

Strategies to fight disinformation in health: Is it possible for a brazilian podcast to reach any target audience?



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ABSTRACT

Aim: Knowing the use in the education of podcasts was occurring in some countries, the present work developed one in Portuguese. The aim was to promote health and combat disinformation in Brazil. Methods: Different categories of Podcasts were created: shorter/longer; with/without guests and disease-related issues or other topics about prevention/health education. After that, the audios were edited and submitted on platforms: Results: It was analyzed through the data generated by the published episodes. It was observed that duration vs several reproductions did not correlate with ($p=0.2521$). Then, the presence/absence of guests ($p=0.1779$). However, themes related to infectious and chronic diseases obtained more significant results ($p=0.0466$) when compared to the other topics. Also, we noticed that our listeners are primarily men aged between 18 and 27 years old and residing in Brazil. Conclusion: Podcasts may be able to disseminate knowledge, however, themes and the type of audience must be considered to choose this kind of approach.

Keywords: Podcast, Health Promotion, Portuguese, Audience.

1 INTRODUCTION

In January 2020, the world was surprised by an outbreak caused by a new type of coronavirus, SARS-CoV-2, leading to a public health emergency of international relevance. By March 11, 2020, the virus had already taken on worldwide proportions and became a pandemic⁽¹⁾.

The little knowledge about this new virus created a scenario of uncertainty and insecurity in society, to demonstrate that there was in Brazil a mass dissemination of false information,⁽²⁾ collected



information that was circulating in Brazil from January to April 2020 and the authors report that only 6% were reported as true, therefore 94% were fake news.

It is noteworthy that the spread of fake news and the culture of disinformation in the health field are old attitudes. According to ⁽³⁾, the health field is a propitious area for the spread of rumors quickly in Brazil. For the researcher, this practice occurs because part of the population does not receive correct information about the health-disease process, due to the lack of trust in health authorities, and the feeling of anxiety caused by news about diseases and epidemics ⁽²⁾.

In the face of this scenario, communication efforts are needed to help people obtain correct knowledge about health issues, prevent diseases, and maintain and improve health. In this context, it is necessary to create and implement strategies that can enhance the dissemination of scientific information in a simple, fast, and correct manner. One tool that can help in this process of scientific dissemination is podcasts ⁽⁴⁾.

During the days of isolation, it was observed that podcasts were used as an important tool for education and information. The podcast is a digital media with high potential due to the plasticity of interaction that it provides to users because they, can listen to these files whenever and wherever they want, in addition to the possibility of downloading the created audio. The user, because they have access to information in unconventional educational environments, can be used in the field of health promotion, prevention, and education, making it possible to transmit important content online and thus provide greater autonomy on the part of the population about learning⁽⁵⁾. Therefore, the objective of this work was to create a Podcast focused on health to verify its potential within several audiences, through data produced by the podcast aggregator platform.

2 METHODS

2.1 POPULATION AND RESEARCH ETHICS

This is an observational study with a quantitative approach, based on the development of podcasts published from May to December 2020, whose content was exclusively of scientific knowledge in the health area. The Portuguese language was chosen to publish the content, due to the amount of fake news and misinformation that Brazil is being submitted⁽⁶⁾. The data presented in this study is information generated by the Anchor application itself, obeying the terms of use that the listener authorizes when accessing the platform. Therefore, not requiring an ethics committee.

2.2 DESIGN

For the construction of the podcasts, essential principles were established for the creation of quality content, scientifically based and that would allow to bring information with the potential to promote health.



In the initial stage, research was conducted on academic platforms such as PubMed and Google Scholar to collect articles that supported the theme to be discussed. From the collection of studies, the scripts were elaborated, documents that served as recording guides, which were previously shared with all participants. Three podcast models were established: 1- Podcast Dictionary (PD); 2- Interview Podcast (PE); 3- Scientific Article Summary Podcast (PRAC). The PD aimed to create audios with the definition of terms used in the health field; The PE was elaborated from the construction of dialogue in interview format; The PRAC was produced from the translation of articles that presented unpublished research for Portuguese, a language in which podcasts were recorded and made available.

The recording of the audio occurred by the Anchor platform (<https://anchor.fm>), a platform that allows online recording and sharing of a link generated by the application itself after recording. The podcasts produced in mp3 format were edited in a free computer audio editing software, Audacity (<https://audacity.br.uptodown.com/windows>). Once finalized, they were hosted on the Anchor aggregator and made available on the platform itself⁽⁷⁾.

2.3 DATA ANALYSIS

The Data were analyzed by Chi-Square goodness of fit test. It is a non-parametric test of GraphPad Prism 8.0 software.

