ÍNDICE DE CAPACIDADE PARA O TRABALHO E DESEQUILÍBRIO ESFORÇO-RECOMPENSA RELACIONADO AO DISTÚRBIO DE VOZ EM PROFESSORAS DA REDE ESTADUAL DE ALAGOAS

Index of workability and Effort-Reward imbalance related to voice disorder in Teachers in the state of Alagoas

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RESUMO

Objetivo: verificar a associação entre distúrbio de voz e dados sociodemográficos e organizacionais (situações de violência) do trabalho docente, e entre perda de capacidade para o trabalho e estresse psicossocial no trabalho. Métodos: os participantes [faltou a coleta de voz para definir os grupos com e sem distúrbio de voz] foram solicitados a responder aos questionários Condição de Produção Vocal do Professor, Deseguilíbrio Esforco-Recompensa e Índice de Capacidade para o Trabalho. Resultado: foi encontrada associação entre distúrbio de voz e os dados sociodemográficos e organizacionais do trabalho no que diz respeito ao tempo que leciona (p=0,028), ao número de escolas em que leciona (p=0,004) e às situações de violência no quesito depredação (p=0,037). Não houve significância entre o distúrbio de voz e os escores dos questionários Desequilíbrio Esforço-Recompensa e Índice de Capacidade para o Trabalho (p>0,05). Houve associação entre os dados sociodemográficos e os questionários Desequilíbrio Esforço-Recompensa e Índice de Capacidade para o Trabalho, relacionada à faixa etária (p=0,042) e à variável "Trabalha em outro local diferente da escola" (p=0,011), respectivamente. **Conclusão:** observa-se que professoras que possuem mais de 11 anos de docência, lecionam em duas ou mais escolas e trabalham em escolas que sempre têm depredações e violência contra os funcionários apresentam maiores chances de ter distúrbio de voz. Não houve associação entre a perda da capacidade para o trabalho e a presença do distúrbio de voz. O estresse psicossocial não mostrou significância com a presença do distúrbio de voz, mas apresentou associação com a faixa etária, observando-se Alto Desequilíbrio Esforço-Recompensa nas professoras mais jovens.

DESCRITORES: Qualidade de Vida; Voz; Docentes; Saúde Ocupacional

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■ INTRODUCTION

Among the professionals who use their voices as main work tool, the teacher is the subject of most research in speech therapy. The Brazilian literature has a large number of studies aimed at the characterization of voice problems in teachers¹ and cites a high prevalence of voice disorders, using the same instrument, and 63,1% for Brazilian teachers², and 57.7% for Americans³.

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The precarious conditions of teaching are shown associated with morbid symptoms and are related to environmental conditions, work organization, health and quality of life as well as the ways in which the teacher lives, realizes and expresses these conditions and their daily confrontations 4.

These conditions are directly related to risk factors for dysphonia, because they generate vocal abuse and can also contribute to the emergence of emotional and mental problems ^{5,6}. It is common to observe discipline in classrooms and a large number of students in this way, efficient communication between teachers and students are impaired, generating a greater physical and mental effort on the part of teachers.

Thus, voice changes have presented significant limitations in the development of teaching, bringing serious consequences, such as: loss of working days7; emotional and psychological8 problems that lead to reduced well-being and quality of life, and, finally, social isolation9. In addition, these changes generate situations of removal and temporary incapacity for the performance of the teaching function, causing losses social, economic and professional 10.

Although there is a commitment to recognize the teacher's voice disorder, the list of notifiable diseases of the Unified Health System (SUS). Unfortunately, there is still no standard legal definition of conduct, not only by the absence of specific legislation on health and safety at work, but also by the absence of criteria for reporting in SUS, which prevents the identification of the real dimension of the offense, the planning and the adoption of relevant policy measures to the Ministries of Health (MS); Labor and Employment (MTE); Social Security (MPS) and society in general about their causes and determinants 11.

