Identifying Knowledge Gaps in Clinicians Who Evaluate and Treat Vocal Performing Artists in College Health Settings

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Summary: Objective. The goal of this study was to identify knowledge gaps in clinicians who evaluate and treat performing artists for illnesses and injuries that affect vocal function in college health settings.

Study Design. This pilot study utilized a web-based cross-sectional survey design incorporating common clinical scenarios to test knowledge of evaluation and management strategies in the vocal performing artist.

Methods. A web-based survey was administered to a purposive sample of 28 clinicians to identify the approach utilized to evaluate and treat vocal performing artists in college health settings, and factors that might affect knowledge gaps and influence referral patterns to voice specialists.

Results. Twenty-eight clinicians were surveyed, with 36% of respondents incorrectly identifying appropriate vocal hygiene measures, 56% of respondents failing to identify symptoms of vocal fold hemorrhage, 84% failing to identify other indications for referral to a voice specialist, 96% of respondents acknowledging unfamiliarity with the Voice Handicap Index and the Singers Voice Handicap Index, and 68% acknowledging unfamiliarity with the Reflux Symptom Index.

Conclusion. The data elucidated specific knowledge gaps in college health providers who are responsible for evaluating and treating common illnesses that affect vocal function, and triaging and referring students experiencing symptoms of potential vocal emergencies. Future work is needed to improve the standard of care for this population.

Key Words: Vocal performing artist–College health–Clinician knowledge gap–Voice complaint– Performing arts medicine.

INTRODUCTION

Like athletes in training, student performing artists are at risk of performance-related injuries and unrelated illnesses that may have an impact on performance health. Voice and hearing disorders, musculoskeletal injuries caused by repetitive stress or improper technique, emotional stress, and performance-related anxiety represent a subset of these conditions. Performing artists often begin their education and training in childhood, while some refine their skills at the collegiate level as performing arts majors. Many more pursue musical and performing arts activities as a creative outlet and a vocation that is carried into adulthood.

There are 124 colleges and universities in Massachusetts, with 31 offering music as a major. Boston is home to approximately 250,000 college students and more than 30 colleges and universities.[1,2] Many of these institutions offer a variety of musical and theater arts performance opportunities for their students. There are an estimated 53 collegiate a capella choirs in the Boston area alone, while four Boston colleges and universities offer certificate and degree programs in acting and performing.[3,4]

Performance-related illnesses and injuries, and the resulting clinical outcomes are dependent upon a variety of factors including the performing artist's decision to seek medical attention, the timing of the evaluation, and the knowledge and expertise of the treating clinician. Delays in appropriate evaluation, treatment, and referral may result in inability to meet academic and performance demands, necessitating additional course work or a change in career path.

Arts medicine emerged as a medical discipline in the late 1980s and gained further recognition with the publication of a review article titled *Medical Problems of Musicians* by Alan Lockwood, MD, in the *New England Journal of Medicine*.[5,6] Leaders in the field such as Brandfonbrener, Lederman, and Lockwood laid the foundation for what would become the Performing Arts Medicine Association (PAMA). The PAMA was established in 1989 to provide guidelines for the practice of arts medicine, to further arts education in performing arts medicine in the arts and medical communities, and to encourage medical research.[5] Although performing arts medicine has emerged as a subspecialty of clinical practice over the past 20 plus years, there are a limited number of clinicians who are attuned to the unique needs of the performing artist or have the expertise to diagnose and treat performance-related illnesses and injuries.[7]

Within the performing arts medicine voice community, Sataloff and colleagues have published widely on the evaluation and care of the professional voice user in the performing arts medicine, speech and language pathology, and otolaryngology literature. They have highlighted topics such as the unique components of the musician health history, the effects of illnesses and medications on vocal function, the use of standardized singing and speaking voice assessment tools, vocal emergencies, and the role of the voice care specialist and team.[8–20] There is, however, limited information in the college health and primary care literature to assist the clinician in general practice when evaluating and treating vocal performing artists with voice complaints, a lack of standardized evaluation and treatment guidelines, and voice specialist referral criteria.

