

# Speech, Language and Hearing Sciences and public health: bibliometric analysis

## Fonoaudiologia e saúde pública: análise bibliométrica

## Fonoaudiologia y salud pública: análisis bibliométrico

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### **Abstract**

**Purpose:** To analyze the current perspectives concerning Speech Language and Hearing Sciences and Public Health and present its evolution and trends. **Methods:** Quantitative study of bibliometric character, having Virtual Health Library – VHL as a database for research. The first 30 items listed in order of relevance by Qualis Capes criteria were selected. **Results:** Publications on the subject are growing. The most common goals in the sample were related to analysis of professional practice, 56% of the total, and the most significant findings, 23%, were about the importance of inclusion of the speech therapist in the multidisciplinary team. **Conclusion:** The speech therapists prefer to submit their articles for publication in journals recognized by the class. Scientific publication should be encouraged among professionals working in various contexts and that have experiences to share and contribute to the growth of the profession. Discussions on the theme Speech Therapy and Public Health are increasing, whether because of the increase in scientific publications, the greater insertion of the professional in the field or also by the reformulation of the curriculum of universities.

**Keywords:** Speech Therapy; Public Health, SUS, Bibliometric.

### **Resumo**

**Objetivo:** Analisar as perspectivas atuais referentes à Fonoaudiologia e Saúde Pública e apresentar sua evolução e tendências. **Métodos:** Estudo quantitativo de caráter bibliométrico, tendo a Biblioteca

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#### **Authors' contributions:**

LPW: Responsible for the development of the research and preparation of the text.

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**Received:** 24/05/2016

**Accepted:** 31/03/2017

Virtual em Saúde - BVS como base de dados para a pesquisa. Foram selecionados os 30 primeiros artigos elencados por ordem de relevância pelo critério Qualis da Capes. **Resultados:** As publicações sobre o tema estão em crescimento. Os objetivos mais frequentes na amostra foram referentes à análise da prática profissional, 56% do total, e as conclusões mais expressivas, 23%, foram sobre a importância da inserção do fonoaudiólogo na equipe multidisciplinar. **Conclusão:** Os fonoaudiólogos preferem submeter seus artigos à publicação em revistas reconhecidas pela classe. A publicação científica deve ser incentivada entre os profissionais que atuam em vários contextos e têm experiências para compartilhar e contribuir com o crescimento da profissão. As discussões sobre o tema Fonoaudiologia e saúde pública são um crescente, seja pelo aumento das publicações científicas, pela maior inserção do profissional na área ou também pela reformulação das grades curriculares das universidades.

**Palavras-chave:** Fonoaudiologia; Saúde Pública, SUS, Bibliometria.

## Resumen

**Objetivo:** Analizar las perspectivas actuales referentes a la Fonoaudiología y Salud Pública y presentar su evolución y tendencias. **Métodos:** Estudio cuantitativo de carácter bibliométrico tomando la Biblioteca Virtual en Salud - BVS como base de datos para la investigación. Se seleccionaron los primeros 30 artículos enumerados en orden de relevancia, según los criterios de Qualis Capes. **Resultados:** las publicaciones sobre el tema están creciendo. Los objetivos más comunes en la muestra estaban relacionados con el análisis de la práctica profesional, el 56% del total, y los hallazgos más expresivos, el 23%, eran acerca de la importancia de la inclusión del fonoaudiólogo en el equipo multidisciplinario. **Conclusión:** Los fonoaudiólogos prefieren enviar sus artículos para publicación a revistas reconocidas por la clase. La publicación científica debe ser incentivada entre los profesionales que trabajan en diversos contextos y tienen experiencias que compartir y contribuir al crecimiento de la profesión. Las discusiones sobre el tema Fonoaudiología y Salud Pública están aumentando, sea por el aumento de las publicaciones científicas, por la mayor inserción del profesional en el campo o también por la reformulación de los planes de estudio de las universidades.

