

# Voice disorders in teachers and the International Classification of Functioning, Disability and Health (ICF)

## Trastornos de la voz en docentes y Clasificación Internacional de Funcionamiento, Discapacidad y Salud (CIF)

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All relevant data is in the article. For more detailed information, write to the Corresponding Author.

## Abstract

**Introduction.** Contemporary occupational diseases are increasingly expressed by function disorders, which include voice disorders, forcing workers to request a leave of absence from work and leading to an incapacity to perform their work activities. Teachers have the higher prevalence of vocal disorders among the professionals who use their voices professionally, which is reported as the second cause of teaching work absences in Brazil.

**Objective.** To analyze the environment and organization aspects of the teaching work associated with the development of voice disorder of teachers, according to the International Classification of Functioning, Disability and Health (ICF).

**Method.** This study consisted of two steps. Initially, an integrative bibliographic review was performed to search for references related to the topic in the LILACS, MEDLINE and SCIELO databases, using the health descriptors “voice disorders” and “teachers”. Then, the selected articles were read in full in order to identify the work factors associated with the voice disorder and compared with the theoretical framework of the ICF, in order to identify possible indicators of loss of functioning and capacity for teaching work resulting from voice disorders.

**Results.** The presence of dust and noise were the most prevalent environment aspects. In turn, the high demand for work and the lack of autonomy to perform the work were identified as factors related to the organization of the work of the teaching work, as well as stress at work and the presence of situations of violence at school as the most reported work absences.

**Conclusion.** As shown, the factors of teaching work described impact all components of functioning and lead to the incapacity of the teacher to work. The use of the ICF may contribute to systematize and quantify, in a standardized way, the loss

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of functioning and work capacity resulting from voice disorders, in addition to assisting in the development of public health promotion policies and in the prevention of vocal disorders in teachers.

### Keywords

Voice; voice disorders; dysphonia; vocology; signs and symptoms; teachers; worker's health; working environment; working conditions; International Classification of Functioning, Disability and Health – ICF; speech; language and hearing sciences.

### Resumen

**Introducción.** Las enfermedades ocupacionales contemporáneas se expresan cada vez más en trastornos funcionales, que incluyen trastornos de la voz, y que obligan a los trabajadores a solicitar una excedencia del trabajo, provocando la incapacidad para realizar sus actividades laborales. Los docentes tienen la mayor prevalencia de trastornos vocales entre aquellos que usan su voz profesionalmente, lo que se reporta como la segunda causa de ausencias laborales docentes en Brasil.

**Objetivo.** Analizar los aspectos ambientales y organizativos de la labor docente asociados al desarrollo del trastorno de la voz de los docentes, según la Clasificación Internacional de Funcionamiento, Discapacidad y Salud (CIF).

**Método.** Este estudio consta de dos pasos. Inicialmente se realizó una revisión bibliográfica integradora para buscar referencias relacionadas con el tema en las bases de datos Lilacs, Medline y SciELO, utilizando los descriptores de salud “trastornos de la voz” y “docentes”. Luego, se leyeron íntegramente los artículos seleccionados con el fin de identificar los factores laborales asociados al trastorno de la voz y se compararon con el marco teórico de la CIF, con el fin de identificar posibles indicadores de pérdida de funcionamiento y capacidad para el trabajo docente derivados de los trastornos de la voz.

**Resultados.** La presencia de polvo y ruido fueron los aspectos ambientales más prevalentes. A su vez, la alta demanda de trabajo y la falta de autonomía para realizarlo fueron identificados como factores relacionados con la organización del trabajo de la labor docente, así como el estrés en el trabajo y la presencia de situaciones de violencia en la escuela como las ausencias laborales más reportadas.

**Conclusión.** Como se muestra, los factores del trabajo docente descritos impactan todos los componentes del funcionamiento y conducen a la incapacidad del maestro para trabajar. El uso de la CIF puede contribuir a sistematizar y cuantificar, de manera estandarizada, la pérdida de funcionamiento y capacidad laboral derivada de los trastornos de la voz, además de ayudar en el desarrollo de políticas de promoción de la salud pública y en la prevención de los trastornos vocales en los docentes.