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The purpose of this project was to identify how clinicians practicing in college health settings approach the evaluation and treatment of voice complaints in performing artists, individual characteristics such as prior musical or performing arts medicine education, or personal experience with a voice issue that might influence clinician knowledge gaps and referral patterns to specialists. *Performing artists* were defined as vocal performance majors and amateur singers, actors, and voice-over artists who utilize their voices for entertainment or the pursuit of artistic mastery. S*pecialists* were defined as otolaryngologists, laryngologists, and speech language pathologists.

Goals

Pilot study

Goals. The goals of this project were to identify knowledge gaps in clinicians who evaluate and treat performing artists for illnesses and injuries that affect vocal function in college health settings, generate knowledge about available resources to aide in their evaluation and treatment, and generate clinical strategies to improve the standard of care in performing artists experiencing vocal difficulty.

METHODS

Design/methodology

This pilot study utilized a web-based, cross-sectional survey design incorporating common clinical scenarios to test knowledge of evaluation and management strategies in the vocal performing artist. Categories included the following:

- components of the health history in the vocal performing artist;
- common illnesses and injuries affecting vocal function and their management;
- vocal hygiene measures;
- recognition and management or referral of vocal emergency (vocal fold hemorrhage);
- factors influencing referral to voice specialists;
- familiarity with the Voice Handicap Index (VHI), Singers Voice Handicap Index (SVHI), and Reflux Symptom Index (RSI).

Sample/recruitment of participants

A purposive sample of 28 clinicians practicing in college health settings where performing artists are evaluated and treated was recruited with the assistance of 36 members of the College Health Association of Administrators and Nurse Directors (CHAAND) and two directors of clinics that provide care to selected Boston-area schools/colleges of music. Colleges and universities represented by CHAAND were prescreened to ascertain the availability of on-campus student vocal performance and/or theater opportunities. An e-mail was sent to the directors that provided an overview of the study (purpose, methods, risks, and benefits) and their role in subject recruitment. A request was made to the college health service and clinic directors to disseminate to their clinical provider staff an e-mail that contained a recruitment letter and a link to the web-based unsigned consent form and survey.

Subject inclusion criteria

Subject inclusion criteria included a) the ability to read and write in English; b) educational preparation as a physician, nurse practitioner, registered nurse, or physician assistant; c) access to the Internet and a computer; and d) employment in a college health setting or clinic that treats collegiate performing artists. There were no restrictions on the number of study participants per college health service/clinic.

Data collection

The survey was distributed and administered over a 5-week period. An electronic reminder was sent to health service directors on week 3 with a scripted reminder message requesting that potential study participants complete the survey if not already submitted.

Validity and reliability

The survey instrument was developed from information gleaned from the literature, and the content was reviewed and vetted by a subject expert. The survey pilot was distributed to five subjects who met the inclusion criteria, utilizing the same submission procedures that were implemented with the recruited subjects. Four of the five subjects completed the survey pilot. No substantive changes were made to the survey instrument after the completion of the pilot.

Ethical considerations

Approval for this pilot study was obtained from the Institutional Review Board of Northeastern University. Designated as a practice improvement project, there was minimal risk identified or financial compensation for study participation. Study participants were advised about time requirements (20–30 minutes) to complete the survey and the ability to choose not to answer any question and withdraw at any time. All survey data were de-identified and stored in a password-protected computer that was kept in a secure location by the Doctor of Nursing Practice student investigator.

Data analysis

The data were collected, coded, analyzed, and reported in aggregate using Qualtrics software (Qualtrics, Provo, UT).[21]

RESULTS

The survey was sent to 38 clinical directors to distribute to their staff. Twenty-eight participants responded and started the survey with an 89% completion rate (n = 25) and variability in the response to individual questions.

Sample characteristics

Sample characteristics included clinical role, practice specialty and setting, clinical experience (including treatment of the collegiate performing artist), performing arts medicine education, prior musical education, and personal history of a vocal injury (Table 1). The majority of the participants were nurse practitioners, while the predominant clinical specialty was college health (Figure 1). Eighty-one percent of the respondents practiced in university/college health centers, with 15% in clinics treating collegiate vocal performing artists and 4% in a music conservatory