Textual analysis of topics addressed in articles on Collective Health published in a speech-language-hearing journal

Análise textual de temáticas presentes em artigos sobre Saúde Coletiva publicados em um periódico da área de Fonoaudiologia

Análisis textual de temas presentes en artículos sobre Salud Colectiva publicados en revista del área de Logopedia

Maria Cecília Bonini Trenche* iD
Boris Keiserman* iD
Leslie Piccolotto Ferreira* iD

Abstract

Introduction: Public policies implemented for the consolidation of the SUS provided concrete conditions for expanding and redefining the role of health professionals. Objective: This study analyzes the main themes addressed in research related to the performance of Speech Therapy in the field of Collective Health, based on publications in a journal in the area, over a period of five years. Method: This is a study with a qualitative approach, with a descriptive and interpretative character, whose data

* Pontifícia Universidade Católica de São Paulo, São Paulo, SP, Brazil.

were collected and organized by the descending hierarchical classification of the IRaMuTeQ® software, submitted to lexical analysis and discussed in the light of policies and studies related to Collective Health. Results: Initially, 50 articles were registered (between 2016-2020), which totaled 314 text segments, with 1,1232 occurrences, classified into four classes called: Description of variables present in cross-sectional/ epidemiological studies (41.3%); Scenarios of speech therapy practices and public policies aimed at health promotion and disease prevention (28.2%); New demands and contexts for speech therapy: structure and organization of SUS services (17.0%); and Challenges of speech therapist training (13.5). Conclusion: the use of software for processing qualitative data on research in the area of Speech Therapy in the field of Collective Health led to the identification of classes, which pointed out characteristics of the population studied, scenarios of practices in this field, with emphasis on actions aimed at promoting health and the prevention of health problems and emphasized the importance of reflections on the training of speech therapists for comprehensive health care and coping with contemporary problems such as violence.

Keywords: Collective Health; Public health; Speech, Language and Hearing Sciences; Health Research Evaluation; Bibliometric Indicators; Periodical.

Resumo

Introdução: Políticas públicas implementadas para a consolidação do SUS forneceram condições concretas para a ampliação e ressignificação da atuação dos profissionais de saúde. Objetivo: Este estudo analisa as principais temáticas abordadas em pesquisas relacionadas à atuação da Fonoaudiologia no campo da Saúde Coletiva, a partir das publicações de um periódico da área, no período de cinco anos. Método: Trata-se de um estudo com abordagem qualitativa, de caráter descritivo e interpretativo, cujos dados foram coletados e organizados pela classificação hierárquica descendente do *software* IRaMuTeQ®, submetidos à análise lexical e discutidos à luz de políticas e estudos relacionados à área da Saúde Coletiva. Resultados: Inicialmente, foram registrados 50 artigos (entre 2016-2020), que totalizaram 314 segmentos de texto, com 1.1232 ocorrências, classificadas em quatro classes denominadas: Descrição de variáveis presentes nos estudos transversais/epidemiológicos (41,3%); Cenários de práticas fonoaudiológicas e políticas públicas voltadas à promoção da saúde e prevenção de agravos (28,2%); Novas demandas e contextos de atuação fonoaudiológica: estrutura e organização de serviços do SUS (17,0%); e Desafios da formação do fonoaudiólogo (13,5). Conclusão: a utilização do software para o processamento de dados qualitativos sobre pesquisa na área da Fonoaudiologia no campo da Saúde Coletiva propiciou a identificação de classes(,) que apontaram características da população estudada(,) e cenários de práticas deste campo, com destaque a ações voltadas à promoção da saúde e à prevenção de agravos à saúde, e ressaltou a importância de reflexões sobre a formação do fonoaudiólogo para a atenção integral à saúde e enfrentamento de problemas contemporâneos como a violência.

Palavras-chave: Saúde Coletiva; Saúde Pública; Fonoaudiologia; Avaliação da Pesquisa em Saúde; Indicadores Bibliométricos; Publicação Periódica.

Resumen

Introducción: Las políticas públicas implementadas para la consolidación del SUS proporcionaron condiciones concretas para ampliar y redefinir el papel de los profesionales de la salud. Objetivo: Este estudio analiza los principales temas abordados en investigaciones relacionadas con la actuación de la Logopedia en el campo de la Salud Colectiva, a partir de publicaciones en un periódico del área, en un período de cinco años. Método: Se trata de un estudio con abordaje cualitativo, de carácter descriptivo e interpretativo, cuyos datos fueron recolectados y organizados por la clasificación jerárquica descendente del software IRaMuTeQ®, sometidos a análisis léxico y discutidos a la luz de políticas y estudios relacionados con el Colectivo del Área de la Salud. Resultados: Inicialmente se registraron 50 artículos (entre 2016-2020), que totalizaron 314 segmentos de texto, con 1.232 ocurrencias, clasificados en cuatro clases denominadas: Descripción de variables presentes en estudios transversales/epidemiológicos (41,3%); Escenarios de prácticas logopédicas y políticas públicas dirigidas a la promoción de la salud y prevención de enfermedades (28,2%); Nuevas demandas y contextos para la logopedia: estructura

y organización de los servicios del SUS (17,0%); y Desafíos de la formación de logopedas (13.5). Conclusión: el uso de software para el procesamiento de datos cualitativos sobre investigaciones en el área de Logopedia en el campo de la Salud Colectiva permitió la identificación de clases, que señalaron características de la población estudiada, escenarios de prácticas en este campo, con énfasis en las acciones dirigidas a la promoción de la salud y la prevención de los problemas de salud y destacó la importancia de las reflexiones sobre la formación de logopedas para la atención integral de la salud y el enfrentamiento de problemas contemporáneos como la violencia.

Palabras claves: Salud Pública; Phonoaudiologia; Evaluación de la Investigación en Salud; Indicadores bibliométricos; Publicacion Periódica.

Introduction

Since the first undergraduate speech-language-hearing (SLH) programs were created, issues on its specialties (language, hearing, voice, and oral-motor control) have been present in both clinical practice and scientific research[1]. These were added to other ones that appeared as the field expanded. In this regard, this research focused specifically on collective health[2].

When the Unified Health System (SUS) was established, undergraduate SLH curricula had to be reformulated. Hence, professionals would have the expertise to work as proposed by the National Curricular Guidelines implemented in 2002. The Brazilian SLH Society, which has various departments that represent the specialties in the profession, initially created the Public Health Committee, in 2001, and then the Collective Health Department, in 2006[3]

At this time, the terms Public Health and Collective Health were used interchangeably. It was then decided to use the second one because it defines a field of knowledge and practices based on the Health Reform[4]. This movement was structured aiming at democratizing and transforming the health work in Brazil, to which SLH therapy belongs. The term represented and still represents the rupture from institutionalized public health in the country, which was historically focused on the occurrence of health (death, diseases, complications, and risks) in the population, conceiving health biologically as the absence of diseases[4].