3 RESULTS

3.1 DETAILS OF THE EPISODES PRODUCED AND DISSEMINATED

47 podcasts were released from May to December 2021 on digital platforms Spotify, Anchor, Google Podcast, and others. Several health issues were addressed, which can be seen in **Table 1**, and are presented according to the chronological order of publication, the first being published in a longer time. In bold we detail the episodes that have been played more than 40 times (episodes 1, 2, 3, 5, 6, 7, 13).

Table 1- Podcast episodes in order of publication (from oldest to most current) and their details regarding title, duration, number of plays, and link.

EPISODE	TITLE	DURATION	REPRODUCTIONS	LINK	WITH GUEST
1	Health without fake-presentation	1-minute e 56 seconds	66	https://anchor.fm/saudesemfake/episodes/Sade-sem-Fake--Apresentao-edgios	N
2	Coronavirus - surface cleaning	6 minutes e 29 seconds	68	https://anchor.fm/saudesemfake/episodes/Coronavirus--Limpeza-de-superfcies-edk2d5	N
3	Vaccines in the Context of Fake News	16 minutes e 14 seconds	86	https://anchor.fm/saudesemfake/episodes/Vacinas-no-Contexto-das-Fakes-News-eeebt2	Y



4	Dictionary applied to vaccines	6 minutes e 21 seconds	61	https://anchor.fm/saudesemfake/episodes/Dicionrio-Aplicado-s-Vacinas-ef6sge	N
5	Coronavirus in people with diabetes mellitus and hypertension	3 minutes e 16 seconds	65	https://anchor.fm/saudesemfake/episodes/Coronavirus-em-pessoas-portadoras-de-Diabetes-mellitus-e-Hipertenso-arterial-efth8v	N
6	Explaining autism spectrum disorder	7 minutes e 18 seconds	140	https://anchor.fm/saudesemfake/episodes/Explicando-o-Transtorno-do-Espectro-Autista-egia4	Y
7	The World of Diabetes Mellitus	20 minutes e 57 seconds	109	https://anchor.fm/saudesemfake/episodes/O-mundo-do-Diabetes-Mellitus-eh7sq6	Y
8	Dictionary about Diabetes Mellitus	5 minutes e 12 seconds	67	https://anchor.fm/saudesemfake/episodes/Dicionrio-sobre-o-Diabetes-Mellitus-ei0cro	N
9	The CRISPR-Cas9 genome editing technique	4 minutes e 07 seconds	63	https://anchor.fm/saudesemfake/episodes/A-tnica-de-edio-de-genoma-CRISPR-Cas9-eibu6i	N
10	Off-label use of medicines in medicine	6 minutes e 24 seconds	71	https://anchor.fm/saudesemfake/episodes/O-uso-off-label-de-medicamentos-na-medicina-eilmtv	N
11	How to maintain mental health in times of pandemic.	18 minutes e 49 seconds	66	https://anchor.fm/saudesemfake/episodes/Como-manter-a-Sade-Mental-em-tempos-de-pandemia-ej14pv	Y
12	The enigmatic brain	3 minutes e 16 seconds	39	https://anchor.fm/saudesemfake/episodes/O-enigmtico-crebro-ejc8sm	N
13	Memory rescue in people with Alzheimer's, is it possible?	3 minutes e 58 seconds	67	https://anchor.fm/saudesemfake/episodes/O-resgate-da-memria-em-pessoas-com-Alzheimer---possvel-ejm88u	N
14	Understanding Alzheimer's through the perspective of an expert on the subject.	14 minutes e 46 seconds	69	https://anchor.fm/saudesemfake/episodes/Entendendo-o-Mal-de-Alzheimer-atravs-da-perspectiva-de-um-especialista-no-assunto-ek4e4d	Y
15	Knowing the bone marrow transplantation process, by directing the direction of a professional	15 minutes e 19 seconds	55	https://anchor.fm/saudesemfake/episodes/Conhecendo-o-processo-de-Transplante-de-Medula-ssea--atravs-do-direcionamento-de-um-profissional-ekh2hl	Y
16	Knowing the Respiratory System	4 minutes e 3 seconds	52	https://anchor.fm/saudesemfake/episodes/Conhecendo-o-Sistema-Respiratrio-ekruko	N
18	Artificial organs, the future of humanity?	6 minutes e 53 seconds	71	https://anchor.fm/saudesemfake/episodes/rgos-artificiais--o-futuro-da-humanidade-elbcb5	N
19	Unveiling the world of micro and parasitology.	10 minutes e 22 seconds	57	https://anchor.fm/saudesemfake/episodes/Desvendando-o-mundo-da-micro-e-parasitologia-elqe5a	N
20	The impact of human actions on the environment	8 minutes e 19 seconds	61	https://anchor.fm/saudesemfake/episodes/O-impacto-das-aes-humanas-no-meio-ambiente-e-o-surgimento-da-pandemia-COVID-19-em48sm	N