The World Health Organization states that quality of life with regard to the way the individual lives, according to the context in which it is inserted, involving the socio-cultural, physical and psychological factors¹². Epidemiological studies show that the prevalence of voice disorders is significantly higher in teachers when compared to non-teachers as well as the persistence of these disorders throughout their lives 4.

The term "capacity for work" (ICT) refers to a condition resulting from the combination of human resources, physical, mental and social demands of work, organizational aspects and work environment, and is expressed as the well level being in which a worker is presently or in the near future as well as how he is able to perform their work to the demands of their health and their physical and mental abilities¹³.

In Brazil two studies stand out for using ICT in teaching. Marguese and Moreno (2009)14 applied ICT in 154 university professors. The results revealed that the majority (87%) of the teaching presented good or excellent workability; that satisfaction in the exercise of teaching can enhance the ability to work professional in this area and that teachers are satisfied with the activity performed, as well as the environment in which they live.

Giannini (2010)¹⁵ conducted a case-control study with 167 teachers with change in ENT and voice perceptual ratings and 105 teachers without changes in these two assessments to determine the association between voice disorder, stress at work and loss of earning capacity. The author concluded that the lowest category and moderate capacity for work are associated with the presence of voice disorder.

A study of teachers of a municipal school network of São Paulo investigated the association between voice disorder and stress at work and loss of ability to work, using case-control, in which case group was formed by teachers with changes in ratings voice and larynx and the control group with no change in the ratings. The authors pointed out that there was an association between the voice disorder and stress at work, as well as between the speech disorder and the loss of capacity for work¹⁶.

The study on the imbalance between effort and reward - specifically the model of Effort-Reward Imbalance (DER) - and its relationship to health seeks to understand the contribution of social and psychological factors for the health and human disease¹⁷. "Effort" refers to the time pressure, breaks and physical overload that the worker must fulfill, namely the obligations perceived by the employee; and "reward" in turn, is made up of financial gain (adequate salary), self-esteem (respect and support from colleagues and superiors) and occupational status (promotion prospects, job security and social status)17.

The teacher's voice is an important resource for oral communication and its disorders can have important repercussions for your personal and professional life. Thus, the objective of the study is to investigate the association between the voice disorder and demographic data, violent situations in teaching, the loss of ability to work¹⁸ and psychosocial stress at work¹⁷.

METHODS

This is an epidemiological study analytic cross sectional. This procedure was approved by the Ethics Committee of the National School of Public Health Sergio Arouca - ENSP, with Protocol 227/11

and the State University of Health Sciences of Alagoas - UNCISAL, Protocol 1345/10.

This research involved 110 teachers of the female elementary school (1st to 9th grade) of Alagoas State Education Network - REEAL. It selected a representative sample of teachers from schools subordinated to 04 (four) Coordination Regional Education (CRE) in the city of Maceio. Search for selection of teachers, allocation proportional to the number of teachers was held in each CRE and drawn at random by the registration list provided by each CRE.

The perceptual analysis was performed with recording of the voices directly into a laptop (HP Pavilion Entertainment PC) with headset microphone of the brand Plantronics Audio 20 with 45° pickup angle, positioned at a fixed distance of five centimeters the individual's mouth. The vocal sample consisted of speech tasks: sustained vowel /a/ and counting of numbers 1-10 in comfortable frequency and intensity. The parameter selected for analysis was the G, general degree of vocal deviation, recorded on visual analog scale (VAS) of 100 units.

The results of VAS were categorized according to the proposed by Yamasaki et al. (2008) 19: to 35,5 units as variability Normal Quality Vocal (VNQV), from 35,6 to 50,5 as mild to moderate, from 50,6 to 90,5 as moderate to intense level and above 90,5 as intense. The two extremes, 0, 100 and left, right, correspond respectively to the absence of voice deviation and maximum voice deviation. Thus, two groups emerged: vocal-disorder with CDV (> 35,5) and without SDV vocal-disorder (0 to 35,5).

