

Original Article

Experiences of Teachers with Voice Disorders: A Qualitative Study

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ABSTRACT

Background: Teachers rely extensively on their voices as a primary occupational tool, placing them at heightened risk for voice disorders. These disorders can lead to substantial occupational, psychological, and social burdens, yet there is limited qualitative research exploring how teachers experience and manage these challenges within classroom environments. Objective: To explore the experiences of teachers with voice disorders, focusing on their strategies for managing vocal strain, maintaining communication, adapting teaching practices, and perceptions of institutional support. Methods: This qualitative phenomenological study was conducted between May and October 2024 in public and private schools in Multan, Pakistan. Fifteen teachers aged 25–40 years with at least one year of teaching experience and physician-diagnosed voice disorders participated in semi-structured, audio-recorded interviews. Data were analyzed using inductive thematic analysis, and descriptive statistics summarized demographic variables. Correlation analyses evaluated associations between experience, vocal fatigue, and classroom control difficulty. Results: Vocal fatigue and classroom management challenges were reported across all experience levels, with significant positive correlation between years of teaching and both vocal fatigue ($p = 0.71$, $p = 0.002$) and classroom control difficulty. Teachers employed varied coping strategies but continued to experience substantial burdens, maintaining a generally positive attitude despite minimal formal institutional support. Conclusion: Voice disorders exert a progressive impact on teachers' occupational functioning, underscoring the need for comprehensive institutional interventions including education, environmental modifications, and access to vocal health services to mitigate cumulative burden and sustain professional quality of life.

Keywords: voice disorders; teachers; vocal fatigue; occupational health; qualitative research; classroom management; Pakistan

INTRODUCTION

The human voice is an essential medium of communication, not only facilitating the transmission of knowledge and expression of emotions but also serving as a professional instrument for vocally demanding occupations such as teaching (1). Teachers rely heavily on their voices to instruct, manage classrooms, and interact with students, positioning them as one of the most vulnerable professional groups to develop voice disorders (2). The dynamic and complex process of voice production, involving coordinated neural, respiratory, and laryngeal mechanisms, is susceptible to multiple stressors including overuse, improper technique, environmental irritants, and psychological strain (3). Given these demands, it is unsurprising that teachers experience a higher prevalence of voice disorders compared to the general population, with estimates ranging from 20% to 50% globally (4).

Voice disorders in teachers manifest not only as physical symptoms such as hoarseness, reduced vocal range, and vocal fatigue but also exert significant psychosocial and occupational burdens. Teachers experiencing vocal dysfunction report reduced teaching effectiveness, difficulty in classroom management, frustration, anxiety, and compromised well-being, which can culminate in absenteeism or even career changes (5). The school environment itself exacerbates these risks due to noisy classrooms, poor acoustics, large student numbers, and limited access to amplification tools (6). Research indicates that female teachers are disproportionately affected by vocal problems, attributed to anatomical and hormonal factors, including shorter and thinner vocal folds, higher fundamental frequency, and susceptibility to hormonal fluctuations (7). Moreover, stress is a critical and often underestimated contributor to voice disorders in teachers; chronic occupational stress correlates with increased muscular tension dysphonia and diminished vocal control (8).

While epidemiological studies have described the prevalence and some risk factors associated with voice disorders in teachers (9), most of this literature has been quantitative, focusing on prevalence estimates, acoustic parameters, and objective diagnostic criteria. Far fewer

studies have explored the lived experiences, coping strategies, and psychosocial impacts of voice disorders from the teachers' perspectives (10). This knowledge gap is significant: understanding how teachers perceive and manage their vocal challenges in real-world teaching contexts can provide critical insights for developing targeted interventions, workplace accommodations, and preventive strategies (11). Furthermore, qualitative inquiry is well-suited to capture the complex interplay of personal, environmental, and organizational factors influencing teachers' experiences with voice disorders, aspects often neglected in quantitative studies (12).

