

USEFULNESS OF PHYSICAL EXAMINATION IN THE PROFESSIONAL PRACTICE OF NURSES

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ABSTRACT

Introduction: Performing a physical examination of a patient is one of the basic clinical competencies in nursing practice. It forms the basis for preparing nursing students for practice. Obtaining subjective and objective data through physical assessment enables nurses to make a diagnosis of the clinical condition of patients. The physical examination is primarily aimed at assessing the condition of the patient, so that an accurate nursing diagnosis can be made and appropriate measures can be taken to correct the problems that accompany the patients. The ability to conduct a physical examination enables better cooperation with other members of the therapeutic team. It is also believed that the ability of nurses to conduct a physical examination significantly enhances the competence of nurses. The aim of this paper was to assess the usefulness of physical examination in daily professional practice according to nursing staff.

Material and methods: The study was conducted in a group of 186 nurses employed at a hospital in Podkarpackie voivodeship in Poland. The study was conducted in May 2023. The study used a diagnostic survey method with the use of a proprietary survey questionnaire. Participation in the study was random, anonymous, and voluntary.

Results and conclusions: 35.9% of the nurses surveyed claimed they did not perform physical examinations very often. In contrast, 24.3% of the respondents said they performed them very often. 16.5% of respondents said they performed them several times a day. The majority of respondents believed that they were the right people to perform physical examinations. According to the respondents, physical examination is an important part of a nurse's work and has a great impact on patient treatment. Too infrequent performance of physical examinations among nurses is due to work overload and additional duties, as well as lack of confidence.

Key words: physical examination, patient, nurse.

INTRODUCTION

Conducting a physical assessment is an essential clinical skill, and the assessment itself is a central component of nursing practice. Physical assessment is defined as the process by which a healthcare professional examines a patient's body for signs and symptoms of disease. To complete this process, one must be competent in the basic skills that are required for the role of a nurse. Clinical nursing competence is defined as the comprehensive integration of nursing knowledge and skills and the ability to apply them to clinical practice. The level of competence of a clinical nurse can be a factor in determining the quality of care provided. Therefore, already at the stage of pre-graduate education, future nurses should thoroughly assimilate aspects of the physical examination and understand the complexity of the assessment performed in terms of patient safety and

quality of care [1]. Obtaining subjective and objective data through physical assessment enables nurses to accurately assess the health status of patients. A standardized, interdisciplinary pattern of assessment performed improves the overall quality of care for patients in complex clinical situations [2].

Although the basis for the development of nursing interventions is clinical competence, the physical examination has become the "Achilles' heel" in nursing education [3]. Physical assessment, which complements psychological and social assessment, is essential to providing holistic health care. When nurses perform physical assessments, their patients' psychological well-being is better than when other clinicians perform them, because patients tend to have stronger relationships with their nurses. In recent years, nurses around the world have been given more authority to perform various physical assessment skills,

such as palpation, auscultation, and percussion. However, despite their physical assessment skills, a significant number of nurses do not use them in clinical practice. There are many reasons why nurses do not perform physical assessments on patients. One UK study found that physical assessment skills were used selectively by nurses based on their perceptions of their role as a nurse and the level of support they received from other clinicians [4]. An Australian study found that nurses described their role mainly as supporting the clinician, rather than someone providing advanced nursing care. Other reasons included lack of time and heavy workload, lack of confidence, lack of nursing role models, and lack of influence over patient care and specialized areas. Another key finding in the literature is that nurses tend to rely on intuitive judgment rather than physiological symptoms [5]. According to Henderson, for nurses to help patients, they must be “prepared to screen them” and must be taught how to “develop clinical judgment and the ability to recognize patients’ needs” [6]. According to the American Nurses Association, a nurse’s inherent ability to make independent clinical judgments and recognize a patient’s basic needs must first assess the patient, which is the initial step in implementing the nursing process [7].

