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Original Research

How primary schoolteachers are affected by voice disorders: Findings from a cross-sectional study

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Abstract

Introduction: Teachers developing voice disorders are known to experience overall poor quality of life.

Objectives: To describe the outcomes of voice disorders among primary school teachers in Colombo District, Sri Lanka

Methods: The study was conducted as an institution-based descriptive cross-sectional study among 436 primary school teachers with voice disorders selected by stratified random sampling method. Data were collected by a self-administered questionnaire marked on a Likert scale.

Results: In the study, 10.1%-26.5% of teachers were affected by the outcomes related to professional life and expenditure assessed by 8 statements; while 5.9%-18.1% teachers were affected by outcomes related to individual emotional status assessed by 3 statements. Regarding coping strategies as an outcome, 12.6%-31.4% teachers developed strategies assessed by 4 statements.

Conclusions & Recommendations: Overall, teachers affected by outcomes related to individual emotional status was higher than reported in other countries and health seeking behaviour was comparatively poor. It is recommended to create awareness on voice disorders among teachers and for school authorities to encourage and support affected teachers to seek treatment.

Keywords: *voice disorders, primary school teachers, consequences, outcomes*

Introduction

Teachers, being the largest group of occupational voice users are considered the category with the highest prevalence of voice disorders according to literature (1). It is shown that the prevalence of voice disorders among primary school teachers in the Colombo District in Sri Lanka is 49% (2), which is relatively high for the region.

Teachers developing voice disorders are more prone to absenteeism, avoid social interactions, avoid answering phone calls and experienced overall poor quality of life (3). It has also shown to reduce work ability and increase stress levels at work. It affects the learning and development of students and also known to cause financial burden to the employers as they have to find replacements for absent teachers. It is a disorder that has a huge impact not only on the personal and professional lives of teachers but on the students and employers as well, yet it is poorly addressed. Thus, the objective of this study was to describe the outcomes of voice disorders among primary school teachers in the Colombo District in Sri Lanka.

Methods

An institution-based cross-sectional study was conducted among primary schools with a minimum of 15 teachers in two education zones (Colombo and Sri Jayewardenepura), with the highest number of teachers in the Colombo District in Sri Lanka. Primary schoolteachers being permanent staff members with a minimum service of 1 year were included in the study while a primary school teacher on maternity leave or on long leave, diagnosed with mental illness or pregnant at the time of study or who were unable to read, write and/or understand Sinhala or English language were excluded from the study.

A stratified random sampling method was used for selecting the participants. The participants were first stratified by the type of school and then by sex composition of the students. The eligible teachers were listed and selected randomly. Data were analysed from 436 teachers with voice disorders among 790 teachers of a larger study. The sample size was calculated using calculation in health sciences by Lwanga & Lemeshow (4).

The teachers were screened for voice disorders using the validated Voice Handicap Index 30 (VHI 30) questionnaire. Another self-administered questionnaire to assess the outcomes of voice disorders was used in the study. It consisted of 15 statements which were marked on a Likert scale of 1 to 5 points. It assessed the adverse outcomes of voice disorders on professional life and expenditure, individual emotional status and also coping strategies. As coping strategies are developed as an outcome of voice disorders, it was assessed in this section, although it is not an adverse outcome. A score more than 3 for a statement was taken as affected by the characteristic assessed. The questionnaire was formulated following extensive literature review and judgmental validity was obtained following review by experts. It was pretested among eight primary school teachers not considered for sampling in the main study.

Results

There were 436 (55.2%) out of 790 teachers with voice disorders. Most of them were in the 51-60 years age group (n=160; 36.6%), closely followed by the 41-50 years age group (n=142; 32.5%). The least number of teachers were in the 20-30 years age group (n=35; 8%). The ages ranged from 20–60 years.

The responses to the outcomes assessed are detailed in Table 1.