In order to minimize the subjective aspects of the evaluation and control possible measurement bias, it was decided in this study use three speech therapists judges, experts in voice and time higher performance to five years in voice clinic who did not know the purpose of research and evaluating the voices in three different moments. It was decided to use the average of three times for being the average statistical measure most often used for numerical variables.

The subjects underwent questionnaire Professor Vocal Production Condition - CPV-P20, to raise demographic and organizational data of teaching; and the questionnaire Capacity Index for Work -ICT18, in order to assess the capacity for work considering physical and mental demands as well as the resources and the health condition of the workers according to their perception. Also responded to the questionnaire Effort-Reward Imbalance - DER17, in order to measure the level of stress to which the worker is exposed. The teachers also received an envelope containing a copy of the questionnaire and a copy of the Consent and Informed - IC.

The Capacity Index instrument for Work was developed and validated in English by the Finnish Institute of Occupational Health (FIOH), translated and tested for Portuguese¹⁸. This instrument evaluates the capacity for work considering the physical and mental demands and resources and the health condition of the workers according to their perception. It allows early diagnosis of loss of capacity to work for prevention programs, maintenance and health promotion assist in occupational health and worker, regardless of the age factor, should be used to reduce the risk of disability in the future next WAI evaluates seven dimensions: capability for the current job compared with the best of all life; ability to work in relation to the demands of the job; number of diseases diagnosed by a physician; loss estimated work due to illness; absence from work for illness; own prognosis of ability to work and eventually mental resources. The generated score ranges 7-49 points, of which 7-27 correspond to low capacity for work, 28-36, the moderate ability, 37-43, good capacity and 44-49, the optimal capacity.

The imbalance between Scale Effort-Reward [now presents capitalized sometimes not - uniform] is used to measure the level of stress to which the worker is exposed. The final questionnaire contains 23 questions, arranged in three-dimensional scales: effort (six items); reward (11 items) - these divided into three subscales: estimates (five items), promotion prospects in employment and wages (four items) and safety (two items) - and, finally, overcommitment (six items). On the scales of effort and reward, responses vary in the degree of agreement or disagreement, with scores ranging from 1 to 5. In the overcommitment scale, the answers range from strongly disagree and agree strongly with scores between 1 and 4¹⁷.

For the analysis of data from demographic and organizational data was performed a descriptive analysis using mean, median and standard deviation and analytical statistical analysis using the Chi-square test and Pearson exact fisher, through the SPSS (Statistical Package for social Sciences) in version 17 and STATA in version 1 was considered the dependent variable the presence of the voice disorder and the independent results of the questionnaires ability Index for the job (ICT) and Scale Effort-Reward Imbalance (DER).

RESULTS

The age of the surveyed teachers ranged from 29 to 62 years old, with an average of 45,8 years old. As for sociodemographic characteristics, we highlight the following: the range from 29 to 39 was the least prevalent of the three groups, with 22,7% of the sample, and the percentages of the other two groups ranged from 38,2% (40-49 years old) to 39.1% (50-62); the majority (63.6%) were married or had stable, the rest were separated/widowed (20,9%) or single (15,5%). The vast majority (95,5%) had complete higher education; slightly more than half (50,9%) taught between 11 and 20, and the rest was divided equally between who taught there up to 10 and even 21 or older (24,5%). Just over half (51,8%) taught in one school and the rest (48,2%) in two or three schools; the most frequent weekly duration was 21-30 hours, with about half of the group (49,1%) and the second highest percentage (30,9%) corresponded to those that had a workload of 20 hours; only 9,1% worked in a different location of the school.

In socio-demographic results it was found, to the margin of error fixed (5,0%), a significant association between the presence of voice disorder, the time it teaches and the number of schools that teaches. For such variables, the percentage with voice disorder was higher among teachers who teach between 11 and 20 years (44,6%) and lower among those who teach there until 10 years (14,8%); higher among those who teach in two or three schools than among those who teach in one school (49,1% vs. 22,8%). The teachers who teach for more than 10 years have 2,5 to 3,0 more likely to have the voice disorder when compared to the group who teaches there 10 years. The teachers who teach in more than one school are 2,15 more likely to have the voice disorder when compared to the group who teaches at only one school.