### Palabras clave

Voz; trastornos de la voz; disfonía; vocología; signos y síntomas; docentes; salud del trabajador; ambiente de trabajo; condiciones de trabajo; Clasificación Internacional del Funcionamiento, Discapacidad y Salud – CIF; habla; ciencias del lenguaje y audición.

## Introduction

Recent decades have seen a change in the epidemiological profile of workers' illness as a result of the significant social and economic changes that affected the world at the end of the 20th century [1]. In this context, contemporary occupational diseases are increasingly expressed by disorders of function and social behavior.

In turn, teachers have the highest prevalence of vocal disorders, which are a functional disease, among professionals who use their voices at work. In Brazil, these disorders are the second main cause of absence from teaching, following psychic disorders [2]. The same situation is reported in international studies [3] that have associated these disorders with environmental and organizational factors of teaching work, leading teachers to stress at work and loss of functional capacity for work, implying in financial, psychological, and social costs [4]. According to the International Labor Organization (ILO), teachers are the working category at greatest risk of contracting work-related voice diseases. Therefore, the ILO recommends that these issues related to teachers are addressed as privileged object of research in the Worker Health field [5].

Although studies consistently report the association between factors of teaching work and the development of voice disorders [6], there is great difficulty in proving this association due to the impossibility of a direct causal connection, especially because of its functional characteristic, which include a complex, non-objective and linear causality, similar to psychiatric diseases.

In Brazil, several initiatives were conducted aiming to include voice disorders developed in professional activities as a work-related injury [7]. And although no specificity has been exclusively established with only one professional activity, a work-related illness has a higher prevalence in workers involved in a specific activity. These actions led to the development of a differentiated complexity protocol with the Ministry of Health, which was called "Work-Related Voice Disorders" (WRVD) [8].

The WRVD protocol is intended to raise awareness of this disorder in the entire health care network of the Brazilian Unified Health System (SUS) and aims to facilitate the identification of work-related voice disorders, which are defined as "any form of vocal deviation directly related to the use of the voice during a professional activity that slows down, compromises or prevents the worker's activities and/or communication, whether in the presence of an organic change in the larynx or not" [8]. After the publication of the WRVD Protocol, a group of experts included the ICD code R49 in the update of the List of Work-Related Diseases, but it is still awaiting official release.

The WRVD Protocol provides a great advance for the discussion, since it incorporates not only the biological and individual aspects as risk factors for a voice disorder, but also environmental and organizational factors at work as key determinants of this disease. Work environment factors include issues related to the physical, chemical, and biological environment, in addition to hygiene, safety, and anthropometric characteristics of the workplace. In turn, work organization factors involve the division of labor and the content of the task, the hierarchical system, the modalities of management, and the power relations, that is, all issues related to interpersonal relations [9]. However, there is still a challenge to quantify the loss of functioning and work capacity due to voice disorders in a standardized way.

The International Classification of Functioning, Disability and Health (ICF) is the methodology proposed by the World Health Organization (WHO) to measure functional health and disability in individuals and in the population.

The World Health Organization (WHO) classification system that maps the health conditions of populations (International Statistical Classification of Diseases and Related Health Problems - ICD), which is currently in its 10th version, is based on diseases, disorders or injuries, but does not address the impact of this condition on the individual. In turn, the ICF aims to describe the functioning and ability of a person in relation to their health condition. Therefore, the ICD-10 and the ICF are complementary tools, which means that two people with the same diagnosis may have different levels of functioning [10].

As well as other international classifications of the WHO, the ICF is intended to generate information about populations, enabling the description and comparison in the international context. The functioning and disability of individuals are defined according to the environmental context in which they live in a systemic and multidirectional approach. The Portuguese version uses the term “functionality” as opposed to disability, instead of ability [11]. The concept of functioning is based on the description of the positive aspects of body functions, structures, activities, and participation, while the idea of disability is understood in a negative way [10].