	and the emergence of the pandemic				
21	The main mental illnesses that affect humans.	10 minutes e 37 seconds	52	https://anchor.fm/saudesemfake/episodes/As-principais-doenas-mentais-que-afetam-os-seres-humanos-emh4v	N
22	The impact of the COVID-19 pandemic on mental health.	10 minutes e 23 seconds	53	https://anchor.fm/saudesemfake/episodes/O-impacto-da-pandemia-COVID-19-na-sade-mental-emnjhl	N
23	This isn't goodbye, it's a see you soon!	3 minutes e 07 seconds	43	https://anchor.fm/saudesemfake/episodes/Isso-no-um-adeus---um-at-logo-en0d8k	N
24	Podcast Bonus: Clinical Vaccine Research.	1-hour e 35 minutes	35	https://anchor.fm/saudesemfake/episodes/Podcast-Bnus-Pesquisa-Clnica-Sobre-Vacinas-enr3i3	Y
25	Bonus Podcast 2.0: An Encounter between Health without Fake and Contains Reference.	2 hours	32	https://anchor.fm/saudesemfake/episodes/Podcast-Bnus-2-0-Um-encontro-entre-Sade-sem-Fake-e-Contm-Referncia-eocn10	Y
26	Is memory recovery in people with Alzheimer's possible?	3 minutes e 58 seconds	107	https://anchor.fm/saudesemfake/episodes/Podcast-Bnus-2-0-Um-encontro-entre-Sade-sem-Fake-e-Contm-Referncia-eocn10	N
27	Let's understand more about the Portuguese language?	22 minutes e 28 seconds	139	https://anchor.fm/saudesemfake/episodes/Vamos-entender-mais-sobre-a-Lngua-Portuguesa-ep9qqe	Y
28	High Blood Pressure / High Blood Pressure - What you need to know!?	43 minutes e 52 seconds	125	https://anchor.fm/saudesemfake/episodes/Hipertenso-Arterial--Presso-Alta---O-que-voc-precisa-saber-eq34d4	Y
29	Directly from NASA: Initiation to Scientific Thinking!!	38 minutes e 27 seconds	96	https://anchor.fm/saudesemfake/episodes/Diretamente-da-NASA-Inicio-ao-Pensamento-Cientfico-era6n1	Y
30	Vaccines in the Fight against COVID-19	13 minutes e 50 seconds	81	https://anchor.fm/saudesemfake/episodes/Vacinas-no-combate--COVID-19-ev1rf2	N
31	The mysterious silent hypoxia: what is its relationship with COVID-19?	3 minutes e 42 seconds	65	https://anchor.fm/saudesemfake/episodes/A-misteriosa-Hipxia-silenciosa-qual-sua-relao-com-a-COVID-19-ev257e	N
32	The risks of self-medication in the face of COVID-19	7 minutes e 39 seconds	113	https://anchor.fm/saudesemfake/episodes/Os-riscos-da-automedicao-em-frente--COVID-19-evniv7	N
33	Natural Gynecology, what do you need to know?	34 minutes e 43 seconds	66	https://anchor.fm/saudesemfake/episodes/Ginecologia-Natural--o-que-voc-precisa-saber-e104n04	Y
34	Sequels of COVID-19	5 minutes e 17 seconds	111	https://anchor.fm/saudesemfake/episodes/Sequelas-da-COVID-19-e10usvf	N



