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The rationing of nursing care phenomenon in the light of scientific reports – personnel shortages, system requirements, consequences – PART II

Zjawisko racjonowania opieki pielęgniarskiej w świetle aktualnych doniesień naukowych – niedobory personelu, zapotrzebowanie systemowe, konsekwencje – CZĘŚĆ II

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Abstract
Rationing of nursing care is a widespread and growing phenomenon whose causes are multifaceted and whose consequences are serious. Nursing rationing is defined as withholding or failing to perform necessary nursing tasks due to insufficient time, staffing, and/or inadequate skills. Nursing rationing is also defined as omission, delay, failure to complete, which qualifies as an error of omission. Unfinished nursing care has many negative consequences for patients, nurses and organizations. The presented series of three papers aims to show many important aspects related to rationing of care. This second part of the series of rationing of nursing care phenomenon will address the nursing shortages and demand for nursing care, nursing staffing rates and government policy, the effects of inadequate nursing care on patients and nursing staff, and the economic and social effects of inadequate nursing care.

Keywords: rationing nursing care; staffing shortages; system demand; implications; research reports.

Nursing shortages and demand for nursing care

The nursing community in Poland has been striving for many years to create mechanisms to ensure proper nursing staffing, which is the starting point for providing nursing care according to patient demand. A review of the Patient Classification System (PCS) methods used in Western healthcare systems was made by Ksykiewicz-Dorota [1], who also proposed her own PCS method with a much-simplified way of calculating staffing, which has undoubtedly been used by practitioners in leadership roles.

The International Council of Nurses (ICN) [2] information and tasks developed by the International Council of Nurses (ICN) [3] became the next major step in designing proper nursing staffing. Tools for estimating staffing norms are presented, selected methods for selecting the right number of nurses, e.g. the professional method in which a 22% staffing reserve for sickness absence or vacation/training leave should be added to the number of nurses calculated from the planned work organization [2]. Another method is the so-called "Belgian system" according to the standards described by Dr. Helena Lenartowicz of the Faculty of Nursing of the Jagiellonian University's Collegium Medium in Cracow, included in the PHARE P/9113/064/96 program. The method is based on the formula: 0.66 nursing staff per bed x % bed utilization rate x number of beds in a given ward [3].

Over the past 35 years, there have been various initiatives on how to set staffing standards for nurses and midwives, the first of which was the adoption of planning guidelines in 1987, which set staffing ratios for inpatient health care, among other things. These were the Guidelines of the Minister of Health and Social Welfare on target staffing ratios for nurses (midwives) in health and social care facilities - for planning purposes. These guidelines assumed the number of beds per 1 nursing FTE, e.g., the number of beds per 1 nursing FTE in provincial teaching hospitals, state teaching hospitals and scientific research institutes (except pediatric teaching hospitals, institutes of pediatrics), was 2 [4].

Another regulation governing staffing standards for nurses and midwives came from 1999, and were based mainly on the number and type of cataloged health services performed by nurses and midwives in a given organizational unit directly for the patient called direct services, the number and structure of activities other than direct services called indirect services, and the average times of individual unit direct and indirect activities in a given organizational unit [5].

Another Regulation of the Minister of Health in 2012 specified the method of determining the minimum standards for the employment of nurses and midwives in non-business healthcare entities, which was based mainly on the selection of the appropriate category of care established for each patient and the number of patients qualified for a given category of care [6]. Currently, there are regulations in force that talk about the number of nurses/midwives per FTE employed per number of beds, which came into effect on January 1, 2019, under the Ordinance of the Minister of Health of October 11, 2018, amending the Ordinance on guaranteed services in the field of hospital treatment (Journal of Laws of 2018, item 2012), which introduced minimum staffing ratios for nurses and midwives [7]. The aforementioned regulation refers to hospital treatment and concerns the requirements for contracting publicly funded hospital services. The changes were introduced in Appendix 3 to the Ordinance of November 22, 2013. [8] in Part I, which specifies the specific conditions that should be met by providers when providing guaranteed services in the mode of hospitalization and planned hospitalization.

