Development of an educational technology podcast to promote breastfeeding

Construção de una tecnología educacional podcast para a promoção do aleitamento materno

Construcción de podcast de tecnología educativa para la promoción de la lactancia materna

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ABSTRACT

Objective: to describe the experience of developing an educational technology in a podcast format, to promote breastfeeding. Method: a descriptive study, resulting from the experience of building an educational technology developed in four steps: 1) literature search; 2) content selection; 3) script creation and recording, and 4) availability. Results: a digital educational technology with guidelines for breastfeeding promotion was developed, the PueriCast: simplifying breastfeeding. Final considerations: it is inferred that the development of digital technologies, such as the one reported in this study, aggregate as health education tools to be employed by nurses for the promotion, protection, and support of breastfeeding.

Descriptors: Breast Feeding; Educational Technology; Health Education; Health Promotion; Nursing.

RESUMO

Objetivo: descrever a experiência de construção de uma tecnologia educacional do tipo podcast para a promoção do aleitamento materno. Método: estudo descritivo, resultado da experiência de construção de uma tecnologia educacional desenvolvida em quatro etapas: 1) pesquisa bibliográfica; 2) seleção do conteúdo; 3) criação do roteiro e gravação e 4) disponibilização. Resultados: elaborou-se o PueriCast: simplificando a amamentação, com tecnologia educacional digital, com as orientações para a promoção do aleitamento materno. Conclusão: infere-se, que o desenvolvimento de tecnologias digitais, como a relatada neste estudo, agregam como instrumentos de educação em saúde a serem empregados pelo enfermeiro para a promoção, proteção e apoio ao aleitamento materno.

Descritores: Aleitamento Materno; Tecnologia Educacional; Educação em Saúde; Promoção da Saúde; Enfermagem.

RESUMEN

Objetivo: describir la experiencia de construcción de una tecnología educativa tipo podcast para la promoción de la lactancia materna. Método: estudio descriptivo, resultado de la experiencia de la construcción de una tecnología educativa desarrollada en cuatro etapas: 1) investigación bibliográfica; 2) selección de contenido; 3) creación del guion y grabación y 4) disponibilidad. Resultados: se elaboró PueriCast: simplificación de la lactancia materna, con tecnología educativa digital, con lineamientos para la promoción de la lactancia materna. Consideraciones finales: se infiere que el desarrollo de tecnologías digitales, como la relatada en este estudio, agrega, como instrumentos de educación en salud a ser utilizados por los enfermeros para promover, proteger y apoyar la lactancia materna.

Descritores: Lactancia Materna; Educación Tecnológica; Educación en Salud; Promoción de la Salud; Enfermería.

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INTRODUCTION

Breastfeeding (BF) increases child survival and acts against certain diseases, such as diarrhea and pneumonia establishes the bond between the mother-child binomial and provides benefits for the mother, child, family, and society. Therefore, the World Health Organization (WHO), in consensus with the United Nations Children's Fund (UNICEF), recommends early initiation of breastfeeding within one hour of birth, exclusive until 6 months of age, and supplemented until 2 years of age.

Globally, less than half of babies worldwide receive early, exclusive, or continued breastfeeding. In Brazil, the analysis of the temporal trend showed substantial changes in the indicators of exclusive breastfeeding, especially between the years 1986 and 2006, with rates from 2.9% to 37.1% and with stabilization in 2013, referring to children under six months of age. Data from the National Study on Infant Food and Nutrition (ENANI), conducted in the five Brazilian regions, showed that the prevalence of exclusive breastfeeding among children under six months of age was 45.7% in Brazil, with this practice being more frequent in the South (53.1%) and less frequent in the Northeast (38.0%).

Thus, strategies need to be undertaken to strengthen actions for the promotion, protection, and support of breastfeeding, considering that the indicators are below what is recommended. Thus, one of the ways to promote breastfeeding is through the construction and use of educational technologies.

In this scenario, health technologies for breastfeeding promotion can be classified as soft, soft-hard, or hard. As to the types, there are cordel literature, serialized albums, educational booklets, brochures, postcards, CD-ROM, video, film, forum theater, audios, seminars, and scales.

However, an educational technology little explored as a way to promote breastfeeding is the Podcast. The podcast is a media format that arises from the availability of audio files on the Internet, available online, which can be employed in speech, music, or both.

Taking into account the introduction of technologies for health promotion, especially breastfeeding, it is relevant to build new technological approaches such as the podcast presented in this study as a way to promote, protect, and support breastfeeding.

OBJECTIVE

To describe the experience of building a Podcast-type educational technology to promote breastfeeding.
This is a descriptive study with a qualitative approach, experience report type, on the construction of a Podcast educational technology, developed throughout June 2020, as part of the actions of the Extension Project: Educational Technologies on Breastfeeding, linked to the Collective Health Research Group (GPeSC) of the Federal University of Piauí (UFPI), Senador Helvídio Nunes de Barros Campus, Picos, PI, Brazil.

