



WOUND DRESSING TECHNIQUE: COMPARATIVE STUDY BETWEEN NURSING PROFESSIONALS AND STUDENTS

TÉCNICA DE CURATIVO: ESTUDO COMPARATIVO ENTRE PROFISSIONAIS E ESTUDANTES DE ENFERMAGEM

TÉCNICA DE CURATIVO: ESTUDIO COMPARATIVO ENTRE PROFESIONALES Y ESTUDIANTES DE ENFERMERÍA

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ABSTRACT

Objective: to compare the development of nursing professionals and students with regard to the performance of the wound dressing technique. **Methodology:** this is a descriptive study with a quantitative approach. The sample was chosen through convenience sampling, with the participation in the research of 14 nursing professionals, who were observed within the period from March to June 2009, and 24 nursing students, duly matriculated in the last semester of the undergraduate course in Nursing of Universidade Federal da Paraíba, who were observed within the period from March to May 2010. The procedure for data collection was performed through non-participant observation and the filling in of a semi-structured script, according to the approval by the Research Ethics Committee of the Hospital Universitário Lauro Wanderley, under the Protocol 011/09. **Results:** in most of the aspects under analysis, the students got better results than the professionals, especially with regard to hands washing, information to patients, and use of single movements for wound cleansing. **Conclusion:** the professionals should improve their knowledge, searching for an update in this area, and the students should be supervised during the performance of the procedure. **Descriptors:** nursing; wounds and injuries; therapeutics; nursing care.

RESUMO

Objetivo: comparar o desenvolvimento de profissionais e estudantes de enfermagem quanto à realização da técnica de curativo. **Metodologia:** estudo descritivo com abordagem quantitativa. A amostra foi escolhida através de amostragem por conveniência, tendo participado da pesquisa 14 profissionais de enfermagem, que foram observados no período de março a junho de 2009, e 24 estudantes de enfermagem, regularmente matriculados no último período do Curso de Graduação em Enfermagem da Universidade Federal da Paraíba, os quais foram observados no período de março e maio de 2010. O procedimento de coleta de dados foi efetuado através da observação não participante e preenchimento de um roteiro semi-estruturado, após a aprovação do Comitê de Ética em Pesquisa do Hospital Universitário Lauro Wanderley, sob Protocolo n. 011/09. **Resultados:** na maioria dos aspectos analisados, os estudantes se sobressaíram aos profissionais, principalmente com relação à lavagem das mãos, orientação do paciente e utilização de movimentos únicos para limpeza da ferida. **Conclusão:** os profissionais devem melhorar seu conhecimento, buscando atualização nessa área, e os estudantes devem ser supervisionados durante a realização do procedimento. **Descritores:** enfermagem; ferimentos e lesões; terapêutica; cuidados de enfermagem.

RESUMEN

Objetivo: comparar el desarrollo de profesionales y estudiantes de enfermería con relación a la realización de la técnica de curativo. **Metodología:** esto es un estudio descriptivo con abordaje cuantitativo. La muestra fue escogida a través de muestreo por conveniencia, teniendo participado de la investigación 14 profesionales de enfermería, que fueron observados durante el periodo de marzo hasta junio de 2009, y 24 estudiantes de enfermería, regularmente matriculados en el último semestre del curso de graduación en Enfermería de la Universidade Federal da Paraíba, los cuales fueron observados en el periodo de marzo hasta mayo de 2010. El procedimiento de recogida de datos fue efectuado a través de la observación no participante y relleno de guión semi-estructurado, de acuerdo con la aprobación del Comité de Ética en Investigación del Hospital Universitário Lauro Wanderley, bajo el Protocolo 011/09. **Resultados:** en la mayoría de los aspectos analizadas, los estudiantes fueron mejores que los profesionales, principalmente con relación a el lavado de las manos, orientación del paciente y utilización de movimientos únicos para limpieza de la herida. **Conclusión:** los profesionales deben mejorar su conocimiento, buscando actualización en esa área, y los estudiantes deben ser supervisados durante la realización del procedimiento. **Descriptor:** enfermería; heridas y traumatismos; terapéutica; atención de enfermería.

