ABSTRACT

Objective: To produce Podcasts regarding the International Patient Safety Goals for nursing professionals and students. Method: Qualitative research, technological production, related to the creation of podcast by a group of nursing students, in a private university in the city of São Paulo, from March to August 2020. Results: Podcasts were created named EnfCast, about the International Patient Safety Goals regarding the correct patients identification, staff communication, improve safety of high-alert medication, safe surgery, prevent infection and reducing the risk of falls. In each episode, it was presented an initial presentation, for identification of the EnfCast, of the podcaster and the topic to be discussed. At the end of the presentation, the podcaster indicated the end of the episode and mentioned the next subject. Conclusion: EnfCast created is an innovator instrument that disseminate informations and contribute to the knowledge and learning retention for nursing professionals and students.

Descriptors: Nursing; Webcast; Patient Safety; Education Nursing.

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RESUMO

Objetivo: Produzir podcasts sobre as seis metas de segurança do paciente para profissionais e estudantes de enfermagem. Método: Pesquisa qualitativa, de produção tecnológica, na produção de podcast por grupo de estudantes do curso de Enfermagem de Instituição de Ensino Superior privada, na cidade de São Paulo, de março a agosto/2020. Resultados: Foram criados Podcasts, nominados EnfCast, sobre as metas internacionais de segurança sobre identificação correta, eficácia da comunicação, medicamentos de alta vigilância, cirurgia segura, redução de riscos de infeção e queda. Cada episódio apresentava frase inicial padrão e o tema a ser abordado, com duração de cinco minutos. Ao final da apresentação, a frase padrão indicava o término do episódio e o próximo tema, para situar o ouvinte. Conclusão: o EnfCast produzido constituído-se em ferramenta inovadora para veiculação de informações que contribuem para a construção do conhecimento e fixação do aprendizado de profissionais e estudantes de enfermagem.

Descritores: Enfermagem; Webcast; Segurança do Paciente; Educação em Enfermagem.

RESUMEN

Objetivo: Producir podcasts sobre las seis metas de seguridad del paciente para profesionales y estudiantes de enfermería. Método: Investigación cualitativa, sobre la producción tecnológica, relacionada con la producción de podcasts, de un grupo de estudiantes de la Carrera de Enfermería, de una Institución de Educación Superior privada, en la ciudad de San Pablo, de marzo a agosto de 2020. Resultados: Se creó un Podcast denominado "EnfCast" que consta de un episodio introductorio y seis sobre las metas internacionales de seguridad del paciente, que son identificar correctamente al paciente, mejorar la comunicación efectiva, mejorar la seguridad de los medicamentos de alto riesgo, garantizar cirugías seguras, reducir el riesgo de infecciones y de caídas. En cada episodio, que dura aproximadamente 5 minutos, se presentó una oración de apertura estándar para identificar el EnfCast, el podcaster y el tema a tratar. Cada episodio tiene una banda sonora de fondo. Al final de la presentación, el podcaster anuncia que termina el episodio y menciona cuál es el siguiente tema, para orientar al oyente. Conclusión: El EnfCast que se creó es una herramienta innovadora, que transmite información que contribuye a la construcción del conocimiento y fija el aprendizaje de los profesionales y estudiantes de enfermería.

Descripores: Enfermería; Difusión por Internet; Seguridad del Paciente; Educación en Enfermería.