This extension project is registered in the Office of Extension and Culture of the Federal University of Piauí (UFPI) under code PJ11/2020-CSHNB-361 and aims to enable Nursing students to develop and apply technologies that promote breastfeeding and make them available to the community in which the campus is located.

To produce the PodCast the following steps were followed: 1) bibliographical research; 2) content selection; 3) script creation and recording and 4) availability.

The 1) Bibliographical Research stage was carried out in the Virtual Health Library using the Descriptors in Health Sciences (DECS): breastfeeding; nursing; educational technology and health education. All the descriptors were crossed using the Boolean operator AND. In addition to the articles selected by the search, the Basic Care Booklet no. 23 Child Health - breastfeeding and complementary feeding11, and Note no. 9 “Breastfeeding in times of COVID-19”12, published by the Brazilian Society of Pediatrics, were used.

The 2) Content Selection stage was based on bibliographic research and the experience of the Research Group in the development of actions and production of technologies on the theme. In this step, it was carried out the reading, analysis, and selection of the materials found.

For stage 3) Creation of the Script and Recording, the most relevant topics were organized based on the main challenges and doubts of pregnant and postpartum women evidenced by the literature review. Then, the podcast was recorded as a dialogue, the project students discussed the topics with a nurse. It is noteworthy that although the promotion of breastfeeding is a responsibility of all, the nurse was selected because they are the professionals who provide guidance on breastfeeding during prenatal, childbirth, and puerperium and are the ones who most assist women in the difficulties regarding breastfeeding.

The forth stage involved the availability of the PueriCast: EP -03 - Simplifying breastfeeding, which is available on Spotify, Google PodCast, Pocket Cast, Anchor, Breaker, and RadioPublic and was published in June 2020.

It is reinforced that this experience exposes the record of the results of the development of an extension action, exempting the requirement of the Free and Informed Consent Term (FICT), following the ethical precepts guided by Resolution No. 466 of December 12, 2012, of the National Health Council.
**PueriCast** is a digital educational technology podcast about actions to promote the health of children and adolescents and the vast world that surrounds them. It is aimed at professionals, academics, teenagers, parents, and caregivers, and addresses each episode with tips, interviews, chats, and scientifically based information. It was built and presented by students, teachers, and professional researchers from the Undergraduate Nursing and Nutrition degrees, members of the Collective Health Research Group, in the line of child and adolescent health, linked to the Federal University of Piauí. It is presented in three episodes: 01 - Study methods in times of pandemic; 02 - Vaccination routine during the pandemic; and 03 - Simplifying breastfeeding, the focus episode of this study (Figure 1).

**Figure 1** - PueriCast: GPeSC - Child and Adolescent Health. Picos (PI), Brazil, 2020.

The "PueriCast: EP -03 - Simplifying breastfeeding" (Figure 2) was developed to guide women (pregnant and postpartum women) about the key points of breastfeeding: importance and impacts of breastfeeding; benefits for the mother-child binomial; feeding time and duration; breastfeeding positions and baby handling; myths and truths that interfere with the practice of breastfeeding; strategies that interfere with breastfeeding - use of pacifiers and bottles; breast complications - nipple fissure, breast engorgement; breast care in the gravitic-puerperal cycle; and breastfeeding and COVID-19: recommendations and preventive measures (Frame 1).
Figure 2 - PueriCast: EP -03 - Simplifying breastfeeding. Picos (PI), Brazil, 2020.


<table>
<thead>
<tr>
<th>Content</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance and impacts of breastfeeding</td>
<td>The act of breastfeeding is a strategy in the Public Health scenario that has a strong impact on child development.</td>
</tr>
<tr>
<td>Benefits for the mother-child binomial</td>
<td>It promotes benefits in the child’s growth and also in their psychological and emotional development, stimulates healthy nutrition, strengthens the mother-child bond</td>
</tr>
<tr>
<td>Breastfeeding time and duration</td>
<td>Exclusive breastfeeding is recommended until the baby is six months old. Regarding the ideal time of feeding, there is no predetermined time, what is advisable is for the mother to let her child completely empty the breast, and this time will depend on each baby.</td>
</tr>
<tr>
<td>Breastfeeding positions and baby handling</td>
<td>The best position for breastfeeding is one where both mother and baby are comfortable. The mother can breastfeed in the following positions: lying down, sitting, and standing up.</td>
</tr>
<tr>
<td></td>
<td>Some signs make it possible to identify that the &quot;holding and handling&quot; is really correct:</td>
</tr>
<tr>
<td></td>
<td>1. The baby should be with its body fully facing its mother’s body;</td>
</tr>
<tr>
<td></td>
<td>2. The mother must wait for the baby to open its mouth wide (as if it were yawning);</td>
</tr>
<tr>
<td></td>
<td>3. The baby should take most of the areola (the darker area around the nipple).</td>
</tr>
<tr>
<td>Myths and truths that interfere with the practice of breastfeeding</td>
<td>There is no such thing as weak milk, this is a myth, one of many existing within the context of breastfeeding. Breast milk contains all the substances in the exact quantity that the baby needs to grow and develop in a healthy way.</td>
</tr>
<tr>
<td></td>
<td>The use of pacifiers and bottles is not recommended. The sucking movement that the baby makes during</td>
</tr>
</tbody>
</table>
Strategies that interfere with breastfeeding

Breastfeeding is extremely important for the development of its oral cavity/mouth, which is fundamental for correct dental alignment and proper motor-oral development.