Significant associations were found between the presence of voice disorder and violent situations at school that refer to organizational data of teaching (Table 1).

Local de inserção da tabela 1 (autores: não inserir as tabelas aqui, é apenas uma marcação)

DER scale the results were used in four categories (Low effort and high reward, high stress and high reward: Low effort and low reward, high effort and low reward) and two categories (Low/Medium, High), and ICT into categories (low, moderate and good) in the whole group. Thus, it appears that most teachers (62,7%) were classified with low stress and low reward and the percentage of the other three categories ranged from 9,1% to 15,5%. In DER scale study of two categories, the majority (64,5%) were classified in the "Low/medium" and the remaining 35,5% in the "High" category. With regard to ICT, most of the teachers were classified as low to moderate ICT, totaling 99,1%. No teacher had great ICT.

In Figure 1 are the mean and the standard deviation of the ICT scores according to the occurrence of voice disorder.

Local de inserção da figura 1

Table 2 presents the association's study scores of scales imbalance Effort-Reward (DER) and Capacity for Work Index (ICT) with the groups with vocal disorder (CDV) and without vocal disorder (SDV). Figure 2 shows the prevalence of voice disorder according to four categories of DER.

Local de inserção da tabela 2 e figura 2

This study also allowed realizing the association of socio-demographic data with the DER and ICT scales. DER in scale, it turns out that "age group" was the only variable with significant association and for this variable is observed that the percentage of those who had high DER decreased with increasing age, being 56.0% in the range up to 39, 32.6% in the range 40-49 years and 26,2% in the group aged 50 or more. The teachers who were vounger than 40 have 1,53 to 1,68 higher prevalence ratios (PR) compared to the group less than 40 years old. In relation to ICT, the variable "It works in a different school site" was the only variable significantly associated with the results of ICT, and this variable is found that the percentage with low ICT was higher in working than among those did not work at another location other than the school (60,0% vs. 20,0%). The teachers working in a different school site have 3,0 more likely to have the voice disorder when compared to the group that does not work elsewhere.

DISCUSSION

This study was conducted with teachers who, in their majority, were aged between 40 and 49, as similar to what was observed in another study 19 which found that most of the individuals belonged to the age group 30-49 years information those that are in line with other studies in the literature^{5,21-23}. Other features found in most of the group, as a profession of time between 11 and 15 years, working hours 31-40 hours per week and work predominantly in a single school are also similar to data from other surveys of the same category of professionals^{22,24}.

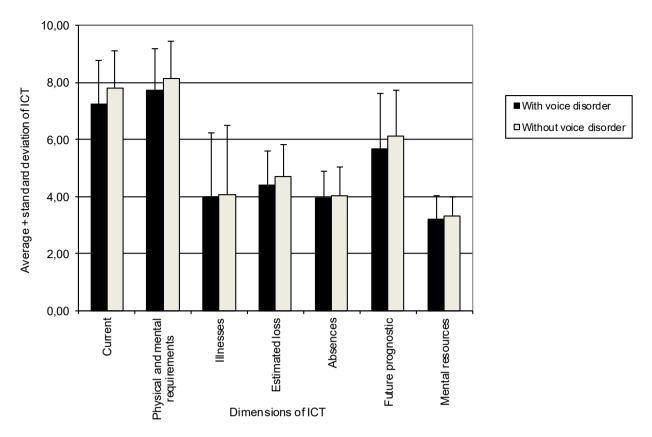
It is known that the more years of exposure to teaching, more likely to have voice disorder, although the literature is controversial regarding the association of the profession time and voice disorder^{23,25}. The high weekly working hours in the teaching activities, family responsibilities,

Table 1 – The group of teachers with voice disorder and without voice disorder, according to the situations of violence that occurred in the school environment.