INTRODUCTION

Currently, in the health area, patient safety is an attribute of the quality of care and a goal pursued by health institutions, as recommended by the National Patient Safety Program.1 Strengthening the safety culture, reducing incidents and adverse events favor the prevention of damage in the short, medium or long term. The proposition of institutional protocols and guidelines with the participation of patients, family members, managers and professionals enhance interprofessional action in risk management, in safe and rational actions in health services.2

In this context, technologies are increasingly used, seeking effectiveness in interventions and in the interprofessional interface, in the work of the health team and in professional education. Given the ease of
access to the internet, through mobile devices, podcasts quickly gain space among audiences from different areas, such as nursing and medicine.\textsuperscript{3-4}

Podcasts are characterized as audio programs, whose direct and timeless distribution format differentiates them from traditional radio programs, audioblogs and the like. It comes from the expression “podcasting”, which conceptually results from the junction of the prefix “pod” coming from iPod (name of a popular digital media player), with the suffix “casting” originating from the English expression broadcasting, as public and massive transmission of information that, when via radio, is called broadcasting.\textsuperscript{5}

In the educational context, face-to-face or distance education is increasingly supported by technologies. Therefore, the use of the podcast as educational technology is innovative\textsuperscript{3,6}, allows students to develop learning at their own pace\textsuperscript{7}, making the learning process more accessible and dynamic. It also contributes to the diversity of approaches, expands the fields of knowledge in an up-to-date and attractive way, stimulating the interest of students.\textsuperscript{5} On the other hand, it is up to the educational institution and educators to provide technological support and align the educational assumptions with the objectives and goals in training, expanding the user's aptitude in handling the tools.\textsuperscript{8}

In the construction of educational resources, such as the podcast, instructional design makes room for communication, independence and contextualization, driving modern education. Contextualized Instructional Design - DIC, applied to educational planning, favors and organizes the use of technological resources, in the context of didactic situations, allowing the continuous evaluation of educational processes.\textsuperscript{8}

Considering the technological advances and the scope of application in the educational scenario, as well as the profile of the new generation of students, it is essential to produce innovative digital resources to stimulate the construction of competences of the future nurse in the various interfaces related to care, research, education and management, valuing safe and qualified care.

In this way, the present study aimed to produce podcasts about the six patient safety goals, to be used as an educational resource, to increase the training of nursing students and the continuing education of professionals.
METHODS

Qualitative research, technological-production type, related to the production of podcasts by students of the Nursing course of a private Higher Education Institution, in the city of São Paulo, from March to August 2020. It is noteworthy that the research of technological production seeks to meet the needs of society, influencing technological, social and economic development.9

The contextualized instructional design model - DIC was used, following the steps: Analysis, Design, Development, Implementation and Evaluation. Throughout the collective and collaborative construction, each stage lasted between three and four weeks; being accompanied by the research supervisor, discussing with the group about the development of the work and the suggestions for readjustment, from the selection of contents to the completion of the recording, including the audio editing process.

Analysis: this step concerns the identification of learning needs, definition of educational objectives, outlining the profile of the target audience and survey of the necessary resources.8 Prior to this study, surveys were conducted to verify the types of podcasts available on the topic. Several audios with different approaches were found, but none in the intended format in this study. Given the need to enhance learning on the subject and the innovation of this proposition in the educational setting of the educational institution where it was produced, it was decided to expand the arsenal of educational resources in the approach to the six international goals of patient safety.

Design: at this stage, attention is directed to the planning of educational activity, verification of research sources, definition of the most relevant content and structuring of the educational matrix.8 Searches for updated content were carried out in official references and international government bodies such as the World Health Organization and the Pan American Health Organization10, and national ones such as the Ministry of Health, the National Patient Safety Program and the Brazilian Network of Nursing and Patient Safety11, to guide the construction regarding the script and the sequence of the episodes. A previous check of existing titles was carried out to avoid homonyms, until the decision was made to define the name EnfCast.

Development: this step concerns the creation of the educational resource itself, considering the degree of interaction required with the user and the informational support available.8 After organizing the selected contents, the episodes were scripted; recordings were started, according to the script of the instructional matrix.
An important point for the development of the podcast is the time, since the information is made available to those who have little time to study, but who want to learn.\textsuperscript{5} Whereas extensive resources are not considered good options for students to choose, because they are tiring and unattractive, shorter episodes were created, lasting approximately 3 to 5 minutes, with a more practical and objective approach.