**Palabras claves:** Fonoaudiología; Salud Pública, SUS, Bibliometria.

## Introduction

Speech and language pathology was inserted in health after a few years of education and, since the health of communication was considered important for the population, speech therapy began to be offered between the 1970s and 1980s<sup>1,2</sup>.

The speech and language pathologist initiated the activities in the Brazilian Public Health Institute (Sistema Único de Saúde) working in day-care centers, schools, nurseries, hospitals, health centers and units, as well as in the community<sup>3,4</sup>. The speech-language category began to reflect on public health policies and to make the first research in the area<sup>5,6</sup>.

Considering the importance of the actions that the speech therapist has the autonomy to perform, some authors indicate that the basic condition for the development of an effective practice is the training of critical professionals who recognize the demands of the population, as well as the reality of Public Health; also that they are aware

that health promotion is something greater than simple disease prevention and that they are able to adequately care for and direct the various patients who seek them<sup>7,8</sup>.

The insertion of the speech-language pathologist in Public / Collective Health requires a professional committed to the principles of humanization, welcoming, bonding and responsibility for the territory in which he / she works and for the community living in it<sup>9</sup>.

The introduction of Speech-Language Pathology in the health system is considered recent and the professionals faced the lack of knowledge of the system and its possibilities of action in this context. The existence of great demand led to the option of clinical intervention in the basic network of health care that resulted in difficulty in integration with the health unit team<sup>8</sup>. Over the years, the universities started to worry about this, and more programs and internships began being

offered thinking of improving the quality of the professionals' performance.

Reflections are taking place on health care processes, requiring professionals to incorporate knowledge and the development of new skills and abilities, among which the ability to work as a team and to create and conduct therapeutic projects based on the concepts of Extended clinical practice and matrix support<sup>10</sup>.

There was a need to study and work with concepts of epidemiology, aiming to survey the pathologies of greatest occurrence in the population, as well as their characteristics and possibilities of outpatient organization<sup>5</sup>.

Professionals inserted in this context should make a survey of what is done in terms of prevention and treatment actions. It is necessary to take measures to supply the high demand and adapt the services to the reality and necessity of the population<sup>10,11</sup>. This requires a greater number of speech therapists prepared to deal with Public Health acting and more attention from the Government regarding public policies in Speech-Language Pathology. At present, the attention given to Speech-Language Pathology aimed at a preventive and collective vision is still deficient. It is necessary that there be investment in research in this area in order to justify the importance of actions<sup>11</sup>.

It has already been pointed out in the literature that the speech-language pathologist recorded little of his discoveries of daily practice in the scientific environment, which prevented the scientific discussion of knowledge and the improvement of the service offer by speech-language class<sup>12</sup>.

Idealizing a quality service and according to the criteria of Public Health, the studies of speech-language pathologists reporting practices and re-evaluating concepts have increased<sup>11</sup> and are intensified criticism on training and professional practice<sup>10</sup>, resulting in a movement for curricular changes in Universities and in actions in public services.

Reflexes of these changes occurred in undergraduate curriculums in Speech Therapy from the last decade of the twentieth century, as there was a significant increase in speech and language therapy in Public / Collective Health, as well as an increase in the production and dissemination of works and research in the area<sup>13</sup>.

The productions of works in the area indicate new conceptions of health by the speech therapist,

as there are beginning to appear interdisciplinary works that dialogue and integrate knowledge, allowing the opening to a health vision guided by the integrality of the assistance<sup>14</sup>.

In this sense, this study carried out a bibliometric study based on data from the Virtual Health Library on the topic of Speech-Language Pathology and Public Health with the purpose of analyzing the current perspectives regarding this theme and presenting its evolution and trends.

## Method

This quantitative bibliometric study was carried out from the search for scientific articles in the Biblioteca Virtual em Saúde – BVS database. The descriptors used for the search were: Speech-Language Pathology and Public Health and the first 30 articles listed in order of relevance by the Qualis criteria of Capes were selected. As this is a review article, there was no need to submit the present study to the Research Ethics Committee.