Generalizing, it can be said that in adult behavioral wards the staffing ratio is currently 0.6 nurse FTEs per bed, in surgical wards 0.7, and in pediatric behavioral wards 0.8 and pediatric surgical wards 0.9. In addition to the requirements for the number of nurses/midwives, the cited regulation also presents qualification requirements, for example. in the allergy ward for adult treatment, the requirement for the number and qualification of nurses is the equivalent of at least 0.6 FTEs per bed, including the equivalent of at least 2 FTEs specialist in conservative or internal medicine nursing, or in the course of specialization in internal medicine nursing, or after a qualification course in conservative or internal medicine nursing, or in the course of a qualification course in internal medicine nursing. The requirements for the treatment of children in an allergy unit are the equivalent of at least 0.8 full-time nurses per bed, of which the equivalent of at least 2 full-time nurses refers to a specialist in pediatric nursing, or in the process of specialization in pediatric nursing, or after a qualifying course in pediatric nursing, or in the course of a qualifying course in pediatric nursing. The Regulation outlined above provided for a period of adjustment of conditions by providers providing services in inpatient or elective hospitalization, in which providers in the case of treatment of children were obliged, in the period from January 1, 2019 to June 30, 2019, to ensure that the full-time equivalent per bed was not less than 0.6 for conservative wards and 0.7 for surgical wards. Finally, the provision stating higher equivalents for children's wards came into effect on Jan. 1, 2020. The adjustment period also applies to the provision of an

equivalent of at least 2 FTE nurses or midwives with appropriate qualifications in specialization and qualification courses, no later than December 31, 2021. [7].

The changes introduced are the result of an agreement concluded on July 9, 2018 between the Polish National Trade Union of Nurses and Midwives and the Supreme Chamber of Nurses and Midwives and the Minister of Health and the President of the National Health Fund. The agreement was intended to bring about a gradual improvement in working conditions and wages for nurses and midwives practicing the profession in Poland, improve patient safety and create conditions that make the nursing and midwifery professions more attractive and thus encourage people to study and work in the nursing/ midwifery profession. The agreement concerned the inclusion of supplements to basic salary; the introduction of a regulation on employment standards for nurses and midwives as of January 1, 2019, the introduction of nursing advice as a guaranteed service financed by the National Health Fund, the guarantee of a 6-day paid training leave as of January 2019, the amendment of the regulation on the manner of conducting competitions for managerial positions in medical entities, and other measures aimed at improving working conditions for nurses and midwives in Poland. The parties also pledged to work together on the document "Strategy for the Development of Nursing and Midwifery in Poland" in order to adapt it to the current needs of the environment and develop its final version by December 31, 2018, for submission to the Council of Ministers [9].

In conclusion, the methods presented above for calculating staffing norms for nurses and midwives, were very tedious and time-consuming, nowadays the adopted staffing ratios allow quick calculation of the required staffing norms.

Nursing employment rates and government policies

It should be noted that at the stage of formulating regulations in this regard, the experience of the professional method and the Belgian method were used. In establishing the indicator method of minimum staffing standards, the recommendations of the ICN, the methodology of the Belgian method, the professional method and categorization taking into account the average % of bed utilization were taken into account [10]. The provision of staffing ratios, however, did not solve the problems of nursing staffing, as another, albeit heralded by the nursing community, problem of shortage of nurses in the labor market emerged. Many years of appeals, resolutions of the nursing community worked out at conventions of district chambers of nurses and midwives addressed to politicians, regional and state authorities, hospital directors, and even the Social Campaign of the Supreme Council of Nurses and Midwives Last Duty of 2015 [11] did not have an effect. Today, the whole world is wondering how to rebuild the profession, how to ensure generational replacement. The year 2020 has been declared the International Year of Nursing and Midwifery by the World Health Organization (WHO) [12].