Its applications include being a statistical tool for collecting and recording data; a research tool, to measure health, quality of life or environmental factors outcomes; a clinic tool, in the assessment of specific needs or rehabilitation; a social policy tool, in order to plan social security systems and the elaboration and implementation of public policies; and, also, a pedagogical tool, in the development of educational programs and social actions [10].

There are numerous possibilities for using this tool specifically in relation to Occupational Health, since the ICF aims to measure human potential in terms of carrying out activities and social participation, both in relation to their personal characteristics, as in relation to environmental barriers and facilitators [11].

In this context, this study aims to identify environmental and organizational factors of teaching work associated with the voice disorder of teachers through a bibliographic review and to investigate these factors according to the International Classification of Functioning, Disability and Health (ICF).

## Method

The study consisted of two steps. At first, an integrative bibliographic review was carried out to search for references related to “voice disorder related to teaching work”. [12]. Then, the study chose to carry out an integrative review by the broader methodological approach in relation to systematic review, which applies especially to the systematization of clinical research from evidence-based practice. The integrative review allows the inclusion of experimental and non-experimental studies for a complete understanding of the object of study. It can systematically combine data from theoretical and empirical literature, thus developing a consistent and understandable panorama of complex concepts, theories or health problems in the studied area [12].

Given that teachers represent the most researched population in relation to voice and work disorders in Brazil, the search was restricted to the teaching category in order to define the scope of the study [2,13].

The survey was carried out in the LILACS and Medline databases through the Virtual Health Library (VHL) portal and SciELO (Scientific Electronic Library On Line), including “voice disorders” and “teachers” as health descriptors. The inclusion criteria were as follows: articles in Portuguese, which were available in full and which were published in Brazilian journals from 2005 to 2016, including teachers of early education, elementary or high school. Given that the study aimed to focus on the reality of teachers in Brazil, in order to be able to subsidize the development of public policies for the protection of teachers and actions to promote health and prevent voice disorders related to teaching work, this was the main reason for the study to include exclusively Brazilian articles. On the other hand, the study excluded articles that exclusively addressed the diagnosis and clinical management of teachers’ voice disorders, without addressing the management of the teaching work in the disease process.

All data collected (87 studies) was introduced in an Excel spreadsheet according to their source (database), year of publication, journal, title, authors, complete reference, abstract, and link to access the full text.

After this classification, and given the purpose of the research and the inclusion criteria, the articles included (26) were read in full and the material was assessed in order to identify the environmental and organizational factors of the work that could be associated with the voice disorder, differentiating the issues related to working conditions, which involve aspects of the physical, chemical, and biological environment, from organizational issues of work, relating to the content and division of work and interpersonal relationships.

After this step, seven articles were excluded as follows: two were excluded due to the qualitative approach that did not allow the quantification of the analyzed factors; two other articles were excluded for assessing voice disorders in relation to individual habits and lifestyles; while two other were excluded for addressing only vocal aspects (symptoms and vocal assessments) unrelated to the teaching work; finally, one article was excluded for addressing aspects of the teacher’s treatment for voice disorder. Although the excluded articles were not included in the results shown, they were considered in the discussion, when relevant.

Table 1 shows the distribution of publications found according to the databases searched.

**Table 1. Distribution of publications according to databases**

Database	Descriptors	Number of articles		
		Using filters <sup>1</sup>	After reading abstracts <sup>2</sup>	After full reading
BVS (Medline and Lilacs)	Voice disorders and Teachers	65	23	17
SciELO		22	3	2
Total		87	26	19

<sup>1</sup> Filters used: full text available, MEDLINE and LILACS databases (in the VHL), articles in Portuguese published from 2005 to 2016.

<sup>2</sup> Application of the inclusion, exclusion, and withdrawal criteria for duplicated articles.

