts and statistical data was used, which covers the last 15 years.

Current trends in the changes in nursing, including vocational training, are getting the subject of increasing interest within the domestic professional environment which is reflected in the conference topics and publications. The analysis of topics covered during conferences organized by the academic nursing centers only in 2015 allows to highlight the importance attached to the development of nursing in the area of practice, education and scientific studies: "Modern nursing and health care in the selected European countries", 29.05.2015 Bydgoszcz; "Nursing in the process of changes »who are we and where are we going«", 10–11.09.2015 Rzeszów; "Innovation in the training of nurses, nursing practice and scientific studies. 90th anniversary of the University School of Nurses and Health Carers in Kraków", 11–12.09.2015 Kraków; "The reality and future in nursing and midwifery", 10.10.2015 Gdańsk. However, a detailed analysis of the conference meeting programmes urges us to claim that the majority of speeches is related to the analysis of the current state of nursing whereas the definition of trends for future changes requires individual classification based on the integration of the presented content.

Further research into the direction of changes in the development of nursing and vocational training of nurses is described in relatively few articles written by the nurses themselves, dedicated to a vision of changes in this area and presented in a form of outline based on individual considerations [11–13].

The significant individualization revealed in the perception of changes in nursing requires the development of an expert document of a strategic character comprising the healthcare system and nursing as well as the changes in the training of nurses, in order to increase the effectiveness of these changes.

Such challenge, directed to experts or scientific societies, needs transition from daily problems to a global look on the operating area of nursing, based on sound empirical analyses, and having in mind common welfare.

The system of training nurses

The most important element in the educational system of nurses is the training programme which should be attractive enough to engage students in the cognitive process, to reflect the practice based on scientific evidence instead of on tradition, which should be innovative. Only such characteristics of the program are able to provide education to future graduates who professionally will find themselves in a complicated, differentiated, and constantly changing healthcare environment. Among the general assumptions about the changes in the educational system of nurses, the necessity to acknowledge the differentiation of students must be indicated. This is expressed among others in the individualization of the learning pace and the awareness of the fact that education perceived as a means of personal development, will reach success if students' – not teachers' – goals are achieved (Teacher-Centered and Learner Centered Environments). **Table I** presents the differences between the teacher-oriented system and the student-orientated system as well as the training programme [14].

Currently, in training nurses, we move away from the Teaching System in the direction of the Learning System, but as Fullan [15] indicates "the effective change requires time" [15, s. 123]. Pfeffer and Sutton [16] describe another tendency of teachers that is not easy to overcome as they indicate that for some teachers "memory is the substitute for thinking" [16, s. 69]. Memory can be a barrier to change in activities as people easily do what they have always been doing and such an activity takes place without giving a thought why they act this way [17].

Dalley et al. [17] suggest that the traditional attitude to teaching and learning is still dominating as teachers have a tendency to teach in the way they were taught themselves, which was mostly based on teaching via lectures.

In the approach focused on a student, the aim of teaching with the involvement of the teacher, is to facilitate the student learning process instead of taking part in traditional class run by a teacher. The emphasis in the study process is on how a student understands and thinks in the area of specified topics; it is not focused on the student

Table I. Comparison of nurse training systems

Teaching System	Learning System
Teacher – the most important, with strong position	Teacher as a leader
System focused on the teacher	System directed to a student
All teaching activities are specified by the teacher	Focused on learning; not on teaching and getting to know the content
Teacher is the authority and the source of knowledge	Didactic value is presented by a question, discovery and student's creativity which emphasize overall personal development
Teaching is perceived as more important than learning; Rationality, control and discipline as the determinant features of the system	Students back up the learning process in order to get to know how to learn and/or learn from many sources
Focus on information	Focus on processes and results
Isolation of topics (e.g. care for the patient after an ischemic stroke) and nursing practice	Integration of concepts (e.g. pain) and team work
Focus on emergency, life-threatening condition and hospital care	Focus on health promotion, disease risk factors and community care
Passive attitude of the student	Active, searching attitude of the student
System assumes that only a few students can achieve the desired competences	It is assumed that all students can be effectively taught if they have adequate guidelines, motivation and support
Students are perceived as a collective; not individuals	Personalized approach to teaching and learning
Gaining knowledge outside university is ignored	Education may take place anywhere, any time
All students have to accomplish the same programme and at the same time; structured programme	Flexible programme; final competences can be achieved by differentiated indirect forms
Learning environment is deprived of emotions and it is ethnocentric	Emotions are expressed; not hidden; cultural diversity and sensitivity