In Poland, on the other hand, there has been the adoption of the document "Multiannual State Policy for Nursing and Midwifery in Poland" (including the stages of work initiated in 2018) [13]. The document was approved by a Resolution of 15.10.2019. Council of Ministers at the request of the Minister of Health. Which means that the Government wants to ensure high quality, safety and accessibility to nursing care for patients. In particular, it is about increasing the number of nurses and midwives, stopping labor emigration, motivating graduates to enter the profession, and keeping nurses and midwives on the job market, including those acquiring pension rights.

The objectives of the "Long-term State Policy for Nursing and Midwifery in Poland" are [13]:

- Increasing the number of students and improving the quality of education in nursing and midwifery;
- changes in the system of postgraduate education;
- improvement of working conditions for nurses and midwives;
- introducing into the health care system a profession that supports the work of nurses in direct patient care;
- defining the roles and competencies of nurses and midwives in the health care system;
- determination of the actual number of nurses and the number of midwives in the health care system, with the establishment of target rates per 1,000 inhabitants;
- developing regulations on the number and qualifications of nurses and midwives performing guaranteed services in particular scopes of benefits;
- development of mechanisms to motivate health care entities with a contract with the National Health Fund to determine minimum employment standards;
- development of scientific research in nursing. The financial resources envisaged for the implementation of the planned measures will come from: the state budget; the Guaranteed Employee Benefits Fund (in 2019); the Labor Fund (in 2020); funds from other units of the public finance sector; funds from the budget of the European Union. Of course, when calculating employment norms, it is also necessary to be guided by all factors affecting the workload in a particular department and not only by employment indicators.

According to Al-Kandari et al. [14], among the factors affecting workload are the number of patients on the unit, the number of patients per nurse, the number of critically ill/unstable patients per nurse, the number of nurses working a shift, the number of medications administered during a shift, the number of nursing tasks performed, the number of non-nursing tasks performed, and the total workload of nurses during a shift.

The Center for Monitoring Quality in Health Care [15] places requirements on entities seeking accreditation through the following standards, among others:

- the hospital has defined the scope of nursing assessment, which should apply to each patient and is the basis for determining nursing problems and the plan of care, the bio-psycho-social condition of the patient is assessed, and the nursing history should be an integral part of the patient's medical history;
- the number and qualification of staff, allow to ensure the quality of patient care;
- the hospital has identified the educational needs of the various professional groups;
- the hospital conducts evaluation of the qualifications and professional activity of the staff;
- the hospital conducts surveys of professional satisfaction of personnel on the basis of which the hospital management draws conclusions and takes applied measures.

Effects of inadequate nursing care on patients

Rationing of nursing care conflicts with the principle of diligence and professional responsibility of nurses. Nurses' awareness of non-compliance with the rules of professional responsibility (nurses, doctors and other employees) was studied by Irzyniec et al. [16]. The study found that 21% of the nurses surveyed had personally encountered rule-breaking; 21% knew from hearsay of rule-breaking; 8% had been forced to break the rules. Among those who had seen rule-breaking, 48% pointed to doctors and 61% to nurses (incompetent conduct, subjective treatment of patients, violation of professional secrecy, unethical conduct, violation of patient rights, concealment of errors). The majority of those who knew of violations from hearsay pointed to doctors 80% and nurses 46% as those who broke the rules (violation of patient rights, failure to authorize orders, violation of professional secrecy, concealment of errors). Other medical professionals were indicated by more than 10% in both groups. Respondents who committed rule violations themselves mainly pointed to taking medical orders over the phone and carrying them out without authorization, as well as performing activities outside the scope of their duties. The reasons most often cited by respondents were: haste and overwork, poor information flow, poor work organization, routine and habit. Those who engaged in non-compliant behavior pointed to the low number of personnel.

Another study by Irzyniec et al. [17] showed that, in the opinion of the nurses surveyed, the greatest influence on adherence to the principles of professional responsibility is knowledge of the scope of duties 57%, the value system held 51% and the personality of the employee 44%. Among the reasons for not adhering to the rules of professional responsibility, the respondents pointed to haste and exhaustion 62%, overload of duties 53%, ignorance of regulations 48% and poor information flow 31%.

