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## LIGHT, CAMERA AND ACTION: PRODUCTION OF A VIDEO-CLASS SCRIPT TO PROMOTE TEACHING

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**Abstract:** **Contextualization:** Urinary tract infections are highlighted as the main infections related to healthcare in the world. In Brazil, the main factor associated with UTI is the technique of performing the bladder catheterization that must be performed by the Nurse who learns the procedure during their graduation. In order to guarantee an adequate tool to facilitate the learning of this procedure, we propose the creation of a video-class on the subject. **Goal:** To validate with expert judges a video-class script for theoretical learning of clean permanent and intermittent bladder catheterization, male and female. **Methodology:** This is a methodological pilot study, in which a video-class script on bladder catheterization was developed with validation by three expert judges who are experts in the subject. **Results:** The expert judges had a rate of agreement related to objectives, content, relevance, environment, verbal language and inclusion of topics above 90% and suggested only changes to the script. **Conclusion.** The video-class script for theoretical learning of clean permanent and intermittent bladder catheterization, male and female, was considered validated by the expert judges selected for this pilot study.

**Keywords:** Educational technologies; Audiovisual production; Urinary catheterization; Nursing

## INTRODUCTION

Bladder catheterization is one of the most widely practiced procedures in the health area and continues to be of inestimable value for the diagnosis and treatment of diverse health conditions. However, its execution can have serious complications, if performed without care that minimizes the risk of infection and adequate urological technique (COSTA, et. al; 2016). Historically, the performance and manipulation of instruments introduced through the urethra date back to the oldest

civilizations. The first known reference to the use of these types of materials is recorded in the Egyptian civilization (3000 to 1440 BC), which used hollow copper and lacquer tubes. Later, Greeks, Romans and Chinese used similar instruments. In the ruins of Pompeii, destroyed by a volcanic eruption in 79 AD, several models of urethral tubes were found. Avicenna, one of the great scientists of the 10th century, conceived the first flexible probe, made of animal hide (COX, 1966).

During the 19th century, when methods for treating rubber were discovered, there was a significant advance in the manufacture of urethral tubes. At that time, French urology, represented by names of the highest medical expression, such as Pierre Jules Beniqué, Mercier, Nélaton, Felix Guyon, Malecot, among others, who introduced a series of innovations in probes and catheters, presenting the characteristics used until today. (HOOTON, 2000). It is well known that urinary tract infection is much more common in women than in men (approximately 14 to 20 times), due to the small length of the female urethra and the anatomical arrangement of her external genitalia, whose urethral meatus, located in the vaginal vestibule, it is more exposed to colonization of intestinal flora germs (COSTA, et. al;. 2016)

For MOSSANEN et al. (2017), it is necessary to select well candidates for a bladder catheterization, as using it when it is not necessary can cause inconvenience and, without a doubt, not using it can represent a greater danger than the correct and careful use. of the catheter. In addition, when performing this procedure, attention must be paid to the essential care that govern this type of procedure, in order to minimize possible instrumentation complications and opt for clean intermittent and permanent procedures.

Clean intermittent catheterization is usually used with the Nelaton urethral catheter and its

main indications are: relief for acute urinary retention; determination of urinary residue; obtaining a urine sample for laboratory examination; intravesical instillation of drugs and exploration of the urethra (ASSIS, et al; 2015).

Permanent catheterization is undeniably a different procedure from the previous one, as it presents serious complications such as hospital infection, significant morbidity, sepsis and death. Of all hospital infections, 40% are located in the urinary tract, and 60% of these infections are related to the indwelling catheter whose main indications are: bladder drainage due to chronic obstruction, bladder dysfunction, neurogenic bladder; bladder drainage after urological and pelvic surgeries and measurement of diuresis in critically ill clients (MAZZO, et al.;2015).

In view of this, it is evident that bladder catheterization is an important resource in health care, as it is the introduction of a sterile probe through the urethra to the bladder that provides a continuous flow of urine in clients with urination problems, however, the wrong execution can bring undesirable consequences. In addition, it is an uncomfortable device and there are several risk factors associated with infection during its use, such as: causing hemorrhage, formation of bladder stones due to a long stay, urethral trauma, discomfort, pain, increased hospitalization time and in cases more serious ones can lead the client to death (ALMEIDA, et al 2016).

Currently, professionals with legal competence to perform bladder catheterization are urologists and nurses due to their knowledge and techniques. Even though it is a common procedure in hospitals, clinics and therapeutic centers, it requires updated and technical knowledge. One can even understand this knowledge as a skill (SANTOS, et al 2012).

The teaching of skills in the area of

nursing is constantly improving in view of the complexity of the care process, and must be based on scientific evidence and integrate theoretical knowledge with the realization of practices (NASCIMENTO, et. al.; 2013).

These practices are based on the need to reorient health care paradigms to promote human health. Therefore, in the case of learning for future health professionals, it is important to rethink about methodological instruments, so that the educational practice, in addition to being grounded, is welcoming and favors space for the socialization of doubts, respecting limits and beliefs (NASCIMENTO, et. al. ; 2013).