35	Toxoplasmosis / Cat disease	27 minutes e 34 seconds	102	https://anchor.fm/saudesemfake/episodes/Toxoplasmose--Doena-do-gato-e120mk2	Y
36	The SUS - Challenges and importance!	18 minutes e 29 seconds	109	https://anchor.fm/saudesemfake/episodes/O-SUS---Desafios-e-importancia-e131158	Y
37	PHYSICAL EXERCISE AND COVID-19, WHAT YOU NEED TO KNOW!??	5 minutes e 15 seconds	167	https://anchor.fm/saudesemfake/episodes/EXERCICIO-FSICO-E-COVID-19--O-QUE-VOC-PRECISA-SABER-e13pvc0	N
38	ALZHEIMER AND COVID-19 - WHAT IS THE RELATIONSHIP?	5 minutes e 51 seconds	112	https://anchor.fm/saudesemfake/episodes/ALZHEIMER-E-COVID-19---QUAL-A-RELAO-e14glq8	N
39	Academic career abroad: Precious tips with Celina Abreu	57 minutes e 18 seconds	53	https://anchor.fm/saudesemfake/episodes/Carreira-acadmica-no-exterior-dicas-preciosas-com-Celina-Abreu-e15djeo	Y
40	Vaccine and drug approval process, how does it work?	21 minutes e 45 seconds	74	https://anchor.fm/saudesemfake/episodes/Processo-de-aprovao-de-vacinas-e-medicamentos--como-funciona-e16191r	Y
41	BENEFITS OF MEDITATION FOR PHYSICAL AND MENTAL HEALTH	5 minutes e 59 seconds	144	https://anchor.fm/saudesemfake/episodes/BENEFICIOS-DA-MEDITAO-PARA-SADE-FSICA-E-MENTAL-e16r48t	N
42	Food Consumption and Anxiety During the COVID-19 Pandemic.	10 minutes e 18 seconds	104	https://anchor.fm/saudesemfake/episodes/Consumo-Alimentar-e-Ansiedade-Durante-a-Pandemia-da-COVID-19-e17dllo	Y
43	Elderly health in Brazil and Africa, what are the differences?	21 minutes e 27 seconds	70	https://anchor.fm/saudesemfake/episodes/Sade-do-idoso-no-Brasil-e-na-frica--quais-as-diferenas-e186gud	Y
44	Stress and its harmful effects on health!	7 minutes e 21 seconds	123	https://anchor.fm/saudesemfake/episodes/O-estresse-e-seus-malefcios--sade-e18r5cv	N
45	Is there an influence of psychological aspects during pregnancy and children's behavior?	5 minutes e 4 seconds	110	https://anchor.fm/saudesemfake/episodes/H-influncia-dos-aspectos-psicologicos-durante-a-gestao-e-comportamento-dos-filhos-e19kqjt	N
46	The use of anabolic steroids in the search for the "ideal" body.	5 minutes e 2 seconds	111	https://anchor.fm/saudesemfake/episodes/O-uso-de-anabolizantes-na-busca-do-corpo-ideal-e1ac0v6	N
47	Impact of the COVID-19 pandemic on people with chronic disease.	17 minutes e 24 seconds	76	https://anchor.fm/saudesemfake/episodes/Impacto-da-pandemia-da-COVID-19-em-pessoas-com-dor-crnica-e1b5nap	Y

Pathways to Knowledge: Exploring the Horizons of Education

Strategies to fight disinformation in health: Is it possible for a brazilian podcast to reach any target audience?

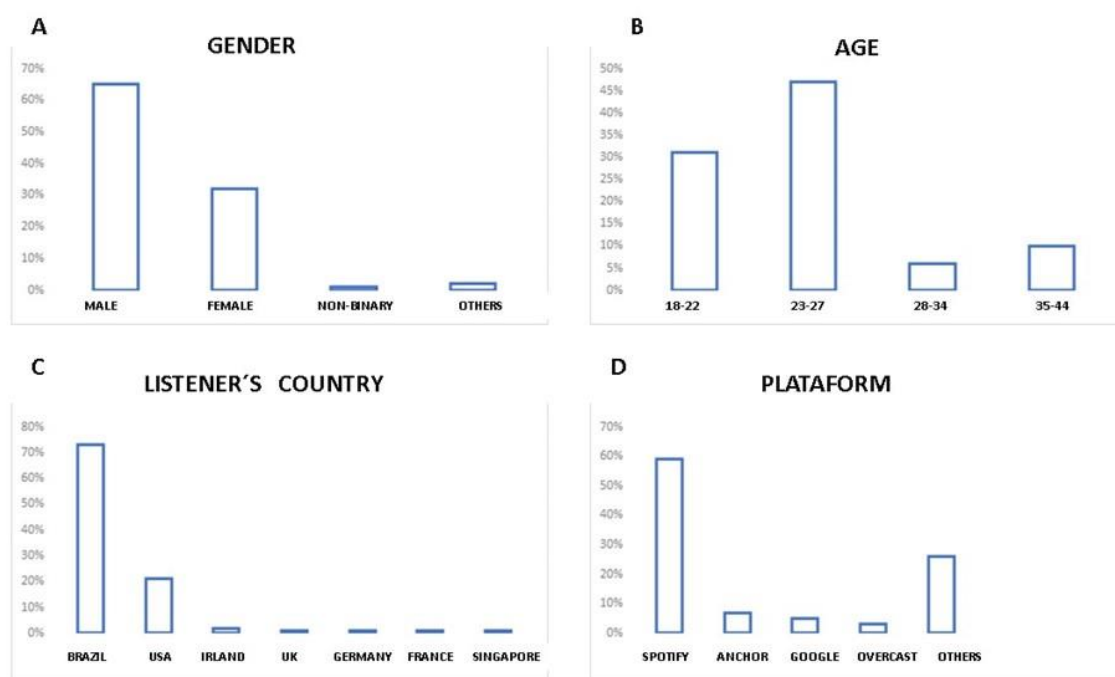


3.2 LISTENER ANALYSIS

Regarding the characterization of the public **Figure 1**, it was found that the largest proportion was identified as being male (62%); female (26%), and non-binary (10%) **Figure 1A**. It is emphasized that (2%) of the listeners did not specify their gender. It was noticed that the audience that most reproduced the audio files was in the age group between 23-27 years (62%); listeners between 28-34 years (19%) **Figure 1B**.