In the second step of the study, the environmental and organizational work factors associated with the voice disorder raised in the previous step were analyzed according to the literature related to studies that use the ICF as a theoretical reference. This step aimed to report the possible indicators among the factors associated with the voice disorders related to the loss of functionality and capacity for teaching work (ICF Part 1) and contextual factors, including environmental aspects (ICF Part 2) [14].

The components of the ICF Part 1 can be expressed in terms of disability, if the problems are described (disability, limitation or restriction of participation), or in terms of functionality, if the health aspects that do not have problems are indicated. The Disability and Functioning components are interpreted through four constructs that use qualifiers: the functions and structures of the body are interpreted by changes in “physiological systems” or “anatomical structures”, while activities and participation are analyzed by capacity and performance [14].

In addition to the general framework, which provides the context of functioning, qualifiers can be used as complement to the categories. These qualifiers are codes that qualify functioning or disability in a domain or category and can be generic or related to environmental factors. Qualifiers for environmental factors indicate whether that factor is a “facilitator” or a “barrier” to functioning. The codes are presented on a scale from zero to four, where zero indicates no barrier or facilitator and four designates complete barrier or facilitator [14].

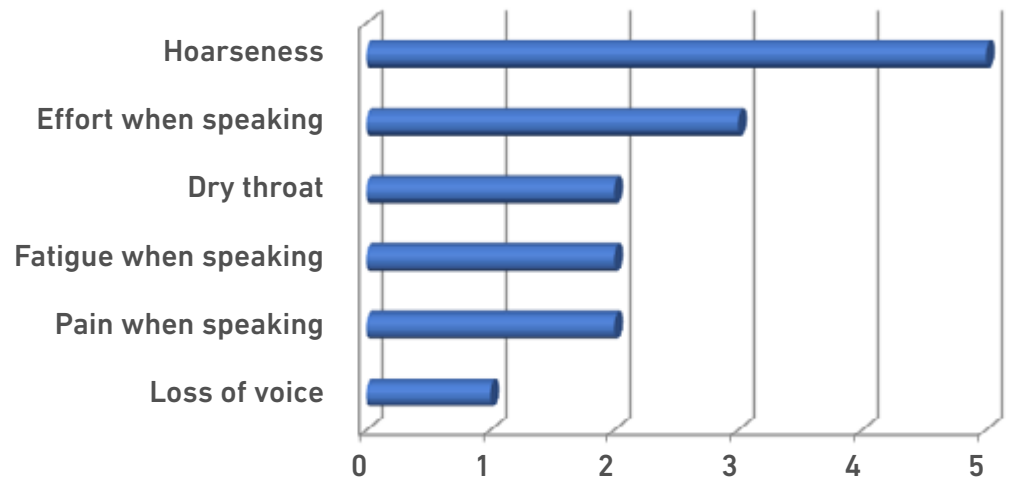
There are two other qualifiers that are called performance and capacity, which indicate how the environment impacts activities and participation. Capacity refers to what an individual can do in a “standard” environment, while performance denotes what individuals actually do in their usual environment. This means that the performance qualifier in activities and participation is closely related to both environmental and personal factors (not classified by ICF) and can indicate the degree to which a change in environmental condition can improve functioning [14].

This study included the dimensions and chapters of the ICF that address functions (defined with the letter “b”, for body) and structures related to voice and speech (defined with the letter “s”, for structure); activities and participation specifically related to communication (defined with the letter “d”, for domain); in addition to global and specific mental functions, which, in some way, are affected when there is a change in communication; activities and participation related to general tasks and demands, interpersonal relationships and interactions and the main areas of life; and environmental factors (defined with the letter “e”, of environment), such as products and technology, support and relationships, attitudes and services, systems and policies.