As a resource for recording, a smartphone was used and for the audio treatment, the Band Lab application was chosen. In the selection of the soundtrack for each episode, we searched for white tracks, which are used as background music, found in online libraries and for free in the YouTube Audio Library.

Implementation: in this step it is possible to define and provide the availability to the user.\textsuperscript{8} EnfCast episodes will be available for free on the Spotify virtual platform.

Evaluation: this step concerns the actions to define the evaluation and monitoring process after the implementation of the educational action.\textsuperscript{8} After the editions were completed, the resource was forwarded to the Nursing course coordination and sent to two course professors, who considered the educational resource adequate, without further suggestions. Hosting on Spotify will be provided so that listeners can access EnfCast.

RESULTS AND DISCUSSION

A series of podcasts was created, named \textit{EnfCast}, consisting of an introductory episode and another six on international patient safety goals. Aiming at defining the identity and standardization of the resource, in each episode a standard initial sentence was presented to identify the EnfCast, the podcaster and the topic to be addressed. Each episode, lasting about five minutes, was given a background soundtrack.

In the content approach, the theoretical and conceptual precepts about each goal were presented. Then, to facilitate understanding, different practical situations were exemplified, relating the central theme of the goal with experiences in the daily work in various scenarios, since patient safety is required in health care, in hospital and out-of-hospital environments.

Additionally, we sought to bring new knowledge and tools to instrumentalize the listener in the practice of work and, when possible, promote reflection on events that occur in everyday life, stimulating critical-reflexive analysis, including in the ethical-political dimension. Finally, a quick summary was presented on the main concepts, aiming at the review and fixation of learning. At the end of the presentation,
the podcaster indicated the end of the episode and mentioned the next theme, to place the listener on the sequence in the next presentations.

In Brazil, patient safety goals are based on the international goals of the World Health Organization (WHO).12

The first episode of EnfCast addressed the first goal, related to the correct identification of the patient, whose purpose is to reduce the occurrence of incidents, preventing errors from occurring. It was highlighted that the process and method of patient identification are variable, being usually established according to the service protocol, using wristbands or another resource, such as a bar code, containing information regarding the full name, registration number, date of birth, among others.

The laterality for placement on the patient, in the left or right arm, aims to respect the standardization, to minimize or eliminate errors due to identification failures even in situations of homonyms, that is, situations of people with the same names. The importance of checking and confirming labels in the collection of material for exams and in the delivery of pharmaceutical ingredients was highlighted.

Situations of care in the basic health unit and possibilities of errors in user care were exemplified, due to nonconformities in the identification in case of homonyms. In the hospital setting, a case related to the risk of errors due to changes in the patient's state of consciousness and/or cognitive capacity was illustrated; in situations of transfer and change of bed or sector within the institution, such as circumstances in the environment that can potentiate the risks of the goal one.

Patient identification ensures that care is provided to the correct person, as identification errors can occur in the health service from admission to discharge. The patient's state of consciousness, bed changes, transfers between sectors or institutions, and other circumstances in the environment can potentiate the risks of goal one.12

Patient identification is important to prevent errors and complications resulting from the delivery of procedures, test results, medication, among others, to the wrong patient. Therefore, it is essential that it be carried out at all stages of care, considering the peculiarities of the patient, such as newborns and small children, with a greater risk of losing the identification bracelet. However, from the perspective of safe care, the identification of risks such as allergies and falls, with colored wristbands, is a valuable warning mechanism in health care.11

The second episode of the podcast referred to the second goal, about improving communication between health...
professionals. The importance of developing effective, timely, accurate, complete, unambiguous communication was highlighted, to be understood by the receiver, among care providers.12

The basic concepts of the communication process, emission and reception of the message were presented and probable noises that interfere with interpretation and understanding. Situations related to possible failures were exemplified, especially in emergency ones, highlighting the importance of closed loop communication. Techniques as readback are also useful in the sense of reading or repeating information back for confirmation.