It was found that the consumers of the podcasts had different nationalities, and the countries with the most listeners were Brazil (85%); and the United States (12%) **Figure 1C**. A total of 3,972 plays were obtained over the months, most of them through the Spotify platform (71%); web browser (3%) Anchor app (2%), and Google Podcast (7%) **Figure 1D**.

Figure 1 Audience Characterization publicized on Anchor's page. It is possible to see that most of our listeners are male (1A), Youth under 30 years old (1B), and most of them from Brazil, but not exclusively (1C).



3.3 COMPARISON OF THE MOST-PLAYED AND LEAST-PLAYED EPISODES

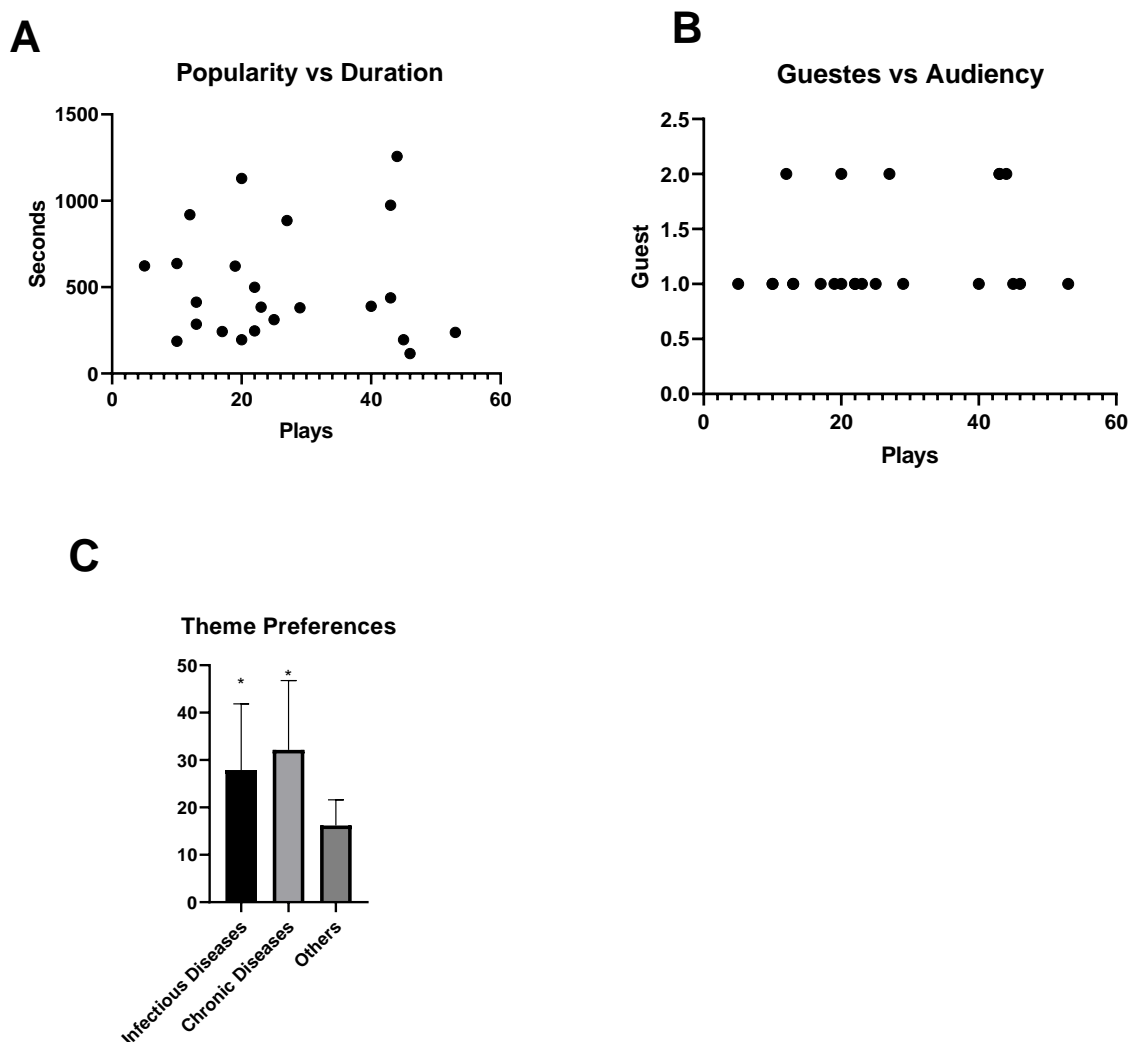
The episodes that were most reproduced according to Table 01 served as a positive pattern for a more detailed statistical analysis. The first analysis was to correlate the duration time (in seconds) of the episodes versus the number of reproductions, according to **Figure 2A**. Spearman's analysis shows that the variables did not present a statistically significant association ($p=0.2521$).

