Voice Problems of Group Fitness Instructors: Diagnosis, Treatment, Perceived and Experienced Attitudes and Expectations of the Industry

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Summary: Objectives. To determine the anatomical and physiological nature of voice problems and their treatment in those group fitness instructors (GFIs) who have sought a medical diagnosis; the impact of voice disorders on quality of life and their contribution to activity limitations and participation restrictions; and the perceived attitudes and level of support from the industry at large in response to instructor's voice disorders and need for treatment.

Study Design. Prospective self-completion questionnaire design.

Methods. Thirty-eight individuals (3 males and 35 females) currently active in the Australian fitness industry who had been diagnosed with a voice disorder completed an online self-completion questionnaire administered via SurveyMonkey.

Results. Laryngeal pathology included vocal fold nodules (N = 24), vocal fold cysts (N = 2), vocal fold hemorrhage (N = 1), and recurrent chronic laryngitis (N = 3). Eight individuals reported vocal strain and muscle tension dysphonia without concurrent vocal fold pathology. Treatment methods were variable, with 73.68% (N = 28) receiving voice therapy alone, 7.89% (N = 3) having voice therapy in combination with surgery, and 10.53% (N = 4) having voice therapy in conjunction with medication. Three individuals (7.89%) received no treatment for their voice disorder. During treatment, 82% of the cohort altered their teaching practices. Half of the cohort reported that their voice problems led to social withdrawal, decreased job satisfaction, and emotional distress. Greater than 65% also reported being dissatisfied with the level of industry and coworker support during the period of voice recovery.

Conclusions. This study identifies that GFIs are susceptible to a number of voice disorders that impact their social and professional lives, and there is a need for more proactive training and advice on voice care for instructors, as well as those in management positions within the industry to address mixed approaches and opinions regarding the importance of voice care.

Key Words: Professional voice use–Aerobics instructor–Group fitness instructor–Vocal hygiene–Voice disorder–Treatment–Education–Training.

INTRODUCTION

Since the introduction of prepackaged fitness programs designed to inspire masses to exercise together, group fitness instructors (GFIs; known then as aerobics instructors) have reported voice difficulties that appear to be the result of an interaction between both environmental and physiological stresses placed on the voice that are encountered when speaking and vigorous exercise occur simultaneously.[1–4] Thirty years later, the world of group fitness is radically different, with better sound technology and voice amplification and a myriad of group fitness experiences available, yet the current waves of professionals continue to experience the same problems faced by their former colleagues. One study that compared vocal problems of instructors and participants found a significantly higher incidence of vocal nodules, hoarseness, and voice loss among the instructor cohort.[1] Other small cohort studies (N = 48–54) have confirmed vocal nodules in up to 10% of instructors.[2,3] Although vocal nodules might be the "go-to" diagnosis, it is hypothesized that a variety of anatomical and physiological changes at the level of the glottis may actually contribute to perceptual voice difficulties. Furthermore, previous research has largely failed to elucidate if, after diagnosis, instructors sought treatment, whether teaching continued during the treatment period, and how the voice disorder affected their overall quality of life (QOL) and their ongoing participation in their occupation.

The World Health Organization's International Classification of Functioning[5] can be useful in recognizing the impact a voice disorder can have on all aspects of an individual's life. In relation to voice disorders, "impairment" is defined as an abnormality in physical function (eg, abnormal laryngeal function represented perceptually through hoarseness). "Activity limitation" refers to the limitation in performance caused by the impairment (eg, inability to produce a voice with clear quality so cannot be easily heard) whereas "participation restriction" is defined as a loss of role function because of the impairment or disability (eg, no longer able to perform the job as required). Newman and Kersner[3] reported that of the five instructors who reported a diagnosis of vocal nodules (impairment), two received surgical treatment and had been forced to reduce teaching hours and take time off (participation restriction) as a result. Increased hoarseness, lower pitch, weaker voice, and increased vocal discomfort because of the voice disorder were the chief complaints,[3] all of which may constitute an activity limitation when the vocal demands of the profession are considered. Instructors must use their voices to get participants where they

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need to be. A lack of vocal clarity might inhibit the instructors' ability to do so. Anecdotal reports from the author's personal communications with instructors indicate that vocational dysphonia is accepted, and to some extent expected, in the group fitness industry. Seventy percent of GFIs currently working in the Australian fitness industry report chronic voice symptoms, with as little as one in seven instructors actually seeking a medical opinion.[4] Could this industry perception and expectation also be a factor contributing to the problem?

The aim of this article was to explore and describe the anatomical and physiological nature of voice problems and their treatment in those GFIs who have sought a medical diagnosis, the impact of voice disorders on QOL and their contribution to activity limitations and participation restrictions, and the perceived and experienced attitudes and level of support from the industry at large in response to instructor's voice disorders and need for treatment.