Source: Own description based on Valiga T.M., *Nursing education trends: future implications and predictions*, "Nursing Clinics of North America" 2012; 47 (4): 423–443 [14].

mastering these topics. In education, lecturers are encouraged to create the kind of environment that concentrates on the learning process and enables students to engage in studying. Student-orientated attitude ensures the possibility to equip learners in meta-competence of critical thinking and the ability to learn, but also promotes the ability to understand and use knowledge in real life situations [18]. Teachers also have to adopt a technique of describing and assessing progress in critical thinking, making correct judgments/clinical decisions and their impact on improving patient's care [14].

In the Johnson Foundation Report by Robert Wood, a recommendation for forming competences of Quality and Safety Education for Nurses – QSEN was formulated as of key importance for all medical occupations. The competence includes a well-known structure favoured by the National Qualifications Framework described by knowledge, skills and social competences/attitudes KSAs (Know, Skills and Attitude). In the area of the complex QSEN competence, the model of professional behavior is included – Patient in the Center of Care, where the patient plays the role of the source of control and partner in providing compassionate and coordinated care based on respect for the patient's preferences, values and needs. In the model of team work and cooperation, the value of effective functioning in the nurse teams was emphasized, as well as professional support of open communication,

mutual respect and joint decision-making in order to achieve high quality care for the patient. On the other hand, the model of practice based on evidence stresses the integration of the best, specialized, current clinical knowledge supported by evidence based on research as well as the patients' (and their families') preferences with a value of providing optimal health care [19].

In an updated concept of quality improvement of QSEN it is recommended to use data from the care processes to monitor the results and to use methods of design improvements and test changes (test implementations) to continuously improve the quality and safety of the health care systems [20].

The development of QSEN ensures the acknowledgment of safety culture and the minimalization of the risk of damage resulting from mistakes. This is thanks to the effectiveness of the system as well as the results of individual activities.

The IT model has proposed the IT development and called for the use of information and technology for communication, knowledge management, mitigating errors and support in decision making. Support for QSEN competence development in each separate model can be planned by preparing testing questions relating to descriptive situations where a student looking for an answer needs to go through the consecutive stages of critical thinking [21–24].

In an open student-orientated model, learning is perceived as an enjoyable, wide-range flexible activity in which future perspectives prevail. It means, that teachers here are not gurus in relations with students, but rather moderators in the process of learning. Hence, teachers often feel uncomfortable because the content range of classes becomes unpredictable as a result of students' questions who in this way discover new perspectives of learning activities. Teachers and students co-operate in order to gain experience in the process of studying. In this model it is assumed that students can learn in many different places and from many different sources, which in the reality of nursing education was used in vocational training in undergraduate complementary studies, the so-called "bridges" dedicated to nurses and midwives.

Shaping social competences, including the affective ones, and quality assessment is perceived as important. The attention is drawn to many forms of assessment and impact in order to look at the dynamics of an individual process of shaping competences. The effect of the open education process focused on students and their process of learning comprises the following: understanding by students the complexities of nursing practice, responsibility for the patient and performing the nursing profession [14].

The transformation of teaching programmes in Taiwan was researched within the project of teachers' considerations about changing the teaching programme. Research findings in the form of transcripts of teachers' speeches from 21 meetings was subject to a paradigmatic analysis of narration in accordance with inductive and deductive approach [25].

The statement below given by a teacher taking part in the project, which indicates the possible reasons for problems in the change of the training model and ways of supporting this change, seems to be the most interesting for a Polish recipient:

"I don't think that we can teach students everything. The key concepts are sufficient, while some content can be omitted. We should get rid of weeds and preserve the flower of knowledge" (Mrs Chiu) [25].