| | Voice disorders | | | | - Total Group | | | |
|---|-----------------|--------------|----------|--------------|---------------|----------------|--------------------|--|
| Variable | | | | SDV | | Group | P value | RP (IC to 95%) |
| | n | % | n | % | n | % | | |
| TOTAL | 39 | 35,5 | 71 | 64,5 | 110 | 100,0 | | |
| Depredations | | | | | | | | |
| Never | 6 | 18,8 | 26 | 81,3 | 32 | 100,0 | $p^{(1)} = 0.037*$ | 1,00 |
| Sometimes | 16 | 37,2 | 27 | 62,8 | 43 | 100,0 | | 1,98 (0,87 a 4,50 |
| Always | 17 | 48,6 | 18 | 51,4 | 35 | 100,0 | | 2,59 (1,17 a 5,75 |
| Personal objects stolen | | | | | | | | |
| Never | 9 | 28,1 | 23 | 71,9 | 32 | 100,0 | $p^{(1)} = 0,223$ | 1,00 |
| Sometimes | 16 | 32,7 | 33 | 67,3 | 49 | 100,0 | | 1,16 (0,59 a 2,30 |
| Always | 14 | 48,3 | 15 | 51,7 | 29 | 100,0 | | 1,72 (0,88 a 3,35 |
| Objects from school stolen | 40 | 00.0 | 07 | 00.0 | 00 | 400.0 | (1) 0 554 | 4.00 |
| Never | 12 | 30,8 | 27 | 69,2 | 39 | 100,0 | $p^{(1)} = 0,554$ | 1,00 |
| Sometimes | 16 | 34,8 | 30 | 65,2 | 46 | 100,0 | | 1,13 (0,61 a 2,09 |
| Always | 11 | 44,0 | 14 | 56,0 | 25 | 100,0 | | 1,43 (0,75 a 2,73 |
| Threat to teacher Never | 11 | 26.0 | 30 | 73,2 | 41 | 100,0 | $p^{(1)} = 0.332$ | 1.00 |
| Never Sometimes | 20 | 26,8 41,7 | 30 28 | 73,∠ 58,3 | 41 | 100,0 | p·/ - 0,332 | 1,00 1,55 (0,85 a 2,85 |
| Always | 20 8 | 38,1 | 20 13 | 56,3 61,9 | 46 21 | 100,0 | | 1,42 (0,68 a 2,9 |
| Police intervention | O | JU, I | 13 | 01,8 | ۱ ک | 100,0 | | 1,72 (U,00 a 2,9) |
| Never | 10 | 29,4 | 24 | 70,6 | 34 | 100,0 | $p^{(1)} = 0,145$ | 1,00 |
| Sometimes | 12 | 29,3 | 29 | 70,7 | 41 | 100,0 | p·· = 0,140 | 1,00 (0,49 a 2,0 |
| Always | 17 | 48,6 | 18 | 51,4 | 35 | 100,0 | | 1,65 (0,89 a 3,08 |
| ● Racism | ., | 40,0 | .0 | 01,- | 00 | 100,0 | | 1,00 (0,00 a 0,0 |
| Never | 25 | 36,8 | 43 | 63,2 | 68 | 100,0 | $p^{(1)} = 0.400$ | 1,65 (0,66 a 4,1 |
| Sometimes | 10 | 41,7 | 14 | 58,3 | 24 | 100,0 | ρ 0,.00 | 1,88 (0,70 a 5,0) |
| Always | 4 | 22,2 | 14 | 77,8 | 18 | 100,0 | | 1,00 |
| Indiscipline in classroom | | , | | , - | | , . | | , |
| Never | 1 | 14,3 | 6 | 85,7 | 7 | 100,0 | $p^{(2)} = 0,508$ | 1,00 |
| Sometimes | 14 | 34,1 | 27 | 65,9 | 41 | 100,0 | | 2,39 (0,37 a 15,4 |