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INTRODUCTION

A nursing professional has great responsibility before a situation of tissue damage, since it acts directly on patient's care. The wound concept, as a loss of the skin continuity, has lost its effect a little, being more considered as something that weakens and incapacitates without necessarily needing sensory stimuli.¹

Applying a dressing becomes a reflective task, rather than merely mechanical; needing the theoretical knowledge related to the skin physiology, the existing products in the market and those that are not standardized by the hospital. Caring for the wound involves the individual's intimacy and subjectivity; this procedure cannot be performed as a technical task, because it involves a relationship, even if temporary, between two human beings.²

For this purpose, the individual with a wound receives a personal therapy e should be taken into consideration all its individual factors e material resources available. However, the treatment doesn't depend on the availability of the sophisticated materials only, but also on the professional competence e its capacity to evaluate and choose the technique to be used in this situation.³⁻⁴

Among the basic care of wounds, we should highlight the cleanness and applying a dressing. The reason to clean the wound is to remove cellular and contaminated debris without causing damage to the tissue, and the dressing should provide a great environment for cicatrization. This can be seen as the resource that covers a wound, helping the cicatrization process and protecting it against external aggression. The wound role is: to protect the wound against contamination and traumatism; pressure, in case of bleeding or enema; applying medicine; absorption of secretion or necrotic tissue; stowage or filling of the wound; protection of the skin around the wound.⁴⁻⁵

In practice, the dressing is a procedure performed predominantly by assistants and nursing technicians, being the nurse's responsibility supervision, provision of products according to the institution's availability, orientation, monitoring the procedure and evolution of the patient, developing of educational processes and evaluation of workers.⁶

The nurse student is also co-responsible for this task, since facing the information given; it has a great importance of implementing preventive and therapeutic measures of the

many types of wounds, besides performing wound dressing.⁷

This way, the development of this study is justified by the opportunity of comparing the between the nursing students and the nursing professionals, thus verifying the acquired knowledge of the students regarding the performance of the wound dressing and the knowledge kept by the professionals about this kind of care.

OBJETIVE

- To compare the development of nursing professionals and students with regard to the performance of the wound dressing technique.

THEORETICAL REFERENCE

A wound can be defined as an alteration of the anatomic integrity of the skin or any interruption of its continuity, as a consequence of some type of trauma. However, a wound doesn't refer only to this, it refers to the own tissue lesion, it is something that weakens and many times incapacitates, without necessarily needing sensory stimuli. Unfortunately, for some, a wound is seen as a secondary pathology so that it's not cared properly. On the contrary, the wound needs exclusive treatment, fact that is necessary to the patient's recovery.^{1,8}

A factor that worries many care professionals is the surgical wound infection, and it is, together with pneumonia, urinary infection and bacteraemia related with central vascular catheter, one of the most frequent nosocomial infections. However, every care possible, regarding the aseptic measures, it is still no enough.

Before this exacerbate risk to the infection triggering, the study has to be directed and be given great importance to the correct wound cleansing and wound dressing technique, based on instruments, like standard manuals, routine and nursing technique, in such a way to stress the basic principles of asepsis on the dressing making.⁹⁻¹⁰

Asepsis can be defined as the reduction of microbial living tissue contamination, fluid or material, by exclusion, removal or death of the microorganisms. In general, the sterile technique involves measures that really minimize the microbial load through using input, objects microorganisms free, to know: hands cleansing; the use of sterilized gloves, instruments and covers. With this technique, it is possible to touch something that has been sterilized with another non-sterilized material

or object. The barrier disruption or contact with any other non-sterilized surface or product must be avoided.¹¹

For this purpose, the professional has to know the correct way to proceed before a wound. A good dressing starts with a good dressing tray preparation, which should be completely clean. The validity of all material to be used should be verified, so that when there is any kind of suspicion about the material sterility, it has to be discarded.

According to the Agência Nacional de Vigilância Sanitária (Anvisa/MS), in its guidebook "Higienização das Mãos em Serviços de Saúde", all should be conscious about the importance of hands cleansing in assisting health and for security and quality of attention given, particularly in this case, careful with wounds, when there is direct contact with the patient's skin.¹²

Regarding the cleansing of the wound, its condition and the tissue reparatory stage should be respected, so it can minimize the tissue trauma. The syringe and the needle are the most indicated materials in case of irrigation and wound cleansing with saline solution 0.9%. A 35 ml syringe with a calibre 19 needle is a combination that promotes a pressure of 8psi, ideal for cleansing. Thus, a 20ml syringe with a calibre 18 needle, which means 40 x 12, produces a similar effect, with the pressure of 9.5psi.¹³

In case of granulated and clean wounds, is recommended the use of irrigation, careful and smooth, sometimes only by cleaning the surrounding skin and moistening the bed to avoid the removal of exsudate from the surface, because the same contains growing factors, nutrients and cells that act on reparation. On wound with residues, strange bodies and fragments or with devitalized tissue, the cleansing should be done with a damped gaze pressed or rubbed over the wound. This practice is used with irrigation and closed wounds first thing, with the purpose of removing external dirt.^{3,14}

METHODOLOGY

A study of descriptive, prospective, quantitative nature. This study was developed in Hospital Universitário Lauro Wanderley, situated in the town of João Pessoa-PB. 14 nursing professionals and 24 final graduation year students, chosen by convenience sampling, who performed care on lesions in the healthcare centers, surgical centers and outpatient care of the same institution.