Summing up, the experience of nurses-teachers taking part in this study, suggest that the change of the training model from *Teaching-centered* to *Learner-centered* in teaching and learning is difficult, and in some aspects even very difficult. The change itself does not have to happen, because it is the thinking that needs to be changed, and "thinking" is not the same as "doing".

This study indicates that having sufficient pedagogical knowledge was of deep significance as it was a fundamental condition for the introduction and understanding of the change [25].

Access to knowledge versus guidelines and reports

Without any doubt, knowledge in the area of nursing and health sciences is growing very quickly. Nursing teachers are constantly including new detailed contents to the training programmes instead of focusing on broad

definitions which would allow students to learn thoroughly relatively universal competences applicable in different situations. Nursing teachers are still presenting detailed information about caring for patients with different diseases instead of focusing on knowledge integration. Many teachers provide isolated information about each separate disease and they assume that students will be able to perform hard work of consolidating facts on their own. Rather than focusing on helping students in modelling thinking, teachers concentrate on the possibility of finding detailed information and then on executing it from learners.

Many lecturers are still presenting information in the form of lectures and assigning specific pages of textbooks to read but they do not focus on helping students so that they could develop independent learning skills that would serve well throughout their professional careers. The future trend in training nurses is grounded on decentralization of learning while the time spent by the teacher with their students will be devoted to the development of integrative thinking [14].

The specific factor determining the development of nursing training system, as well as nursing care, is the guidelines and/or recommendations by expert groups for the management of complex health situations of patients. They constitute a summary and assessment of the reliability of scientific evidence relating to a specific topic in order to help to choose the best possible therapeutic strategies considering not only treatment results but also potential benefits and risk relating to professional conduct, e.g. the European guidelines on preventing heart and vascular diseases in clinical practice for 2012 (*Europejskie wytyczne dotyczące zapobiegania chorobom serca i naczyń w praktyce klinicznej na 2012 rok*); Recommendations of the International Society of Hypertension and World Health Organization on treatment of hypertension. Many of these publications do not have a direct influence on nursing training, but a number of times every day teachers and nursing students need to be ready to act according to many recommendations as they are expected to provide safe and high quality nursing care as members of an interdisciplinary team.

The report Carnegie Foundation for the Advancement of Teaching highlights "relieving of the overloaded nursing curriculum". It was also emphasized that the process of teaching nursing care requires from the teachers vast nursing knowledge and the ability to create the learning environment effectively. It clearly shows that teachers need to engage themselves in research work and develop evidence on which practice can mature [26].

In the report *The Future of Nursing Leading Change Advancing Health*, one of the recommendations is to increase the number of nurses with a university degree through the changes in the educational system which promotes trouble-free progress in learning. Education of nurses has to provide the learners with better understanding and experience in nursing care, management in care, methods of quality improvement, managing changes on the system level and the change in the nurse role concept in the reformed, complex health care system [27].

Modern technologies in education

Educating nurses should not be resistant to modern technologies. Universities make a mistake if they do not change the teaching model based on direct participation of students in lectures. Modern students expect the learning environment to be available for studying online, through mobile applications, games, movies, etc.

Ensuring nursing care in the health care system also means a wide use of complex communication technologies coming with telemedicine or e-Health project. Clinical diagnosis, health advice, checking on therapy results or giving guidelines, can be all conducted with the use of modern information technology and visual solutions. Telecommunication technologies create many possibilities for students and nurses to get easy access to knowledge by e-documents, i.e. guidebooks, magazines, books or expert guidelines. On the basis of telecommunication technologies, many regular didactic activities are run. Modern technology also means the administrative service for student (e.g. keeping records of student's achievements) [28].

One of the ways of using modern technology is the simulation which aims at increasing students' professional experience. Using low accuracy simulators in the training process of nurses allows them to acquire basic skills and get introduced into the nursing role in the secure environment. High accuracy simulators allow students to improve their clinical thinking skills, increase their ability to set priorities in nursing and cooperation with other therapeutic team members in order to ensure health care [14]. Simulation in education is an opportunity to improve communication skills – although not all reliable studies confirm such function [29] – and also the ability to manage complex situations and increase in self-efficacy, team effectiveness and understanding human relationships [30]. Realistic and creative scenarios are required in the teaching process making use of simulations or a standardized patient. Hence teaching staff should have access to catalogue/repository of simulation scenarios for teaching nurses which would be complementary with the learning goals of students. Apart from having technical knowledge how to use the tool, teachers should develop skills in designing simulations and also know how and when to intervene in the process and when to leave the development of the scenario without intervention. They should also conduct effective debriefing sessions.