In **Figure 2B** we tested the correlation of the popularity of the episode with the presence or absence of guests to talk about a particular subject. Again, there was no association with the presence of a specialist ($p=0.1779$), suggesting that it is not a guest that makes some episodes more reproduced than others.



Finally, **Figure 2C** grouped each episode within a predominant theme. For this analysis, we excluded the first and last episodes, which were the episodes of the opening and ending of the program. We used the main themes of Infectious Diseases, Chronic Diseases, and other health issues not related to these themes. In this case, the main theme of the podcast presented a significant association with the number of audio reproductions ($p=0.0466$). Individually evaluated, when subjects such as Coronavirus, Diabetes Mellitus, and Alzheimer's disease were approached, a greater number of listeners were obtained.

Figure 2 The episodes that were most reproduced served as a positive pattern for a more detailed statistical analysis. The first analysis was Spearman's correlation test to evaluate the duration time (in seconds) of the episodes versus the number of reproductions, $p=0.2521$ (Figure 2A). In Figure 2B we tested the correlation, using the same statistic method, to analyze the popularity of the episode with the presence or absence of guests to talk about a particular subject. Again, there was no association with the presence of a specialist ($p=0.1779$). Finally, Figure 2C grouped each episode within a predominant subject such as Coronavirus, Diabetes Mellitus, and Alzheimer's. We analyzed by chi-squared and the main theme of the podcast presented a significant association with the number of audio reproductions ($p=0.0466$), confirming the importance of theme and audience.





4 DISCUSSION AND CONCLUSIONS

4.1 DISCUSSION

The podcast is configured as a digital media on the rise, when in 2018 Brazil showed a 127% increase in the average rate of use, second only to the United States of America ⁽⁸⁾. Given the exponential growth of this media as a health education tool ⁽⁹⁾, discussing the public profile becomes essential to know the reasons why those who reproduce this media, and use this knowledge to implement health promotion practices.

Because the podcast is an online media and desists from the technological extension of its aggregator platforms, such as Spotify, it can reach different places without geographical and demographic restrictions ⁽¹⁰⁾. Therefore, it was observed from the results obtained from the analysis of health consumers without Fake, the presence of an international audience, such as Americans (21%), Irish (2%), and others.

Podcast consumers are not restricted to a single age group, studies show that the variety of age groups has increased since 2016, with greater progress in the age group from 25 to 54 years ⁽¹¹⁾, but with frequent use of the ages between 12 and 34 years ⁽¹²⁾. This more frequent use by young people was also demonstrated by a Reuters article, which showed in its 2019 report that podcast consumers in Sweden and the U.S., two major media users, were under 35 years old ⁽¹³⁾.

When we analyze our Brazilian data on the age of the target audience the same was confirmed by ⁽¹⁴⁾ conducted in 2019-2020, which found that 84.76% of regular listeners were under 35 years old ⁽¹⁴⁾. The real health data show the prevalence of listeners aged between 23 and 27 years, although we have significant reproductions between the ages of 18 to 22 years and between 35 and 44 years. These data suggest that the Podcast is a tool for health promotion and education, but the data suggest that it cannot be considered comprehensive for any age group.

As for the consumption of podcasts by gender, it is known that there is a rise of this media among the male audience in the USA ⁽¹⁵⁾ and this scenario is reproduced in different countries such as Israel, for example, where 56% of podcast listeners are men ⁽¹⁶⁾. PodPesquisa ⁽¹⁴⁾ demonstrated in its report that 72% of Brazilian podcast listeners belong to the male gender. Data like those found in these studies can be observed in the results of this study, where men correspond to 65% of listeners ⁽¹⁴⁾. This finding may be related to the presumed greater willingness of the male public compared to women in using new technologies ⁽¹⁷⁾. One of the questions for future studies would be the use of this tool for the promotion of men's health, addressing important and even stigmatized issues such as prostate cancer and sexual impotence, since they are more willing to listen to this type of media.