Quantitative research focuses on objectivity and considers that reality can only be understood based on the analysis of raw data, collected with the aid of standardized and neutral instruments<sup>15</sup>.

A bibliometric study is defined as:

[...]Quantitative and qualitative measures of scientific publications, including comparative studies of publications and citations. Bibliometrics is the study of the quantitative aspects of the production, dissemination and use of registered information, which develops mathematical patterns and models to measure processes, using their results to elaborate forecasts and support decision making<sup>16</sup>.

The bibliometric study is what analyzes the sources of publication of scientific production, verifies the chronological evolution of production in the defined area, observes the productivity of authors and institutions, among others<sup>17</sup>. "The term bibliometry is used to quantify the processes of written communication and the use of bibliometric indicators to measure scientific production"<sup>18</sup>.

The adherence of researchers to applied bibliometric studies in the health area is a national and international trend. There is still a great variation of frequency over the years, but there is a growth in the number of publications with this methodology<sup>19</sup>. From the year 2000 onwards, national

researchers have been using this form of research more and this phenomenon can be observed in the Biblioteca Virtual em Saúde. One of the reasons for this behavior of the researchers in relation to the scientific literature on health is explained by the dynamics of the Bibliometry, which proposes a quantitative and socially applied study on the register of human knowledge.

The inclusion criterion for the selection of articles was the adequacy to the researched subject, using as a unit of analysis for inclusion the binomial formed by the subjects “Speech-Language Pathology” and “Public Health” that are associated based on the theme of this research. Nine articles of the sample were excluded because they dealt with other topics and were not in agreement with the descriptors used or were not relevant to the research, even if the search specified that the articles should be in order of relevance by the Qualis Capes criterion. In this way, the next nine articles of the realized search were included in the research. The total of articles analyzed in the survey was 30. After selecting the most relevant articles, the sample was considered to be of excellent scientific level.

In this study, the quantitative aspects are constituted by: review of the themes most discussed in the most relevant articles of the scientific production on Speech-Language Pathology and Public Health; Indication of the years of publication of the most relevant articles on the topic; Classification of the most used descriptors in the selected articles; Listing of the most frequent journals within the relevant sample on the topic of speech and hearing and public health; Indication of the Capis Qualis classification of the periodicals that published the most relevant articles; Knowledge of the periodicity of the journals that published the selected articles on the topic of Speech-Language Pathology and Public Health.

In a sheet of Excel software was tabulated some important items about the articles read: title, descriptors, year of publication, periodicals, objectives, methods, results, conclusions, limitations, suggestions for future studies (Chart 1). Relationships were made that allow analysis through comparisons and frequency charts.

**Chart 1.** Description of parameters analyzed

Analysed parameters	Description
Descriptors	Key article keywords used by databases to select.
Journals	Journals where scientific articles are published.
Publication year	Year in which the selected articles were published.
Purposes	What does the author intend to answer with his research.
Methods	What is the methodology for achieving the objectives.
Results	What results are found in the survey.
Conclusions	What can be concluded with the results found.

## Results and discussion

The thirty articles with the best classification by Qualis Capes that were distributed between the years of 1992 and 2013 were selected, bringing relevant subjects to the speech-language practice in Public Health.

The five most frequent journals among the fourteen that had articles included in the research appear in Figure 1 and, as can be seen, the Revista CEFAC is the most published journal on the subject, followed by the Revista da Sociedade Brasileira de

Fonoaudiologia. It is possible to infer, in the sample analyzed, that speech-language pathologists prefer to submit their articles for publication in recognized journals in the Speech-Language Pathology area.

As to the distribution of the articles included in this research, regarding the year of publication, it can be seen in the observation of Figure 2 that between 1992 and 2013 there was a progressive increase in the number of articles of greater relevance for the topic of Speech-Language Pathology and Public Health.<sup>11, 13, 14, 20</sup> The descriptors used were identified as to the amount of occurrence. The five most frequent ones are shown in Figure 3.