The pioneering country in the use of physical examination is the United States, which added it to the curriculum at the upper level of education in the late 1970s and early 1980s. It has now been incorporated into the primary education cycle. As early as the 1990s, physical examination issues were raised in Canada and Australia during advanced practice training for female nursing specialists. A significant number of nurses already recognized at that time that competence in performing physical examinations determines an increased professional role for the nurse in the area of health assessment. It is also a method of providing care more efficiently, by increasing the nurse’s area of competence, which also entails increased responsibility for the patient. Opponents have argued that it is increasing the nurse’s responsibilities by burdening them with tasks that previously belonged only to physicians [8].

In the United States the physical examination is one of the basic elements of a patient’s nursing assessment. In Belgium, it is emphasized that the nurse’s professional position is an independent function, among other things, in the realm of providing assistance to the patient in maintaining basic vital functions and collaborating with the physician during diagnosis and treatment [9]. One of the many tasks carried out by nurses is to perform a holistic assessment of the patient using elements of the physical examination [10]. The physical examination is the first and key step in care. It involves talking to the

patient, which is usually done in private so that the patient feels comfortable. In the situation of a minor child or an intellectually disabled person, or when verbal communication is difficult, it is important to talk to the patient’s family to make a proper nursing diagnosis, and observation of the patient should be done during every activity with the patient, so as not to miss important symptoms of the disease [11].

Every graduate completing a nursing degree should be able to perform a physical examination, notice abnormalities, draw conclusions, and document their actions. It is important to treat each patient individually, and perform all actions accurately and without haste. The ability to perform a comprehensive physical examination is an asset for any nurse. Polish nurses have been authorized to perform physical examinations for many years. Changes in the health care system, advances in medical science, and development of public awareness cause nurses to increase their competence, independence, and responsibility for their actions. In nursing practice, both interview and physical examination are used to identify the health needs of the patient, make a proper nursing diagnosis, and establish the purpose and appropriate nursing interventions. The transformation of nursing education in Poland and related changes in the standards of pre-graduate and post-graduate education have made it possible to prepare students to perform physical examinations. Currently, under the regulation of the Minister of Health, a nurse is authorized to perform diagnostic services independently, without a doctor’s order, which includes performing a physical examination, if he or she has completed a specialized course or holds a specialist degree in nursing obtained after 2001, or has completed a first degree program in nursing that began in the 2012/2013 academic year [12].

Nursing is a science that simultaneously depends on knowledge and practice. Many studies have viewed nursing as a practice-oriented profession. One of the most important elements of comprehensive nursing care is the basic nursing process of examination. In fact, the examination is the first step in the nursing process, and the physical examination is a key component of this process. The examination performed by nurses is an essential part of nursing care [13]. Without its proper mastery and proper execution, nurses would fail in the first stage of the nursing process and would not be able to properly proceed to the next stage, which is diagnosis [14].

The aim of this paper was to assess the usefulness of physical examination in daily professional practice according to nursing staff.

To carry out the research task, several research problems were formulated:

1. How often are physical examinations performed among nurses?

2. Does the age of the respondents affect the frequency of physical examination?
3. What relationship exists between the nurses' education and the frequency of physical examinations?
4. What is the reason for the infrequent performance of physical examinations among nurses?

Based on the problems, the following research hypotheses were adopted:

1. The surveyed nursing staff rarely perform physical examinations.
2. The age of the staff does not affect the performance of physical examinations by nurses.
3. Respondents with higher education are more likely to perform physical examinations.
4. The main reason for rarely performing physical examinations is lack of self-confidence.

MATERIAL AND METHODS

The study was conducted in a group of 186 nurses employed at a district hospital in the Podkarpackie voivodeship in Poland. The study was conducted in May 2023 after obtaining approval from the PANS Bioethics Committee (No. 6/2023). Participation in the study was voluntary and anonymous.

The study used a diagnostic survey method, which consisted of a survey technique using a proprietary survey questionnaire. The questionnaire was divided into 2 parts: the first part containing questions about sociodemographic data, and the second part, in which the questions asked concerned the usefulness of the physical examination. The design of the questionnaire provides an opportunity to obtain knowledge to solve research problems and verify hypotheses. Survey questionnaires were distributed to active nurses with a request to complete them. The participants were informed about the purpose of the study and gave their consent.