The use of accessible educational technologies proposes that the student participates in the process, enabling the improvement of their knowledge for the development of their skills. Different educational products have been produced for different audiences and their needs, pointing out the wealth of opportunities for educational care, such as booklets, blogs and videos (DA SILVA, et. al.;2017)

To repute the importance of bladder catheterization, the construction and validation of an educational video that problematized the theme with the students was considered pertinent.

The validation of technological instruments is fundamental, since, through this process, these constructs are provided with greater reliability, subsidizing practices and research aimed at the nursing area (NASCIMENTO, et. al.; 2013).

Faced with this reality, there is an interest in validating a video-class script with expert judges for theoretical learning about clean permanent and intermittent bladder catheterization, male and female.

## **METHODOLOGY**

This is a pilot, descriptive, methodological

study, whose goal is to build a reliable, accurate and usable instrument that can be used in other research. Its methodological trajectory was based on Paulo Freire's theory of education. A script was prepared to be validated before recording the video, as adopted by other scholars, thus defining the scenes, audios and presentation forms to be used, so that the educational video can be recorded later. (POLIT; BECK, 2011).

Fleming et al. (2009) published an article that suggests stages for producing a video capable of promoting learning, in which it is suggested to describe in a script the steps to be recorded with their respective environments and objectives. This script must be validated by expert judges in order to guarantee the fidelity between what is to be taught with the video and what is filmed. In this study, the bladder catheterization video-class script was prepared with instructions related to hand hygiene, permanent and clean intermittent catheterization, male and female. This script has been validated by Juris-experts.

The term validate is also defined as the degree to which a product is appropriate to measure the true value of what it is intended to measure, or to be used for what it is proposed to, making it possible to infer how much the results obtained, through the use of the instrument, represents the truth or how far they depart from it. There are three main types of validation that vary according to the information provided and the researcher's objective: content validation, construct validation and criterion-related validation (VEDOVATO, et al., 2013).

The script of this video-class was validated against the content in which the expert judges verify the concepts and identified the dimensions of the components of the video concept through a questionnaire with categorical answers: 1 - I don't know, 2 - I strongly disagree, 3 - I agree strongly and 4 -

agree. Based on the study by Ferreira, 2013, with the objective of verifying the content, relevance, the environment to be filmed, the verbal language and the need to include topics.

The choice of subjects for trial sampling is necessarily based on the analysis carried out by a group of experienced judges or experts in the field, who will be responsible for assessing whether the video content will be correct and adequate for what is proposed.

The number of six judges, according to Pasquali (1998) is enough to perform the task. However, we will work with three judges, as it is important to verify in advance if the script is meeting the requirements, in addition, Vianna (1982) suggests that the number be odd to avoid a tie in opinions.

To participate, the judge had to obtain at least 8 points among the following criteria: work as a professor in the undergraduate nursing course (2 points); have professional experience in the area for more than two years (2 points); have proven knowledge about bladder catheterization (2 points); have published scientific papers on the subject (2 points); have proven knowledge of the instrument construction and validation process (2 points). It must be clarified that in sampling by judgment, exclusion criteria are not applied to judges (PASQUALI, 1998).

These judges were selected and invited to participate in this research, signing the Free and Informed Consent Term for Judges of the Bladder Catheterization Video Class and the video script evaluation form.

The invitation, the term and the evaluation form were sent to the Judges through electronic mail whose documents were located in internet clouds, making it possible to get in touch with the best experts in the country who contributed to the refinement of the proposal.

To determine the agreement between the Judges in the script validation, the

percentage of agreement between the judges was analyzed, as it is the simplest measure of agreement, whose advantages of its use are related to the availability of useful information that is easily calculated. When using this method, an acceptable agreement rate of 90% among expert judges must be considered (ALEXANDRE, et. al.; 2016).

In compliance with Resolution No. 466 of December 12, 2012 of the Ministry of Health and the National Health Council, the project was submitted for analysis by the Research Ethics Committee of the Universidade do Oeste Paulista, approved in April 2018 by the CAAE Number: 82953317.2.0000.5515.

## RESULTS

The educational video script validation instrument consisted of six questions, related to objectives, content, relevance, environment, verbal language and inclusion of topics. The answers “strongly disagree and don’t know” were not marked in any of the questions. Thus, all items were properly evaluated, as the “strongly agree” and “agree” agreement rates were above 90%. In questions related to relevance, environment and verbal language, the sum of responses corresponded to 92%.

Regarding the evaluation of the objectives, there was a report that the script was adequate for what it was proposed. Regarding the only “disagree” answer on this question, one evaluator suggested including the topic of bladder catheter manipulation in the educational video, as it is an extremely important aspect in the acquisition of urinary tract infection.

In the question related to the content, one of the experts pointed out that it would be interesting to film bladder catheterization in a real hospitalized patient. There was a recommendation for a detailed description of the lubrication of the catheter before the introduction of the bladder, as well as in

relation to the antiseptic of the genitalia.