Thus, the Collective Health Department has been responsible for stimulating various discussions on including SLH therapy in SUS. It also helps these professionals have a broader perspective of the population's health needs and meet them, aiming at quality of life through actions that promote, protect, and recover health[5]

To briefly map what SLH therapists have been developing in the field of collective health, it can be highlighted that their work has become more effective and consistent after SUS was created (1988) and public policies were implemented over the last decades to ensure the principles of universality, comprehensiveness, equity, and so forth. These policies established services on the various levels of healthcare that make up the Healthcare Networks, furnishing concrete conditions to bring new meaning to knowledge consolidated in the area, in the perspective of a different assistance model. Despite the countless difficulties, SUS is being constructed upon this approach, enabling other professional work modes[7].

For more than 4 decades, SLH therapists worked predominantly in the assistance model that some authors call Private Liberal Model[7], in which the population buys health services directly from the providers, with or without a relationship between users – which characterizes it as private health assistance. After SUS was created, access to health services became a universal right. Moreover, public policies ushered in new reasoning in the organization, use, and provision of health services on the various levels of care and attention in the network[8]. Emphasizing disease prevention and health promotion, this new reasoning values primary healthcare, regionalized services, and cooperation between departments to approach social determinants of the health/disease process and the work of multiprofessional and interdisciplinary teams[8].

Some examples can be given of policies that expanded the population's access to public health services and established new fields of work. Ministry Regulation 154/2008 implemented Family Health Support Centers, including SLH therapists

and other health professionals in primary health-care, which is the preferred entryway to SUS [6].

Ministry Regulation 336/02 established the Psychosocial Care Policy and the Psychosocial Care Centers as public services to provide mental health. It also included SLH therapists as one of the specialties that make up the teams that work in these services[6].

Also, when the Care Network for People with Disabilities was implemented along with other services (Regulation MS/GM no. 793/2012)[6], the Specialized Rehabilitation Centers began to work, ensuring access to diagnosis, assessment, orientation, early stimulation, and specialized care in rehabilitation and concession, fitting and maintenance of assistive technology. Hence, it is a reference in the regionalized healthcare networks, including SLH therapists among the professionals in the specialized attention teams, according to the specificities of each center.

Moreover, regarding specialized care, Regulation MS no. 2.527/2011[6] instituted Home Care to reorganize the teams' work process as they provide home care in primary, outpatient, and hospital healthcare. The perspective was to reduce the demand for hospitalization and the length of stay and promote dehospitalization, humanized care, and greater autonomy to users. SLH therapists were not included in the Multiprofessional Home Care Teams but were included in the Multiprofessional Support Teams.

Regarding hospital care for newborns, the Ministry of Health regulation no. 693/2000 established the Guidance Norm to Implement the Kangaroo Method[9], giving the multiprofessional team (which also included SLH therapists) the responsibility to promote humanized attention to low-weight newborns. It is also important to highlight Federal Law 12.303/2010[10], which made it mandatory to perform examinations with evoked otoacoustic emissions (EOAE) in all newborns, and the Neonatal Hearing Screening guidelines, specifying responsibilities and defining the age and hospital level to perform the screening – although many municipalities and states have kept their hearing health programs in outpatient centers[10].

Another example was the creation of the National Comprehensive Occupational Healthcare Network (Regulation GM no. 2.728, of November 11, 2009)[6], with which SUS unified occupational health surveillance actions with assistance services, instituting Reference Occupational Health Centers. Thus, SLH therapists were included in the teams to surveil and observe risks to health in work settings, mainly regarding the presence of noise and consequent hearing and voice problems.

These and other policies expanded the fields where SLH therapists work. Moreover, they challenged the field to incorporate and produce new knowledge on their contribution to health and prepare SLH students for the new scenarios based on a broader and more comprehensive view of the biopsychosocial aspects that affect health conditions and care, according to SUS guidelines.

This study aimed to analyze a set of articles published in a specific journal to understand what SLH therapists have developed in research and articles in the field of collective health. The chosen journal is *Distúrbios da Comunicação* (Communication Disorders), whose editorial board includes two authors of this study. Thus, besides knowing the SLH production in the field, it made it possible to outline some strategies to better manage this journal. This mission has been approached in the last 10 years, when different analyses have been made to better understand the profile of published articles and, therefore, of the journal itself[11].

In the process, researchers got acquainted with the free open-source IRaMuTeQ® software developed by Pierre Ratinaud[12]. It helps in the textual analysis of a corpus but has been little used in SLH Sciences.

Hence, this used this software and its qualitative data processing forms aiming to analyze the main topics approached in research on the work of SLH therapists in the field of collective health, verifying publications in a journal in the field in the last 5 years. It must be emphasized that IRaMuTeQ® was chosen because of its advantages in coding, organizing, and separating data, locating the whole segment of the text, which is useful in qualitative research.

Method

This documentary, retrospective, descriptive research was exempted from submission to the Ethics Committee.

The analysis considered the corpus previously collected to develop the article by Ferreira et al. (2022)[11], comprising abstracts of articles selected from *Distúrbios da Comunicação* and published

between 2016 and 2020. This research specifically selected articles on collective health.

This survey found 50 articles (n = 50), which made up the text to be analyzed. It was entered on OpenOffice 4.1 software, and then the digitalized text was treated with IRaMuTeQ® textual analysis software. Its use is justified because approaching documents via lexical analysis makes it possible to overcome the classic dichotomy between qualitative and quantitative analysis and make statistical calculations on discursive variables – which are by nature purely qualitative[12].

Each abstract was identified in leading rows with numbers, followed by some characteristics, namely: volume, number, and year of publication. Thus, the set of texts, named article summary, made up the corpus for analysis, considering the Descending Hierarchical Classification, the basic lexicography for corpus calculations (set of texts), the text (set of text segments), and the word frequency text segment. This analysis aims to obtain text segment classes that have a vocabulary in common and at the same time different from text segments in other classes[13]. Based on these analyses in matrices, the software organizes data in a Descending Hierarchical Classification dendrogram to illustrate the relationships between classes. After calculating, it provides results that described each class, mainly through its characteristic vocabulary (lexicon) and words with asterisks (variables). The software groups words and their classes by proximity and frequency. Each word undergoes an initial lemmatization process, being classified per part of speech (nouns, verbs, adjectives, adverbs, prepositions, etc.). They are also totalized and grouped by proximity and frequency of proximity between them. A Descending Hierarchical Analysis can be made, in which clusters of words and most associated terms are seen separately. Hence, a pre-analysis is performed, and afterward, it can be classified according to the topics deduced by

the research team. Each group then becomes a class that describes topics approached by the set of texts in the analysis. This method, in which data are filtered and then qualitatively analyzed, finds topics that encompass all abstracts of the scientific articles in the analysis.