## Results

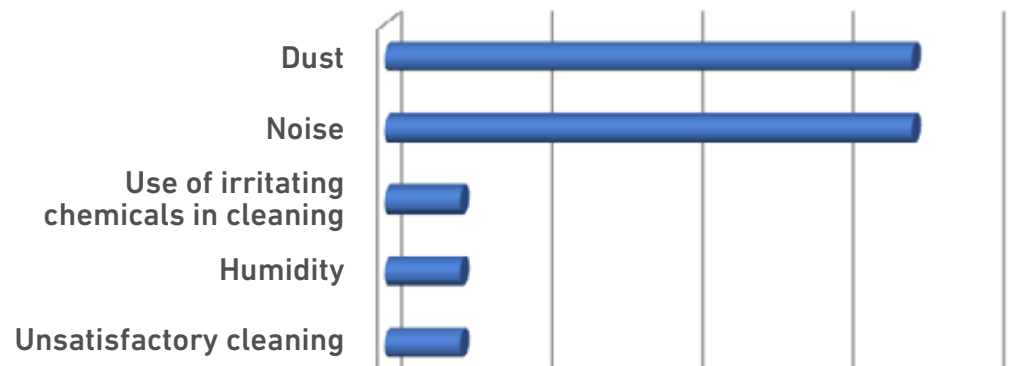
The 19 studies that comprised the final sample of this research evaluated 13,260 teachers, mostly female (76.9%), since seven studies had a sample exclusively of women, with an average age of 39.3 years, with higher education or higher level (82.3%), who have worked for more than 10 years (65.5%) and with a workload of more than 30 hours per week (59%).

Figure 1 shows the distribution of vocal symptoms presented by teachers with voice disorders in the selected studies. Hoarseness was the main vocal symptom reported, on average, by 52.4% of teachers interviewed in the studies. Allergies (seven) and psychic disorders (five) were the main diseases associated with voice disorders found in the studies assessed. As shown



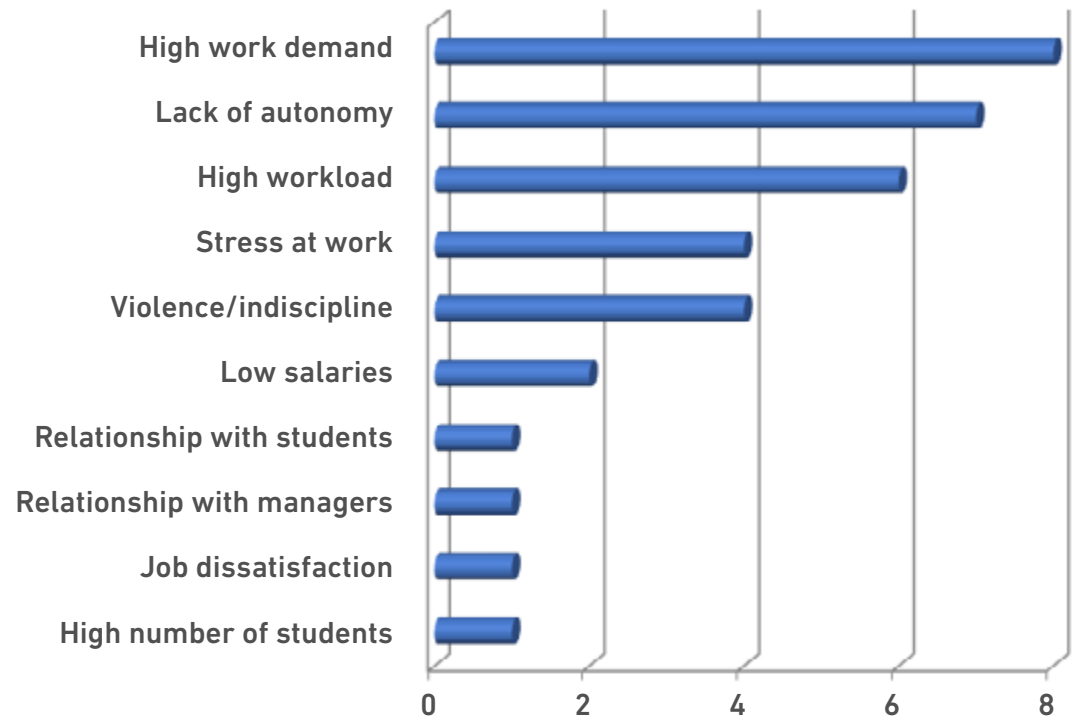
**Figure 1.** Distribution of vocal symptoms presented by teachers according to the number of studies.

