

Revista Contexto & Saúde Editora Unijuí

Programa de Pós-Graduação em Atenção Integral à Saúde ISSN 2176-7114 — v. 24, n. 48, 2024

http://dx.doi.org/10.21527/2176-7114.2024.48.14746

HOW TO CITE:

da Silva VSR, Torres IL, Fontes FL de L, da Silva JF, da Silva Junior MB, Borges JWP. Structuring, validity processes and podcast effects for health promotion: an integrative review. Rev. Contexto & Saúde, 2024;24(48): e14746

REVIEW ARTICLE

Structuring, Validity Processes and Podcast Effects for Health Promotion: An Integrative Review

Vanessa Soares Rocha da Silva¹; Ingrid Lopes Torres²;

Francisco Lucas de Lima Fontes³; José Fortuna da Silva⁴; Manoel Borges da Silva Junior⁵; José Wicto Pereira Borges⁶

Highlights:

- (1). Validation processes are uncommon during the podcasts elaboration.
- (2). Podcasts enhance health, but attention to accuracy is needed to avoid misinformation.
- (3). Studies on health podcasts focus on intervention but lack methodological rigor and validation.

ABSTRACT

The study aims at analyzing the structuring, validity processes and effects of podcasts for health promotion. An integrative literature review was conducted across six databases, following the stages of data reduction, display, comparison, conclusion drawing, and verification. The results included 14 studies from seven different countries. The target audience for the built podcasts comprises students and health care professionals. The construction process showed several methodologies with content-related validity assessment by experts being the applied validation process. Only two studies sought evidence of validity. It is concluded that the studies carried out on podcasts for health promotion focus primarily on the intervention itself, with limited consideration given to the methodological processes of construction and validation procedures.

Keywords: health promotion; construction; podcast; educational technology.

 $^{^1 \}quad \text{Universidade Federal do Piau\'i (UFPI)}. \ Teresina/PI, \ Brasil. \ https://orcid.org/0009-0007-8807-4651$

² Universidade Federal do Piauí (UFPI). Teresina/PI, Brasil. https://orcid.org/0009-0004-6309-1146

³ Universidade Federal do Piauí (UFPI). Teresina/PI, Brasil. https://orcid.org/0000-0003-1880-9329

⁴ Universidade Federal do Piauí (UFPI). Teresina/PI, Brasil. https://orcid.org/0009-0005-4675-3600

⁵ Universidade Federal do Piauí (UFPI). Teresina/PI, Brasil. https://orcid.org/0000-0001-6249-0410

⁶ Universidade Federal do Piauí (UFPI). Teresina/PI, Brasil. https://orcid.org/0000-0002-3292-1942



INTRODUCTION

Health education aims to motivate people to adopt and maintain healthy lifestyle patterns, thereby improving their health conditions. The intersection between health education and educational technologies plays a crucial role in the ongoing effort to promote a healthier and well-informed society. In this context, educational technologies emerge as indispensable resources, assuming a prominent role. They present themselves as powerful allies, facilitating interaction with the public and providing a more dynamic and engaging approach. Therefore, educational technologies are viewed as significant allies in this process, enabling greater interaction with the public and considered an easily understandable strategy for the lay population.¹

Since the majority of diseases are attributed to modifiable factors, it is of utmost importance to identify an effective and validated combination of approaches to enhance awareness and prevent risk factors.² Given that these risk factors are mainly related to the population's lifestyle, it becomes relevant to develop educational strategies focusing on modifying individual habits, behavior, environment, education, and access to health care services.³

Thus, with social media, finding ways to combine educational technologies with health promotion and prevention actions becomes a useful resource for Public Health. Currently, a digital audio file format gaining prominence on the internet due to its ease of creation, distribution, and access is the podcast. Among the main advantages of podcasts compared to other available media are accessibility, convenience, specialized content, depth of the topics covered, and better control by listeners. This resource emerges as a new media process capable of producing content at a low financial cost and allows users greater power over this medium, making it possible to choose when and what to access.^{4,5}

In the last three years, podcasts have been applied in the health care field in various contexts, such as education in Stomatherapy during the pandemic⁶, reliability in treatment effects⁷, health promotion in Oncology⁸, best practices for injectables⁹, stigma reduction in people with mental disorders¹⁰, among others.

Evaluating the construction and validity process of podcast creation becomes an important scientific tool, considering that through it, it is possible to disseminate relevant information that could positively impact people's lives and allow other authors to expand their production to promote mass information dissemination As a consequence, the systematization of podcast construction and validation substantially contributes to the literature, as few published articles on this topic specify the factors that succeeded in the structuring process, from conception, recording, and editing, to the challenges overcome.^{4,6,9}

The systematization of podcast creation and validation plays a fundamental role in health education proposals. This occurs by enabling the effective delivery of relevant information and guidance, adjusted to the specific needs of the community and supported by a solid scientific foundation. Such proposals are developed based on needs identification, health planning, interprofessional collaboration, promotion of popular education, and active participation, in complete accordance with the principles of health promotion. These advancements are congruent with assertive professional action in the face of new health production models in territories.¹¹

Based on the above, the relevance of this study is notable as it seeks to critically evaluate existing studies on the structuring, validation processes, and effects of podcasts on health promotion. This review has the potential to contribute in various ways to the health and education fields, providing new insights for professionals seeking to utilize this tool effectively.