Thus, researchers keep their distance from the data to avoid ideological biases during the analysis. Simultaneously, they perform qualitative data analysis to be investigated in a mixed method (quantitative-qualitative), aiming to make a scientific/ethical epistemological analysis throughout the study. In other words, each abstract is named the Initial Context Unit, while the Elementary Context Units (or text segments that make up each class) are obtained from the Initial Context Units that have a vocabulary in common but are different from the Elementary Context Units of other classes.

The analysis control was defined by the software (text segment), which, in the Descending Hierarchical Analysis, generated 11,232 occurrences and 2,563 forms, present in 314 text segments. Altogether, 259 of these were classified – i.e., 82.4% of the segments were used. This percentage is higher than the required for satisfactory analysis, which is above 75%.

Lastly, four classes were extracted, which are described below in the results.

Results

IRaMuTeQ® processed and grouped the word occurrences (Figures 1 and 2) and developed the classes dendrogram (Figures 3 and 4).

Figure 1 illustrates the word cloud made from the analysis material. It aims to clarify the words most used in the abstracts of articles analyzed in this study. Uppercase words are the most frequent ones in the study corpus – the three most recurrent ones were "percent" (137 mentions), "health" (115 mentions), and "auditory" (60 mentions).

ARTICLES
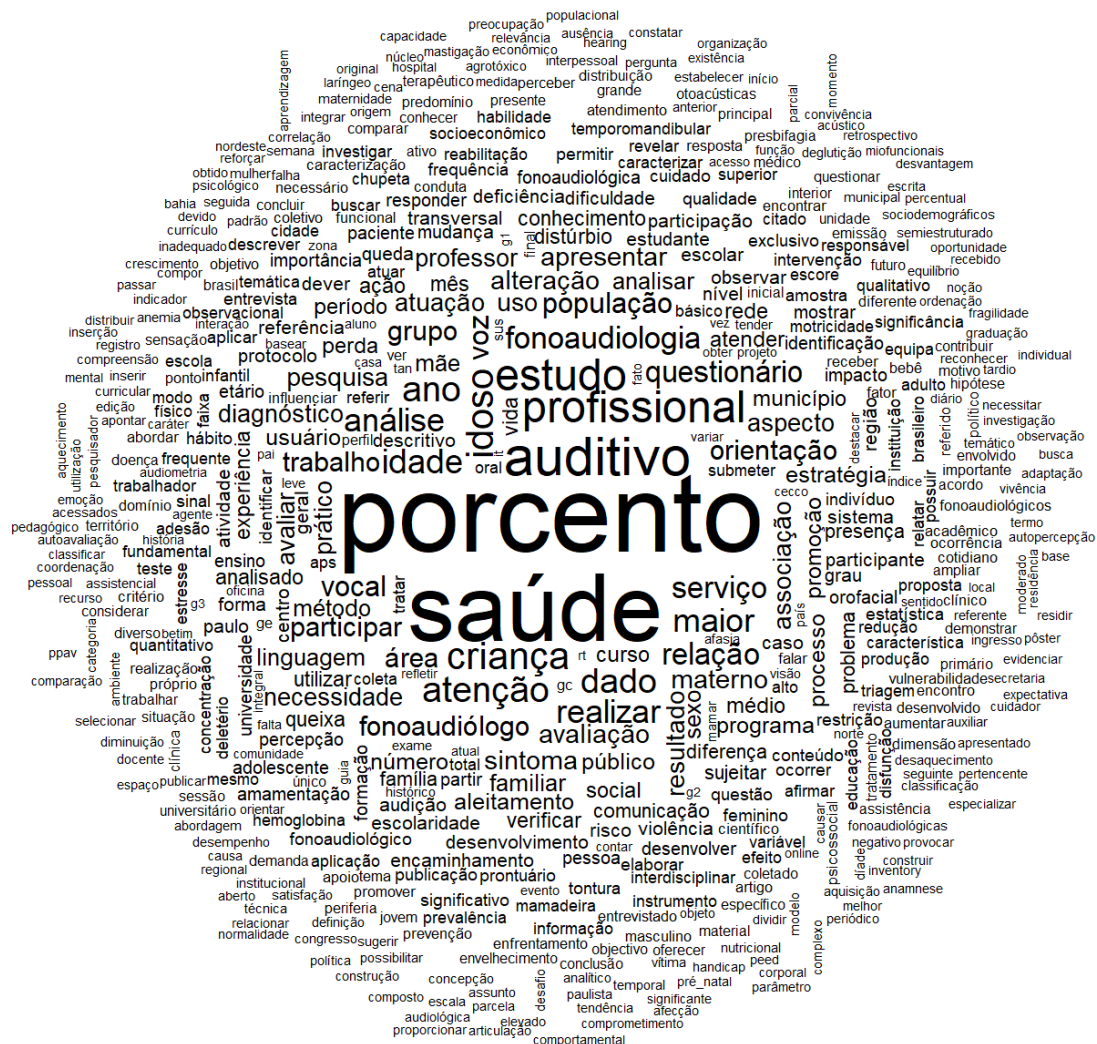
Caption: porcento = percentage; saúde = health; auditivo = hearing; profissional = professional; estudo = study; idoso = older adult; criança = child; atenção = attention; dado = information; realizar = perform; análise = analysis; ano = year.

Figure 1. Word cloud formed from the analysis of 50 articles on collective health, published in the journal Distúrbios da Comunicação.

Figure 2 represents the different words grouped into their various classes, according to lexical and grammatical proximity, arranged in a plane. It shows how the various classes are grouped into clusters, thus providing theme cores for each class coded in different colors. It can be noticed that classes 2 and 3 are superposed and were maintained based on the qualitative analysis. Even closely arranged in a plane, the text analysis showed that they are two different theme cores. Classes 1 and 4 are mutually distant and isolated, which was confirmed with qualitative data analysis.

Figure 2 also shows the dendrogram with grouping per word occurrence, demonstrating the classes/categories originated from content divisions. Each one was highlighted in a different color, and the Elementary Context Units are shown in the same color as the classes. The material generated four classes, named as follows: 1. Description of variables present in cross-sectional/epidemiological studies (41.3%), in which the most recurrent words were percent, age, loss, sex, and diagnosis; 2. New demands and contexts of SLH practice: structure and organization of SUS services (17.0%),