The study was developed in two stages. At

the first stage, the wound dressing technique done by the nursing professionals was evaluated, which happened between March and June 2009. At the second stage, the nursing students were observed, between March and May 2010. In the making of this research it was used a semi-structured script, covering the demographic characteristics of the participants, the technical aspects, the material preparation and the patient.

The data collection procedure happened by non-participant observation during the performance of the wound dressing, since the tray preparation until the destination of the contaminated material through purge and cleansing of the hands. In this type of observation, the researcher isn't part of the group, staying out of it. It witnesses the action, but it is not part of it, doesn't get involved in the situation, being only an observer.¹⁴

The data was collected in Excel files and presented in format of tables and express figures in absolute and relative frequencies. After that, it was discussed over the light of literature.

The research project was approved by Comitê de Ética do Hospital Universitário Lauro Wanderley, under protocol n. 011/09. All participants agreed to be part of the study and signed a Term of Consent Free and Clarified according to the Resolução 196/96 of Conselho Nacional de Saúde and the Resolução 311/2007 of Conselho Federal de Enfermagem.¹⁵⁻⁶

RESULTS AND DISCUSSION

24 students and 14 nursing professionals were part of the study, being 10 of them technicians (71.4%) and 4 of them auxiliaries (28.6%).

Regarding gender, it has been noted that the numbers of female participants prevail in both groups, with a percentage of 79.2% among the students and 85.7% among the professionals, confirming the predominance of women in this carrier, and that the little male participation is partly caused by cultural factors that still happen nowadays, becoming a characteristic of the profession. However, what we can observe is the growing number of male students in the nursing graduation courses and, consequently, the graduation of new nurses, and the research data showed that 20.8% of the students and 14.3% of the nursing professionals are male, and those seek the profession because of its broad playing field.¹⁷

Concerning the observed technical aspects, it was stressed, in principle, the hands cleansing, being this observed before and after the applying dressing procedure.

Hands cleansing, so relevant and essential for the performance of the wound dressing should be done this way: open the tap and wash the hands, avoiding touching the sink; applying in the palm of the hands enough liquid soap to cover all the hands surface; soaping the palm of the hands, rubbing them on each other; rub the palm of the right hand on the back of the left hand, interlacing the fingers and vice-versa; interlace the fingers and rub the interdigital spaces; rub the back of the fingers of one hand with the palm of the opposite hand, holding the fingers, and moving them back and forth and vice-versa; rub the right thumb, with the help of the left hand, using circular moves and vice-versa; rub the tip of the fingers and nails of the left hand against the palm of the right hand, with the hand half closed, making a circular move and vice-versa; rub the left fist with the help of the right hand, using circular moves and vice-versa; rinse the hands, removing all soap waste; avoid direct contact with the soaping hands and the tap; dry the hands with a paper-towel, starting by the hands and after the fists; throw the paper-towel away.¹²

Before the dressing, we observed that 23 out of 24 students cleansed their hands. 19 (79.2%) out of 23 did it correctly. Regarding the cleansing of the hands by the professionals before the dressing, it was noted that 12 out of the 14 observed, did it, and only 5 (35.7%) did it correctly. These numbers show that there is a distance between the cleansing hands knowledge and its correct practice. Furthermore, comparing the hands cleansing done by students and professionals before the procedure, it was found that an even smaller percentage did it correctly, which shows a negligent behaviour.

Negligence can be defined as the absence of a necessary step, involving the omission and absence of duty, in other words, those who act diligently, prudently, act with proper care required by the situation. Negligence may be known as a disregard or lack of attention in performing certain task.¹⁸

The results of the hands cleansing done by the students and nursing professionals were not different than the one observed before the performance of the wound dressing. All professionals observed did wash their hands, however, only 5 (35.7%) did it correctly. But 22 out of 24 students washed their hands and 21 (87.5%) did it correctly. This neglectful and

negligent act of not washing their hands or not washing it correctly may cause risks to the patient, and also contribute to the transmission of microorganisms to the professional, and to its relatives and friends.

Thus, this act infringes the Article 12 do Código de Ética dos Profissionais de Enfermagem, which talks about giving a person, family or community, nursing assistance free of damages derived from malpractice, negligence and imprudence.¹⁹

Even receiving an inadequate attitude from a big part of the professionals, we can't forget those students that also contributed to a probable contamination of the wound.