Probably the first study that looked for associations of implicit rationing of nursing care with selected patient outcomes involved 8 Swiss hospitals and was conducted by Schubert et al. [18]. The tool used for the study was the BERNCA-R and the International Hospital Outcome Study (IHOS) questionnaire. Six factors were analyzed: patient satisfaction, medication errors administered by the nurse, patient falls, hospital-acquired infections, bedsores, and critical incidents involving patients in the previous year. The main explanatory variables were nursing rationing, patient to nurse ratio and two characteristics of the work environment: resources and cooperation. The study confirmed that implicit rationing of care was a significant predictor of all six patient outcomes studied. The average patient ratio was eight patients per nurse. The number of patients per nurse was not significantly associated with any of the 6 patient outcomes studied. In their conclusion of this study, Schubert et al. [18] expressed the opinion that nursing rationing scores analyzed together with other data can be an important aid in determining the minimum number of staff to provide adequate care to patients. They also noted that research is needed to define the threshold for when nursing rationing occurs that begins to negatively affect patient outcomes.

The importance of identifying the thresholds at which care rationing begins to negatively affect patient outcomes is also emphasized by Papastavrou et al. [19], with the hope that knowledge of this will allow nursing executives to take steps to keep care rationing at a level that does not compromise patient safety. Aiken et al. [20] highlighted yet another aspect of inadequate nursing care, with the study's author reporting that in the U.S. and Canada, only about a third of nurses were confident that their patients were prepared to cope at home after leaving the hospital, and nearly half that the quality of care in their institutions had deteriorated in the past year.

In addition to the situations described above including adverse events as a result of nursing shortages and the resulting rationing of care, there is also a decline in patient satisfaction. Aiken et al. [21] showed that patients are less satisfied with hospital care when there are, in their opinion, insufficient numbers of nurses, and

the study's findings suggest that reducing nursing shortages, by providing an adequate number of nurses for direct patient care, and improving working conditions will result in increased patient satisfaction with care.

Papastavrou et al. [19] in a study using the BERNCA-R, a scale to measure nurses' perceptions of the RPPE (Revised Professional Practice Environment) and a patient satisfaction scale, showed that nurses' rationing of care and work environment was associated with patient satisfaction (even at the lowest levels of rationing, patients showed low satisfaction).

Recio-Saucedo et al. [22], in a review of scientific reports, found 14 studies confirming associations between lack of care and patient outcomes. 4 studies found a significant decrease in patient satisfaction. 7 studies described the association of lack of care with medication errors, urinary tract infections, patient falls, bedsores, and critical incidents (deterioration and readmissions). 3 studies looked for an association of loss of care with mortality - but this was not clearly confirmed.

However, the association of missed care with a higher risk of patient death was demonstrated by Ball et al. [23]. The data came from the RN4CAST study (2009-2011) and included information on nearly 423,000 surgical patients and survey data from more than 26,000 nurses. An increase in a nurse's workload by one patient was associated with a 7% increase in a patient's risk of death within 30 days of hospital admission, while a 10% increase in the percentage of missed care was associated with a 16% increase in a patient's risk of death within 30 days of hospital admission. It should be noted that the analysis showed an association between staffing and missed care, and an association between missed care and mortality.

In a study by Janikova et al. [24], nurses rank the impact of lack of care on patient safety first: falls, bedsores, thrombophlebitis, hospital-acquired infections. They emphasize that complications and adverse events generate additional work, e.g., the need to change dressings when bedsores develop, and increased costs (longer patient stays). In addition, lackluster care takes a toll on patients' psychological state, causing dissatisfaction, growing fear, increased ailments, social isolation of patients and worsening hospitalization. Patients and their relatives may also be dissatisfied due to the lack of communication between them and nurses.