in which the most recurrent words were service (66% of the segments), network, user, municipality, and center; 3. SLH practice scenarios and public policies aimed at health promotion and disease prevention (28.2%), in which the most recurrent words were promotion (100% of the segments), action, develop, prevention, and tackling; 4. Challenges in training SLH therapists (13.5%), in the most recurrent words were university (100% of the segments), student, program, and violence.
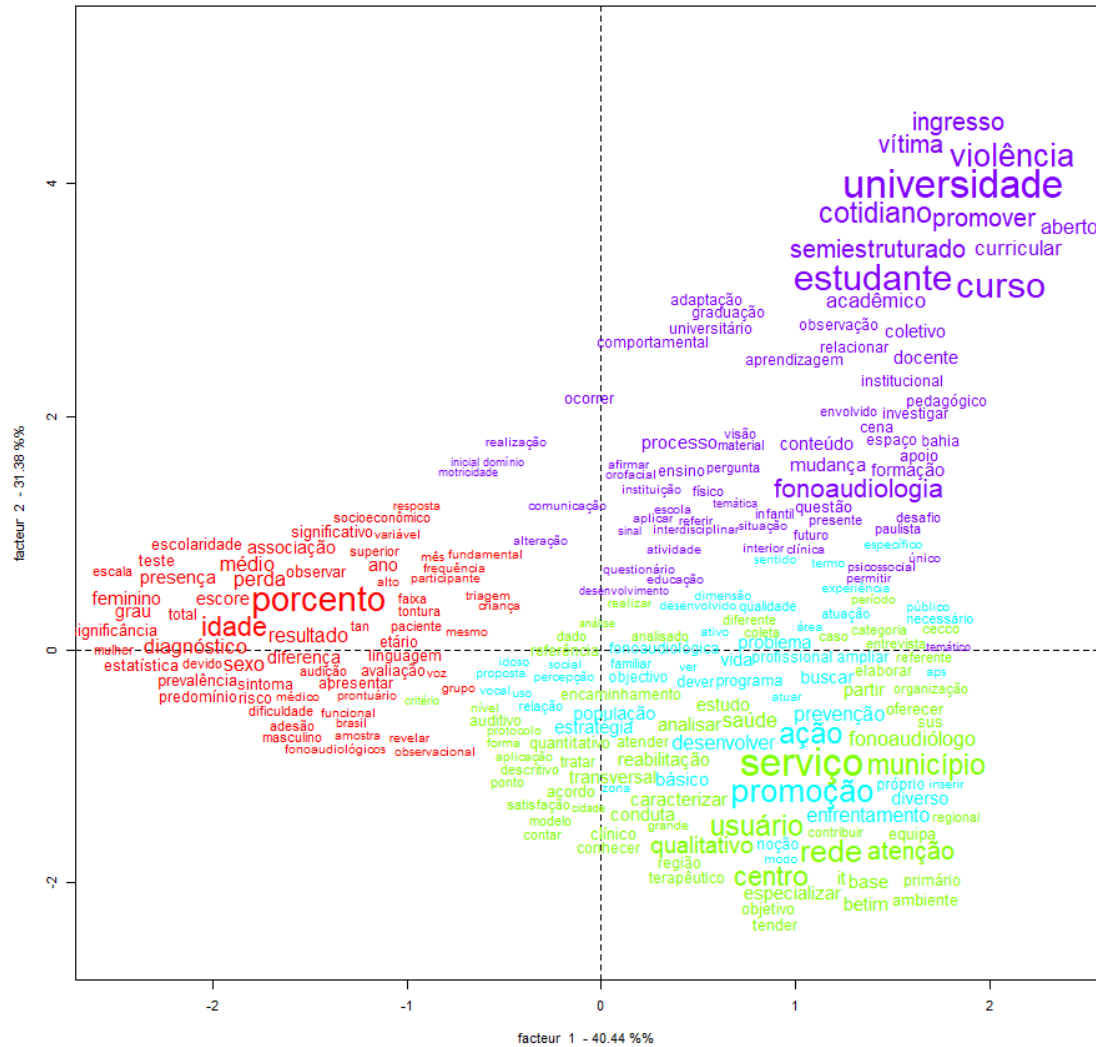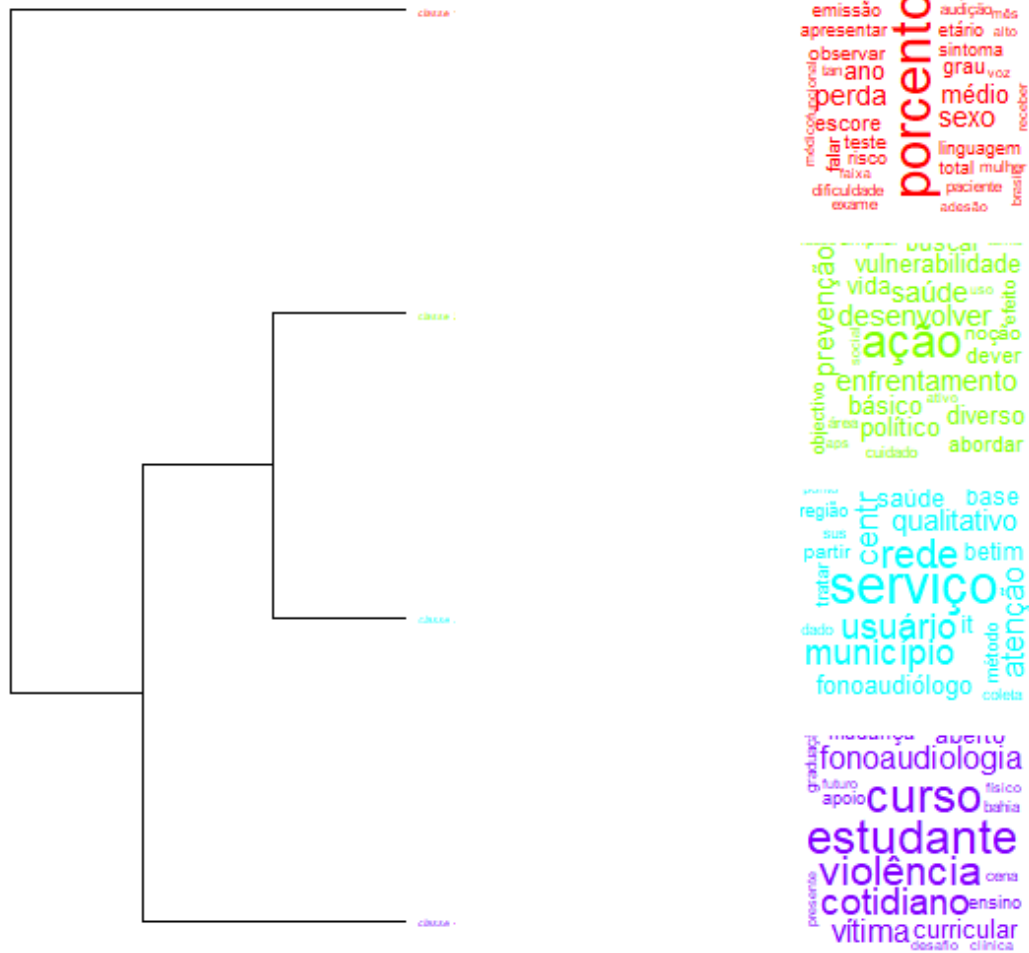

Caption: **Words in red:** porcento = percentage; idade = age; médio = mean/average; perda = loss; ano = year; diagnóstico = diagnosis; sexo = sex; resultado = result; diferença = difference. **Words in purple:** universidade = university; estudante = student; curso = course/program; violência = vilence; cotidiano = routine/daily life; promover = promote; semiestruturado = semis-structured; fonoaudiologia = speech-language-hearing sciences/therapy. **Words in blue and green:** serviço = service; promoção = promotion; município = municipality; ação = action; usuário = user; rede = network; centro = center.