Regarding to the preparation of the material, it's known that the dressing tray composition is related directly to which type of wound to be treated. Thus, 22 students (91.7%) treated closed wounds and 2 (8.3%) treated open wounds. But among the professionals, 6 (42.9%) were responsible for performing wound dressing on closed wounds and 8 (57.1%) on open wounds.

A dressing tray for an open and closed wound, like on surgical and closed drains, should have: 1 packet of sterile dressing (with 2 forceps and gaze); sterile gaze, plasters (micropore), saline solution 0.9% and gloves. On a open drain, a bag for colostomy is needed for draining. In situation of central access, the use of saline solutions (chlorhexidine or PVP-I) to prevent bacterial colonization is essential.^{3,20} In this study, was noted that from 22 students that treated closed wounds, 19 (86.4%) prepared the trays with essential items and 3 (13.6%) forgot at least an item. 6 was the total number of professionals that treated closed wounds. 4 of them (66.7%) use a full tray and 2 (33.3%), had incomplete trays.

On the other hand, regarding to the open wounds, the tray should basically have: 1 packet of sterile dressing (with 2 forceps and gaze); sterile gaze, plasters (micropore), saline solution 0.9%, a compress (if necessary), sterile gloves, collagenase if the tissue is weakened or necrotic.²⁰ This study revealed that the 2 students responsible for the dressing for the open wounds prepared their tray perfectly, in other words, containing all material mentioned before. Regarding the professionals, 8 of them were responsible for the performance or the wound dressing, and 6 (75%) out of 8 had their trays complete, while 2 (25%) had not.

For those that had left their trays incomplete, shows a lack of an action plan.

From the evaluation of the lesion, the material to be used on the wound is chosen. A lack of material increases the time spent on the procedure, exposes the material already open and the lesion to the environment and wastes the professional and the student's energy after returning to the nursing station.

As to the patient's preparation regarding to the procedure to be done, 21 out of 24 students (87.5%) had done it. And 9 out of 14 professionals (64.3%) guided them. It should be taken into consideration that none of the patients that received care were unconscious, so that they were able to be clarified about the procedure to be done.

About that, the Lei 8080 of September 1990 (Lei Orgânica da Saúde), in its Artigo 7º, tells the principles and directives of SUS (Sistema Único de Saúde), and states that every person cared for has the right to be informed about its health conditions, in other words, to receive clear, objective and comprehensive information about all invasive diagnostic and therapeutic procedures to be performed.²¹ In addition to that, the Código de Ética dos Profissionais de Enfermagem also highlights

the importance of clarifying the patient, in its Artigo 17º tells that the professional is responsible for informing all about the rights, risks, benefits and interruptions about the nursing care.¹⁹

In relation to the procedure itself, as described on table 1, some points were taken into consideration, among them: Usage of surgical mask, to avoid the risk of organic material drops inside the nose, to reduce the smell coming from the wound to the carer and to avoid droplets and microorganisms from the carer to the wound; To avoid talking, following all the basic principles to avoid risky situations and microorganism transmission; Usage of gloves to take the old dressing away, avoiding contact with organic fluids, mucous, broken skin and reducing the transmission of pathogens from carers to the patients, and among themselves; To open the dressing packet following all scientific principles and risks of contamination

Table 1. Data relevant to the procedure of performance of wound dressing done by the participants.

Variable	Students		Professionals	
	n	%	n	%
Usage of mask				
Yes	19	79,2	12	85,7
No	5	20,8	2	14,3
Avoid talking during the procedure				
Avoid	16	66,7	7	50
Doesn't avoid	8	33,3	7	50
Usage of gloves to remove old dressing				
Yes	22	91,7	9	64,3
No	—	—	—	—
Old dressing already taken	2	8,3	5	35,7
Opening of the dressing packet				
Contaminated	—	—	1	7,1
Not contaminated	23	95,8	13	92,9
Not responsible for the opening	1	4,2	—	—

Source: Direct researche

Data from table 1 shows that regarding the surgical mask usage, the percentage of professionals that used this EPI (85.7%), was higher than the students (79.2%), showing the first group more concerned about that than the second. The next point, to avoid talking during the procedure, it is also related to the contact with droplets and microorganisms from the carer to the patient's lesion. Thus, 66.7% of the students and 50% of the professionals followed the basic principles to avoid risky situations and microorganism transmission. However, about these two points, the participants didn't use the material described before and didn't avoid talking, so that this behaviour increases the probability of microorganisms transmission to the wound.

