

Working Conditions and Workplace Barriers to Vocal Health in Primary School Teachers

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Summary: Objectives. The purpose of this study was to identify the working conditions and workplace barriers to vocal health in primary school teachers. The relationship between working conditions and voice is analyzed.

Study design. This is a survey study in 42 randomized schools from a restricted geographical area.

Methods. An 85-item questionnaire was administered to 550 primary school teachers in 42 schools in Dublin. It was designed to obtain information on demographics, vocal use patterns, vocal health, work organization, working conditions, and teacher's perceptions of the conditions in teaching that might cause a voice problem. The relationship between voice and overstretched work demands, and voice and class size, was examined. A chi-squared test was run to test the null hypothesis that the variables overstretched work demands and voice and class size and voice are independent. Subjects were given the opportunity to give their opinion on their working conditions and on the availability of advice and support within the workplace. A final question sought their opinion on what should be included in a voice care program.

Results. A 55% response rate was obtained ($n = 304$). It was found with 96.52% confidence that the variables overstretched work demands and voice are related. Likewise, it was found that the variables class size and voice are related with 99.97% confidence.

Conclusions. There are workplace barriers to vocal health. The working conditions of primary school teachers need to be fully adapted to promote vocal health. Changes by education and health policy makers are needed to achieve this goal. There is a need for future research which focuses on the working conditions of teachers.

Key Words: Working conditions–Vocal health–Voice problems–Overstretched work demands–Primary school curriculum–Workplace barriers–Class size–Support and advice–Early vocal symptoms–Voice training–Voice care programs–Teachers–Professional Voice User.

INTRODUCTION

One-third of the labor force works in professions in which voice is the primary tool of work.¹ They include broadcasters, call center operators, court lawyers, teachers, business executives, singers, actors, clergy, and tour guides. To these professionals, the maintenance of vocal health is essential as voice is the critical component of their work. Excessive use or abuse of the voice at work can lead to the development of vocal symptoms of weak voice, sore throat, and to the development of a voice disorder.²

In the past, working conditions were not taken into account in the etiology of voice problems. The behavioral nature of voice was overemphasized as a factor in the development of a voice problem, and the responsibility was attributed to the individual. The impact of the working conditions was not considered nor was the relationship between working conditions and voice. There was not enough knowledge of the ergonomic and environmental aspects of voice disorders as an occupational health problem.³

The World Health Organization recognizes that work and health interact with one another. When work is fully adapted to human goals, capacities, and limitations and occupational health hazards are under control, work plays a role in promoting both physical and mental health. The work environment and its

characteristics can play a role, together with other risk factors in the development of diseases, having a complex multiple etiology. Some diseases can be called work related.⁴ Therefore, in the case of those who rely on their voice as their principal tool of work, their working conditions should be adapted to promote and maintain vocal health, and efforts should be taken to prevent the development of voice problems.

Teachers

Teachers represent the largest group of professionals who use their voice as their primary tool of trade.⁵ Voice is a worldwide problem in the teaching profession.⁶ Teaching puts heavy demands on the voice, teachers are heavy voice users, and they suffer from voice problems more frequently than other occupational voice users.^{7–14} They use their voice with high intensity, in noisy classrooms, for long periods without suitable breaks.¹⁵ Teachers sing more frequently and speak more loudly at work than nurses, and vocal loading factors are responsible for the appearance of voice problems in teachers.¹⁶

Voice problems in teachers are well documented in the literature. Studies have reported on their prevalence, nature, risk factors, number of years in teaching, vocal and physical symptoms, their impact on quality of life, performance at work, their economic impact due to absenteeism from work, and change of profession.^{7,11–14,17–25}

Vocal symptoms

The early identification of vocal symptoms in the workplace is critical in the prevention of a voice problem. Vocal symptoms were reported as being more common in teachers than in non-teachers (69% vs 36%).²⁶ Munier and Kinsella²⁰ reported that voice fatigue, dry throat, and inability to sing high notes were

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statistically significant vocal symptoms in primary school teachers and may be the early signs of a developing voice problem. These findings on vocal symptoms are similar to those reported by Yiu.⁷ Vocal strain was reported to be the most prominent physical symptom in teachers.¹⁴ Ohlsson et al²⁷ in a study of voice symptoms and risk factors in student teachers report that those with vocal symptoms are at risk of developing voice disorders during their career. One problem with voice is the inadequate or neglected examination and treatment of early symptoms.³