Aiming to present new resources to the listener, a communication tool was presented that helps and provides the exchange of information in an effective way, called SBAR, related to the mnemonic for Situation, Brief History, Assessment, and Recommendation. It was highlighted that it can be applied at different times, such as shift change, communication with the multidisciplinary team and in care transition, as explained by the Regional Nursing Council.13 Teamwork favors safety and strengthens communication, in favor of patient safety, quality of care and service.11

The third episode of the podcast addressed the third goal that concerns the improvement in the prescription and administration of high-alert medications. It was emphasized that this attention is applicable in all establishments that provide health care, at different levels of complexity, in the use of drugs for prophylaxis, diagnostic tests, treatment and palliative measures. The prescription must contain the identification of the patient, with confirmation before the provision of care.

The approach to medication, educational actions and guidelines on medication administration is essential for patients, family members, caregivers and professionals.12 From the epidemiological data, involving errors related to drugs, several aspects that deserve attention in relation to the drug cycle, at all stages, involving the different areas and professionals who participate in the process.

As for the prescription, it is safer when prepared electronically, avoiding acronyms and abbreviations; in the acquisition, storage and distribution of drugs, the similarities in name, in writing or in sound, when one hears the name of drugs, known such as LOOK-ALIKE or SOUND-ALIKE, or by the abbreviation LASA, require special care to avoid delivery failures and consequent preparation and administration.

In this case, the listener was invited to reflect on the frequency of these events broadcast in the media and the importance
of considering the broad analysis, in the multiple dimensions of co-responsibilities, including institutional ones, avoiding incurring in a simplistic and minimalist judgment, blaming the individual. Expanding the spaces for discussion is essential for the empowerment of professionals and Nursing, including the actors involved in health care, in the ethical exercise of the profession.

The fourth episode of the podcast addressed the fourth goal, highlighting the importance of ensuring safe surgeries, reducing the occurrence of adverse events and surgical mortality; increase safety in performing surgical procedures, in the correct place and correct patient, through the Safe Surgery Checklist, according to the World Health Organization.\textsuperscript{12}

The Checklist divides the surgery into three phases:

I- Before anesthetic induction;
II - Before the surgical incision;
III- Before the patient leaves the operating room.

Each phase corresponds to a specific moment in the normal flow of the surgical procedure. A single conductor must confirm that the team has completed its tasks, before proceeding to the next step. If any item checked is not in compliance, the verification must be interrupted and the patient kept in the operating room, until its solution.\textsuperscript{12}

Hypothetical situations were presented, highlighting the importance of patient guidance on the procedure and its role, as a barrier to avoid failures due to nonconformities in the surgical procedure, mainly related to laterality. Instituting protocols and check list Safety Check, ensures that perioperative steps are carried out systematically and efficiently.\textsuperscript{11}

The fifth episode of the podcast was about on the fifth goal, which aims to reduce the risks of infections associated with health care, promote the prevention and control of nosocomial infections through, mainly, the correct practice of hand hygiene. Hand hygiene encompasses simple hygiene, antiseptic hygiene and antiseptic hand rubbing using 70\% alcohol.

The five essential and necessary moments for the prevention of Healthcare-Associated Infection (HAI) caused by cross-hand transmission were addressed: before touching the patient, before performing clean/aseptic procedures, after the risk of exposure to body fluids or excretions, after touching the patient and after touching surfaces close to the patient.\textsuperscript{12}

To favor the listener's understanding, several practical examples were presented to illustrate the practical application of the presented concepts. From each hypothetical
situation, there is a clarification about the most frequent procedures and indications for hand hygiene in the proposition of the five moments, as recommended by the WHO. It is a valuable opportunity to review the concepts, reflect on the practice itself and, above all, become an agent of reality transformation, in favor of qualified and safe assistance.

The sixth and final episode of the podcast addressed goal six, on actions to reduce the risk of falls and pressure injuries, with the implementation of patient risk assessment measures, to ensure multidisciplinary care in a safe environment.