Recognizing the negative impact of nursing rationing on patients' bio-psycho-social status reinforces the need to take measures to improve working conditions including the adequacy of nursing staffing to meet patient demand and to improve team communication. The importance of team communication is taken up by Markey et al. [25], proposing an additional approach to addressing nursing rationing. Markey et al. promote the introduction of "clinical supervision" to support nurses' personal and professional development, create a supportive work environment, and undertake quality measures related to patient care outcomes. The main focus is to be able to critically reflect on the values associated with care and make changes to existing standards of care so as to minimize the effects of rationing care. The leading role in the implementation of clinical supervision is assigned to nursing executives [26]. In terms of improving the quality of patient care, there is much to be done if only in the nurse-patient, nurse-patient family relationships. Here it is important to emphasize the growing role of patient communities/associations/institutions in the subjective treatment of patients and their relatives. One of them is the Center for Monitoring Quality in Health Care, which lists among its standards the standard that relatives or persons designated by the patient may participate in the process of care which increases the sense of security of patients, facilitates adaptation in the hospital environment and allows the patient's needs to be better met in the new conditions [15].

Such a course of action is in accordance with the patient's rights Article 34.1 of the Law on Patients' Rights and Patients' Ombudsman-the patient has the right to additional nursing care [27]. When taking measures to improve patient care, it is also important to be guided by patients' opinions. The evaluation of nursing work in the context of missing care from the patient's point of view is the subject of many studies. A review of studies by Gustafsson et al. [28] found that patients most often report deficiencies in basic care as a result of deficiencies in communication and timeliness. The review included 13 English-language scientific reports, with no time limit, containing the terms omitted care, unfinished care, task unfinished, implicit rationing (omitted care, unfinished nursing care, care undone, care unfinished, missed care, care left done, task undone, implicit rationing) and available in April 2019 in PubMed, CINAHL, PsycINFO, Web of science, ProQuest and Philosophers Index databases. The fact that only 13 studies, conducted between 2008 and 2018, were ultimately selected for review gives an idea of how scarce this type of research is, and how important it is to continue addressing this topic. After all, it is difficult to study the rationing of nursing care, in isolation from patients' expectations. Especially since paternalism must give way to a philosophy in which the patient is the subject and not the object of care.

Discussed approach is promoted, among others, by Feste and Anderson [29] who specify that the philosophy of empowerment in health care, aims to increase patients' autonomy and freedom of choice, encouraging them to oversee their own values, needs and health goals.

Also corresponding with the approach outlined above is the concept of Shared Decision Making (SDM), in which a key value is the patient's participation in decisions affecting him or her [30]. Such a view of patient care was brought to the Polish reader in a review paper based on the rich world literature by Zurzycka et al. [31],

who stressed the importance of moving away from a paternalistic relationship to an individualized one, but introducing it into everyday practice requires promoting knowledge of shared decision-making among medical professionals as well as patients and their relatives.

Effects of inadequate care on nursing staff

The consequences of inadequate care also reverberate on the nurses themselves, since the nursing profession is a profession in which ethics and responsibility go inseparably with professional activities and the value system held constantly works to defend the values of human beings, life and health [32]. Therefore, the very rationing of nursing care, i.e., making choices about what activities to perform and what not to perform, results in a conflict of values and a violation of the principle of care, which is the basic ethical principle in the code of professional ethics. Following Krzyzanowska-Lagowska [33], nurses are guided by values in 3 areas: knowledge and skills, concern for the welfare, life and health of the patient, and positive relationships within the nursing team.

Thus, one can mention moral and emotional effects such as stress, job dissatisfaction, professional burnout, quitting the job, leaving the profession; effects related to physical and mental exhaustion: sick leave; effects related to haste: accidents at work, professional exposures; and effects from the patient side: dissatisfaction and even aggressive behavior towards nurses.

The Social Insurance Institution's report [34] on sickness absenteeism in 2018 provides, among other things, information on the female population in Poland on "the longest sickness absenteeism due to own illness: obstetric care due to conditions mainly related to pregnancy (O26) - 25.8% of the total number of days of sickness absenteeism for women (in 2017. was 25.6%); acute upper respiratory tract infection of multiple or unspecified location (J06) - 4.2% (in 2017 - 3.8%); spinal root and nerve plexus disorders (G54) - 4.1% (in 2017. - 4.4%); bleeding in early pregnancy (O20) - 3.2% (in 2017 - 3.6%); reaction to severe stress and adaptive disorders (F43) - 2.7% (in 2017 - 2.6%)." This information is particularly useful because it may also apply to nurses; it makes you think and perhaps research on the subject, but of course, in terms of nurses.