The knowledge gap addressed by this study relates to the lack of a critical and comprehensive analysis of podcast structuring, validation processes, and their effects on health promotion. Although



this media has become increasingly popular in disseminating health information, previous searches in informational sources revealed very few studies that rigorously evaluate their construction and validity, as well as the actual health impacts on people. This gap represents a valuable opportunity to guide future research and enhance the effectiveness of podcasts as health promotion tools.

Therefore, the objective of this study is to analyze the structuring, validation processes, and effects of podcasts for health promotion.

METHOD

This study is an integrative literature review that sought to rigorously analyze the structuring, validation processes, and effects of podcasts for health promotion. To achieve this, the following steps were taken: I – Data reduction; II – Data display; III – Data comparison; IV – Conclusion drawing; V – Verification.¹²

The review question developed was: "What are the aspects related to the construction and validation processes applied in podcasts for health promotion?" The formulation of the question involved the PICo strategy.

For inclusion criteria, scientific articles that constructed or validated podcasts as educational technology in health and health promotion were considered. Materials from grey literature (course conclusion works, theses, dissertations, unpublished/unreviewed works, etc.) were excluded.

ACRONYM	Р	I	Co
EXTRACTION	General Population	Podcast development and validation	Health promotion
CONVERSION	General population	Podcast development and validation	Health promotion
COMBINATION Public Health Health care		Technologies, cronstruction, validation	Health education

Chart 1 – PICo Strategy: acronyms used and Medical Subject Headings (MeSH) and Health Sciences Descriptors (DeCS). Teresina, Piauí, Brazil, 2023.

Source: Prepared by the authors (2023).

Searches were conducted in the information sources Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SciELO), Scopus accessed through the CAPES Portal, Virtual Health Library (VHL), Medical Literature Analysis and Retrieval System Online (MEDLINE), and Cochrane Library. To conduct searches in the information sources, the Medical Subject Headings (MeSH) terminology from MEDLINE and the Health Sciences Descriptors (DeCS) terminology from VHL were used. The Boolean operator "and" was used to systematize the searches. The descriptors used were: health promotion, construction, validation, and podcast.

For the description and illustration of the information flow, the Preferred Reporting Items for Systematic Review and Meta-Analyses (Prisma) instrument was used, with mapping of the number of identified, included, and excluded records, as well as the reasons for exclusions.¹³

Reference managers EndNote and Rayyan were used to store, manage, identify, and remove duplicates of collected studies. Initially, titles and abstracts were read. Subsequently, a full-text reading was conducted, and the authors' form was applied, thus defining the studies included in the sample.

Of the 33 articles identified in the information sources, seven were duplicates and were therefore removed. Consequently, 26 relevant articles were considered for title and abstract screening.



However, after analyzing the abstracts of the articles, it was found that 13 articles fit the exclusion criteria, with 10 files being considered grey literature and three not addressing podcasts. In the end, the 13 articles that met the inclusion criteria were included (Figure 1).

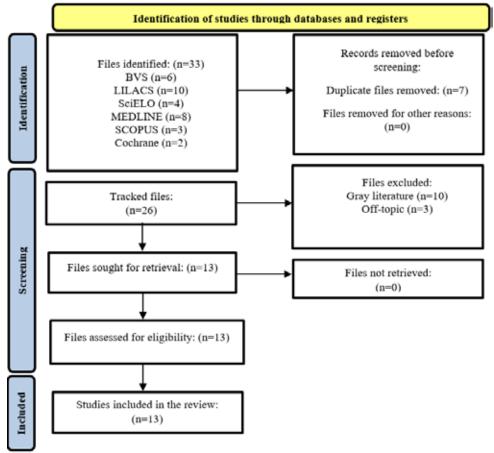


Figure 1 – Prisma flowchart of studies included in the integrative review on the structuring, validity processes and effects of podcasts for health promotion. Teresina, Piauí, Brazil, 2023.

Source: Adapted from Page et al. (2020).

The data extracted from the studies, according to the quality analysis, included: authors, year, country, study approach, sample, participants, study context, dissemination technology, quality of evidence, podcast construction, type of validity, results, and effects. Data collection occurred according to a form constructed by the authors specifically for this study.