| Always | 24 | 38,7 | 38 | 61,3 | 62 | 100,0 | | 2,71 (0,43 a 17,0 |
| ● Fights | | | | | | | | , |
| Never | 6 | 31,6 | 13 | 68,4 | 19 | 100,0 | $p^{(1)} = 0,591$ | 1,00 |
| Sometimes | 12 | 30,8 | 27 | 69,2 | 39 | 100,0 | | 0,97 (0,43 a 2,20 |
| Always | 21 | 40,4 | 31 | 59,6 | 52 | 100,0 | | 1,28 (0,61 a 2,6 |
| Agressions | | | | | | | | |
| Never | 10 | 35,7 | 18 | 64,3 | 28 | 100,0 | $p^{(1)} = 0,612$ | 1,00 |
| Sometimes | 12 | 30,0 | 28 | 70,0 | 40 | 100,0 | | 0,84 (0,42 a 1,6 |
| Always | 17 | 40,5 | 25 | 59,5 | 42 | 100,0 | | 1,13 (0,61 a 2,10 |
| • Shots | | | | | | | (0) | |
| Never | 35 | 35,4 | 64 | 64,6 | 99 | 100,0 | $p^{(2)} = 0,144$ | 1,00 |
| Sometimes | 1 | 14,3 | 6 | 85,7 | 7 | 100,0 | | 0,40 (0,06 a 2,53 |
| Always | 3 | 75,0 | 1 | 25,0 | 4 | 100,0 | | 2,12 (1,13 a 3,9 |
| • Insults | 0 | 20.7 | 20 | 70.0 | 20 | 100.0 | m(1) = 0.000 | 4.00 |
| Never | 8 | 26,7 | 22 | 73,3 | 30 | 100,0 | $p^{(1)} = 0,368$ | 1,00 |
| Sometimes Always | 15 16 | 34,9 43,2 | 28 21 | 65,1 56,8 | 43 37 | 100,0 100,0 | | 1,31 (0,64 a 2,69 1,62 (0,81 a 3,20 |
| Violence outside the school | 10 | 43,2 | ۷1 | 30,0 | 31 | 100,0 | | 1,02 (0,01 a 3,20 |
| Never | 10 | 23,8 | 32 | 76,2 | 42 | 100,0 | $p^{(1)} = 0.057$ | 1,00 |
| Sometimes | 20 | 48,8 | 21 | 51,2 | 41 | 100,0 | p 0,007 | 2,05 (1,10 a 3,8 |
| Always | 9 | 33,3 | 18 | 66,7 | 27 | 100,0 | | 1,40 (0,65 a 2,9 |
| Violence against the school staff | J | 55,5 | . • | 00,1 | | , . | | ., (3,00 a 2,00 |
| Never | 17 | 24,6 | 52 | 75,4 | 69 | 100,0 | $p^{(1)} = 0.008*$ | 1,00 |
| Sometimes | 15 | 55,6 | 12 | 44,4 | 27 | 100,0 | , | 2,25 (1,32 a 3,84 |
| Always | 7 | 50,0 | 7 | 50,0 | 14 | 100,0 | | 2,03 (1,04 a 3,9 |
| Problems with drugs | | • | | • | | • | | , , , , |
| Never | 10 | 28,6 | 25 | 71,4 | 35 | 100,0 | $p^{(1)} = 0,569$ | 1,00 |
| Sometimes | 13 | 37,1 | 22 | 62,9 | 35 | 100,0 | | 1,30 (0,66 a 2,5 |
| Always | 16 | 40,0 | 24 | 60,0 | 40 | 100,0 | | 1,40 (0,73 a 2,6 |
| ● Graffiti | | | | | | | | |
| Never | 13 | 31,7 | 28 | 68,3 | 41 | 100,0 | $p^{(1)} = 0,348$ | 1,00 |
| Sometimes | 8 | 28,6 | 20 | 71,4 | 28 | 100,0 | | 0,90 (0,43 a 1,8 |
| Always | 18 | 43,9 | 23 | 56,1 | 41 | 100,0 | | 1,38 (0,79 a 2,44 |