Breast complications

Breastfeeding is an act that requires adaptation from the woman; it is very common to receive reports that she has already gone through some complications, such as mammary fissure, breast engorgement, and mastitis.

Breast Care

During pregnancy, there are physiological body changes that include the woman's breasts to meet this new breastfeeding experience. These natural changes are characterized by breast enlargement, the areolas (the area surrounding the nipple) become darker and more resistant due to hormonal actions and also serve as a natural body strategy to facilitate the baby's "grip", their hydration is promoted by the Montgomery's Glands (small glands located in the areola), so there is no need to perform exercises to stimulate the breasts and nipples, wash with sponges or use moisturizers.

Breastfeeding and COVID-19

Regarding the new coronavirus (COVID-19) and the practice of breastfeeding, there is no scientific evidence to date of transmission through the milk of a mother with Covid-19 to her child. For this reason, health authorities recommend the maintenance of breastfeeding, given its numerous benefits for both the child's and the mother's health.

**DISCUSSION**

This experience presents the report of the construction of a PodCast educational technology developed as a way to promote breastfeeding. The study presents as a limitation the non-validation of the PodCast with expert judges and with the target audience, addressing only the development phase, and this is justified by the short time for execution of the actions within the programmed schedule, which does not remove its educational, dynamic, and creative character in the scope of technologies to promote breastfeeding. It is noteworthy that the study was carried out within the scope of university extension, reinforcing the teaching/research/extension tripod and ratifying the link between teaching/service/community integration.

During the course of undergraduate nursing education, university extension emerges as an inseparable component of the academic work, promoting the development of competencies and skills that are in dialogue with the pedagogical project of the undergraduate courses, allowing the exchange of knowledge between the academy and the social environment in which it is inserted.

Therefore, in the health education scenario, nurses have been playing a fundamental role in the development and use of educational technologies to promote breastfeeding, which demonstrates the need to expand the scope of new technological modalities, such as assistive, managerial, and educational technologies.

In the university extension scenario, experiences of construction and application of educational technologies have been implemented in favor of breastfeeding. In the center-south
of the state of Piauí, the educational panlet "Every woman is able to breastfeed "¹³ was developed and applied with postpartum women as a technology to promote maternal self-efficacy in breastfeeding, showing acceptability by the target audience and a feasible tool within the field of extension actions.

A similar experience was observed in the extension project "Mama Ação", developed in Mato Grosso state, which implemented health education activities on the importance of breastfeeding for postpartum women in the rooming-in of a renowned maternity hospital. This project has demonstrated its social impact by fostering discussion on the themes and by empowering women in the practice of breastfeeding.¹⁴

Given the current conjuncture, PueriCast becomes an accessible technology for the dissemination of information on BF. Its reach breaks geographic boundaries and enables listening through the dialogue undertaken in its script. The PodCast was born as a digital educational technology that can be used as a means to spread guidelines related to health education, promoting awareness and providing support to promote women's health when breastfeeding.

The use of educational technologies in the community is involved in the resolution and understanding of social conflicts that involve it, taking into account the context where the technology to be used is inserted. This type of applicability also includes the acceptability of the target audience with regard to the use of educational technologies.¹⁵

In the development of PueriCast, it was possible to rethink new ways to educate and promote health, adapting to the needs of the student and the resources available to the educator. Digital media, such as the PodCast, are popular tools among people from different social groups and age groups, favoring the immediate passing on of content and making knowledge accessible to all audiences.

Based on this experience, the development, validation, and verification of the effects of PodCats as tools to promote breastfeeding are suggested, adding to the existing technologies and diversifying the educational tools available for nurses in health promotion and education.

CONCLUSION

It is concluded that PueriCast: simplifying breastfeeding emerges as an educational technology for the promotion of breastfeeding, and it is believed that it can complement the guidelines provided by nurses and the team assisting women in the breastfeeding experience. Furthermore, it is also ratified that the university extension program, guided by the constitutional principle of inseparability between teaching, research, and extension, has fostered the development of skills and abilities during the professionals' training that leads to actions for the promotion, protection, and support of breastfeeding.

CONTRIBUTIONS

All authors contributed equally to the article design, data collection, analysis and discussion, as well as to the writing and critical review of the content, with intellectual contribution, and approval of the final version of the study.
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