The analysis of results, extraction, and essential elements synthesis found in each publication were carried out by two independent reviewers. The data analysis stage resulted in data reduction, which involved determining a general classification system to manage data from diverse methodologies. For the verification process, information about health education technologies addressing health promotion was extracted from the selected studies. The extracted data were compared and presented in charts. ^{14,15}

The quality of evidence in the studies included was assessed using three instruments. For quantitative studies, the Newcastle Ottawa Quality Assessment Scale (NOS) was applied. A 'star system' was developed in which a study is judged on three major perspectives: study groups selection, groups comparability, and ascertainment of exposure or outcome of interest for case-control or cohort studies, respectively, reaching a total of nine stars.¹⁶ For studies classified as qualitative, the



Critical Appraisal Skills Programme (Casp) was applied, which assesses rigor, credibility, and relevance in a checklist of 10 items.¹⁷ For methodological studies, the Checklist for Thorough Descriptions of Educational Interventions in Medical Education (CTDEIME) was applied, which is divided into two sections: the first on preparation with two criteria and the second on intervention with 12 criteria, reaching a total of 16 points.¹⁸

RESULTS

Chart 2 presents the the analyzed studies characterization, showing that the studies ranged from 2015 to 2022 in terms of publication year, and the majority were conducted in the United States. Out of the 13 analyzed articles, six had a qualitative approach, three were experimental studies, two were considered quantitative, and the remaining two were methodological studies. Regarding the sample of participants involved, the majority of the target audience were students and health care professionals.

The chart also details the context worked on by the study, which mostly involves the use of podcasts as educational technology in the health care academic field. Regarding the quality assessment of the included studies, it is observed that all of them presented high quality, regardless of the scale used for this evaluation.

Authors/Year/ Country	Study Approach	Sample/ Parti- cipants	Sample/Participants	Dissemination Technology	Quality	Level of Evidence
Edward <i>et al.</i> (2021) EUA	Qualitative	30 women be- tween 40 and 60 years old	Women's knowledge about menopause	Streaming Plat- forms	CASP 8/10	1
Kerrigan <i>et al</i> . (2022) Australia	Qualitative	40 medical professionals	Critical thinking of doctors regarding the health of the region's people	Streaming Plat- forms	CASP 9/10	1
Johansson et al. (2021) USA	Experimental	60 health stu- dents	Health care in a sustai- nable way	Streaming Plat- forms	NOS 7/9	1
Mantas <i>et al</i> . (2022) Germany	Qualitative	30 young peo- ple working in the health sector	Bringing technological innovation to medicine through podcasts to strengthen young people's interest in health research	Streaming Plat- forms	CASP 10/10	1
Balls et al. (2018) EUA	Methodolo- gical	Population with access to streaming plat- forms	Creation of a podcast li- brary and its promotion on social media	Streaming Plat- forms	CTDEIME 16/16	2
Riddell <i>et al</i> . (2021) EUA	Qualitative	40 medical residents	Perceptions of medical residents regarding the knowledge obtained through podcasts	Streaming Plat- forms	CASP 10/10	1
Bonixie (2021) Portugal	Qualitative	Population with access to streaming plat- forms	Covid-19 pandemic	Streaming Plat- forms	CASP 7/10	2



Leite <i>et al</i> . (2022) Brazil	Methodolo- gical	440 adoles- cents	Sexual and reproductive health education in adolescents	Streaming Plat- forms	CTDEIME 16/16	1
Lin (2015) EUA	Experimental	20 teachers	Identifying quality in- dicators for blogs and podcasts used in medi- cal student education	Streaming Plat- forms	NOS 8/9	1
Miller <i>et al</i> . (2021) EUA	Qualitative	50 medical students	Development of podcasts for health care professionals	Streaming Plat- forms	CASP 10/10	1
Delgado-Rico; Gonzales-Holaya (2017) Colombia	Experimental	135 medical students	Learning of topics in cardiorespiratory physiology	Streaming Plat- forms	NOS 8/9	1
Zanetti <i>et al</i> . (2022) Brazil	Qualitative	40 nursing professionals and students	Patient safety goals for nursing professionals and students	Streaming Plat- forms	CASP 7/10	1
Mota, <i>et al.</i> (2021) Brazil	Quantitative	32 medical students	Postpartum hemorrha- ge prevention	Streaming Plat- forms	CTDEIME 14/16	1

NOS: Newcastle – Ottawa Quality Assessment Scale; CASP: Critical Appraisal Skills Programme; CTDEIME: Checklist for Thorough Descriptions of Educational Interventions in Medical Education

Chart 2 – Characterization of the studies included in the integrative review on the structuring, validity processes and effects of podcasts for health promotion. Teresina, Piauí, Brazil, 2023.

Source: Prepared by the authors (2023).

Furthermore, regarding Chart 2, the dissemination technology used by researchers was mainly digital streaming platforms, which can mostly be accessed for free. Chart 3 provides information characterizing aspects of the structuring and validity processes of podcasts for health promotion. It is noted that the means of podcast production varied, but mostly smartphones were used for recording and editing episodes. Moreover, a significant portion of the studies involved inviting speakers from the areas they would address as a production method for the podcasts, while another part developed the episodes by reproducing data found in different databases.