Table 1: Distribution of scores for statements on outcomes of voice disorders

Statement	Points allocated for response										Total affected (≥ 3 points)	
	1		2		3		4		5			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Outcomes to professional life and expenditure												
I have difficulty talking to and communicating with students because of my voice problem	197	45.1	122	27.9	95	21.7	18	4.1	4	0.9	117	26.8
I have difficulty managing the students in the classroom because of my voice problem	220	50.4	127	29.1	76	17.4	11	2.5	2	0.4	89	20.4
The students lack responding to me as my voice is weak	234	53.6	131	30.0	66	15.1	6	1.3	0	0	72	16.5
I have to take days off due to voice disorders	198	45.4	172	39.4	56	12.8	10	2.2	0	0	66	15.1
I am unable to do the role as a teacher in my full capacity	314	72.0	78	17.8	38	8.7	5	1.1	1	0.2	44	10.1
I have considered changing the stream or job to one that is less demanding on the voice	318	72.9	46	10.5	44	10.0	17	3.8	11	2.5	72	16.5
I have spent a considerable amount of time, energy and finances on treatment for voice disorders	310	71.1	54	12.3	54	12.3	15	3.4	3	0.6	72	16.5
My voice problem has limited my career development	356	81.6	35	8.0	39	8.9	6	1.3	0	0	45	10.3
Outcomes to individual emotional status												
I regret selecting a job with high voice demand	297	68.1	60	13.7	56	7.1	12	2.7	11	2.5	79	18.1
My voice problem has affected my self-esteem and image as a teacher	373	85.5	37	8.4	25	5.7	1	0.2	0	0	26	5.9
Overall, I feel strained/ worried about the voice disorder and its consequences to my career	290	66.5	85	19.4	49	11.2	8	1.8	4	0.9	61	13.9

Statement	Points allocated for response										Total affected (≥ 3 points)	
	1		2		3		4		5			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Coping strategies developed as an outcome of voice disorders												
I find it easier to cope with voice problems if I tell it to others	220	66.5	79	18.1	88	20.1	33	7.5	16	3.6	137	31.4
I want to find out more about voice problems and I read about it or ask others	223	51.5	100	22.9	91	20.8	19	4.3	0	0	110	25.2
I seek medical advice with regard to voice problems	290	66.5	69	15.8	67	15.3	10	2.2	0	0	77	17.6
I try to avoid situations that make my voice problem evident	320	73.3	61	13.9	46	10.5	5	1.1	4	0.9	55	12.6

In relation to the outcomes of voice disorders on professional life and expenditure, 26.8% claimed that 'I have difficulty talking to and communicating with students because of my voice problem', while 20.4% of the teachers answered positive to 'I have difficulty managing the students in the classroom because of my voice problem'. 'The students lack responding to me as my voice is weak' was answered as 'never' by 53.6% of the teachers, indicating nearly 50% of them being affected by this outcome to some extent. To the statement, 'I have considered changing the stream or job to one that is less demanding on the voice, most of the teachers (72.9%) answered 'never', while 2.5% teachers answered 'always'. A similar number of teachers (16.5%) were affected as given as, 'I have spent a considerable amount of time, energy and finances on treatment for voice disorders.'

In relation to outcomes of voice disorders on individual emotional status, to the statement 'I regret selecting a job with high voice demand'; 68.1% teachers stated 'never'; and 2.5% 'always'. To the statement 'My voice problem has affected my self-esteem and image as a teacher'; 85.5% answered 'never'; with only 5.9% teachers being affected by the outcome. To the statement 'Overall I feel strained/ worried about the voice disorder and its outcomes to my career', only 66.5% teachers answered 'never' while 19.4% answered 'almost never', while 13.9% were affected by this outcome.

The coping strategy developed by most of the teachers as an outcome to voice disorders was to share the problem with others, stated in the statement as 'I find it easier to cope with voice problems if I tell it to others' (31.4%). Information seeking behaviours assessed by statement 'I want to find out more about voice problems and I read about it or ask others'; and health seeking behaviours assessed by the statement 'I seek medical advice with regard to voice problems' were adapted by 25.2% and 17.6%, respectively. Avoidance behaviours assessed by statement 'I try to avoid situations that make my voice problem evident' were adapted the least accounting for 12.6% of the study population.