Figure 2. Dendrogram of the words and their relative position per frequency and proximity

Figures 3 and 4 illustrate the abovementioned classes and the most frequent words in each profile. The corpus was divided into two corpora. The first one corresponded to class 1 – i.e., 41.3% of all records. The second corpus was subdivided into two subcorpora+, as follows: the first one encompassed two classes – class 3, corresponding to 28% of the total, and class 2, with 17% of representativity; and lastly, class 4, which corresponded to 13.5% of the total.

Caption: **Words in red:** porcento = percentage; perda = loss; ano = year; médio = mean/average; sexo = sex; emissão = emission; apresentar = present; observar = observe; tan = NHS (neonatal hearing screening); escore = score; falar = speak; teste = test; risco = risk; faixa = range; dificuldade = difficulty; exame = examination; medico = physician; functional = functional audição = hearing; etário = age; sintoma = symptom; mês = month; alto = high; grau = degree; voz = voice; receber = receive; linguagem = language; total = total; mulher; woman; paciente = patient; adesão = adherence; Brasil = Brazil. **Words in green:** ação = action; buscar = seek; vulnerabilidade = vulnerability; vida = life; saúde = health; desenvolver = develop; uso = use; prevenção = prevention; objectivo = objective; social = social; área = area; aps = PHC (primary healthcare); enfrentamento = tackling; básico = basic; político = political; cuidado = care; ativo = active; diverso = various; abordar = approach; efeito = effect; noção = notion; dever = obligation. **Words in blue:** serviço = service; usuário = user; município = municipality; fonoaudiólogo = speech-language-hearing therapist; região = region; sus = Unified Health System; partir = divide; tratar = treat; dado = information; centro = center; saúde = health; base = basis; qualitativo = qualitative; rede = network; betim = Betim (city in Minas Gerais); atenção = attention; it = treatment itinerary; método = method; coleta = collection. **Words in purple:** curso = course/program; estudante = student; violência = violence; cotidiano = routine/daily life; vítima = victim; curricular = curricular; graduação = undergraduate; futuro = future; apoio = support; presente = present; aberto = open; físico = physical; bahia = Bahia (state in Brazil); cena = scene; ensino = teaching; desafio = challenge; clínica = clinical.

Figure 3. Dendrogram of the classes and their respective word clouds
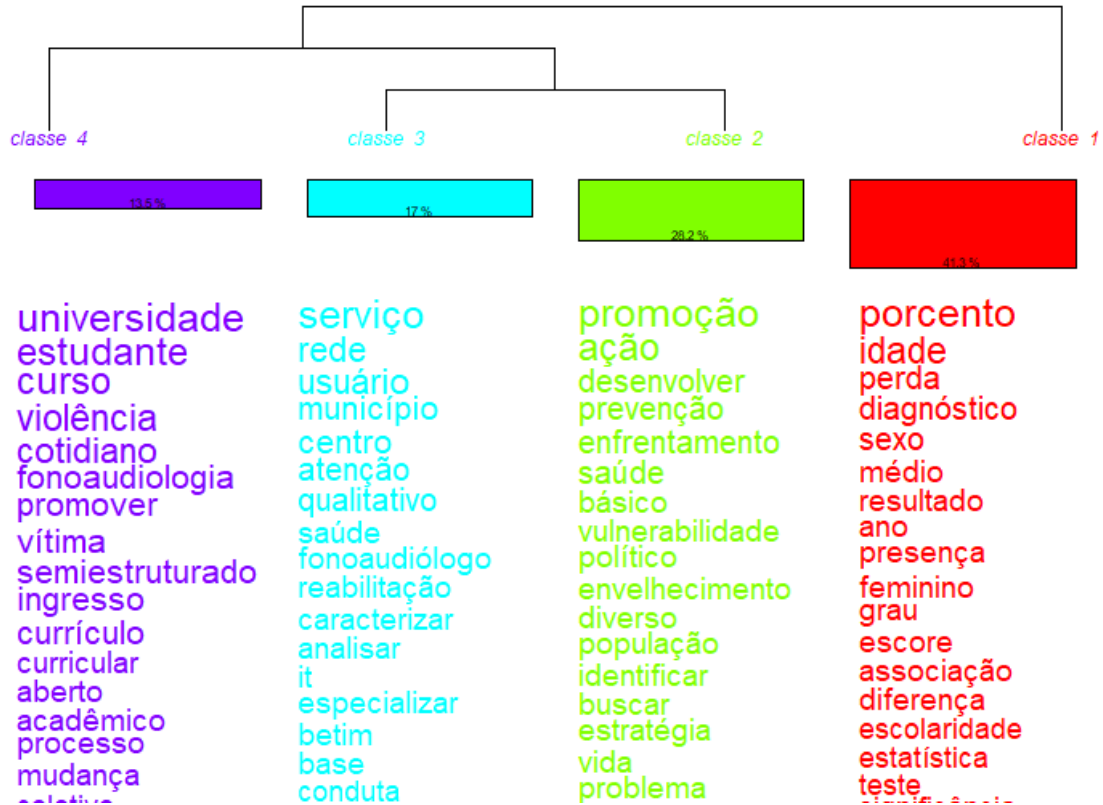
Caption: **Words in purple:** universidade = university; estudante = student; curso = course/program; violência = violence; cotidiano = routine/daily life; fonoaudiologia = speech=language-hearing sciences/therapy; promover = promote; vítima = victim; semiestruturado = semi-structured; ingresso = admission; currículo = curriculum; curricular = curricular; aberto = open; acadêmico = academic; processo = process; mudança = change. **Words in blue:** serviço = service; rede = network; usuário = user; município = municipality; centro = center; atenção = attention; qualitativo = qualitative; saúde = health; fonoaudiólogo = speech-language-hearing therapist; reabilitação = rehabilitation; caracterizar = characterize; analisar = analyze; it = treatment itinerary; especializar = specialize; betim = Betim (city in Minas Gerais); base = basis; conduta = procedure. **Words in green:** promoção = promotion; ação = action; desenvolver = develop; prevenção = prevention; enfrentamento = tackling; saúde = health; básico = basic; vulnerabilidade = vulnerability; politico = political; envelhecimento = aging; diverso = various; população = population; identificar = identify; buscar = seek; estratégia = strategy; vida = life; problema = problem. **Words in red:** porcento = percentage; idade = age; perda = loss; diagnóstico = diagnosis; sexo = sex; médio = mean/average; resultado = result; ano = year; presença = presence; feminino = female; grau = degree; escore = score; associação = association; diferença = difference; escolaridade = educational attainment; estatística = statistics; teste = test.