Legend: (*): Significant association to level 5,0%. (**): It has not been possible to determine due to the occurrence of very low frequencies. (1): Pearson's Chi-square Test. (2): Fisher's exact test. CDV: With vocal disorder

SDV: Without vocal disorder. RP: Ratio of prevalence. IC: Confidence interval



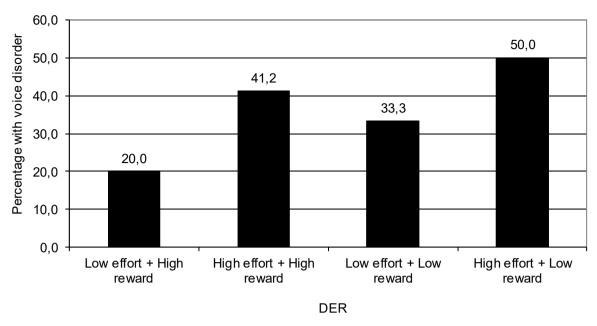
Legend: ICT- Index of Ability to Work

Figure 1 - Average and Standard Deviation of the scores of the Index of Ability to Work according to the occurrence of voice disorder.

Table 2 - Analysis of the scores of the Effort-Reward Imbalance Scales (DER) and Index of Ability to Work (ICT) with the CDV group and SDV.

| Variable | | Voice disorders | | | | C | P value | RP (IC to 95%) |
|---|-----|-----------------|-----|-------|-------------|-------|-------------------|--------------------|
| | CDV | | SDV | | Total Group | | | |
| | n | % | N | % | n | % | | |
| TOTAL | 39 | 35,5 | 71 | 64,5 | 110 | 100,0 | | |
| DER with 4 categories | | | | | | | | |
| Low effort + High reward | 2 | 20,0 | 8 | 80,0 | 10 | 100,0 | $p^{(1)} = 0,463$ | ** |
| High effort + High reward | 7 | 41,2 | 10 | 58,8 | 17 | 100,0 | | ** |
| Low effort + Low reward | 23 | 33,3 | 46 | 66,7 | 69 | 100,0 | | ** |
| High effort + Low reward | 7 | 50,0 | 7 | 50,0 | 14 | 100,0 | | ** |
| DER with 2 categories | | | | | | | | |
| Low/ Middle | 25 | 35,2 | 46 | 64,8 | 71 | 100,0 | $p^{(2)} = 0,943$ | 1,00 |
| High | 14 | 35,9 | 25 | 64,1 | 39 | 100,0 | | 1,02 (0,60 a 1,72) |
| • ICT | | | | | | | | |
| Low | 13 | 50,0 | 13 | 50,0 | 26 | 100,0 | $p^{(1)} = 0,151$ | ** |
| Moderate | 26 | 31,3 | 57 | 68,7 | 83 | 100,0 | | ** |
| Good | _ | - | 1 | 100,0 | 1 | 100,0 | | ** |

Legend: (**): It has not been possible to determine due to the occurrence of zero and very low frequencies. (1): Fisher's exact test. (2): Pearson's Chi-square Test. CDV: With Vocal Disorder. SDV: Without Vocal Disorder. RP: Ratio of Prevalence. IC: Confidence Interval. DER: Effort-Reward Imbalance. ICT: Index of Ability to Work.



Legend: DER: effort-reward imbalance

Figure 2 - Voice disorder prevalence according to the four categories of the DER

housework and various social roles that have to take can configure a double or triple workday²⁶ and all these factors may compromise their professional performance and vocal 4,11.

Most of the teachers studied reported no work in another location other than the school (100; 90,9%). This finding is similar to the result of that study 25 found that 75% of teachers had no other work. Of the 10 (9,1%) working at another location other than the school, 06 (60%) had occupations that required the use of voice (sales, customer service, prayer group leader), a reality that proves that excessive vocal demand can trigger a voice problem.

It is known that the performance of teaching activities is compromised due to a number of environmental factors and work organization. One such factor is the violence in the school physical environment. In this study, the variables "depredations" and "violence against officials" were presented different between CDV and SDV groups and the literature states that the presence of these situations can create stress conditions associated with voice disorder teacher, favoring his illness physical or psychological²⁷. A recent study found that factors that represent the direct violence (such as assault, insult, violence to the school gate, violence against other employees and manifestation of racism) are among the most statistically associated factors to the presence of disorder voice of violence against the physical installation or against school supplies²⁸.

