ARTIGO ORIGINAL

Physical Examination Checklist: contributions to the teaching of Fundamentals of Nursing

Checklist de Exame Físico: contribuições para o ensino de Fundamentos de Enfermagem

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Abstract
The study aimed to analyze the application of a physical examination checklist by nursing undergraduate students. Descriptive research, qualitative approach, carried out in a university hospital located in the city of Niterói. As participants of the study, 19 students were selected. For the data collection, the students were divided into two groups: one carrying the checklist instrument on physical examination (called intervention), and the other only with the knowledge acquired during the academic training (control group). To analyze the results, the performance between the groups was compared. It can be affirmed that the use of the checklist at the time of the physical examination contributed positively to the teaching and learning of students who are starting their practice of care. In all the evaluated items, the students who used the instrument had higher quality and assertiveness in the procedures performed, when compared to the group of students who did not use the instrument. The implementation of the physical examination checklist for Nursing students contributed to a better understanding of the theoretical and practical content, assisting the student in the overall evaluation of the client.
Key words: Nursing; Physical examination; Nursing, Education.

Resumo
O estudo objetivou analisar a aplicação de *checklist* de exame físico pelos alunos de graduação em enfermagem. Pesquisa descritiva, abordagem qualitativa, realizado num hospital universitário localizado no município de Niterói. Como participantes do estudo, foram selecionados 19 alunos. Para a coleta de dados, os alunos foram divididos em dois grupos: um portando o instrumento de *checklist* sobre exame físico (chamado de intervenção), e o outro apenas com os conhecimentos adquiridos durante a formação acadêmica (grupo controle). Para análise dos resultados, foi comparado o desempenho entre os grupos. Pode-se afirmar que o uso do *checklist* no momento da realização do exame físico contribuiu positivamente para o ensino e aprendizado do aluno que inicia sua prática assistencial. Em todos os quesitos avaliados, os alunos que utilizaram o instrumento tiveram maior qualidade e assertividade nos procedimentos efetuados, quando comparados ao grupo de alunos que não utilizou o instrumento. A implementação do *checklist* de exame físico para os alunos de Enfermagem contribuiu para melhor compreensão do conteúdo teórico e prático, auxiliando o discente na avaliação global do cliente.
Palavras-chave: Enfermagem; Exame Físico; Educação em Enfermagem.

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Introduction

The ability to evaluate patients is one of the most important skills of nursing. In all settings where nurses interact with patients and provide care, the process of obtaining a complete health history and using the appropriate assessment skills is essential for the identification of their physical and psychological problems [1].

The nursing process represents the main methodological model for the systematic performance of the professional practice, or a technological instrument that is used to favor care, to organize the necessary conditions for the completion of the care and to document the professional practice. The conceptualization and application of the nursing process have evolved to the recognition that in addition to a judgment strictly linked to the disease and its complications, nursing agents make other types of judgments related to the care provided and act on them [2].

The systematized application of the nursing process (systematization of nursing care) provides that assistance is based on patient evaluation, providing concrete data for the establishment of diagnosis. These, in turn, make it possible to adopt care goals, which provide the basis for selecting the most appropriate interventions to revert or alleviate the unbalanced situation in which the individual is in [3].

Physical examinations and anamnesis are part of the nursing history, the primary stage of the nursing process. From it, the nurses are able to trace the nursing diagnoses, and plan their assistance focusing solely on the needs of the patient [4].

Anamnesis is defined as the first phase of the process. There are four types of collected data in this first phase of the nursing process, which are: subjective, objective, historical and current data. These can be obtained by: interview, observation, physical examination, results of diagnostic tests, review of medical records and the collaboration of other professionals [4].

The physical examination refers to the caudal cephalic revision of the human body for the investigation of each patient's body system. It is achieved through inspection, palpation, percussion, auscultation, smell and the use of certain instruments and apparatus to provide information and allow nurses to make clinical judgments [5].

In order to perform the physical examination, nurses need scientific knowledge in anatomy, physiology and semiology, without which they will not be able to fully detect the problems experienced by the patient and that require their intervention [4]. The teaching of such physical examination has been a constant cause of concern not only for the professional involved in the teaching, but also for those who work in the care field. As it's offered by universities in a too simplified way, it doesn't attend to the necessary care provided by nurses [6].