Figure 4. Dendrogram of the classes with their respective most recurrent words.

Discussion

The cloud presented in Figure 1 shows the grouping and graphic organization of words regarding their frequency, making it possible to visually identify key terms or the most representative ones in the text corpus and simple lexical analysis. In this cloud, "percent" stands out, suggesting at first that the studies in the analysis quantify data obtained in their research and treatment with statistical methods. The prevalence of this term is related to research on descriptive epidemiology in the area of Human Communication, whose goal is to determine the distribution of diseases/pathologies or health conditions according to the time, place, and/or individual characteristics. Hence, it points out the efforts to carry out cross-sectional research, aiming to construct epidemiological data for SUS, mostly describing characteristics of the population attended in the area and identifying risk groups. These studies strengthen the SLH Sciences, giving greater visibility to the distribution and magnitude of health problems, and contributing to the discussion and planning of health actions[14].

The second most mentioned word was "health". This term appears in the literature under

different concepts, according to the theoretical perspective of each study. When conceived from the standpoint of health problems and related to terms such as disease and its derivatives (disorders, dysfunction, and risks), it means the absence of disease and its correlates. These studies mobilize traditional epidemiology methodologies and approach a rather biological concept of health. Consequently, they are associated with terms such as prevention. On the other hand, if understood from the standpoint of health needs – i.e., conditions to avoid disease and ensure longer life and quality of life –, they align with social or critical epidemiology, focusing on social determination and health inequalities. Thus, they associate with terms such as promotion[15].

In this regard, this information can be discussed along with Figure 3, in which two terms stand out: prevention and promotion, with a prevalence of the latter. A study published in 2004[15] reflects on the need to distinguish between the concepts of health promotion and prevention because, unlike the biopsychosocial model, the biomedical model considers the former term as a mainly preventive action[1]. In this perspective, health is associated with the absence of disease. The results of this study seem to indicate a change in SLH perspective over the last years, as studies seemingly adopted an approach that favors health and quality-of-life issues.

Studies on collective health show that the capacity to apply the epidemiological method is an essential skill for all health professionals whose goal is to reduce diseases, promote health, and improve the population's health levels. For instance, Family Health Strategy and primary healthcare professionals must plan and organize their actions to better meet the population's health needs, based on indicators furnished by this population's epidemiological data[16].

National epidemiological studies on issues addressed by SLH therapists (language, hearing, oral-motor control, voice) are still rare in the country. Also, the area has little multicentric research applying epidemiological knowledge to plan and assess the practice of SLH therapists in SUS services. Since 1990, Law 8080[5], in chapter II, article 7 (5) provides for the use of epidemiology in health services to establish priorities, allocate resources, and guide the SUS programs.

Continuing the analysis of the terms in the word clouds, "hearing" stood out among the terms that define SLH specialties. It can be said that Au-

diology counted with public policies that favored the organization of services responsible for the assessment, diagnosis, prostheses, and rehabilitation of people with hearing loss. These services had a greater capacity to organize data on the population that needs such attention, as various researchers and professionals systematized and published scientific analyses in this field, contributing to important advancements in the management of these services[10,17] and the quality of the care they provide.

The analysis of the four classes extracted with IRaMuTeQ® enables an approximation of what the 50 articles collectively approach.

Class 1, named "Description of variables present in cross-sectional/epidemiological studies" (41.3%), makes clear the concern with describing adequately subjects involved in each SLH intervention in collective health. They are particularly careful with the scientific discourse to better communicate to peers the description of each intervention. Hence, they highlight information on the profile of study populations in research in this field, referring to variables such as age, sex, diagnosis, and percentages, pointing to a trend of prevalence of epidemiological studies, as previously mentioned and restated by researchers on collective health in general[10,17].

The emphasis on these words demonstrates a predominance of SLH studies that examine the prevalence of diseases and conditions related to health associated with certain characteristics or variables that these words represent as they analyze the health condition of people who use services in these regions. The prevalence of these words over other ones, such as educational attainment or income, further indicates the predominance of biological models in the analysis of determinants of health conditions, considering that studies on collective health approach the biopsychosocial model to promote their actions in SUS and analyze social determinants of health. These data, traditionally used and described in the International Classification of Diseases (ICD), must be complemented with the International Classification of Functioning (ICF), which analyzes participation, activity, and the environment. These aspects help expand the look and improve the understanding of issues brought up by users[18].

The presence of these terms also suggests a clear concern by part of the research teams to adequately describe the study subjects in each article

and each intervention – which is required from them when articles are submitted to health journals.

Concerning the word "female" – one of the 10 most mentioned in this class –, SLH epidemiological population studies indicate that female professors are the ones that have the most voice problems[19]. Another study points out that women older than 60 years are the ones that most seek SLH care for hearing loss issues[20].

Class 2, named "SLH practice scenarios and public policies aimed at health promotion and disease prevention" (28.2%), indicates the relevance of actions carried out by SLH teams in each institution and highlights methods to address issues in studies and processes. Attention must be called to the relevance of actions carried out by SLH therapists, which in this field go beyond practices traditionally aimed at functional rehabilitation related to hearing, language, voice, and oral-motor control. Hence, they present actions to prevent impairments or conditions that may result in pathologies, particularly the ones that focus on health promotion and better quality of life. They also emphasize the importance of an expanded look at the population's conditions or vulnerability to be considered in these actions. The most recurrent terms in the analysis of this class were action, health promotion, prevention, tackle, and vulnerability.

The work of SLH therapists in health services is based on the principles of equity and comprehensiveness of actions aimed at meeting health needs. It encompasses health promotion and protection, risk and aggravation prevention, and functional recovery and rehabilitation in the various aspects related to human communication and stomatognathic system functions (breathing, sucking, swallowing, and speech) in the whole life cycle, inserted in different healthcare levels (primary, specialized, and hospital). The concept of vulnerability has been debated in the field of collective health because lifestyles, family arrangements, concepts of health and work, forms of sociability, and health practices, when different from the socially instituted and standardized models, can be interpreted as vulnerability. Such approaches are common in reasoning based on the biomedical model, tending to medicalize heterogeneities. In collective health, the concept of vulnerability involves individual, social, and institutional issues that encompass aspects related to gender, race/ethnicity, lifecycle, cultural and economic aspects,

and so on. Hence, they demonstrate social determination in the health-disease-care process because they produce singularities that must be considered in health practices based on the principles of equity and comprehensiveness[21].

Thus, vulnerability must be understood as intertwined material, political, cultural, legal, and subjective conditions, which direct health knowledge and practices. It is a conceptual approach that enables multidimensional analyses, making it a mediating concept for actions and mechanisms to address adverse social conditions, guiding political interventions based on multiple relations between elements present in different social contexts[21,22].