Statistical analysis

Descriptive statistics were used in the study. A chi-square test was used to test the statistical relationship between the analysed characteristics. Analysis of the relationship between variables was performed using the χ^2 test of independence. A significance level of $p < 0.05$ was adopted.

RESULTS

In total, 186 nurses participated in the survey, 88.5% of whom were female. The remaining group comprised male nurses (11.5%). The characteristics of the study group are shown in Table 1.

Of the nurses, 35.9% claimed they did not perform physical examinations very often. In contrast, 24.3% of the respondents said they performed them very of-

Table 1. Characteristics of the study group

Variable	Percentage (%)	Frequency (N = 186)
Gender		
Female	88.5	165
Male	11.5	21
Age (years)		
20-25	25.3	47
26-35	19.9	37
36-50	30.1	56
> 50	24.7	46
Job seniority		
< 5	22.1	41
5-10	11.5	21
11-20	23.1	43
21-30	23.1	43
> 25	20.2	38
Place of work		
Non-invasive treatment ward	45.9	85
Surgical ward	30.5	57
Primary healthcare unit	23.6	44
Education		
Secondary	19.2	36
Bachelor of Nursing	45.2	84
Master of Science in Nursing	35.6	66

ten. 16.5% of respondents said they performed them several times a day. In contrast, 23.3% stated they performed them several times a week. As the most common situation during which respondents performed physical examinations, most declared that it was during the patient's admission to the ward (34.7%), when the patient reported additional complaints (38.1%), on doctor's orders (11.0%), and when the patient's condition worsened 19.9%. The fewest, i.e. 2%, declared that they performed examinations before discharge home.

Respondents cited blood pressure measurement and body temperature measurement as the most frequently performed physical examinations (Fig. 1).

A total of 54.9% of respondents rated their knowledge of how to conduct a patient interview well and perform it on their own without a doctor's order. 7.8% believed that they did not have the knowledge and skills to do so. 10.8% performed it on a doctor's orders, and 7.8% of respondents believed they were performed by a doctor.

A physical examination of a patient with neurological symptoms was performed independently by 34.0% of respondents (Fig. 2).

26% of respondents say they verbally communicated the results of physical examinations and documented them. 6.7% of respondents documented the