With regard to the usage of gloves to remove an old dressing, the majority of the participants observed did make use of them, and the others didn't make use of them because of the external part being removed before during the shower. Regarding the opening of the dressing packet the scientific principles were respected, except for one professional who contaminated the material and one of the students who puts its sterile gloves before opening the packet.

The quality of the procedure performed by the nursing team, whichever it is, and in this case a dressing, should follow a logic recommended sequence, in order to respect the basic principles of asepsis. For this technical procedure to be effective, it should

be favourably balanced between the risks and benefits gained.⁶

For this purpose, it was observed the procedure during the wound cleansing regarding the recommended sequence and performed by unique moves. Septic wounds are cleaned from the outside to the inside and the aseptic ones, from the inside to the outside. That means the cleansing should happen from the least infected to the most infected point, in one direction, without

friction and back and forth moves, in order to keep the healthy tissue free of contamination, in the case of the septic wound, and the wound itself, in the case of the aseptic one.⁹

Data referred to this topic is described on figure 1. However, it was observed that 23 (95.8%) out of 24 students performed the wound cleansing in the correct sequence. And about the professionals, 11 (78.6%) out of 14 followed the recommended sequence.



Figure 1. Evidice of the participants on wound care.

Regarding the unique moves for the wound cleansing, 2 (8.3%) out of 22 (91.7%) students followed this principle. Among the professionals, 4 (28.6%) out of 10 (71.4%) didn't use this technique.

In both aspects observed, the students were more careful than the professionals, which highlights a less meticulous and incorrect cleansing, which slows down the process of cicatrization. This result corroborates other study by Nascimento, Abud, Inagaki, Daltro and Viana²², in which the authors researched a dressing technique, performed by a nursing team in patients with central access and could observe faults regarding to the complete EPI usage, hand washing before and after the procedures, evaluation of adequate signals, among other things.

Another study related to these thematic shows that, regarding to the performance of the wound dressing, a positive rate was achieved.⁶ However, even considering the performance satisfactory, some rates were not achieved, among them: communication with the patient and respect to the sequence of development of the procedure and the principles of asepsis. Such factors were justified by the professionals, who argued they had little time to perform due to a low number of nurses. However, the author highlights that from the moment that the nurse starts developing a nursing performance, it is essential to interact and to

perform correctly.

It is essential to rigorously follow the steps highlighted before, in order to decrease the risk of contamination for both long and short-term, despite of increasing the hospital costs and the mortality of the patients.⁶

Before the data analysed and collected in our research, it was possible to see the significant number of students and professionals who performed it correctly. Highlighting that, the students performed better than the professionals. This can be related to the wrong habits acquired during the daily routine by the professionals. In contrast, such argument shouldn't be taken into total consideration, since that, among the responsibilities and duties of a professional nurse it should perform its profession with justice, compromise, equity, resolvability, dignity, competence, responsibility, honesty and loyalty.¹⁹

Another aspect relates, possibly, to a lack of continuous education in service which could correct technical and inadequate behaviour, which doesn't occur with the students, because they are in graduation and have been supervised during practical activities. Such factor is also lined in the code of ethics of the professionals observed, which brings in its that the professionals is responsible for, the improvement of technical, scientific, ethical and cultural knowledge, in beneficence of the patient, family and community and the development of the profession, being this not

only its responsibility, but also its right.¹⁹

CONCLUSION

This study permitted a comparison between the way in which the students and nursing professionals performed in taking care of wounds, regarding the wound dressing technique. Before that, a analyses and interpretation of the data revealed that, in most of the aspects observed the students had a better technical development than the professionals.

The aspects in which the two groups were more distant from each other were, the hygiene of the hands before and after the procedure, the orientation to the patient and the usage of unique moves for the wound cleansing.

The performance of the wound dressing is performed by the majority of the nursing students, in accordance with what the researched literature recommended. This knowledge about how to perform the wound dressing technique and care about lesions, consequently, facilitates the performance of these future professionals about care with quality. During graduation, the nursing student should gain enough knowledge to, during its professional life, take care of patients with wounds.⁷ However, it's essential to highlight that some faults were observed, because the scientific principles were not respected. So it is essential to supervise the students directly during the performance, in addition to offering a discipline about the treatment of lesions.

The area of knowledge we talk about in our study has been renewed with frequency, requiring the professional to search for knowledge. Therefore, we proposed to the professionals to take more updating courses, seeking ways to acquire more knowledge and keep up to date about caring for wounds, not only looking for new kinds of covering, which are essential, but also, rescuing all its knowledge of how to perform the correct wound dressing, taking in account the process of ideal cleansing, caring about the patient's privacy and the scientific principles of asepsis.

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