These aspects indicate the concern of part of the teams with collective health issues, considering not only the institutions where interventions take place but also the training of health professionals and, therefore, the SLH Sciences.

Class 3, named "New demands and contexts in SLH practice: structure and organization of SUS services" (17.0%), highlights the physical description of the insertion sites or studies, corroborating the clear concern with clinical diagnosis issues. Regarding the most recorded words (center, services, municipality, user, network), this class pointed out components of the structure and organization of services and work in networks to provide healthcare aimed at the population's needs.

The health model implemented by SUS is socially recognized as beyond comparison with the one it replaced, in terms of providing access, promoting equity, rescuing human rights, and radically rupturing with the markedly excluding and selective model focused on the demands and interests of the private market[23].

The words highlighted in this class point to aspects related to access to healthcare, as they refer to the organizational design and geographical availability of the health system concerning services that included SLH therapists and, as mentioned before, the characteristics of the population that uses these services. The access of users to health services can be understood based on how they are treated when they seek care, which includes the paths they go through in the service network until their health need is solved.

A study shows that SLH therapists in the public municipal health networks in the capitals of Northeastern Brazil are still quite irregularly present in certain regions and levels of attention[17]. The

authors verified the prevalence of SLH therapists in hospital care and ascribed the greater provision of service to regulations that include SLH therapists in multiprofessional teams.

Historically, SLH Sciences developed from a perspective of clinical practice, characterized as a professional specialized in communication disorders, giving priority to rehabilitation interventions. Since SUS was created, and especially the Family Health Support Centers were created in 2008[24], they were gradually inserted in primary healthcare nationwide, playing an important role in organizing the health system and transforming practices in health services, working with the family health teams until 2019. At that time, the Brazil Prevention Program was implemented, instituting new funding for primary healthcare and extinguishing the specific funding for the Family Health Support Centers[25].

The last Class is number 4, named "Challenges in training SLH therapists" (13.5%), which corroborates the concern of collective health research with not only reflecting on the nature of interventions conducted at health services but also promoting critical analyses on the training of SLH professionals, discussing demands and challenges.

A study on the work of SLH therapists at Family Health Support Centers conducted in Northeastern Brazil highlights the need to transform practices to overcome the biomedical model centered on individual and fragmented actions, replacing it with more comprehensive, interdisciplinary, and collective healthcare. Training to work in collective health requires the creation of multiprofessional and interprofessional teamwork and interdisciplinary reasoning to promote comprehensive care[26].

This class emphasizes subjects and institutions involved in research according to the most used terms, such as "university", "students", and "program". Furthermore, the term "suffering" certainly refers to the demand of subjects that seek collective healthcare – although it can also refer to the suffering of students regarding demands in their health training. Focusing only on disorders or pathologies treated in the field is overcome by multiprofessional and interdisciplinary work, which aims to replace the fragmented look/action limited to the professionals' specialties. Collective health demands teamwork production and humanized

relationships focused on the population's health needs – which can be physical, psychological, or social, as in the case of victims of violence, another term highlighted in this category. Violence is both a social and health issue, related to the violation of human rights, with an impact on the quality of life and existential difficulties manifested in various contexts[21,27]. Researchers in the area must show concern with this contemporary complex topic because it favors the construction of a theoretical and methodological scenario, contributing to the training of SLH therapists to intervene in healthcare.

Lastly, some considerations must be made regarding IRaMuTeQ®. Its use in this research to analyze data showed the possibility of interpreting texts with a mixed model, enabling a preliminary statistical analysis and the consequent interpretation based on a theoretical reference, thus minimizing the occurrence of biases or previously established concepts. It must be emphasized that IRaMuTeQ®, as other pieces of software that provide support to qualitative research, helped the data treatment process, though not replacing researchers' central role.

Conclusion

The research demonstrated that abstracts of SLH publications and related areas, published in the journal analyzed in this study, point to two sub-corpora and four theme classes. The first subcorpus defined a single theme class, interpreted as the description of variables present in cross-sectional/epidemiological studies, determined by the nature of the type of text being analyzed – i.e., abstracts of scientific publications. The second subcorpus had two subdivisions. The first one resulted in two classes – one approaching new demands and contexts of SLH practice, demonstrating the structure and organization of SUS services, and the other demonstrating the scenario of SLH practices and public policies aimed at health promotion and disease prevention. The second class addresses the need to overcome challenges in training SLH therapists committed to strengthening and consolidating SUS, providing care based on the principles of comprehensiveness and equity.

Using IRaMuTeQ® in qualitative research is recommended to achieve the reflection on and production of knowledge, interpreting texts, and

extracting abstract categories from them. This piece of software enables the creation of a mixed method, as it performs a preliminary statistical analysis combined with the researchers' interpretation analysis, avoiding ideological biases or established pre-conceptions, ensuring a healthy distancing from the data, and the creation and interpretation of abstract categories based on this pre-analysis.

Bibliographical

1. Andrade, CRF. Fonoaudiologia Preventiva-Teoria e Vocabulário Técnico Científico. São Paulo: Lovise, 1996.

2. Conselho Federal de Fonoaudiologia [internet]. Brasil: RESOLUÇÃO CFFa nº 320, de 17 de fevereiro de 2006 [Acesso em 22 de dez 2022]. Disponível em: https://www.fonoaudiologia.org.br/resolucoes/resolucoes_html/CFFa_N_320_06.htm

3. Sociedade Brasileira de Fonoaudiologia. [internet]. Brasil. Departamento e Saúde Coletivo. Cavalheiro, MTP 2017. Histórico: Origens do Departamentos de Saúde Coletiva: Comitê de Saúde Pública da SBFa. [acesso: 22 de dez 2022] Disponível em:https://www.sbfa.org.br/portal2017/themes/2017/departamentos/artigos/resolucoes_31.pdf

4. Paim JS, Filho NA. Saúde coletiva: uma "nova saúde pública" ou campo aberto a novos paradigmas? Revista de Saúde Pública, v.32, n.4, p.299-316. 1998

5. Brasil. Lei Orgânica da Saúde no 8080, de 19 de setembro de 1990. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras providências. Disponível em: <http://www.planalto.gov.br/ccivil_03/leis/L8080.htm>. Acesso em: 22 nov. 2022.

6. Sistemas de Conselhos de Fonoaudiologia [Internet]. Contribuição da Fonoaudiologia para o avanço do SUS. 2015 Nov:1-21. [acesso em 22 dez 2022]; Disponível em: http://www.fonoaudiologia.org.br/cffa/wpcontent/uploads/2013/07/Cartilha-sus.pdf.

7. Campos GWS. O SUS entre a tradição dos Sistemas Nacionais e o modo liberal-privado para organizar o cuidado à saúde. Ciência & Saúde Coletiva [online]. 2007, v. 12, n. suppl [acessado 9 dezembro 2022], pp. 1865-1874. Disponível em: <https://doi.org/10.1590/S1413-81232007000700009>. Epub 14 Nov 2007. ISSN 1678-4561. https://doi.org/10.1590/S1413-81232007000700009.