A large European-wide study in the context of searching for reasons for premature resignation from the nursing profession, was the NEXT Study [35] covering 10 European countries including Poland. The study included nearly 40,000 nurses and was conducted in several phases (longitudinal study). The questionnaires included questions about the respondents' work environment, well-being and health, and a separate questionnaire was prepared for nurses who left their jobs to find out why they left.

Among other things, the study looked for associations between intention to leave nursing and four categories of potential causes: occupational diversity (describing the socio-professional characteristics of the nurses surveyed, e.g., education and professional qualifications), assessment of the labor market situation, psychological and physical well-being, and psychosocial and physical job characteristics. The study found that measures of psychological well-being, in particular, are strongly associated with intent to leave a job and largely determine actual decisions to leave. Willingness to leave a job is most strongly associated with a low sense of connection to the profession and the institution, as well as low job satisfaction. This was followed by professional burnout, insecure work behavior (e.g., problems communicating with doctors; uncertainty and unclearness about one's role in dealing with patients and their relatives), and satisfaction with salary. As for measures of physical well-being, it should be noted that they are clearly less strongly associated with considering leaving the profession compared to measures of psychological well-being, never the less the study found that the worse the health assessment, the lower the ability to work and the greater the number of medical conditions, the more often the nurses surveyed have thoughts of quitting their jobs [36].

The last correlation studied, which is related to the desire to leave one's job, includes psychosocial and physical characteristics of work, which determine such reactions as passivity, withdrawal and stress, as well as states of apathy and excessive strain on the body. Among the work characteristics studied, the desire to leave one's job is most strongly associated with a lack of a sense of meaning and significance of one's work, followed by appropriate interpersonal relationships. Consideration of leaving a job is more frequent the worse the emotional climate of interpersonal relations at work and the less substantive and emotional support from superiors and co-workers. The intention to leave a job is also influenced by the following: opportunities for professional development, decision-making associated with a certain level of autonomy and control over one's own job, proper organization of working time, monotony of tasks performed, pace of work and its proper distribution over time, adequate time to fulfill duties, opportunity for rest, exposure to making mistakes [36].

Tschannen et al. [37], in their search for a link between lost nursing care and nurse turnover and intent to leave, found that wards with higher rates of missed care and staff absenteeism had more staff with intent to leave; while wards with staff over 35 years old who worked overtime had fewer staff with intent to leave.

Janikova [24], looking for the consequences of missing care for nurses themselves, showed that nurses fear accidents at work or the transmission of hospital infections to themselves or family members. In contrast,

the primary impact of missing care on nurses is professional burnout syndrome (emotional and physical exhaustion and depersonalization). Feelings occurring among nurses in connection with rationing of care are: dissatisfaction, frustration, feelings of personal failure and a sense of lowered self-esteem, loss of motivation to work, deterioration of interpersonal relations within the team, conflicts, transferring dissatisfaction with work to new team members or students, increasing feelings of fear of errors in documentation, exceeding competencies, e.g. dealing with obtaining informed consent for given procedures, experiencing unfinished work at home "I keep thinking about my work", as well as its effects, e.g. deterioration of continuity of care and the resulting consequences for patients.

Another example of the negative impact of care rationing on nurses themselves was given by Jones et al. [38]. In a review of the literature on unfinished care, they found that nurses felt moral distress, role conflict, and feelings of frustration, worry, and dissatisfaction at not doing their jobs properly in a way that was inconsistent with their values when they struggled to provide full care.

As reported by Rooddehghan et al. [39] in examining the ethical aspects of rationing nursing care, they showed that in addition to lack of care and patient dissatisfaction, there is also a sense of guilt among nurses. This is because rationing ultimately involves assessing potential conflicts between personal and professional values.