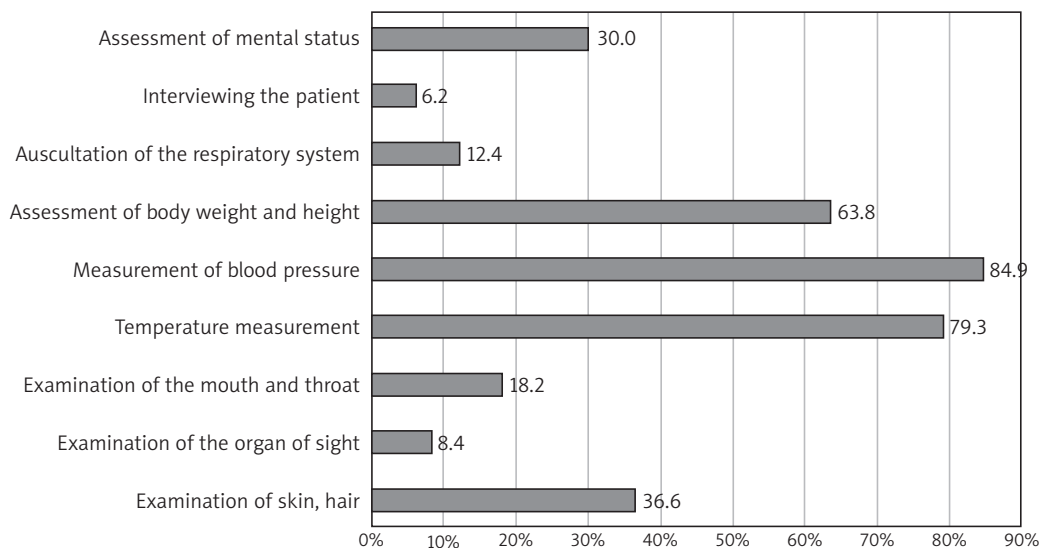


Figure 1. The most common physical examinations

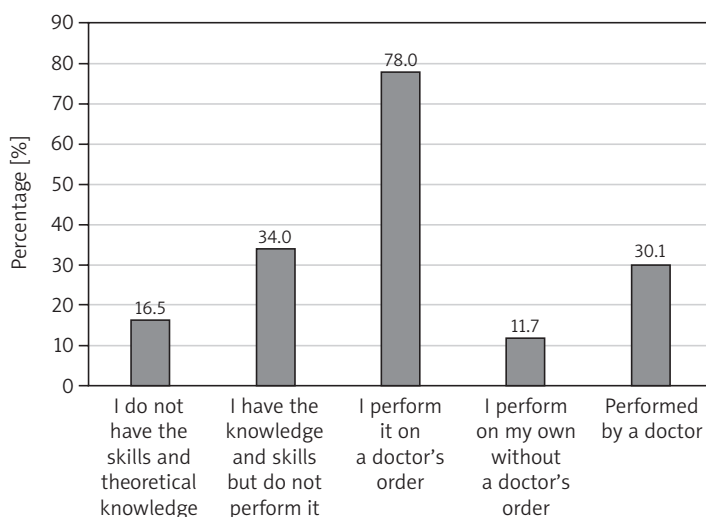


Figure 2. Assessment of one's knowledge of performing a physical examination on a patient with neurological symptoms of neurology

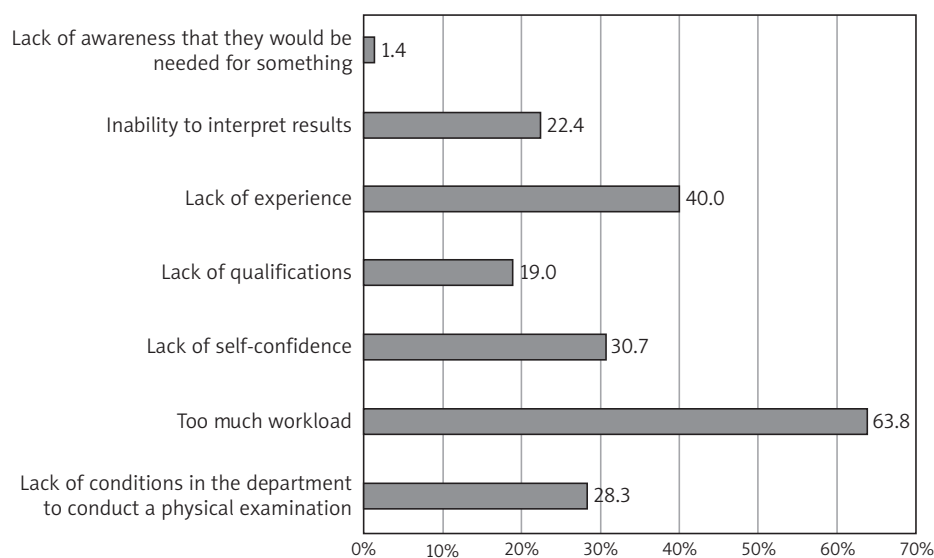


Figure 3. Reasons why nurses rarely perform physical examinations

results only when ordered by a doctor. A significant portion of respondents (16.3%) communicated the result to the doctor in the case of abnormalities. Some respondents always documented the results (12.5%). 49% of respondents believed that all the tests obtained by them were respected by the doctor, while 46.2% believed that only measurements of basic parameters were taken.

The most common cited reason for nurses rarely performing physical examinations were excessive workload and lack of experience (Fig. 3).

The survey showed that, according to the respondents, seniority was related to the frequency of physical examinations ($p = 0.017$) as opposed to the age of the respondents ($p = 0.027$). The results are shown in Table 2.

According to the survey, education of nurses had no effect on the frequency of physical examinations ($p = 0.108$). Such a frequency was significantly ($p = 0.036$) related to the respondents' place of work. It was noted that physical examination was mostly performed primarily by those employed in the surgical departments, less often by those working in outpatient clinics or employed in behavioural departments (Table 3).