The importance of health education for the patient, family members and professionals was highlighted. The conceptual approach started from the theoretical precepts about falls and pressure injuries, related etiologies, conditions of insecurity and possibilities of prevention in care provision.

Several assessment scales were presented, highlighting the importance of instruments and indicators for evaluation and monitoring of the patient and the occurrence of the event in the institution, to support the definition of protocols and procedures, considering that they are multicausal events and require interprofessional action to avoid gaps in the prevention, treatment and rehabilitation of those affected by the diseases.

In an educational setting, the podcast is a democratic teaching-learning resource. Facilitating language breaks social and cultural barriers and brings actors together in formal and informal education. It also favors the active participation of the student, stimulates critical and reflective thinking about the possibility of becoming an agent of change and transformation of reality, contributing to knowledge construction. Generally, students already use podcasts to learn the content, including in an extracurricular way, seeking updated material.

Depending on the students' profile, they opt for this tool replacing textbooks. The Podcast Study promoted greater retention of knowledge, by enabling access to listen anytime, anywhere, to pause and rewind several times, providing spatial and temporal flexibility in learning. It presents good value for money to students and professionals, by enhancing opportunities for distance learning and complementing materials in existing courses, in addition to overcoming the difficulties of traditional teaching.

From the students' perspective, the participation as podcasters in the construction of the EnfCast project favored the improvement of knowledge of patient
safety goals and contributed to the understanding of the use of podcast as a study tool. By granting autonomy to the user over the space and time of listening, it expanded the diversity of resources for study due to the ease of access, respecting the predilections of the new generations of students for innovative technological resources.\textsuperscript{3,5}

On the internet, various media are available for free, the content can be downloaded to the application or heard by streaming, preserving user mobility. Even performing other activities, it is possible to listen to the content repeatedly, favoring the retention of learning and the updating of information\textsuperscript{15}. It is a relatively simple creation resource\textsuperscript{6}, although differentiated, which can be used in student training, serving as a source of consultation and updating in the continuing education of professionals.

In addition to the patient safety approach, in the research conducted for the purpose of this study, podcasts were found to be used to address palliative care\textsuperscript{16}, emergencies\textsuperscript{17}, diabetes\textsuperscript{18}, mental health support in times of pandemic by COVID 19\textsuperscript{19}, among others. Based on learning technologies, with structuring of content and teaching strategies, by promoting theoretical-practical articulation, there is also a search for mechanisms to make the teaching-learning process more flexible and humane.\textsuperscript{8}

On the other hand, depending on the learning style, it is necessary to consider the choice of educational resources. The diversification in the use of audio, video, reading, discussion, demonstration and simulation favors the construction of competences and seeks to meet the various needs, according to the learner’s profile.\textsuperscript{3}

In the podcast production, challenges such as script structuring, audio recording in a dialogical way, soundtrack selection, product identity definition, time spent in recording, editing and production need to be properly dimensioned.

Metrics are available to assess the quality of the educational tools developed, so that the construction is based on clearly defined indicators: correct and accurate content, clarity, design, are some of the main criteria that contribute to credibility, reliability and the creation of quality resources.\textsuperscript{20}

**CONCLUSION**

The production of EnfCast was an innovative experience and a vehicle of information that contributes to knowledge construction and retention of professionals’ and students’ learning. The content on patient safety is of paramount importance for nursing, given the numerous risks in
health care. The participation of academics in this research was fundamental for the development of skills such as investigation, creativity and deepening of learning, enabling the development of new podcasts, expanding the themes addressed and collaborating for the teaching-learning process.

LIMITATIONS OF THE STUDY

The research addressed a relevant topic, but limited to patient safety issues. In the surveys carried out, there was a reduced number of similar productions to discuss new counterpoints about the development and use of the resource. However, the description presented allows the reproducibility of further research.

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