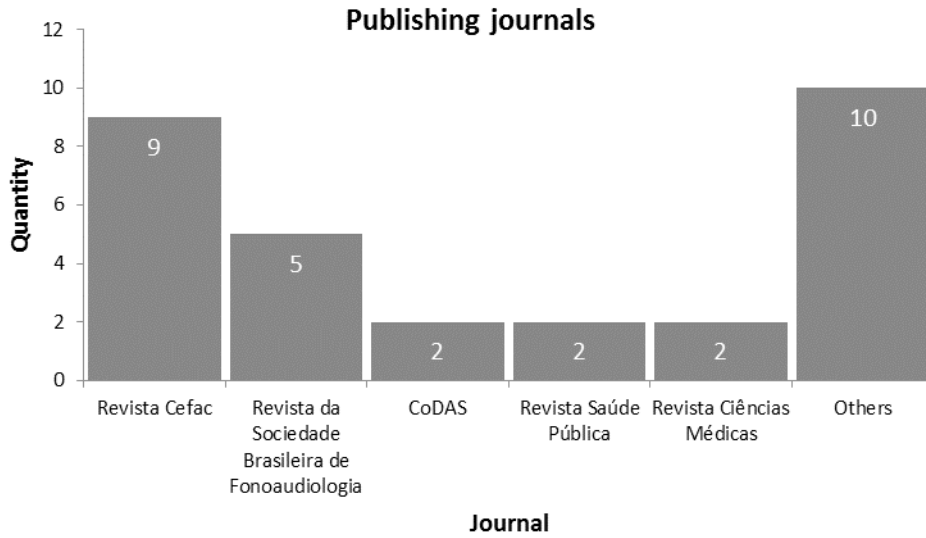


Figure 1. Most frequent periodicals

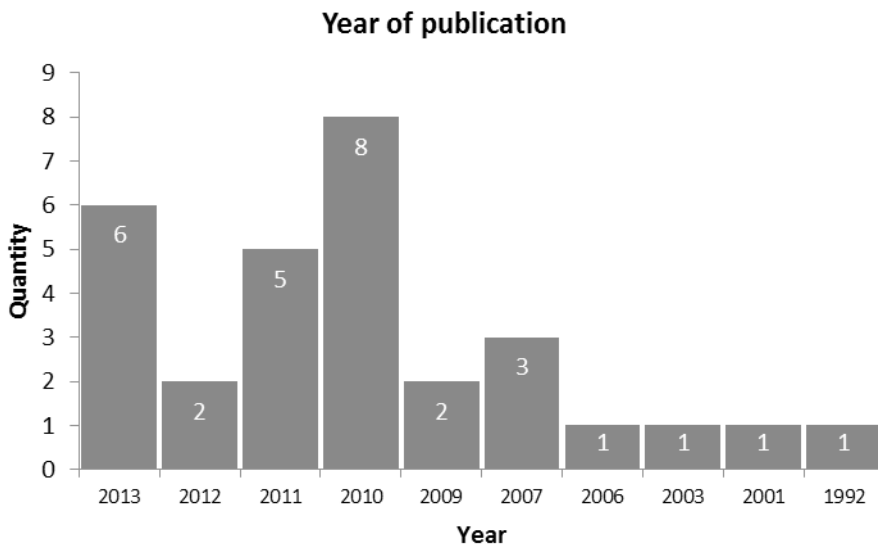
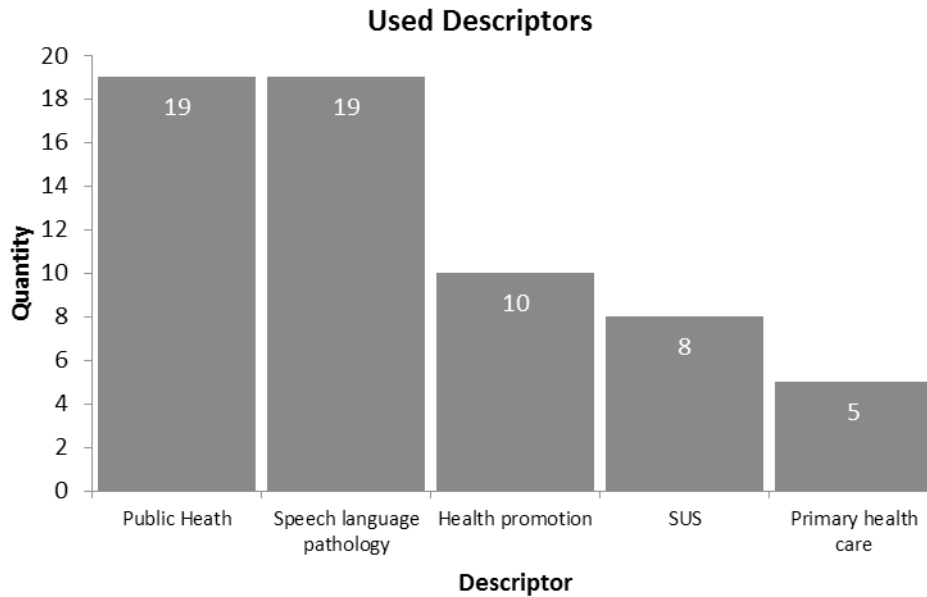