METHODS

During a 5-month period (December 2011–May 2012), social media (Facebook and Twitter) and advertisements issued by industry gatekeepers were used to disseminate the link to an anonymous online survey conducted via SurveyMonkey. A total of 361 instructors were recruited to participate in a 65-item questionnaire consisting of dichotomous (eg, yes/no), multiple choice, and open-ended response questions investigating voice use and abuse in the fitness industry. Data presented in this article represent the responses to questions 46 and 50 to 62 of the original questionnaire (see Appendix) provided by the 38 individuals (3 males and 35 females; age range, 23–63; mean, 38.32; standard deviation [SD], 10.88) who reported receiving a formal diagnosis of a voice disorder.[4] The data represented in this study have been included as part of a study of prevalence of self-reported voice symptoms in the GFI population, and further biographical details of the cohort and the original questionnaire can be found there.[4] As determined by self-report, no participants had a history of voice problems before starting work in the fitness industry. All instructors reported that they were actively teaching at least one type of group fitness program on a weekly basis. Participants were required to give consent before they could access the online questionnaire, and all data were collected in a deidentified manner to encourage participation. In an attempt to minimize data bias, recruitment was nationwide and called for anyone active in the group fitness industry.

All responses gathered via SurveyMonkey were downloaded into a Microsoft Excel file and analyzed using descriptive statistics with Stata software (Statacorp LP, version 10.0, 2007). Qualitative data were analyzed by two researchers. For questions that required open-ended responses, broad concepts and categories were inductively generated using content analysis.[6,7] Analyses were compared and where discrepancies occurred, a consensus was reached on the main themes as they emerged most frequently during the analysis. Not all individuals completed all questions that allowed for open-ended responses; therefore, the main themes that emerged during analysis are representative of only part of the cohort. Ethical approval to conduct this research was granted by The University of Queensland's Behavioural and Social Sciences Ethics Committee.

RESULTS

The total participant cohort had been teaching a mean of 3.69 (range, 1–9; SD, 1.91) different group fitness programs for an average of 12.71 years (range, 2–34; SD, 8.91). Please note that the term "group fitness program" denotes the type of exercise being undertaken (eg, strength training, cardiovascular training, interval training, etc.). GFIs taught an average of nine classes per week (range, 2–23; SD, 5.35; Table 1), with each class lasting approximately 60 minutes (89.47%; range, 45–90 minutes). Greater than half of the participants (57.89%) reported teaching consecutive classes at least once a week, ranging anywhere from two consecutive classes once a week up or every working day ($\geq$5 days) to three to four consecutive classes three times a week. For 42.11% (n = 16) of the respondents, group fitness was their primary occupation and source of income (Table 1). The remaining individuals (57.89%, N = 22) were largely employed in occupations that rely heavily on voice use (educators—primary, secondary, and tertiary, N = 10; health professionals, N = 5; personal trainer, N = 3; police officer, N = 1; retail assistant and managerial roles, N = 3).

Diagnosis and treatment of voice disorders (impairment; questionnaire items 52–54)

Those who independently sought a medical diagnosis via otorhinolaryngology for their voice difficulties reported deficits attributable to both functional and organic changes at the level of the glottis. Biographical data for this specific subset of respondents (N = 38) including diagnosis and subsequent management are detailed for each participant in Table 1. Eight individuals (21.05%) reported vocal strain and muscle tension dysphonia without concurrent vocal fold pathology. The remainder of those participants who admitted seeking a formal diagnosis reported the presence of laryngeal pathology consisting of vocal fold nodules (N = 24, 63.16%), vocal fold cysts (N = 2, 5.26%), vocal fold hemorrhage (N = 1, 2.63%), and recurrent chronic laryngitis (N = 3, 7.89%). Treatment methods were variable (Table 1), with 73.68% (N = 28) receiving voice therapy alone, 7.89% (N = 3) having voice therapy in combination with surgery, and 10.53% (N = 4) having voice therapy in conjunction with medication (ie, a short course of steroids to help reduce inflammation or antireflux medication). Four individuals (10.53%) mentioned that they were currently seeing a speech-language pathologist for remediation of their voice problem at the time the survey was completed. Three individuals (7.89%) received no treatment for their voice disorder.

Symptoms—perceptual and sensory (impairment; questionnaire items 46 and 50)

Despite 92% (N = 35) of participants having sought and received medical and speech pathology management for their voice problem, all respondents reported one or more of the following permanent sensory or perceptual voice changes: increased hoarseness, tired voice, weak voice, strained voice,