AUTHOR/ YEAR	PODCAST STRUCTURING	VALIDITY TYPE
Balls <i>et al.</i> (2018)	It was not identified a methodological framework or well-defined steps. The construction was rationalized based on the identification of information needs identified by the community. Five podcasts were created on community-interest topics: injury prevention, immunizations, overweight or obesity, mental health, and financial stress. Afterwards, the podcast was expanded to cover topics related to cultural events, health and wellness, and international health. In an interview format, guests shared their stories related to community priorities and biomedical research	The study did not apply procedures to verify validity evidence



Leite <i>et al</i> . (2022)	The construction of the podcast was divided into four stages: 1) Freirian perspective as theoretical framework; 2) Themes identification; 3) Educational technology development: phase 1 – engaging teenagers in podcast structuring; phase 2 – planning recordings; phase 3 – podcast production; 4) Validation of the material structured	Content validity evidence by experts was obtained using a validation questionnaire comprising items related to content, functionality, appearance, and sound environment. A Content Validation Index of ≥ 0.78 and a Cronbach's alpha of ≥0,7 were applied
Miller <i>et al</i> . (2021)	Identification of professionals from various backgrounds in inpatient and outpatient care contexts for interviews. The faculty and students of the course generated questions together to guide interviews for the podcast. Questions focused on roles, responsibilities, and collaboration in health care teams were generated. Four interviews lasting 24-38 minutes were conducted to develop the podcast <i>Student Framework</i> : Continued Conversations	The study did not apply procedures to verify validity evidence
Zanetti <i>et</i> al. (2022)	Contextualized instructional design model. 1) Analysis: identification of learning needs, educational goals definition, delineation of the target audience profile, and necessary resources identification; 2) design: search for updated content in official references and international governmental organizations to guide the script construction and episode sequence, and definition of the name <code>EnfCast</code> ; 3) Development: creation of the educational resource considering the interaction level required with the user and the available informational support, according to the instructional matrix script. A smartphone was used for recording, and the Band Lab application was chosen for audio treatment. 4) Implementation: provide availability to the user. Episodes of <code>EnfCast</code> will be available for free on the virtual platform	The study did not apply procedures to verify validity and/or evaluation evidence
Mota <i>et al.</i> (2021)	An integrative review was conducted for the podcast theoretical basis. During pre-production, the group defined technical scripts, focusing on the most relevant topics regarding the prevention of maternal mortality due to postpartum hemorrhage to be addressed, appropriate didactic division for better audience comprehension, who would lead the script during recording, and the guests selection, which were reviewed by a specialist. The production phase was carried out through the "Anchor" application, from recording speeches, editing episodes, to publishing the series of five podcasts on the virtual platform	Content validity evidence was obtained from 32 specialists. A questionnaire containing three domains: objectives, framework/ presentation, and relevance of the podcast was applied. Cronbach's alpha of ≥0.7 was applied

Chart 3. Aspects of the structuring and validity processes of podcasts for health promotion. Teresina, Piauí, Brazil, 2023.

Source: Prepared by the authors (2023).

However, only two studies sought content validity evidence, applying a questionnaire to specialists to verify the relevance of the information and the podcast format.

Chart 4 details the results and effects of the podcasts produced for health promotion. All studies showed positive results regarding the assimilation of the topics covered by the podcasts, once again proving that they are effective teaching and information dissemination tools. Additionally, the table reveals that podcasts, being easily accessible, ensure a wide reach of the audience.



AUTHOR/YEAR	STUDY CONTEXT	RESULTS/EFFECTS		
Edwards <i>et al.</i> (2021)	Women's knowledge about menopause	The developed podcast proved to be an easily accessible medium that aided in understanding menopause		
Kerrigan <i>et al</i> . (2022)	Health of the region's people	The tool produced received a positive feedback by listeners and proved to be effective in understanding the topic discussed		
Johansson et al. (2021)	Health care across the health care network in a sustainable manner	Efficiently reached listeners, enabling the assimilation and understanding of health care across the health care network in a conscious and sustainable manner		
Mantas <i>et al.</i> (2022)	Interest of young people in the health research area	Demonstrated the importance of communication through podcasts and their potential to reach a large audience		
Riddell et al. (2021)	Knowledge gained through podcasts	Improved knowledge and perception of residents. An effective way to study		
Bonixie (2021)	COVID-19 pandemic	Combating the pandemic by providing clarification on disease information		
Lin (2015)	Indicators of quality for blogs and podcasts used in medical students' education	The quality indicators can serve as a basis for future research on media quality indicators used in medical education		
Delgado-Rico; Gon- zales-Holaya (2017)	Learning topics in cardiorespiratory physiology	Improved performance on knowledge tests about cardiorespiratory physiology		

Chart 4 – Results/effects of podcasts used to promote health. Teresina, Piauí, Brazil, 2023 Source: Prepared by the authors (2023).