Figure 2. Year of publication of articles



**Figure 3.** Most frequent descriptors

It is observed that the most common descriptors in the articles of the sample of this study are very familiar to the theme of this research and that the keywords used in the search engine of the BVS selected articles with enough precision. Even so, it is important to analyze that the most frequent descriptors: Public Health and Speech-Language Pathology may be inserted in several contexts, since among the selected articles several subjects were discussed. Other levels of health care have relied on speech therapists working with actions to promote, protect and rehabilitate health in various aspects related to human communication<sup>21</sup>.

Figure 4 shows the analysis methods used in the articles analyzed divided into approach and research procedures. It can be observed that there was a balance between the qualitative and quantitative approaches and the procedure of literature review was evident.

Literature review is a widely used research procedure, since from it one can know what has already been and what still needs to be researched and it is assumed that this is the intention of the researchers when performing most of the works. With this procedure<sup>22</sup>.

The objectives of the articles that constitute the sample of this study were synthesized in six classes and are presented in Figure 5.

The analysis of the speech-language practice was highlighted among other objectives, which shows that discussing what the speech-language pathologist has done is the greatest interest of the scientific community, agreeing with some authors when mentioning the need to strengthen evidence-based Speech-Language Pathology<sup>11</sup>.

Figure 6 presents the analysis of the results of the articles, showing the relevance of the discussion of the care of patients and their pathologies. This finding is in line with the beginning of the speech-language pathology activity in Public Health, which, faced with the growing demand based on the biomedical model, carried out individual consultations to treat the different pathologies of patients, thus offering individual treatment. Instead of prioritizing actions of health promotion with the community of its territory of action and matrix support with the work team. The insertion of the Speech-Language Pathologist at the SUS was initially undertaken with the purpose of promoting action aimed at the execution of curative practices<sup>23</sup>.