A teacher conducting a class using high accuracy simulations should have a set of teaching aids for each scenario including the basics: a description of the patient including a diagnosis, questions for students, which will help determine the clinical situation of the patient, the order cards, test results, the equipment and all medical supplies, a set of objective symptoms, a scenario divided into roles and the duration of each sequence, a list of critical events, the criteria of task evaluation, questions for debriefing, suggestions for students for the future and suggestions for future scenarios [31].

Currently in Poland in the majority of medical universities, modern simulation centers will be created within

the development programmes (EU funds, Programme Knowledge, Education, Development 2014–2020 (PO WER), V priority axis: Support for health area. Activity 5.3. High quality of teaching on medical courses). Hence, it seems to be interesting from the cognitive and practical point of view to get familiarized with the effectiveness of this method in shaping professional competences of nursing students.

The results of meta-analysis based on quantity evidence published in electronic database: EBSCO, Medline, Science Direct and ERIC (20 of them) seem to offer a reliable empirical argument. The analysis indicates that the average difference between students' learning outcomes with the use of simulation in comparison with a control group taught by traditional methods is 0.71, which is quite high. A more detailed analysis points out to the area of teaching in which the biggest differences of impact of compared teaching methods were shown, which is shaping the competences in a psychomotor domain (0.94). A higher impact of simulations on the teaching effects was obtained among 3rd and 4th year students (0.86) and graduates (1.14), as well as in the clinical modules (1.96). Meta-analysis also indicated that a medium accuracy simulation has more advantages than a high accuracy simulation. These results should be interpreted with precaution, though. The latest studies show that the level of realism of the required simulation is a function of learning the task and the context, and that the results of learning differ depending on what simulation accuracy is used [32].

Another crucial benefit resulting from the use of the simulation method in teaching, is ensuring safety conditions of the patient and student during the simulation session, which is particularly important in pediatric nursing [29, 33].

One limitation in unconditional acceptance of the simulation value in vocational training of nurses is the lack of undisputable evidence about the transfer of teaching effects in simulating conditions to the natural conditions in the professional nursing practice. The power of evidence is often weakened by an inappropriate choice of a group or the number of observations made [34].

Social health needs and the development of the teaching system of nurses

Education of nurses does not take place in isolation from the health care system or from the society and its needs.

In defining the essence of health needs it was emphasized that they result from the disruption in health condition or social well-being and they require an intervention of the health care system (medical, rehabilitation, prevention and health promotion). For the needs of the study, the following classification of health needs into 3 groups, according to Bradshaw, was used:

- Normative needs, i.e. accepted as needs by experts, objectively estimated, and supported by epidemiological and demographic data.

- Felt needs, i.e. defined by an individual; thus subjective and often expressed as expectations.
- Expressed needs, which are satisfied, and directly connected with the health care [35].

Almost all the indicators of health needs have impact on the changes in the system of teaching nursing staff, but some of them were pointed out as the most important ones: life expectancy of potential recipients of health care, morbidity or one's subjective assessment of their health condition [36].

According to the Central Statistical Office, each year the percentage of the elderly in need of health care is increasing. In accordance with the demographic analyses, in 2020 every fourth person in Poland will be over 65 [37, 38]. Similar tendencies also occur in other EU-28 countries, where in 2013 the average life expectancy was estimated at 80.6, where women will be 83.3 years old and men 77.8 years old. In the period of over 10 years, between 2002 (the first year for which the data for all the EU member states are available) and 2013, the average life expectancy in the EU-28 increased by 2.9 years – from 77.7 to 80.6. The increase for women was 2.4 years and for men – 3.3. The average life expectancy is still increasing. However, in health policy, attention must be paid to the quality of life indicator that is measured in the number of years in health, i.e. without limitations in functioning or in disability. According to forecasts, it is expected that an average woman born in 2012 will be free from disability until the age of 62.1, whereas the equivalent for men is only 0.6 years lower [39].