DISCUSSION

The results of this study show that validation processes during the podcasts structuring are not being applied as a mandatory step in the production of this tool, which has proven to be quite effective in enhancing learning both inside and outside the classroom. This validation step is of paramount importance, as it ensures the use of sources with recognized scientific backing, making it necessary for it to be mandatory in the construction of such tools.

The use of podcasts is considered a valuable tool for both content review and as a preliminary introduction to the topic before the teacher's explanation. This was seen in the study by Delgado-Rico & Gonzales-Holaya¹⁹ and can be beneficial to the learning process, as it facilitates understanding and content retention. This occurs, in part, due to the fact that podcasts allow students to revisit the material at their own pace and time, as well as enable repeated listening to reinforce learning.

The growing podcasts popularity among the Portuguese audience and the use of this tool by media outlets to produce content that would not find space on traditional platforms is highlighted. This is relevant because podcasts enable greater extension and depth in creating high-quality content, as well as greater interactivity with the audience, which in turn raises the level of engagement.

In the study addressing women's knowledge about menopause, two overarching themes were identified. The first, titled "Jornada de Ganho de Conhecimento" [Knowledge Gain Journey], explored participants' menopause understanding and detailed how this understanding was deepened through listening and connecting with the stories of the interviewed women. The second theme, named "Reenquadrando a Menopausa" [Reframing Menopause], described the podcast impact, in which women reflect on the value of communication among them, challenge and reassess the stigma of menopause, and discuss ways to implement positive behavioral changes in their lives. The discussion



of these topics through educational technology demonstrates how podcasts can be an effective tool for disseminating information and promoting behavioral changes related to health issues.²¹

EnfCast is the result of the study, being a podcast that addresses international patient safety goals, such as correct identification, communication effectiveness, high-alert medications, safe surgery, infection risk reduction, and fall prevention.²² For the creation of this podcast, the authors chose the contextualized instructional design model, which is divided into five stages: analysis, design, development, implementation, and evaluation.

The use of this approach shows the authors' care in creating a quality educational product, with the intention of facilitating the understanding of patient safety goals and increasing the effectiveness of clinical practices by conveying information through the podcast in a clear and objective manner.

An innovative experience was reported, demonstrating the process and feasibility of creating a podcast content library to disseminate health and research information.²³ There was a clear need for a more detailed analysis to determine the most effective methods for developing a sustainable social media plan that further increases dissemination, knowledge acquisition, and communication of health-related topics.

It is important to highlight that this analysis can contribute to the creation of content *marketing* strategies, which help increase the popularity and reach of health-related podcasts, thereby improving communication and relevant information dissemination to the public.

Out of the 13 selected articles, only two presented validations of their podcasts.^{24,25} They conducted a study using Freirean cultural circles as a basis and involving school students and Nursing students.²⁴ The podcast named "Coisa de Adolescente" [Teen's Thing] consisted of four episodes addressing topics on sexual and reproductive health focusing on the adolescent audience. It is important to highlight that this analysis can contribute to the creation of content marketing strategies, which help increase the popularity and reach of health-related podcasts, thus improving communication and dissemination of relevant information to the public.²⁴

The Item-level Content Validity Index, a widely used method in the health care field to measure judges' agreement regarding the items presented in the instrument, was employed to validate the podcast. The consistency of the instrument used was evaluated by the *Cronbach*'s Alpha index and obtained a score of ≥0.700. A *Likert* scale was used to assess the agreement among judges regarding each item of the instrument in the validity assessment.

According to the presented table, it is possible to observe that the Anchor application technology for preventing maternal mortality due to postpartum hemorrhage was built based on relevant studies obtained from informational sources.²⁵ The podcast consisted of five episodes related to the topic. The research obtained the result that the podcast, when used as educational technology, proved to be an efficient supportive tool for reducing maternal death related to postpartum hemorrhage.

The technology validation was conducted through assessments by judges, considering both the content and the quality of the media employed, using established scores. The questionnaire prepared for this assessment obtained a *Cronbach*'s Alpha score of 0.873 in terms of its consistency. The *Likert* scale was used to quantify the judges' agreement regarding the content validation.²⁵

These methodological strategies for validating technologies allow verifying the validity and reliability of the podcast as a health education tool, increasing the credibility of the study and the obtained results. The importance of validating a podcast as an educational technology becomes indispensable, given that this tool is gaining space in educational environments as well as in society. Overall, in the health field, concerning the structuring of podcasts for use in health education, there is a scarcity regarding the validation process of this tool.²⁴



The study addressing cardiorespiratory physiology topics learning¹⁹ highlighted that a significant percentage of those who had access to the podcast as a teaching method felt satisfied with the knowledge acquired and enabled them to achieve favorable performance in tests on cardiorespiratory physiology knowledge.