in [Figure 2](#), the presence of dust and noise are the most prevalent factors of the physical environment associated with the voice disorder. In turn, [Figure 3](#) shows the factors related to the organization of teaching work associated with the voice disorder of teachers in the studies assessed. It is also noteworthy the reference to the association of a voice disorder of teachers with the absence from teaching work, as reported in five studies.



**Figure 2.** Distribution of school environment factors associated with voice disorders in teachers according to the number of studies.





**Figure 3.** Work organization factors associated with teacher voice disorders according to the number of studies.

## Discussion

The first aspect to be highlighted in the results of this study is the high prevalence of female teachers in the studies selected. It should be noted that some studies included only female teachers, due to the difficulty of making comparisons in very distinct numerical samples of males and females. In addition to the biological aspects, which contribute to the greater organic predisposition of voice disorders in women, who have a smaller larynx and a higher frequency of vibration [15], the sociocultural aspects of this prevalence also stand out in this study.

The concepts of female and male are defined in a relational way, in a historical and social construction; there is no definition of one role without the other. The feminization of teaching is an international phenomenon, which has been reported since 1800 and is associated with industrialization and the expansion of schooling [16]. The author reports that this view has largely contributed to the precariousness of the teacher's profession, including the decrease in the teacher's salary.

Regarding environmental factors, the two most reported factors in this study (i.e., dust and noise) have a significant and direct impact on voice production. Among the environmental factors, the ICF highlights aspects of the natural environment and environmental changes made by humans related to air quality (e260) and sound (e250).

Dust, which may be caused by the use of chalkboards, the presence of sand tanks in children's schools, or even by unsatisfactory cleaning site, may be a significant factor associated with upper airway allergy. In addition, allergic conditions are more disabling for the professional voice user when compared to other individuals, especially due to the damage they



cause to the entire vocal tract, being one of the major causes of the development of benign lesions in vocal folds [17]. Respiratory problems, including allergies, are a major cause of withdrawal from the classroom [18,19].

As for the other environmental aspect highlighted in the selected studies, there are many reports of excessive noise in the school environment. The noise is caused by internal factors, such as the number of classrooms, speech and movement of people in the courtyards, corridors, other rooms, among others. Poor acoustics at school is reported as one of the main environmental factors associated with the teacher's voice disorder [20,21]. As a result of intense noise, teachers need to raise their voices to overcome environmental noise and control the classroom [21].

Given the components and domains of the ICF related to the functions of the body systems, specifically voice and speech, it can be noted that dust and noise affect the functions of production of voice and quality of voice; as well as functions of phonation, pitch, loudness, and other qualities of voice; impairments, such as aphonia, dysphonia, hoarseness, hypernasality, and hyponasality (b310); and the functions of the production of sound made through coordination of the larynx and surrounding muscles with the respiratory system (b3100). In relation to the body structures, there is an impairment of the vocal folds (s3400), the structure of the larynx (s3408 and s3409), in addition to other structures that are specific to the nose, mouth and pharynx (s310, s320, and s330).

Therefore, changes in body functions and structures related to voice and speech resulting from dust and noise are likely to negatively impact all communication-related activities, such as speaking, singing, talking and discussing (d310, d330, d332, d350, and d355), which are critical to the practice of teaching.

Classified in the ICF among the environmental factors, products and technology for communication (e125) and products and technology for employment (e135), the microphone or other sound amplification equipment for voice may be recommended as an individual protective factor or facilitator.