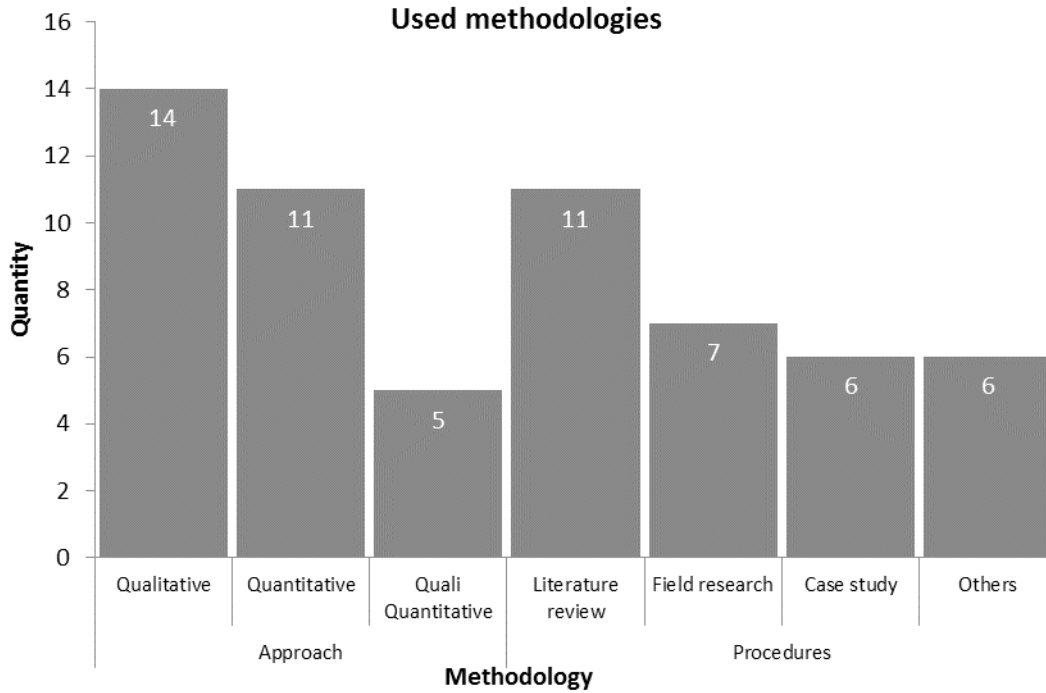


Figure 4. Used Methodologies

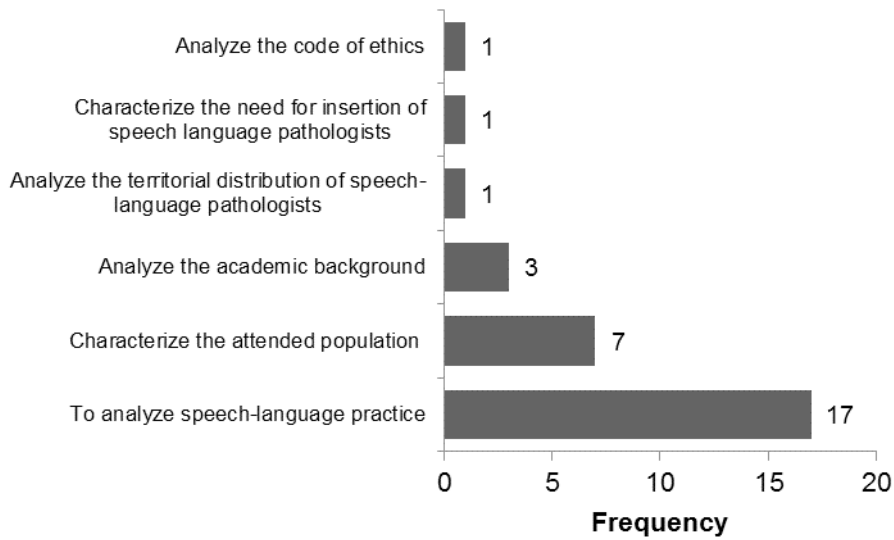
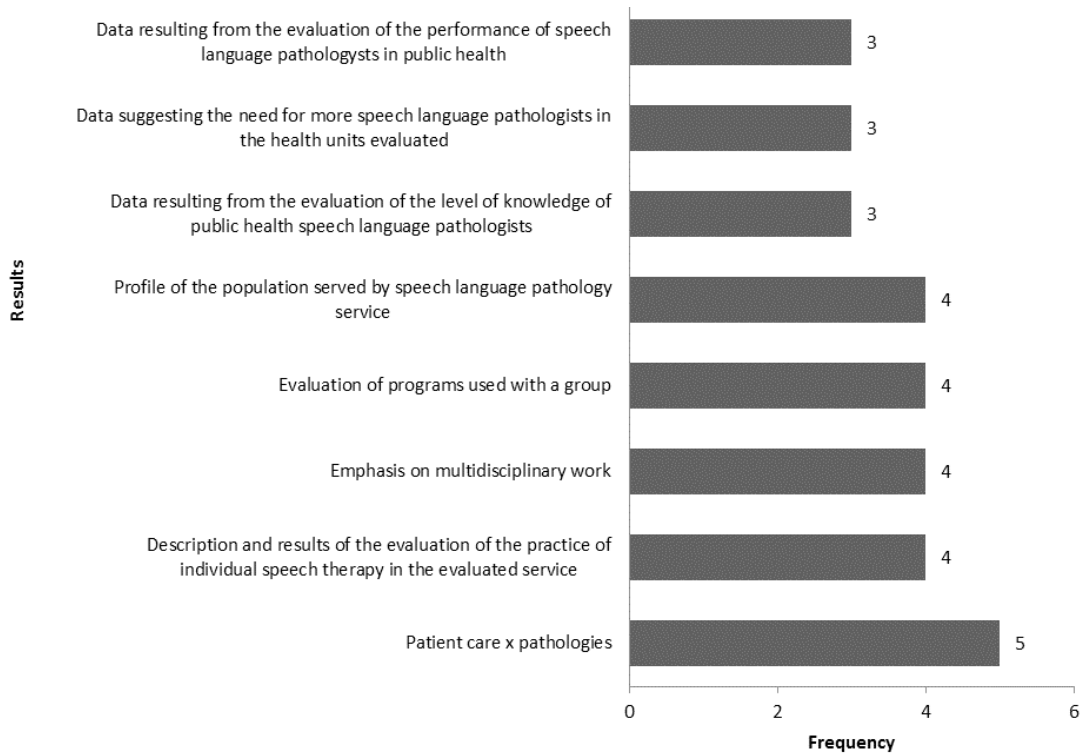