Ethical problems in nursing care related to shortages of nursing staff and the resulting gaps in care have been known for many years. Irena Vronskaya [40] touches on this subject when describing ethical dilemmas in the work of nurses with the words "an ethical dilemma can be caused by insufficient nursing staff and the inability to reliably care for all patients. The dilemma then arises as to who to care for first if two or more patients are in a very serious condition.".

As can be seen in retrospect, the problem is still relevant and is being addressed by more researchers [41]. Learning about the causes of nursing care rationing and its negative impact on nurses themselves, prompts the search for solutions. Suggestions from nurses in a study by Janikova et al. [24] for potential solutions to reduce missing care include 3 areas of action: in management and marketing, in nurse education, and in patient care.

In area one, nurses suggest that during the busiest hours of 6:00-10:00 a.m., there should be overlapping shifts which will result in more staff at one time. Other solutions include the use of group care for patients, strengthening the incentive system, e.g. rehabilitation leave, more days off, not just an increase in income, support for teamwork, forming and promoting good relations between all positions (managers, doctors, nurses). In the case of audits, there is an expectation of quality improvement rather than sanctions against individuals or individual teams, an increase in the number of staff, a reduction in working hours from 12 hours to a smaller size, an expectation of electronic documentation (or its eventual elimination), an expectation of rest at work (so that breaks are not disrupted), an opportunity to share one's experiences with others, and cooperation within multidisciplinary teams involving psychologists and educators [24].

In the area of education, suggestions for solutions to reduce the lack of care in the opinion of nurses include pre- and post-graduate education. In the pre-graduate field, according to nurses, it is important to emphasize the formation of professional attitudes. In the post-graduate field, continuing education leading to an increase in competence, knowledge of which by all caregivers will allow precise delegation of tasks and updating of procedures [24].

In the third area, concerning patient care, nurses pay attention to the participation of the family or relatives in patient care. In their view, the family should be involved in the patient's care as early as possible, and the number and frequency of family visits should be recorded in the patients' records. Nurses emphasize that more attention should be paid to the education of patients and their families [24].

Economic and social consequences of inadequate care

Stereotypes in the perception of the nurse as subordinate to the doctor result in a myopic view of nursing as an independent profession, which means that the role and importance of nursing have been underestimated by both employers and politicians for many years. The poor tact of the entire professional group, low salaries, poor working conditions have resulted in low interest in the profession, hence, as is well known, there is a problem of generational replacement among nurses [42].

In a study by Koralewicz et al. [43], when asked what could improve the image of nursing in Poland, nursing students mostly chose the answer "improving pay and working conditions" (answers: social campaigns, cooperation of nursing organizations with PR companies, introducing changes in the behavior and appearance of nurses, others - gained minor indications). Accordingly, the activities should mainly concern wages and working conditions with the improvement of hospital equipment, social facilities, and activities related to taking care of the safety of nursing staff. As can be seen in the opinion of students, "nursing can be an attractive profession for

young people, especially because of its noble mission, values and tradition. However, nowadays it is far too little to encourage Polish young people to take up this profession."

There is also an observed problem with the negative perception of the profession by female nursing students in the study conducted by Dziubak et al. [44]. Well, in the following years of nursing studies, the perceptions of the image of the nursing profession by the students surveyed became more negative, for example, the negative assessment of the prestige of the nursing profession and the opinion of low wages were perpetuated and deepened, and there were unfavorable and statistically significant changes in the assessment of beliefs: "work difficult, tiring, thankless" and "little respect for the work of a nurse". The results of the survey confirm that there is a need to strengthen the image of nursing in society and the professional community, especially during nursing studies.

Consequently, the effects of nursing shortages, hit the professional group of nurses itself, as the work becomes harder, but also the wider society due to the increasing demand for nursing care [45]. Low interest in the profession for younger generations, the economic emigration of nurses especially those with higher education and foreign language skills [46] are challenges for nursing and the Polish state. According to the Supreme Council of Nurses and Midwives, the number of nurses and midwives to whom certificates were issued for the recognition of professional qualifications in European Union countries between 2004 and 2016 was 19,953 [47], while the European Commission, showed that Polish nurses ranked 5th in terms of the number of emigrants [48].