However, the implications of environmental noise exposure are not restricted to the impact on voice functions and structures of voice and speech. Medeiros et al. (2008) showed that 75% of teachers reported background noise during teaching activities. The authors suggest that the perception of loud and unbearable noise in the classroom and at school has a strong association and positive intensity gradient with the presence of mental disorder. Exposure to high levels of noise in poor acoustic environments may lead to inattention, irritability, difficulty concentrating and decreased speech intelligibility [21].

The impact would be greater if the exposure is intensified by time or workload [22]. Thus, the presence of dust and inadequate temperature, for example, would require greater physical and psychological effort to perform the task if a teacher worked for the entire period in a noisy environment. In other words, the physical environment factors directly impact and affect the teacher's health, compromising their activities and social participation.

In this sense, and in addition to the impact on bodily functions and structures that are specific to communication, other dimensions would be affected, such as global and specific mental functions.

The most affected global mental functions would be the (i) temperament and personality functions (b126), such as the aspects of agreeableness, conscientiousness, psychic stability, optimism, and confidence; (ii) energy and drive functions (b130), such as energy level (vigour and stamina), motivation, appetite, craving, and impulse control; and (iii) sleep functions (b134), such as amount of sleep, onset of sleep, and maintenance of sleep.

On the other hand, specific mental functions could also be affected, including (i) attention functions (b140), such as sustaining attention, shifting attention, dividing attention and sharing attention; (ii) memory (b144), such as short-term memory, long-term memory, retrieval of memory and processing, working memory; (iii) emotional functions (b152), such as appropriateness of emotion, regulation of emotion, and range of emotion; and (iv) thought functions (b160), such as pace of thought, form of thought, content of thought, and control of thought.

The high demand for work and the lack of autonomy to perform the work were the most reported organizational factors of work in this study. Although any situation involving low work control may have some effect on health resulting from loss of skill and lack of interest, the relationship between high demand and low control is the most harmful to the professional [4].

The intensification of efforts as a way to deal with work overload can be physical, cognitive or affective. These dimensions are interrelated and the overload in any area may impact other areas [22].

There are other factors that are associated with the presence of voice disorders in teachers, which were found in the results, such as high workload, stress at work, the presence of situations of violence, low pay, difficulties in relationship with students and managers, job dissatisfaction, and the high number of students in the classroom.

Violence at school has been much discussed in recent years and associated with physical and psychological disorders of teachers. Threats to the teacher, insults, violence at the school, violence against employees, and manifestation of racism are some situations of violence associated with voice disorders [23].

The intensification of work takes on the usual characteristics of the Latin American reality, with the extension of the workday, increased responsibilities, the need to take more than one day, lack of time to prepare classes, lack of time to update and learn new practices, and thus characterize the loss of teacher autonomy and control over their work process [24]. In this way, experiences of violence at school, such as relationship difficulties at work, low autonomy, the impossibility of creativity in activities, and poor working conditions in general, are variables that indicate the stress associated with voice disorders in teachers [21].

Other factors, such as repetitive work tasks, dissatisfaction in the performance of activities, uneasy and stressful environment, stressed relationship between teacher-student, lack of autonomy in planning activities, high workload, and pressure from management are also associated with psychiatric disorders and depression in teachers [25].

All aspects of the teaching work organization reported also affect significantly the global and specific mental functions mentioned above. In addition, these aspects impact activities and participation in general tasks and demands, such as undertaking a single task (d210) or undertaking multiple tasks (d220), carrying out daily routine (d230), and handling stress and

other psychological demands (d240). These aspects also impact the performance of activities and participation related to basic interpersonal interactions (d710) and complex interpersonal interactions (d720).