As for the factors that influenced the public of this article to reproduce the podcasts, it was noticed that there was no significance regarding the duration of the audio. A review showed that podcasts of educational nature generally follow a trend of duration with short intervals of a maximum



of 5 minutes⁽¹⁸⁾. Other studies show the preference of listeners for shorter audios between 6 to 10 minutes^(19,20). According to one of the creators of Nerdcast, the first Brazilian podcast to reach the milestone of 1 billion downloads, it is essential to invest in guests who have experience in the subjects to be addressed and develop an interesting debate to continue creating innovative content⁽²¹⁾. However, the present study demonstrated that the number of reproductions was also not affected when a podcast was adopted in the interview format.

According to⁽²²⁾ the opinion of the guests is the foundation of the discussions. Moreover, the presence of nationally recognized guests was considered essential for the excellent dissemination of audio programs. It was believed that the public better understood the arguments and counter-arguments of the topic addressed, expressed by people capable of supporting their statements with expertise in the area^(22,23).

However, our data observed that there was a significant correlation between the increase in reproductions and the theme of the audio, even if there were no guests present. The interest of the Brazilian population in the use of audiovisual resources when compared to writing, the high increase in the consumption of podcasts in Brazil, and the greater demand for scientific subjects on the Internet represent an excellent means of propagating science to a lay public⁽²⁴⁾.

Access to intellectually challenging material is what motivates listeners to tune in, and repeatedly listen to audio to make sure they understand the main idea⁽²⁵⁾. Also in this sense, podcasts are being used as an educational learning tool, providing an improvement of the achievements of academics, and consolidating themselves as a resource that enhances scientific communication^(9,21,26-28) this fact may be related to the association found in this study, since our listeners have an average age close to university students and graduate students.

Thinking about the popularization of science, using the podcast as a possible tool for health promotion, we must also consider the role of scientists who, currently, in addition to communicating science also play a fundamental role in the social context that is to democratize access to knowledge through communication in science⁽²⁹⁾.

Despite the exponential growth of the podcast, there is still a very large gap regarding scientific research developed on this theme⁽⁴⁾ and this is a limitation of this study, considering that there is not much data characterizing consumers of this media, especially regarding Brazil. From this perspective, this study brings an analysis of the podcast as a tool capable of promoting health, which provides a vision for other researchers, despite being restricted to a target audience and specific content, still allows an analysis of this new media process⁽³⁰⁾.



4.2 CONCLUSIONS

It can be concluded that the podcast is an Information and Communication Technology on the rise in the scientific environment because it can promote and disseminate knowledge, although our study suggests that podcast producers may find some limitations on the type of audience it reaches since we observe a specific population of young adult men. However, with the popularization of this type of tool, it may be possible to use this media in the field of health promotion and education benefiting beyond the population we observed in our study because it is possible to carry out information on various subjects with a simple language, through an accessible tool.

Although the podcast is expanding and with increasing interest to be used in the broadcast of issues related to health promotion and patient self-care, our study demonstrates that the reach of this media is limited to the profile of the people who consume it. In this way, health actions that seek to reach an older audience may present a certain difficulty if you choose this type of approach. On the other hand, actions that target young men may be more successful when using the podcast as a facilitator.