Social health needs are also described by the indicators of morbidity and mortality. Cardiovascular diseases, cancer, respiratory diseases, injuries and accidents have been dominating in the morbidity structure in Poland for many years. In the EU in 2011 about 1% of inhabitants died because of 3 main reasons: cardiovascular diseases (368 deaths per 100 000 inhabitants); cancers (253 deaths per 100 000 inhabitants); and respiratory diseases (75 deaths per 100 000 inhabitants). In the same year (2011) in the EU-28 there were 146 thousand deaths caused by mental disorders and behavioral disorders, which constitutes up to 3% of all deaths [40].

Simultaneously, as the analyses of WHO Regional Office for Europe indicate, the mortality in the main disease groups (cardiovascular diseases, cancer, respiratory diseases, infectious diseases and injuries) has a decreasing tendency, except for gastrointestinal diseases. However, forecasts for the period of up to 2020 for cancer and the resulting mortality have unfortunately an increasing tendency in comparison to 2010 [41].

Individual health needs are often revealed as social expectations of the professional group of nurses. Thus, patients on surgical wards expect from nurses manual skills, alertness and the ability to provide medical information, courtesy, kindness and consideration [42]. Patients hospitalized on oncology wards on the other hand, expect mainly information from the medical personnel [43].

Patients under basic health care expect that nurses measure their the fundamental life parameters – blood pressure, the level of blood glucose (86%) and exercise

the informative function by giving them comprehensive information on the disease (71%), educating the patients in order to obtain the prevention effect (78%), giving them advice on healthy life style (60%) [44].

Families of chronically ill patients listed the following as the most significant tasks within nursing care: keeping the body clean (100%), teaching self-service in the daily life activities (72%), preventing the effects of prolonged immobilization (71%), as well as motivating to become independent (69%), monitoring the measures of vital signs (76%) and administrating drugs (70%) [45].

The Polish social health needs are also determined by ethnic/national origin which is contained within the holistic care competence. The Polish society is not much ethnically, nationally and culturally diversified. Ethnic/national minorities are just over 1% of the inhabitants and they are mostly represented by the Silesian, Kashubian German, Belarusian, Ukrainian and Romany people.

In 2012, 10, 761 people applied for a political asylum in Poland, and 106 persons obtained a refugee status. The majority of persons seeking for an asylum so far come from the Russian Federation, Georgia, Armenia, Kazakhstan, and increasingly – from Syria [46].

Summary

In the 21st century the requirements set for the teaching system of nurses are constantly changing, starting from the decreasing the number of nurses, smaller interest in learning this profession and the increasing need for health care in relation to the intensity of chronic diseases and the aging population. Hence, the teaching system of nurses from the previous century would not meet the expectations of the present health care system.

Among the trends bringing changes, in line with the world tendencies, in the teaching system of nurses in Poland the necessity of the following should be distinguished:

- A change in the teaching model from teacher-orientated to student-orientated and their individual course of learning; in an attempt to fascinate a student with the process of grasping the essence and the mechanisms of nursing care based on scientific evidence. This means the necessity to change the proportions in teaching methods and checking students' knowledge so that students could achieve meta-competence in critical thinking. The process of teaching nursing care requires from the teacher vast nursing knowledge so teachers should get engaged in scientific research and develop the evidence on which safe practice could be developed.
- The use of high accuracy simulation in teaching nurses as a teaching tool in order to ensure proper conditions for shaping the desired professional competences, which is related to the necessity of creating a set of teaching aids complementary to the appropriate methodology.
- In line with the social needs, the competences of risk factor detection, disease prevention and safe (evidence-based) care for people with chronic diseases

in the place of residence should be shaped among students.

- Implementing transcultural nursing module into the teaching programmes of postgraduate nursing courses and increasing ethnic and cultural diversity of health-care workers by the introduction of an intentional incentive system so that it would take into account the diversity of the society it serves.

Note

¹ In the Polish language Naczelna Rada Pielęgniarek i Położnych (NRPiP).

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