DISCUSSION

Based on the Nursing and Midwifery Professions Act of 15 July 2011, and the Order of the Minister of Health of 7 November 2007, on the type and scope of preventive, diagnostic, therapeutic, and rehabilitative services that are provided by a nurse or midwife without an order, a nurse is authorized to perform a physical examination if he or she obtains a specialist title in nursing. Accordingly, conducting a physical examination is within the scope of competence of a nurse who has obtained a specialty title in nursing [15, 16]. The specification of the nursing profession imposes a constant need to improve qualifications and acquire new skills. With the progress of medicine, the requirements and expectations of patients – as well as their families – from nursing personnel are increasing. The higher the qualifications of nurses, the greater the knowledge, as well as the guarantee of adequate care for the patient. Our own research has

shown that there is no correlation between education and the frequency of examinations. Currently, nurses, due to staff shortages, have more responsibilities. In addition, they have taken over some of the tasks and skills that used to be performed only by medical staff. Transferring certain activities, duties and responsibilities for the treatment process to nurses is a method to reduce professional distance and to increase the possibility of interdisciplinary cooperation [12].

Our own research showed that 49.5% of nurses participating in the survey cited a behavioural ward as their place of work. In the United Kingdom, physical examinations are performed to the greatest extent in cardiac, behavioural, intensive care, and primary care units. This examination is also performed on bedridden patients. Mędrzycka-Dąbrowska *et al.* [17], after analysing their own research, concluded that nurses working in surgical wards perform physical examinations more often, compared to nurses from conservative wards. The examinations include measuring blood pressure, heart rate, respiration, and during hospital admission. Another study showed that all nurses who participated in the study interviewed patients and performed physical examinations limited to measuring basic vital signs. Only 2.8% of those surveyed said they performed more extensive physical examinations during their work [18].

Table 2. Respondents' job seniority vs. frequency of physical examinations

Parameter	Very often (%)	Several times a day (%)	Several times a week (%)	Not very often (%)
Job seniority				
< 5	26	9	26	39
5-10	33	25	33	9
11-20	17	29	21	33
21-30	17	4	25	54
> 30	33	19	19	29
Chi-square (χ^2)			14.410	
Asymptotic significance			0.017	

Table 3. Workplace vs. frequency of physical examination during duty

Parameter	Non-invasive treatment ward	Surgical ward	Outpatient clinic
Frequency of physical examination performed during duty			
Very often/often (%)	46.3	73.8	55.6
Very rarely/rarely (%)	53.7	26.2	44.4
Total (%)	100.0	100.0	100.0

$$\chi^2 = 6.626; p = 0.036$$

A significant proportion of nurses do not perform all elements of physical examinations, even though they are included in the training stage and should have such knowledge and skills. The reason for the incomplete use of physical examinations in Poland is due to many factors [19]. Our own research showed that the most common reason given for not performing a physical examination was that the workload was too heavy (59.6%). In a study conducted by Bartkowiak [20] it was confirmed that nurses' low salaries have an impact on dissatisfaction and, consequently, low work efficiency.

Another aspect in the performance of physical examinations is the respect of its results by medical personnel. Our own research shows that only half of the respondents (49%) believed that all the results of their examinations were respected by doctors. 46.2% of respondents reported that only the results of general examinations were accepted. In contrast, 4.8% said that doctors did not recognize any tests performed by them. This contradicts the results of Rybka and Mrozowski [21], who showed that 90% of the physicians surveyed believed that a qualified nurse was a competent collaborator, and only 10% believed that nurses were only there to carry out orders. Grabowska *et al.* in a 2015 study found that respondents performed very little chest auscultation (4.2%) even though more than half were qualified and competent [8].

In a self-administered survey, 12.5% of respondents declared a lack of knowledge and ability to perform the test. 19.2% self-performed without a doctor's order. In contrast, 26.9% believed that only the doctor performed the examination. Competent patient care is based on the accurate performance of physical examinations. According to our study, the most frequently performed physical examination was blood pressure measurement (80%). In addition, 71.8% declared that they performed the test on their own without a doctor's order, while 4.9% lacked the knowledge and skills to perform this measurement. Other authors have shown that all health care workers need to be re-trained in this area and have their skills checked. This is shown by the results of the survey in which only 30% of respondents were able to correctly select a cuff, and just 32% were able to give a suggested cuff filling range. In view of these and other results, the survey concludes that it is necessary to improve the skills of measuring blood pressure [8].