As a result, there is an evident loss of capacity for teaching work. The concept of work ability is based on the interaction between work demands and the worker's physical and mental resources, thus representing a measure of functional aging [26]. The loss of work ability is the result of a process that involves sociodemographic aspects, lifestyle, aging and work demands, and health is one of its main determinants [26]. Teachers miss more work days due to vocal problems than other professionals [3,27], and have been reported for many years as the category with the highest rate of absence due to communication problems worldwide [28]. One in three teachers is required to reduce their teaching activities due to voice disorders, which impacts on the satisfaction, performance, and effectiveness of the teaching work [3]. In addition, the severity of the voice disorder may be indirectly estimated by the loss of ability to work [3;21].

The withdrawal from teaching positions or from schools occurs through absenteeism, leaves of absence, or functional re-adaptation, which are reported in the public school network when teachers are physically or mentally able to remain in their position, which can even result in voluntary dismissal [4]. The difficulty in acquiring, keeping, and terminating a job (d845) stands out within the scope of the ICF dimension that addresses activities and participation related to the main areas of life, specifically work and employment. In the public school system, although the voice disorder affects the career and the career progression, teachers do not feel threatened of losing their job. On the other hand, there is also the challenge of maintaining a remunerative employment (d850) in private institutions.

Within this context of incapacity or loss of functioning to work, the degree of limitation or restriction in the performance of work activities can be understood as directly related to the facilitating factors or barriers encountered by each professional in their recovery, as reported in Toldrá et al. (2010):

When the harmful structural and organizational factors at work and their negative consequences are reduced, there is a contribution to the improvement of workers' health conditions, to the understanding of the mechanisms that lead to early retirements and exclusion from work, with a positive impact in the national economy and in the health and social security systems [29, p57].

The organization of the contemporary teaching work is the main barrier. Thus, the current characteristics of teaching work associated with political-educational changes favor the illness of teachers and the consequent absence from work [2].

Among the facilitating factors, it is possible to highlight the support of the immediate family and extended family (e310, e315), friends (e320), acquaintances, peers, colleagues, neighbours, and community members (e325) and health professionals (e355), who can welcome the professional in health facilities.

Another aspect that could contribute decisively to change the described scenario would be the factors related to health services, systems and policies (e580) and labour and employment services, systems and policies (e590) to recognize the voice disorder of teachers, and other professionals who make heavy use of their voice in their activities, as a work-related illness for

labor purposes. This recognition could mitigate the suffering of teachers who are unable to work due to the vocal changes and who are temporarily or permanently removed from their positions with financial and professional losses.

The lack of recognition of the collective dynamics that underlie vocal deterioration among teachers contributes to the growing loss of work ability and the consequent withdrawal from teaching [4].

As a functional disease with multiple and complex causality, voice disorders are not restricted to the sum of its factors. The diseases defined by the prefix *dis* have a functional concept and are characterized by the experience of being sick [30]. A simple complaint of hoarseness or tiredness when speaking can be sufficient for the therapeutic work in clinical care. However, it is necessary to include a clear and standardized technical-scientific assessment for the quantification of work in the assessment of functional capacity for work.

In this sense, the ICF allows the development of explanatory models and values the different aspects of the process, thus it may be an essential resource for the Occupational Health area [29].

Further studies including international literature should be carried out in order to analyze the environment and organization factors of teaching work associated with the voice disorder, in order to contribute to the development of checklists or coresets including code relationships to measure functioning and disability based on the ICF, without losing the interactive biopsychosocial design of its components.

## Conclusion

The environmental and organizational factors of the teaching work associated with voice disorders were investigated through a bibliographic review of publications in the Brazilian literature. The presence of dust and noise were the most prevalent environmental factors in the bibliographic review, while the high demand for work and the lack of autonomy to perform the work, as well as stress at work and the presence of situations of violence at school, were the most reported factors among those related to the organization of the teaching work.

When analyzing these factors according to the theoretical framework of the International Classification of Functioning, Disability and Health (ICF), it was concluded that they impact all components of functioning and contribute to the teacher's work disability. Therefore, the ICF may contribute to systematize and quantify, in a standardized manner, the loss of functioning and work ability as a result of voice disorder, as well as helping the preparation of public policies that recognize voice disorders as a work-related disease.

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