Impact of a voice problem

Voice problems can lead to a diminished ability to teach and “extensive periods of sick leave and vocal rehabilitation which involves great financial loss.”²⁴ The author concluded that voice disorders impact on the teachers professional and social life and imply a major financial burden for society. In a Brazilian study, 29% of teachers reported that their voice limited their ability to perform certain tasks at work. They reported more adverse effects on job performance because of a voice problem.²⁵ Many teachers need to stay at home because of a voice problem. Teachers also suffer from functional and psychological adverse effects because of a voice problem. They experience upset and excessive stress at work.²⁸ In addition to impacting negatively on performance at work, quality of life, ability to socialize, and emotional state are also affected negatively.⁷ Lack of support from school colleagues and management compounds the problem.²⁹

Primary school teachers versus other teacher groups

Most literature reports on voice problems in primary school teachers, secondary school teachers, and sometimes even university lecturers as one group despite the fact that their working conditions are different. Primary school teaching puts much greater vocal demands on teachers than secondary school teaching. The main difference is in the duration of continuous voice use and opportunity for vocal rest. Primary school teachers teach for 5–6 hours continuously with little or no opportunity for vocal rest. Added to this are 37 hours of playground duty per year.

This contrasts with the working day of secondary school teachers who teach for 45 minute periods, sometimes 90 minutes as a double period. These periods of teaching are interspersed with periods of vocal rest of 45 minutes or longer. This difference has been recognized by Sala et al,³⁰ who suggested that vocal load for primary and preschool teachers is higher than for secondary teachers. Many studies have not taken this important difference into account and have reported on primary and secondary school teachers and sometimes university lecturers as one group in the same study.²⁰ The first study to report on voice problems in primary school teachers as a single group was published in 2008.²⁰

Since then, many studies on voice problems in primary school teachers as a single group have appeared in the literature.^{17,23,28,31} Given the above differences in working conditions, it is the opinion of this author, that studies should separate primary and secondary school teachers into two distinct groups.

Purpose of this study

The focus of this study is on the working conditions of primary school teachers and on the relationship between working conditions and voice. The purpose of this study carried out in Ireland was to contribute further to our understanding of voice problems in primary school teachers by examining their working conditions, teacher’s perceptions of these working conditions, and the relationship between working conditions and voice. The barriers teachers face in seeking advice, support, and treatment for a voice problem within the workplace are also examined. Understanding which working conditions may be barriers to vocal health is essential to our understanding of voice problems in teachers and to the appropriate timing of intervention, diagnosis, and treatment.

There have been very few studies that looked at teacher’s perceptions of their working conditions and workplace barriers to vocal health. The first study to report on teacher’s perceptions of a voice problem examined the treatment-seeking behaviors of teachers in relation to their dysphonia.¹⁷ This study on barriers to care was informed by teachers perceptions, and this approach is very valuable in understanding voice problems in teachers.

Work organization and working conditions of primary school teachers in Ireland

According to the Central Statistics Office 2011 census, there are 32 600 primary school teachers in Ireland; this is of a total workforce of 1 836 000. Female teachers account for 85% of all primary school teachers with only 15% of these being male teachers.³²

Their workday consists of a minimum of 5–6 hours of continuous teaching, with little opportunity for vocal rest outside of a 10-minute break midmorning and 30 minutes at midday. The class teacher teaches all subjects including physical education, art, music, and singing. A class includes a cohort of children of the same age-group, for example, in a “Junior Infant” class, the age range is 4–5 years. In addition to their normal teaching duties, their contract includes 37 hours of playground duty during the school year. Added to this, there is the extended working day which includes meetings with parents and fellow teachers, lesson preparation, and corrections.

They work 183/187 days a year compared with 167/168 days for secondary school teachers. The extended working day can prolong the working day up to 10 hours. Teachers work 900 hours yearly as compared with the EU average of 700 hours.

Many teachers teach classes of >30 pupils, and in some cases, class sizes can be as large as 40 or more. With these supersized classes, there is an increase in classroom noise level and consequently a need on the part of the teacher to increase vocal loudness to be heard. Yet, they are dependent on their voice to function throughout their entire working career, which can be as long as 35–40 years. Teaching also requires a wide variation in voice use in terms of pitch, volume, quality in reading, singing, teaching drama, and physical education.

The Department of Education and Science in Ireland changed the primary school curriculum in 1999. The current

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