Figure 5. Frequency of the purposes of the analyzed articles



**Figure 6.** Most frequent results found in articles

Regarding the conclusions of the articles in the sample, the most used class was the importance of the insertion of the speech-language pathologist into the multidisciplinary team (Figure 7). It is concluded on this result that the speech-language pathologist is in search of theoretical knowledge for scientific proof of this form of action, or for the attempt of insertion in this context, presenting them to its managers.

The multiprofessional team is now a true and necessary reality in all spaces where actions are taken to improve the quality of health and life of the population<sup>24</sup>.

Another note that deserves mention is the programs of service to the population of the territory that have achieved success. The population participating in these programs becomes a multiplier of knowledge for the local community<sup>25, 26</sup>. This health education initiative has shown to be an effective measure of dissemination of information to improve the quality of life of the population in the most diverse regions of the country. The

reporting of these experiences tends to be a model for other services.

Among the limitations most pointed out by the articles, the insufficient sample appears in seven articles, followed by the sample outside the established criteria and the disarticulation of the teaching-service. Still, 21 articles do not have or indicated limitations during the research (Figure 8).

All the articles analyzed contribute significantly to the speech and language practice, the subjects bring up to date, ordinances, laws, theoretical discussions, analysis of the population attended and reports of practices that guide other professionals in their routine.

The scientific publication should be encouraged among speech-language professionals who work in various contexts and have many routines, techniques, observations, experiences and discoveries to share and contribute to the growth of the profession.