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REFERENCES

- Cucinotta D, Vanelli M. WHO Declares COVID-19 a Pandemic. *Acta Biomed.* 2020. Mar;91(1):157–60.
- Henriques CMP. A dupla epidemia: febre amarela e desinformação. *Revista Eletrônica de Comunicação, Informação e Inovação em Saúde.* 2018. Mar;12(1).
- Tavares AP, Joia LA, Fornazin M. Health Fake News in the Covid-19 Pandemic in Brazil. In: *International Conference on Electronic Government; 2022 Sep 6-8; Linköping Springer International Publishing; 2022.* p. 163–77.
- MacKenzie LE. Science podcasts: analysis of global production and output from 2004 to 2018. *R Soc Open Sci.* 2019 Jan;6(1):180932.
- King L. Benefits of podcasts for healthcare professionals. *J Child Health Care.* 2022. Sep;26(3):341–2.
- Galhardi CP, Freire NP, Minayo MC de S, Fagundes MCM. Fact or Fake? An analysis of disinformation regarding the Covid-19 pandemic in Brazil. *Ciênc saúde coletiva.* 2020. Sep;25:4201–10.
- Sullivan JL. The Platforms of Podcasting: Past and Present. *Social Media + Society.* 2019. Oct;5(4):2056305119880002.
- blubrry. Podcast Stats Soundbite: Brazil In Bloom [Internet]. Blubrry Podcasting. 2019 Feb 1. Available from: <https://blubrry.com/podcast-insider/2019/02/01/podcast-stats-soundbite-brazil-bloom/>
- Dowhos K, Sherbino J, Chan TM, Nagji A. Infographics, podcasts, and blogs: a multi-channel, asynchronous, digital faculty experience to improve clinical teaching (MAX FacDev). *CJEM.* 2021. Mar;1–4.
- Redfern J, Illingworth S, Verran J. What does the UK public want from academic science communication? *F1000Res.* 2016. Jun 7;5:1261.
- Research E. The Podcast Consumer 2017 [Internet]. Edison Research. 2017 Apr 18. [cited 2021 Apr 9] Available from: <https://www.edisonresearch.com/the-podcast-consumer-2017/>
- Research E. The Infinite Dial 2020 [Internet]. Edison Research. 2020 Mar 19. [cited 2021 Apr 9] Available from: <https://www.edisonresearch.com/the-infinite-dial-2020/>
- Nic Newman. Podcasts: Who, Why, What, and Where? [Internet] Reuters Institute Digital News Report. 2019. [cited 2021 Apr 9] Available from: <https://www.digitalnewsreport.org/survey/2019/podcasts-who-why-what-and-where/>
- PodPesquisa 2019 – abPod [Internet]. 2019. [cited 2021 Apr 9] Available from: <https://abpod.org/wp-content/uploads/2020/10/PodPesquisa-2009.pdf>
- Gil de Zúñiga H, Jung N, Valenzuela S. Social Media Use for News and Individuals' Social Capital, Civic Engagement and Political Participation. *Journal of Computer-Mediated Communication.* 2012. Apr;17(3):319–36.



- Samuel-Azran T, Laor T, Tal D. Who listens to podcasts, and why?: the Israeli case. *Online Information Review*. 2019. Jan;43(4):482–95.
- Chadha M, Avila A, Zúñiga HG de. Listening In: Building a Profile of Podcast Users and Analyzing Their Political Participation. *Journal of Information Technology & Politics*. 2012. Oct;9(4):388–401.
- McGarr O. A review of podcasting in higher education: Its influence on the traditional lecture. *Australasian Journal of Educational Technology*. 2009. Jul;25(3).
- Frydenberg M. Principles and pedagogy: The two P's of podcasting in the information technology classroom. *Information Systems Education Journal*. 2008. Jan 1;6.
- Lee MJW, Chan A. Reducing the Effects of Isolation and Promoting Inclusivity for Distance Learners Through Podcasting. *Turkish Online Journal of Distance Education*. 2007. Mar;8(1):85–105.
- Berk J, Watto M, Williams P. Twelve tips for creating a medical education podcast. *Medical Teacher*. 2020. Nov;42(11):1221–7.
- Ferraretto L. *Rádio: Teoria e Prática*. São Paulo: Summus Editorial; 2014. 272p.
- Mcleish R. *Produção de rádio : um guia abrangente da produção radiofônica*. 4ª ed. São Paulo: Summus Editorial; 2001. 248p.
- Morais R, Giacomelli F, Grafolin T, Jesus da Rocha F. Audience transformations and new audio experiences: An analysis of the trends and consumption habits of podcasts by Brazilian listeners. 2021. May;18:381.
- Gay PL, Bemrose-Fetter R, Bracey G, Cain F. Astronomy Cast: Evaluation of a podcast audience's content needs and listening habits. *Communicating Astronomy with the Public Journal*. 2007. Oct;1:24.
- Ifedayo AE, Ziden AA, Ismail AB. Podcast acceptance for pedagogy: the levels and significant influences. *Heliyon*. 2021. Mar;7(3):e06442.
- Kamal S, Trivedi SP, Essien UR, Nematollahi S. Podcasting: A Medium for Amplifying Racial Justice Discourse, Reflection, and Representation Within Graduate Medical Education. *J Grad Med Educ*. 2021. Feb;13(1):29–32.
- Rodman A, Abrams HR, Watto M, Trivedi S, Barbee J, Meraz-Munoz A, et al. Medical Podcasting in Low- and Middle-Income Countries: A needs Assessment and Vision for the Future. *Teach Learn Med*. 2021. Feb; 15:1–7.
- Poliakoff E, Webb TL. What Factors Predict Scientists' Intentions to Participate in Public Engagement of Science Activities? *Science Communication*. 2007. Dec;29(2):242–63.
- Riso B, Tupasela A, Vears DF, Felzmann H, Cockbain J, Loi M, et al. Ethical sharing of health data in online platforms - which values should be considered? *Life Sci Soc Policy*. 2017. Aug ;13(1):12.