These results suggest that the podcast can be an effective teaching tool, providing students with the flexibility to learn at their own pace and time. Additionally, student satisfaction is an important factor in retention and motivation, which can lead to increased engagement and better academic performance. However, it is important to note that the study focused on a specific topic¹⁹ and further research is needed to determine if the results can be generalized to other areas of study.

The podcast format was highly recommended by physicians who also participated in the seven-week program, which enabled conversations, reflection, and educational activities.²⁶

This health technology presented compelling and inspiring conversations with those actively working to create a more sustainable health care system. As these are new and sometimes radical initiatives that are changing the way physicians practice medicine, ensuring better access to safe, high-quality, evidence-based health care is crucial.²⁷

For the topic of digitization in medicine, it also seems important for authors to provide the public with valid information in an understandable and personalized form, thereby contributing to strengthening trust in science as a democracy fundamental cornerstone.²⁸

In the context of education, podcasts have been recognized as effective in delivering knowledge and guidance, with ongoing research investigating best practices for structuring podcasts in medical education. This approach can provide valuable insights for educators seeking to create high-quality and engaging content for their students. However, it is crucial to emphasize that the effectiveness of podcasts in education is intrinsically linked to the quality of the content and the teaching method used. Educators must ensure that the content is accurate and up-to-date, and that the podcast structure is clear and easily understandable for students.²⁹

In the realm of healthcare, several podcasts have been emerging, indicating that health journalism has found in this tool an alternative way to provide information. They benefit from its popularity among audiences, its free access, ease of use, and autonomy, giving users greater control over educational technology.²⁰

This can be beneficial, especially for those who do not have easy access to health care information in other formats. However, it is important to highlight the need to verify the quality and accuracy of the information transmitted by podcasts, to avoid the dissemination of misinformation.

The results³⁰ indicate that quality indicators, in addition to supporting existing podcasts, enable their application in future research, leading to more significant results regarding the quality and validation of the information provided by them.

Therefore, the evaluation of quality indicators is essential to ensure that podcasts are a reliable and useful source of health and other field information. This can significantly contribute to the dissemination of accurate and high-quality information, as well as to the advancement of research in this field.

In this scenario, several podcasts have emerged, where classes take on a new format through podcasts, specifically aimed at higher education students in the health care field. These programs mainly address the most prevalent pathologies in the Unified Health System (SUS).³¹

The research addressed a relevant theme in a world where digital globalization is present in all aspects of society's daily life, leading to an information overload. This overload, besides psychological consequences, can result in social harm if the disseminated information does not align with proven



scientific facts. Furthermore, the research showed limitations regarding theoretical references, as few studies addressed the theme of the present research, revealing a significant need for a review of the accuracy of current media, which can be accomplished through the validation methods found in the present study.

Overall, the use of podcasts has proven to be an effective way to disseminate information and knowledge, while also allowing for greater flexibility and interaction with the audience. However, it is important to emphasize that the use of podcasts should be done consciously and appropriately, in order to maximize their benefits and minimize potential limitations.

During the development of this study, some limitations were identified, such as the type of review employed, as a scoping review would have broader coverage, including grey literature. The low availability of studies in the scientific literature addressing the discussed theme was also a challenging factor.

CONCLUSIONS

It is concluded that the studies conducted on podcasts for health promotion focus on the intervention itself, with few considerations about the methodological processes of construction and validation procedures. Only two studies applied procedures to verify evidence of content validity. Despite being a technology easily accessible through virtual platforms, it is necessary that the development involves well-defined paths aligned with evidence-based practice. There is a need for the development of studies that clarify the method of constructing podcasts, as well as provide guidelines on the processes of verifying evidence of validity and testing the effectiveness of these Technologies.

The review brings significant implications for the fields of education, research, extension, and health care. In education, the lack of solid methodological considerations in the construction of podcasts may indicate the need to include training for health care professionals and educators to create effective and evidence-based content. For research, the findings suggest the development of studies that elucidate the processes of creating podcasts, as well as establish clear guidelines for verifying the validity of content and testing the effectiveness of these technologies. In extension, educational and research institutions can play a fundamental role in offering training and workshops for health care professionals, educators, and content creators interested in using podcasts. For health care assistance, professionals who wish to use podcasts as part of their education and health promotion strategies, the findings highlight the importance of critically assessing the quality of available content.