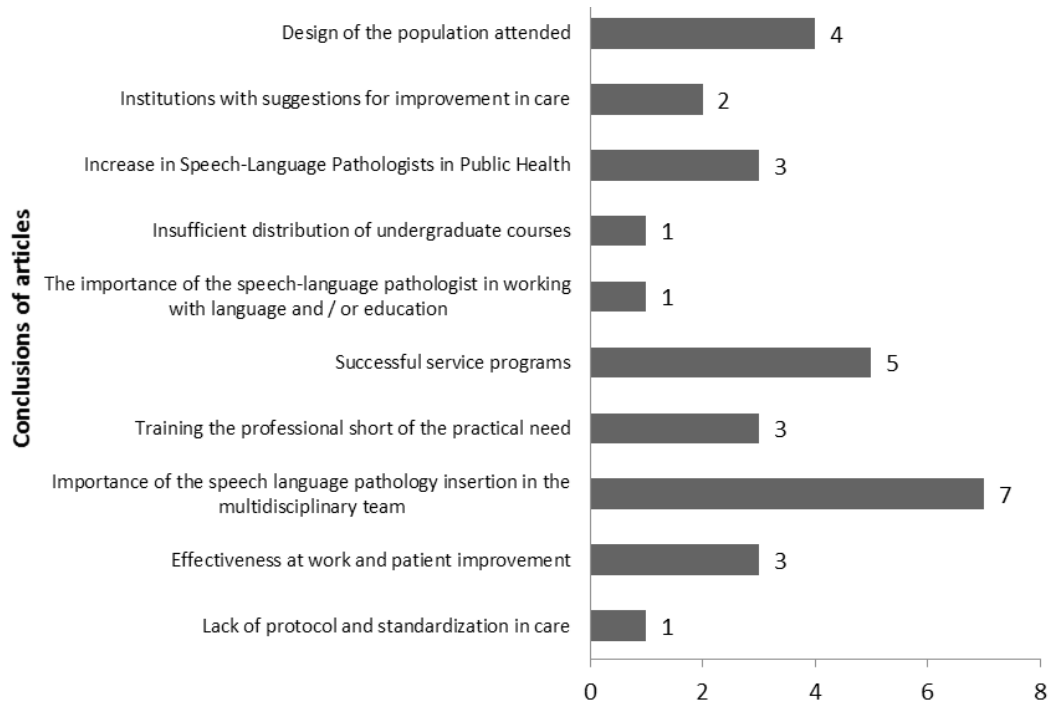


Figure 7. Frequency of conclusions of articles

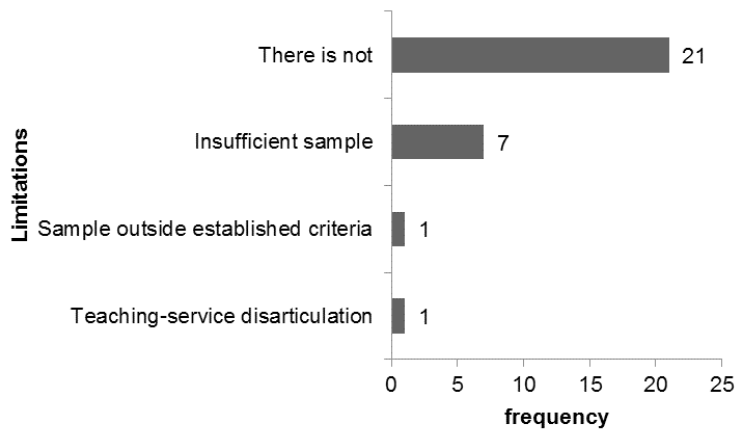


Figure 8. Frequency of limitation of the analyzed studies

## Conclusion

This work allowed an evaluation of the most relevant studies on the topic of Speech Therapy and Public Health and possibilities of access to the current discussions, practical action and perspectives to be reached.

It was concluded that the discussions on the topic of Speech-Language Pathology and Public

Health are increasing. Either by observing the increase in the number of scientific publications by speech-language pathologists, or by the greater insertion of professionals in the area guaranteed by public policies, such as the NASF, and the reformulation of the university curricula that guarantee that the graduate completes the course with experience..

The most frequent objectives in the sample were related to the analysis of the speech-language

pathology practice, and the most frequent conclusions were about the importance of the insertion of the speech-language pathologist in the multidisciplinary team. Analyzing these results it can be concluded that the speech-language pathologist turned his attention to his way of acting in public health and that it is necessary to broaden the focus, favoring the community and strengthening the insertion in the multidisciplinary team.

There is a trend of publication of articles on the role of the speech therapist in the institution that operates on the characterization of the service and the population involved. Therefore, we suggest new studies evidencing the importance of speech therapists in Public Health and discussions about their practice and working methods in this area.

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