A judge suggested asking the patient to turn his head to the opposite side while performing the catheterization, and in relation to his positioning, an evaluator indicated the need to complement with the comment “if there is no contraindication”. He continued emphasizing the need for hand hygiene after removing the sterile gloves, used to keep the procedure sterile. In this case, he indicated the use of 70% alcohol in gel.

Regarding the item related to materials used in catheterization, there was a suggestion to replace antiseptic liquid soap with common liquid soap for hand hygiene. There was also a recommendation to use a surgical mask to perform the entire procedure, including post-procedure manipulation and not just in the sterile phase.

Regarding the relevance of the images and scenes present in the video script, the suggestions pointed to the possibility of performing bladder catheterization in a real patient, in the hospital context. As for the environment, a judge suggested adding some items to the video filming scenario, in order to refer to a hospital inpatient unit for permanent catheterization.

Regarding verbal language, some experts recommended avoiding long sentences to facilitate narration and well-defined pauses. The question that portrayed the inclusion of the topics presented a discordant answer, with one evaluator suggesting the use of iodized PVPI for urinary meter antisepsis only in cases of patients allergic to the degerming chlorhexidine solution, advising the use of aqueous chlorhexidine due to its low residual effect.

## DISCUSSION

It is relevant to assume that all the suggestions made by the experts in the validation of the script were of paramount

importance and exhaustively discussed by the authors. That is why the theme “manipulation of bladder catheterization” was inserted in the video script, as the study focuses on reducing the risk of urinary infection caused by bladder catheterization performed by nurses.

There was a suggestion of filming the video in real conditions, that is, of the hospitalized patient, with the justification of guaranteeing better fidelity to the practice, however the ethical principles that guide this study make this possibility unfeasible. Therefore, clinical simulation with the use of high-fidelity simulators is highlighted in the literature as a strategy that enables the development of critical thinking, as well as an increase in the ability to assess and clinically decide required in care practice (NEGRI et al; 2017).

In this study, the simulation of bladder catheterization in the laboratory was intended to replicate real and essential aspects of clinical practice, but with the convenience of repeating the contents, information and actions, as many times as necessary, in a safe and controlled environment.

Regarding the suggestion of an expert for the use of a sterile surgical mask throughout the procedure, including the manipulation of the catheter, it is noteworthy that scientific evidence related to the subject is not conclusive, mainly due to the scarcity of studies that prove its effectiveness (BARBOSA et al. al; 2009). Therefore, it was decided to use it only during the sterile procedure.

Regarding the recommendation of one of the experts on the use of iodinated PVPI for urinary meter antiseptics only in cases of patients allergic to the degerming chlorhexidine solution, it is noteworthy that its use was maintained as optional in the video, together with the optional indication of aqueous chlorhexidine. When mentioned about the low residual effect of aqueous chlorhexidine, it is highlighted that this antiseptic has a rapid

microbicidal action when applied to the skin and, despite not showing appreciable residual activity, microbial recolonization occurs slowly after its use. Even without having action against sporulated forms, in appropriate concentrations it is considered a low-cost antiseptic, extremely fast and effective in reducing the number of microorganisms found on the skin. (MOSSANEN, et al; 2017)

Regarding the question about the length of the video, researchers recommend that this type of learning object does not exceed 15 minutes in duration and others point out that videos that are approximately 10 minutes long can more easily maintain the viewer's attention (VICENTINI, DOMINGUES, 2008). Thus, it is understood that the final version of the video, prepared in this research, must not exceed 15 minutes.

It is important to reflect that in recent years, with the reduction in costs of camcorders and digital cameras and the existence of dissemination channels on the internet, there has been a great proliferation of videos. This proliferation is criticized by some authors, but points out that video culture is increasingly widespread and is part of students' daily lives. Therefore, the classroom must incorporate this element, using it as a learning tool (BOOG, et al.; 2003).

Studies about the subject emphasize that this process of disseminating educational videos was initially seen as a way to provide teachers with an accessible and cheap resource to make classes more dynamic. However, he warns that the use of this technology is not as simple as it seems, and even today, most education professionals face difficulties in using audiovisual technology as a pedagogical resource; sometimes due to the mistaken way in which some didactic programs propose the incorporation of video into classroom work, sometimes due to the lack of knowledge of the potential of this media in the teaching and

learning process (PRADO, et al.; 2011).

Starting from Paulo Freire's (2014) assumption, in which learning must be meaningful for the student, the technological contribution of digital media by educational videos must make it possible to see the video as a new element, which requires a new look. If the language of the video is different from the language of books, the pedagogical strategies must be designed considering this differentiation. Another important aspect to be considered is that video does not replace other resources, it complements and integrates them (VICENTINI, DOMINGUES, 2008).

## CONCLUSION

The video-class script for theoretical learning of clean permanent and intermittent bladder catheterization, male and female, was considered validated by the expert judges selected for this pilot study, including topics related to materials, environment and language to be used.

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