Generally, performing the physical examination represents the first moment of physical contact with the patient. The aspiring nurse's concerns about their competence to perform this practice, as well as the manifestation of feelings such as fear, anxiety and insecurity, can interfere directly in their execution, causing frustration and fear concerning the patient. For that reason, such questions should be considered [7].

Obtaining data about the person, their family and community regarding their responses to the health / illness process at a given moment is the nurse's role and responsibility [8]. Keeping that in mind, it is imperative that this subject is improved during their studies, so that the students, future professionals, can exercise their practice in order to provide care with more security, autonomy and authority [6].

The process of generating changes in the teaching/learning process is no easy work, as it seeks to break with traditional teaching models. By abandoning the traditional methods of transmitting knowledge, in which professors speak and the students listen, professors assume the position of a facilitator in the learning process. Thus, there is a need to make students the protagonists of their learning, also developing a critical sense of what is learned, as well as the skills needed to relate this

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knowledge to what they'll see in the real world [9].

Rationale: In order for nurses in their professional practice to perform the physical examination, it is necessary that the teaching and learning process privilege the theoretical and procedural qualification of the undergraduate during nursing education. It is noticed the need to propose teaching strategies that facilitate the teaching-learning process, which leads the student to develop the ability to observe and perceive the phenomena involved in the examination of their client.

Relevance: Technology is an ally in the transmission of knowledge, through innovative methods of education that allow the students to retain what was taught in a more efficient way. The didactics before the faculty must be constantly changing, trying to get out of the traditional and old models and move on to innovations that will allow a new way of teaching, which will facilitate learning.

Guiding question: can the use of the physical examination checklist be a facilitating tool for the teaching of Nursing Fundamentals?

Considering the importance of the physical examination as an indispensable subsidy for the development of effective systematized assistance to the patient, this study aimed to analyze the application of said tool by undergraduate nursing students.

Method

Descriptive research, qualitative approach. The research setting was the Male Surgical Clinic of the University Hospital located in the city of Niterói, Rio de Janeiro, Brazil. The participants of the research were a group of 19 nursing students who have learned the theoretical-practical (ETP) on the Nursing Fundamentals subject, which was taken during the fourth period of nursing school.

As inclusion criteria, we used the students who attended the two theoretical classes taught in the discipline that regarded the physical examination, and who were assigned to perform practical theoretical teaching in the area of Male Surgical Clinic. As exclusion criteria, the absence of the academic during data collection, and the not accepting to participate in the research. Data collection took place in the first semester of 2014.

At first, a checklist was elaborated containing all the steps of the physical examination, being possible to mark any normalities and abnormalities found in the patient in question. The main idea of the physical examination checklist used by the students was to guide the steps of this procedure, trying to contribute in this way to a better learning of the realization of the exam, in order to improve the nursing care provided. It should be noted that the research had two subgroups of students. One subgroup, called "intervention", performed the physical examination with the checklist instrument. The other group (called "control") performed the procedure with the knowledge acquired during the academic training, without the use of the instrument in question. In order to observe and record the physical examination, a field diary was used, in which specific notes of the physical examination stages performed by the students were taken. The process made it possible to perceive inadequate techniques, failures, or forgetfulness during the procedure.

The results were analyzed with the use of a comparative method between the intervention group and the control group. The research also included the reading and interpretation of questionnaires that were answered by the subjects of the intervention group, evaluating their knowledge about the physical examination and whether the use of the instrument could contribute to a better learning of the subject.

The research followed the determinations of Resolution No. 466/12 of the National Health Council, and each student was given an Informed Consent Form. It was submitted and approved by the Ethics and Research Committee of the Antônio Pedro University Hospital (HUAP) and approved with the remark no. 645,988.

Results

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The research was carried out with a quantitative of 19 students. They were divided into two groups: one carrying the checklist instrument on physical examination (called intervention), and the other only with the knowledge acquired during the academic training (control group). The intervention group had 10 students (8 females and 2 males). The control group had the participation of 9 students (8 females and 1 males).

It is important to remember that both groups mentioned above, not only attended theoretical classes on physical examination, trainings with monitors and teachers, but also had the opportunity to perform the procedure previously in other internship fields, which was offered by another discipline with an outpatient approach. In light of this, the students were not performing the procedure for the first time.