Scale Effort-Reward Imbalance (DER) is used to measure the level of stress to which the worker is exposed. Conditions of high efforts and low rewards lead to stressful experiences can cause adverse health effects¹⁷, including voice disorders.

With respect to that scale, the results indicate that in the two older age groups (40-49 and above 50 years old), the surveyed showed a Low DER and the youngest age group (up to 39), a High DER. Our findings are consistent with study²⁹ that states that the working of nursing with high DER, compared to professionals with Low DER, are younger, higher education and reported greater impact of the work, especially with regard to emotional content. This category "exposed" to the effort-reward imbalance (High DER) is the category with risk of psychosocial stress. High DER provides higher levels of perceived anxiety, depression and psychological stress by increasing the effects of exhaustion30. These authors also showed that the perception of reward component increases significantly with age.

In relation to ICT is contacted that 99,1% of the teachers had ICT low/ moderate differing from the study of academics who reported 87% good/great ICT¹⁵. We know that the ability to work is considered as a result a dynamic process of individual resources in relation to their work and suffering changes due to various factors, including health status, sociodemographic characteristics, lifestyle, aging and work-related factors¹⁴. A possible inference of this research finding may be the precarious conditions of the school environment, the organization of the labor process and labor relations, precarious this out as source of negative consequences for the health, well-being, quality of life and Teachers productivity for which stress is considered a major triggering agents such consequences.

A higher prevalence of Down ICT among the ten teachers who worked at another location other than the school was observed. Being the "capacity for work" associated with worker's qualifications (based on their physical, mental and social capacity to cope with the demands of work), the teacher expects, in your profession, not only respect and professional recognition, but also good wages, greater autonomy and good physical condition to your desktop. These attributes, however, are not in current teaching work³¹, and may therefore affect the workability. This data can cause teachers to seek other work activity to supplement their income and that brings you professional development. It is noteworthy that the non-recognition of these values, combined with the vocal teacher illness, contributes to the increase in loss of ability to work and the consequent removal of teaching.

CONCLUSION

From the study it can be concluded that teachers who have over 11 years of teaching, teach in two or more schools and work in schools that always have depredations and violence against employees are more likely to have voice disorder.

The loss of capacity for work and the voice disorder presence are not associated with the high percentage of teachers found in the lower category and moderate ICT. However, it is observed that the percentage of teachers with low ICT was higher in those who worked at another location other than the school. It was observed that the psychosocial work stress was not significant with the presence of voice disorder, but was associated with the age group where there is high DER in the younger teachers.

ABSTRACT

Purpose: to verify the association between the voice disorder and sociodemographic and organizational data (situations of violence) of teaching, between loss of workability and psychosocial stress at work. Methods: participants were asked to answer the protocols: Condition of Vocal Production of Teacher, Effort-Reward-Imbalance and Work Ability Index. Results: correlation was found between voice disorder and demographics and organizacionals work data in relation the time that teaches (p=0.028), amount of schools that teaches (p=0.004) and to the situations of violence in the issue depredation (p=0,037); there was no significance between the voice disorder and the scores of Effort-Reward-Imbalance and Work Ability Index questions (p>0,05). There was an association between sociodemographic data and Effort-Reward-Imbalance and Work Ability Index questions related to age (p=0,042) and variable "Works in elsewhere beyond school" (p=0,011), respectively. **Conclusion:** it is observed that teachers who have more than 11 years of teaching: teachs in two or more schools, works in schools that happens always depredations and violence against employees, are more likely to have a voice disorder. There was no association between loss of work ability and the presence of the voice disorder. Psychosocial stress was not associated with the presence of voice disorder, but was associated with age, observing high Effort-Reward-Imbalance in younger teachers.

KEYWORDS: Quality of Life; Voice; Faculty; Occupational Health

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