REFERENCES

- ¹ Silva DM de L, Carreiro F de A, Mello R. Educational technologies in nursing assistance in health education: integrating review. J Nurs UFPE on line. 2017;11(2):1.044-1.051. DOI: 10.5205/1981-8963-v11i2a1347 5p1044-1051-2017
- ² Kaczorowski J, Chambers LW, Dolovich L, Paterson JM, Karwalajtys T, Gierman T, et al. Improving cardiovascular health at population level: 39 community cluster randomised trial of Cardiovascular Health Awareness Program (CHAP). BMJ. 2011;342:d1262. DOI: 10.1136/bmj.d1262
- ³ Lunkes LC, Murgas LDS, Dorneles EMS, da Rocha CMBM, Machado GJ. Socioeconomic factors related to cardio-vascular diseases: a review. Hygeia. 2018;14(28):50-61. DOI: 10.14393/hygeia142804
- ⁴ Silva IC da, Nogueira MR do N, Oliveira CH de, Nicolete R, Nicolete LD de F. Produção, gravação e edição de podcasts objetivando ao combate da fake news na saúde: um relato de experiência. In: Pesquisa e desenvolvimento: desafios e oportunidades em ciência, tecnologia e engenharia. Fortaleza: Imprece; 2020. p. 17-31.
- ⁵ Primo AFT. Para além da emissão sonora: as interações no podcasting. Intexto. 2005;2(13):64-87. DOI: 10.19132/1807-8583200513.64-87



- ⁶ Carvalho S de O, Silva GA de A da, Moura MCS, Santos BKI, Medeiros AM de B, Duarte GM, et al. Podcasting for education in enterostomal therapy during the COVID-19 pandemic. Estima. 2022;20:e1522. DOI: 10.30886/estima.v20.1207_pt
- ⁷ Semakula D, Nsangi A, Oxman AD, Oxman M, Austvoll-Dahlgren A, Rosenbaum S, et al. Effects of the Informed Health Choices podcast on the ability of parents of primary school children in Uganda to assess claims about treatment effects: a randomised controlled trial. The Lancet. 2017;390(10092):389-398. DOI: 10.1016/s0140-6736(17)31225-4
- ⁸ Fritsch TZ, Bueno K, Silva LHF da, Saraiva TF, Silva UPH, Rabin EG. Validation of "podcast" as a means of heal-thpromoting in oncology. Rev Recien. 2023;13(41):158-169. DOI: 10.24276/rrecien2023.13.41.158-169
- ⁹ Roseira CE, Fittipaldi TRM, Costa LCS da, Silva DM da, Dias AAL, Figueiredo RM de. Good practices with injectables: digital technology for nursing education to control infections. Rev Bras Enferm. 2022;75(6):e20210716. DOI: 10.1590/0034-7167-2021-0716pt
- ¹⁰ Carrotte ER, Hopgood F, Blanchard M, Groot C, Phillips L. A New Podcast to Reduce Stigma Against People Living with Complex Mental Health Issues: A Co-Design Study (Preprint). JMIR Formative Research. 2022;7(1):e44412. DOI: 10.2196/44412
- ¹¹ Machado LDS, Xavier SPL, Maia ER, Vasconcelos MIO, Silva MRF da, Machado M de FAS. Health promotion conceptions and expressions in the training process of the multi-professional residency. Texto Contexto Enferm. 2021;30:e20200129. DOI: 10.1590/1980-265x-tce-2020-0129
- Whittemore R, Knafl K. The integrative review: updated methodology. Journal of Advanced Nursing. 2005;52(5):546-553. DOI: 10.1111/j.1365-2648.2005.03621.x
- Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. A declaração PRISMA 2020: diretriz atualizada para relatar revisões sistemáticas. Rev Panam Salud Publica. 2022;46:e112. DOI: 10.26633/rpsp.2022.112
- ¹⁴ Knafl KA, Webster DC. Managing and analyzing qualitative data. West J Nurs Res. 1988 Apr.;10(2):195-218. DOI: 10.1177/019394598801000207
- ¹⁵ Sandelowski M, Barroso J. Classifying the findings in qualitative studies. Qual Health Res. 2003 Sept.;13(7):905-923. DOI: 10.1177/1049732303253488
- ¹⁶ Stang A. Critical evaluation of the Newcastle-Ottawa scale for the assessment of the quality of nonrandomized studies in meta-analyses. European Journal of Epidemiology. 2010;25(9):603-605. DOI: 10.1007/s10654-010-9491-z
- ¹⁷ Long HA, French DP, Brooks JM. Optimising the Value of the Critical Appraisal Skills Programme (CASP) Tool for Quality Appraisal in Qualitative Evidence Synthesis. Research Methods in Medicine & Health Sciences. 2020;1(1):31-42. DOI: 10.1177/2632084320947559
- ¹⁸ Meinema JG, Buwalda N, van Etten-Jamaludin FS, Visser MRM, van Dijk N. Intervention descriptions in medical education: what can be improved? A systematic review and checklist. Acad Med. 2019;94(2):281-290. DOI: 10.1097/acm.0000000000002428
- ¹⁹ Delgado-Rico HD, Gonzalez-Olaya HL. The webcast as a meaningful learning strategy in cardiovascular physiology. MEDUnab. 2024;20(2):123-130. DOI: 10.29375/01237047.2804
- ²⁰ Bonixe L. Potentialities of podcasting in health journalism- an analysis of three podcasts about COVID-19 in Portugal. Comunicação e Sociedade. 2021;40:91-108. DOI: 10.17231/comsoc.40(2021).3249
- ²¹ Edwards AL, Shaw PA, Halton CC, Bailey SC, Wolf MS, Andrews EN, et al. "It just makes me feel a little less alone": a qualitative exploration of the podcast Menopause: Unmuted on women's perceptions of menopause. Menopause. 2021;28(12):1.374-1.384. DOI: 10.1097/gme.000000000001855
- ²² Zanetti MCP, Tobase L, Negrini BP, Chouzende B de O, Pereira GC, Silva GF, et al. Nursing podcast: patient safety goals. Rev enferm atenção saúde. 2022;11(2):e202247. DOI: 10.18554/reas.v11i2.4925
- ²³ Balls-Berry J, Sinicrope P, Valdez Soto M, Brockman T, Bock M, Patten C. Linking Podcasts With Social Media to Promote Community Health and Medical Research: Feasibility Study. JMIR Form Res. 2018;2(2):e10025. DOI: 10.2196/10025
- ²⁴ Leite PL, Torres FAF, Pereira LM, Bezerra A de M, Machado LDS, Silva MRF da. Construction and validation of podcast for teen sexual and reproductive health education. Rev Latino-Am Enfermagem. 2022;30(esp):e3705. DOI: 10.1590/1518-8345.6263.3706
- ²⁵ Mota A da S, Reis JSC dos, Rocha SL, Oliveira GR de C, Domingues RJ de S. Construction and validation of podcast as educational technology for preventing Postpartum Hemorrhage. Research, Society and Development. 2021;10(3):e3610312913. DOI: 10.33448/rsd-v10i3.12913