There were factors that interfered with the physical examination by the students. They can be classified into extrinsic and intrinsic, some of which regarded the environment and others to the subjectivity of each academic, respectively. As extrinsic factors, the most observed ones were: the restless environment of the university hospital; the presence of other students from other health areas who, most of the time, ended up working with the same client. As intrinsic factors, the following were evidenced: shyness, anxiety, fear of making mistakes; all of which may lead to holes in the integral evaluation of the client. The presence of a companion next to the hospitalized client caused great apprehension on the part of the students, for they weren't feeling comfortable performing the physical examination.

In addition, the study subjects were more interested in the technical procedures, which require manual dexterity and more focus. During the first periods of graduation course, or basic training cycle, the students aim to reach the curricular internship in the hospital environment to begin their professional practice. Therefore, many did not value other nursing duties during the integral care of hospitalized clients. They complained when they were stimulated to think or perform an activity focused on knowledge, skills and attitudes, such as physical examination. The students understood that ETP would become effective if they performed invasive procedures or more complex nursing techniques, such as vesical and nasoenteral probing, blood collection and peripheral venous access.

It was noticed that the intervention group obtained better performance in the execution and learning of the physical examination than the control group. It should be emphasized that this instrument generates greater sense of security in the students, in the face of the tension and anxiety that is found in the first stages of nursing graduation course.

Discussion

The discussion of the physical examination checklist data was divided into categories classified as: subjective data; head and neck; chest; abdomen; and upper and lower limbs. These categories were selected to better address the propaedeutic of each region examined. Of all the areas of the body approached by the students during the physical examination, the assessment of the abdomen and the upper and lower limbs were the ones that presented the most mistakes, either because the subject forgot something or made mistakes in the examination itself.

Subjective data

It was possible to perceive that all the students who performed the physical examination with the use of the checklist approached the subjective data of the clients. In the control group, 40% of the students did not ask the questions regarding the orientation level, sleep pattern, comfort, boel and bladder evacuations, acceptance of the offered diets, and pain. It is believed that these results are due to the fact that the attention is diverted to the clinical focus of the client, because they are concerned with the early performing of propaedeutic techniques. As a result, they end up

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forgetting the information that should be investigated by the examiner.

In order to collect data, it is important for nurses to instrumentalize through semiology and semi-technical learning, which allows the collection of more informed data that lead to the identification of correct diagnoses [4].

Some conditions are important in order to carry out the data collection phase correctly: adequate environment (comfortable, quiet and private), the required gear (print, script, materials and equipment), availability of the professional (showing interest and attention to what is informed, avoiding interruptions) and sensitivity (to understand and respect the limits and the will of the client). Among the factors that influence data collection are the relationship between the nurse and the client, the communication and interaction skills, perceptions and experiences (beliefs, values) of those involved, the interests of both the clients and the professionals, the environmental conditions and theoretical-philosophical references [9].

Head and neck

It was found that all students in the intervention group satisfactorily examined the head and neck region of the patients in the study in question. Approximately 34% of the students in the control group did not investigate part of the evaluation process. It is possible to be detailed that the main failures were the lack of palpations of the lymph nodes of the submental, retroauricular and submandibular regions, as well as of the paranasal sinuses. It was verified that this fact is due to the unfamiliarity of the regions that present / display lymph nodes. Another point observed was the lack of knowledge about the importance of palpation of the thyroid.

In order to know the client's conditions (evaluation), to detect their needs (diagnosis) and to prescribe the nursing care (intervention), it is necessary that the nurse, in addition to being based on systematized observation, physiology, pathophysiology, clinical pathology, psychology, nursing, propaedeutic and complementary examinations in order to establish interventions consistent with a properly stated diagnosis [4].

Chest

There was a slight similarity in the results of the examination performed in the chest region by both the intervention and the control groups. Even with the checklist instrument, which has the idea of guiding and facilitating the physical examination of the students, two students (20%) performed it incorrectly. In the control group, this percentage of errors during the examination rises to 34%, which corresponds to three students. In a satisfactory way, we obtained expressive value in the correct answers and techniques executed according to the established standards and theoretical references, reaching the correct answers in 80% and 66% of the intervention and control groups, respectively.