Discussion

In the outcomes of voice disorders on professional life, the most prominently affected outcome among the teachers affected, where they have not been able to communicate and manage the students and the students lack responding to them and the teachers

have felt their career development was limited. Similar findings have been found in other research; in a study done in Belgium on voice disorders among primary school teachers claim that voice disorders have threatened the teaching profession and has created psycho-emotional impact (5). Further, in a study teachers have changed their method of teaching. They had frequent communication problems and had to repeat statements. They contemplated early retirement as well (3). A study suggested that teachers put an excessive strain into their voices to overcome the communication problems (6). These studies have emphasized the communication problems teachers with voice disorders face. Additionally, another study stated that voice disorders were associated with poor work ability (7). Therefore, the current research findings are similar to the findings in other countries.

Regarding the statements under individual emotional status, most of the participants were affected by regretting choosing a job with high voice demands. In research done by Roy et al. (2004) (8), claimed that although there was no significant difference between teachers and non-teachers who changed their jobs, there was a significant difference among teachers and non-teachers who 'considered' changing their jobs. This was true in this study as well and the result has not changed voice disorders were affected by this outcome in literature only 1% changed jobs in USA (8) and 15% claimed to be disabled due to voice disorders (9) which is less than the findings in the current study.

Developing coping strategies because of voice disorders is reported under outcomes but it is actually a desired outcome. A higher proportion of them felt they found it easy to cope with voice problems if they tell it to others, also they want to find out more information on voice disorders and a smaller proportion sought medical advice. In a study done in Brazil, it revealed that teachers being affected with voice disorders appear to be using fewer coping strategies than the other professionals. Also, that the individuals with voice disorders commonly seek for emotional comfort and that deciding to adapt coping strategies may be indicative of the higher level of limitations to activities caused by the disease (10).

Several limitations of the study are acknowledged. The study was conducted in two out of the four education zones in Colombo District, where it would have been more complete if all zones were included. Further, the study was a cross-sectional study therefore, the temporal relationship could not be assessed. However, given the large sample size and robust study design the findings are expected to be valid and generalizable.

Conclusions & Recommendations

Most of the teachers suffering from voice disorders did not suffer from its outcomes. However, although the numbers are small, teachers affected by outcomes related to individual emotional status is higher than reported in other countries. Further, coping strategies assessed indicate that most teachers seek emotional support and the health seeking behaviour is comparatively poor. This may be due to teachers accepting voice disorders as an inevitable outcome of the profession or due to lack of time due to workload.

The outcomes of voice disorders among primary school teachers have not been discussed in Sri Lanka although it affects the quality of professional and personal lives of teachers, as evident in this study. It is recommended to create awareness among teachers on voice disorders as part of their training curriculum or after recruitment to the teaching service. Further, teachers with voice disorders should be encouraged and supported by the school authorities, to seek treatment as a priority to improve their overall quality of life.

Public Health Implications

- Teachers, being the largest group of occupational voice users, face a high prevalence of voice disorders, which lead to increased absenteeism, reduced job satisfaction, and overall poor quality of life. Understanding these consequences is crucial for developing early intervention strategies, improving classroom conditions, and implementing preventive measures. A multidisciplinary approach is recommended to address these issues where public health plays a crucial role specially in advocacy and policymaking. This approach will not only promote the well-being of teachers but also ensure effective teaching.

Author Declaration

Competing interests: The authors declare that they have no conflict of interest

Ethics approval and consent to participate: Ethics approval was granted by the Ethics review committee of the Faculty of Medicine University of Colombo, Sri Lanka (Reference no: EC/19/008). The study was explained verbally, and written informed consent was obtained from all participants prior to the study. Permission was sought from the Education Ministry (for national schools), Provincial, zonal and school authorities to conduct research in schools.

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Author contribution: MDH conducted the research as the principal investigator; and US and IS contributed as supervisor and technical expert.

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