8. Marsiglia RMG. Universalização do acesso ao Sistema Único de Saúde no Brasil: desafios para a Atenção Primária à Saúde. ISSN 0104-4931 Cad. Ter. Ocup. UFSCar, São Carlos, v. 20, n. 3, p. 317-325, 2012. Disponível em http://dx.doi.org/10.4322/cto.2012.032

9. Basso CSD, et al. Breastfeeding rate and speech-language therapy in the Kangaroo Method. Revista CEFAC [online]. 2019, v. 21, n. 5 [Acessado 1 fevereiro 2023], e11719. Disponível em: <https://doi.org/10.1590/1982-0216/201921511719>. Epub 10 Jan 2020. ISSN 1982-0216. https://doi.org/10.1590/1982-0216/201921511719.

10. Botasso KC, Lima MCMP, Silveira CR. Análise de um programa de saúde auditiva infantil ambulatorial: da triagem ao encaminhamento para reabilitação CoDAS ; 34(4): e20200403, 2022. tab

11. Ferreira LP, et al. A produção científica na revista Distúrbios da Comunicação entre 2016 e 2020 Distúrb Comun, São Paulo, 2022; (2): e55596

12. Ratinaud, P & Marchand, P. Application de la méthode ALCESTE à de "gros" corpus et stabilitédes "mondes lexicaux" : Analyse du "CableGate" avec IraMuTeQ. Em: Actes des 11eme Journées Internationales des DonnéesTextuelles (835–844). Presented at the 11eme Journées internationals d'Analyse statistique des DonnéesTextuelles. JADT 2012, Liège

13. Camargo BV, Justo AM. IRAMUTEQ: um software gratuito para análise de dados textuais. Temas em Psicologia, v. 21, n. 2, p. 513-518, 2013.

14. Goulart BGG. Uso da epidemiologia para o fortalecimento da Fonoaudiologia Use of epidemiology to strengthen Speech-Language and Hearing Sciences Rev. CEFAC. 2018 Mar-Abr; 20(2): 133-134 doi: 10.1590/1982-0216201820217817

15. Penteado RZ, Servilha EAM. Fonoaudiologia em saúde pública/coletiva: compreendendo prevenção e o paradigma da promoção da saúde. Distúrb Comun. 2004; 16(1): 107-16.

16. Gomes ECS. Conceitos e ferramentas da epidemiologia / Elainne Christine de Souza Gomes – Recife: Ed. Universitária da UFPE, 2015. 83p

17. Santos JAP, et al. Oferta da Fonoaudiologia na rede pública municipal de saúde nas capitais do Nordeste do Brasil. Audiology - Communication Research [online]. 2017, v. 22, n. 0 [Acessado 19 Dez 2022], e1665. Disponível em: <https://doi.org/10.1590/2317-6431-2015-1665>.

18. Biz, MCP e Chun, RYS. Operacionalização da Classificação Internacional de Funcionalidade, Incapacidade e Saúde, CIF, em um Centro Especializado em Reabilitação. CoDAS [online]. 2020, v. 32, n. 2 [Acessado 19 Dez 2022], e20190046. Disponível em: <https://doi.org/10.1590/2317-1782/20192019046>. Epub 28 Out 2019. ISSN 2317-1782. https://doi.org/10.1590/2317-1782/20192019046.

19. Souza CL, et al. Fatores associados a patologias de pregas vocais em professores. Revista de Saúde Pública, São Paulo, v. 45, n. 5, p. 914-921, 2011.

20. Rech RS, et al. Acesso e uso de serviços de Fonoaudiologia em Porto Alegre, Brasil: estudo populacional. Ciência & Saúde Coletiva [online]. v. 25, n. 3 [Acessado 19 dezembro 2022], pp. 817-825. Disponível em: <https://doi.org/10.1590/1413-81232020253.17212018>. ISSN 167

21. Dimenstein M, Cirilo Neto M. Abordagens conceituais da vulnerabilidade no âmbito da saúde e assistência social. Pesqui. prát. psicossociais [online]. 2020, vol.15, n.1, pp. 1-17. Disponível em: <http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1809-89082020000100002&lng=pt&nrm=iso>. ISSN 1809-8908.

22. Trenche, MCB; Anequini, S; Magni, C. Fonoaudiologia, vulnerabilidade e construção de redes intersetoriais. In: Eliane Schochat et al. (Org.). Tratado de Audiologia. 3aed.São Paulo: Manole e Academia Brasileira de Audiologia ABA, 2022, v. 1, p. 50-60.

23. Barbiani R, et al. A produção científica sobre acesso no âmbito do Sistema Único de Saúde do Brasil: avanços, limites e desafios. Saúde e Sociedade [online]. 2014, v. 23, n. 3 [Acessado 13 Dez 2022], pp. 855-868. Disponível em: <https://doi.org/10.1590/S0104-12902014000300010>. ISSN 1984-0470. https://doi.org/10.1590/S0104-12902014000300010. http://rmmg.org/artigo/detalhes/808

24. Molini-Avejonas DR, Mendes VLF; Amato CAH. Fonoaudiologia e Núcleos de Apoio à Saúde da Família: conceitos e referências. Revista da Sociedade Brasileira de Fonoaudiologia [online]. 2010, v. 15, n. 3 [Acessado 9 Dez 2022], pp. 465-474. Disponível em: <https://doi.org/10.1590/S1516-80342010000300024>. Epub 27 Set 2010. ISSN 1982-0232. https://doi.org/10.1590/S1516-80342010000300024.

25. Harzheim, Erno. "Previne Brasil": bases da reforma da Atenção Primária à Saúde. Ciência & Saúde Coletiva [online]. 2020, v. 25, n. 4 [Acessado 21 dezembro 2022], pp. 1189-1196. Disponível em: <https://doi.org/10.1590/1413-81232020254.01552020>. Epub 06 Abr 2020. ISSN 1678-4561. https://doi.org/10.1590/1413-81232020254.01552020.

26. Telles MWP, Noro RA. A compreensão dos docentes sobre a formação em Saúde Coletiva nos cursos de Fonoaudiologia de universidades públicas do Nordeste brasileiro. Interface - Comunicação, Saúde, Educação [online]. 2021, v. 25 [Acessado 14 dezembro 2022], e200704. Disponível em: <https://doi.org/10.1590/interface.200704>. Epub 09 Jul 2021. ISSN 1807-5762. https://doi.org/10.1590/interface.200704.

27. Gontijo DT, et al. Violência e saúde: uma análise da produção científica publicada em periódicos nacionais entre 2003 e 2007. Physis: Revista de Saúde Coletiva, 20, 2010.1017-1054. Disponível em:< https://scielosp.org/article/physis/2010.v20n3/1017-1054/pt/#.