It was identified that the students' main difficulties in the accomplishment of the physical examination in the region of the chest are due to the little knowledge on the cardiac and pulmonary physiology. The lack of the identification of the cardiac foci reflects a superficial and non-functional examination, where most of the time it ends up being a step forgotten by the students, because they do not have a theoretical knowledge about the cardiac physiology. Other difficulties presented by the students were related to the evaluation of the respiratory system. The performance of thoracic percussion, identification of the sounds obtained, and its corresponding meanings are factors that some students presented some resistance in the learning and the practical execution. The thoracic expansion maneuvers and bilateral tactile fremitus were not performed, making the systemic and integral evaluation of the patients difficult. Regarding the auscultation and identification of adventitious noises, the students demonstrated a better level of knowledge, having the ability to differ the pathological sounds found in the lungs.

Abdomen

Of all the areas of the body approached by the

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students, the physical examination of the abdomen was the one that presented the most relevance, due to the large number of students who did not do it or did it incorrectly. Of the students using the checklist, 80% of them did the exam correctly. In the control group, 67% of the students did not succeed on the test. The greatest difficulty presented by the students was in the order of the propaedeutic used in the evaluation of the abdomen. It is known that the evaluation of this region should follow the inspection / auscultation / percussion / palpation sequence, in order not to alter the airflow sounds, and in the investigation of abdominal aortic aneurysm.

In the approach of this region, the students began the examination by palpation, leaving the auscultation as the last propaedeutic method. Another point observed was that the students did not have adequate knowledge about maneuvers that help in the abdominal examination (for example, Blumberg, Rovsing and Giordano). Such maneuvers are useful because they may suggest certain pathologies and, with that, propose nursing prescriptions to promote a good quality care. A precarious theoretical knowledge about intestinal physiology was also noted. The students were able to identify the airborne noises, but they did not know how to associate the number of noises heard with the potential causes and consequences of such sounds. The lack of knowledge of the amount of physiological hydroaerial noises also becomes an aggravating factor in the issue of teaching the students.

Physical examination should be incorporated into nursing practice as a first step of systematized care. It is therefore necessary to insert it more and more into the content of teaching to be taught at the different levels of training, especially in nursing school, in order to develop the skills for its execution, at a level compatible with patient safety [6].

Upper and lower limbs

In the examination of the upper and lower limbs, 100% of the students in the intervention group made the pertinent observations in the cited region. From the control group, 78% of the students did not make the necessary local observations, such as the presence of edema, hydration and capillary perfusion, and in some cases, the evaluation of venous accesses, identifying phlogistic signs and catheter permeability. Large parts of the students did not perform a complete assessment of the members, failing to identify some points of importance. The sign of closure and cutaneous hydration were highly valued by the students, being one of the first techniques to be performed. However, they did not give importance to the capillary perfusion and pulse characteristics of the patient, which could provide important information about possible complications for the client examined.

Preservation of the skin's integrity is a key aspect of nursing care during the hospitalization process. In this sense, some nursing interventions are indispensable to maintain the skin's integrity, prevent physical and chemical injury, minimize water loss, maintain a stable temperature and prevent infections [10].

Conclusion

The implementation of the physical examination checklist for nursing students contributed to a better understanding of the theoretical and practical content, assisting the student in the overall evaluation of the client.

It can be affirmed that the use of the checklist at the time of the physical examination contributed positively to the teaching and learning of students who begin their nursing practice. In all the evaluated questions, the students who used the instrument had higher quality and assertiveness in the procedures performed, when compared to the group of students who did not use the instrument.

In addition, it was possible to observe a reduction in the levels of tension and stress that were the students experienced during the first days of ETP in the hospital setting. The checklist contributed to a greater sense of security in the

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students during the exam, favoring the interaction between client and student.

Another point that deserves attention is related to the students' complaints when they mention the participation of the teachers at the moment of the physical examination. Making changes in the way professors teach physical examination should be considered. The synchronization between the theoretical class and practical classes in the hospital field should be instituted, since this way there will be more success on the long-term learning of the contents taught. In addition, it gives the student a sense of security and professional mirror before the professor.

The results obtained in this research constitute a challenge for the teaching of nursing, in which both the course and the faculty members should rethink the responsibility and competence in teaching the physical examination. They must prepare the essential knowledge and the basic knowledge, integrating them with the professional practice in order to feel the security necessary to teach, which allows the formation of competent professionals in the area of clinical evaluation of clients, aiming at the improvement of the assistance provided.

The study contributes to the clinical practice with the improvement of physical examinations by the nursing student and the nurse. This way, it is possible to perform an integral care, identifying the needs and performing the necessary nursing interventions.

From this study, new research is expected on the importance of the physical examination for the nurse's practice, an issue of extreme relevance for the improvement of health care.

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