The economic consequences of nursing shortages are increased medical costs due to complications, adverse events, costs of prolonged hospitalization, costs of prolonged sick leave and costs of patient claims. The professional situation of nurses in Poland, among others, in terms of staffing resources, taking into account projections of nursing shortages, was presented by the Supreme Council of Nurses and Midwives in a Report [47] talking about securing Polish society in the services of nurses and midwives. The projection developed for the number of registered nurses and midwives between 2016 and 2030 [47] indicates:

- a systematic increase in the number of registered nurses and midwives with pension rights,
- increasing the average age of nurses and midwives working in the health care system,
- the lack of simple generational replacement of nurses and midwives due to the drastic difference, more than 100 thousand in the number of people acquiring pension benefits and the number of people acquiring the right to practice the profession,
- a reduction in the employment rate of nurses per 1,000 residents.

An important guideline for healthcare policymakers is a publication by Liu et al. [49] cite a model that predicts that by 2030, global demand for healthcare workers will increase to 80 million workers, doubling the current number of healthcare workers, while the supply of workers over the same period will reach 65 million, resulting in a net shortage of 15 million workers worldwide. The authors emphasize that these shortages may not occur on such a scale if labor productivity is increased through, for example, better use of technology, improved skills development and institutional reforms [49].

The topic of nurse productivity is the subject of a study reviewed by Szara et al. [50]. The review of studies showed that this topic is little recognized in the national literature, and based on the available world literature (finally 33 articles included in the review), the following conclusions were presented: nurse productivity depends on organizational culture, leadership, intensity of care, patient education, planning and evaluation of nursing care outcomes, interpersonal relationships, professional development of the employee, personal characteristics of the employee, shift work, stress levels, and social support.

When analyzing the situation of nursing in Poland, it is also important to refer to the situation in Europe and cite the Health Systems Profiles [51], which provide a concise and policy-relevant overview of the state of health and health care systems in EU member states, with particular emphasis on the characteristics and challenges in each country. By design, they are intended to support member states' policy-making efforts based on scientific data.

The profiles are the result of joint work by the OECD and the European Observatory on Health Systems and Policies (EOHSP) in cooperation with the European Commission. As for Poland, one of the most important findings is that affordability and unmet medical needs are major concerns in Poland. Due in part to inequalities in staffing and allocations, Poland has the highest levels of unmet medical care needs and the longest waiting lists for planned treatments across the EU. Mandatory health insurance covers only 91% of the population. Although insured individuals are entitled to a wide range of benefits, public underfunding means that the supply of benefits is limited. The undeveloped private health insurance market and limited public coverage of medical products result in high levels of payment from patients' own resources. As a result, a significant number of low-income Polish households face ruinous health care costs. In the context of the above, the role and importance of nursing resources gain even more significance.

Summary

As demonstrated in the present work, creating mechanisms to ensure proper nursing staffing, which is the starting point for providing nursing care according to patient demand, is a difficult and complex process. In contrast, currently accepted methods allow rapid calculation of required staffing norms. The policy of the Polish State unquestionably indicates actions to ensure quality, safety and accessibility of nursing care to citizens. The topic of nurse productivity has received little attention in the national literature and requires further research. The performance of the nursing workforce depends on organizational culture, leadership, intensity of care, patient education, planning and evaluation of nursing care outcomes, interpersonal relationships, professional development of the employee, personal characteristics of the employee, shift work, stress levels, and social support. Rationing of care conflicts with the principle of diligence and the professional responsibility of nurses. Research is still needed to improve the definition of the threshold, the incidence of nursing rationing, and when this rationing begins to negatively affect patient outcomes. The third part of this topic series will address the important issues from the point of view of care rationing, such as nursing staff job satisfaction, life satisfaction, occupational burnout, and life orientation.

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