In our own study, 53.7% of respondents believed that they performed physical examinations easily, and 30.1% believed that seniority is important in working with patients. A study conducted by other authors showed that half of the respondents rated their experience and knowledge of physical exami-

nations as sufficient, 38.2% as good, and just over 10% as insufficient. It is also worth noting that 39% of respondents were willing to improve their knowledge with a course or training [17]. The results of Liyew *et al.* showed that nurses working in intensive care units had good practice in physical assessment among seriously ill patients [22]. Borji *et al.*, on the other hand, showed that physical examination skills among nurses were at a medium to low level [13].

The Central Register of Nurses and Midwives as of 31 December 2021 announced a report that the number of nurses in Poland was 307,832, the average age of nurses in a year in Poland was 51 years, and it is increasing all the time. In our own research, we conducted an analysis of the effect of a nurse's age on refusal to perform a physical examination. It showed that age has no relationship with the frequency of physical examinations performed by nurses ($p = 0.027$).

Our own research also showed that the number of duties to be performed by a nurse correlates with work efficiency. From year to year there are fewer nurses, and thus less staffing. It is also worth noting the importance of constantly improving one's own skills and attending courses, which increases the effectiveness of performing physical examinations.

A study in Poland found that nurses do not perform many elements of the physical examination, and it is well known that an accurate and efficient physical examination has an impact on the rapid implementation of further treatment [23]. One study in the UK found that physical assessment skills were used selectively by nurses based on their perceptions of their role as a nurse and the level of support they received from other clinicians. In Canada, researchers found that nurses rarely performed physical assessment skills because they were inappropriate in the clinical environment in which they worked. An Australian study found that nurses described their role mainly as supporting the clinician, rather than someone who provides advanced nursing care [24]. According to Douglas *et al.*, there are 7 factors identified as barriers to nurses intending to use physical assessment skills: reliance on others and technology, lack of time and interruptions, ward culture, lack of confidence, lack of nursing role models, and lack of influence in patient care and specialized areas [5, 25]. Another key finding in the literature is that nurses tend to rely on intuitive assessment rather than physiological symptoms [5]. Despite the importance of physical examination in the nursing curriculum, previous studies suggest that only 11-29% of the physical assessment techniques taught in nursing schools are routinely used by nurses in practice. Questions have been raised about the need for nursing students to learn such a broad range of physical assessment

skills to enter nursing practice – skills that have been learned through illness and only some of which have been used in practice [26].

In Czezelewska's study, nurses, regardless of their place of employment, said that the reason for not performing physical examinations was lack of time, both due to performing other nursing activities and not being fully staffed, and indicated the viewing technique as the most common technique used in performing physical examinations. There is a need for continuous improvement in physical examination skills among nurses regardless of where they work [12].

LIMITATIONS OF THE STUDY

Data collection took place in a group of nurses working in one health care facility over a certain period, so the results of the study and the conclusions drawn from it cannot be generalized. The questionnaire used was a self-assessment tool, so current well-being may have influenced the respondents' assessment of the situation. In addition, there was an opportunity to exchange opinions among nurses during the survey. The surveyed group was very small compared to the total number of professionally active nurses in Poland. Further multicentre studies are needed to generalize the results and implement recommendations for the conduct of physical examinations by nurses.

CONCLUSIONS

Only 40.8% of the nurses claimed they performed physical examination very often or often. The remaining group performed them rarely or very rarely.

The age and education of the respondents were not related to the frequency of physical examinations.

Nurses, regardless of their place of employment, showed that the most common reason for not performing physical examinations was lack of time, both due to performing other nursing activities and because of understaffing. The study proves that there is a need for continuous improvement of physical examination skills among nurses regardless of their place of work.

The infrequent performance of examinations among staff is due to work overload and lack of experience.

Disclosure

The authors declare no conflict of interest.

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