- ²⁶ Kerrigan V, McGrath SY, Herdman RM, Puruntatameri P, Lee B, Cass A, et al. Evaluation of "Ask the Specialist": a cultural education podcast to inspire improved healthcare for Aboriginal peoples in Northern Australia. Health Sociol Rev. 2022;31(2):139-157. DOI: 10.1080/14461242.2022.2055484
- ²⁷ Johansson M, Godlee F, Moynihan R. The Recovery a podcast about action for sustainable healthcare. BMJ. 2021;375:e2758. DOI: 10.1136/bmj.n2758
- ²⁸ Behrends M, Warnecke J, Witte ML, Klembt C, Hoffmann I. The Podcast "Digitization of Medicine" as a form of science communication. Stud Health Technol Inform. 2022;295:124-127. DOI: 10.3233/SHTI220677
- ²⁹ Riddell J, Robins L, Sherbino J, Brown A, Ilgen J. Residents' perceptions of effective features of educational podcasts. West J Emerg Med. 2021;22(1):26-32. DOI: 10.5811/westjem.2020.10.49135
- ³⁰ Lin M, Thoma B, Trueger NS, Ankel F, Sherbino J, Chan T. Quality indicators for blogs and podcasts used in medical education: modified Delphi consensus recommendations by an international cohort of health professions educators. Postgrad Med J. 2015;91(1080):546-550. DOI: 10.1136/postgradmedj-2014-133230
- ³¹ Miller K, Keeney T, Fialkowski A, Srinivasan S, Singh T, Kesselheim JC, et al. Leveraging podcasts to introduce medical students to the broader community of health care professionals. MedEdPORTAL. 2021;17:1-9. DOI: 10.15766/mep_2374-8265.11191

Submitted: July 2, 2023

Accepted: September 15, 2023 Published: March 27, 2024

Authors' contributions

Vanessa Soares Rocha da Silva: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Validation; Visualization; Writing – original draft.

Ingrid Lopes Torres: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Validation; Visualization; Writing – original draft.

Francisco Lucas de Lima Fontes: Project administration; Supervision; Writing - original draft; Writing - review & editing.

José Fortuna da Silva: Supervision; Writing – review & editing.

Manoel Borges da Silva Junior: Supervision; Writing – review & editing.

José Wicto Pereira Borges: Conceptualization; Investigation; Project administration; Supervision; Writing – review & editing.

All authors approved the final version of the text.

Conflict of interest: There is no conflict of interest.

Financing: Does not have financing.



Corresponding author

Francisco Lucas de Lima Fontes

Universidade Federal do Piauí, Centro de Ciências da Saúde, Departamento de Enfermagem. Avenida Universitária — lado ímpar — Programa de Pós-Graduação em Enfermagem (PPGEnf). Bairro Ininga.

CEP: 64.049-550 - Teresina, PI – Brasil

lucasfontesenf@ufpi.edu.br

Associate Editor: Dr. Oclaris Lopes Munhoz

Editor-in-chief: Dr. Adriane Cristina Bernat Kolankiewicz

This is an open access article distributed under the terms of the Creative Commons license.