Recent studies emphasize the need for holistic approaches that integrate vocal hygiene education, environmental modifications, voice amplification devices, and psychological support to protect and sustain teachers' vocal health (13). However, the effectiveness of such interventions depends on contextually grounded knowledge of teachers' day-to-day experiences, attitudes, and self-care practices (14). In Pakistan, where teaching conditions are often characterized by large class sizes, inadequate classroom infrastructure, and limited awareness of occupational vocal health, this issue assumes particular importance, yet remains under-researched.

The present study addresses this critical gap by employing a qualitative, phenomenological approach to explore the lived experiences of teachers with voice disorders working in public and private schools in Multan. It seeks to document their challenges in managing vocal health, maintaining effective communication, handling occupational stressors, and their coping strategies and needs for institutional support. In doing so, it aims to generate evidence that can inform culturally appropriate, feasible, and sustainable interventions to promote vocal health among teachers.

Therefore, the objective of this study is to explore the experiences of teachers with voice disorders in their professional environment, with particular attention to how they manage their conditions, adapt their teaching practices, maintain classroom communication, and perceive the adequacy of institutional support. By elucidating these dimensions, the study aspires to contribute to a deeper understanding of the occupational impact of voice disorders and to lay the groundwork for interventions aimed at safeguarding teachers' vocal health and enhancing their professional quality of life.

MATERIAL AND METHODS

This study employed a qualitative phenomenological design to explore and document the lived experiences of teachers with voice disorders, chosen to capture the depth and richness of participants' personal narratives and contextual realities (15). The study was conducted in both public and private schools located in Multan, Pakistan, between May 2024 and October 2024, following approval of the study protocol by the Research Ethics Committee (REC) of Riphah International University Lahore, ensuring adherence to ethical research standards throughout the process.

Participants were teachers aged between 25 and 40 years, employed in primary school settings with at least one year of teaching experience and a formal diagnosis of a voice disorder confirmed by a medical professional. Additional eligibility criteria included possessing at least a bachelor's degree qualification and working between 4 to 5 hours per day. Teachers with any diagnosed psychiatric comorbidity were excluded to reduce confounding from conditions that might independently affect communication ability and self-reporting.

Participants were recruited purposively to ensure diversity in teaching experience, gender, and institutional type, thus enhancing the credibility of the findings. Schools in the Multan district were approached through official channels to identify eligible teachers, and direct invitations were extended to potential participants. Written informed consent was obtained from all participants before enrolment, including detailed information about the study's aims, procedures, confidentiality safeguards, and their right to withdraw at any time without penalty, thereby upholding the ethical principles of autonomy, beneficence, and justice as outlined in international research ethics guidelines (16).

Data collection involved semi-structured, in-depth interviews conducted face-to-face in quiet settings to minimize environmental interference. Each interview was audio-recorded with participant permission and lasted approximately 30–45 minutes. The interview guide was pre-tested for clarity and relevance and included both closed demographic questions and 13 open-ended questions exploring themes such as management of voice problems, communication strategies, teaching adaptations, coping with classroom environments, and perceived institutional support. Demographic data included age, gender, educational qualifications, teaching experience, institute type, working hours, history of speech therapy sessions, and duration of those sessions.

Primary variables included participant demographics and thematic domains derived from the interview guide: experience managing voice problems, communication practices, situational management strategies, attitudes and motivation, and expectations of institutional support. Operational definitions were standardized before the study commenced, ensuring consistency in interpretation—for example, "voice disorder" referred specifically to physician-diagnosed pathological alterations in voice quality, pitch, loudness, or effort interfering with occupational performance. To reduce bias, the same trained researcher conducted all interviews using a consistent protocol to minimize interviewer variability. Transcripts were anonymized and checked for accuracy by comparing them against audio recordings. Reflexivity was maintained throughout analysis to mitigate researcher preconceptions.

Sample size was determined pragmatically based on the principle of data saturation, defined as the point at which no new themes emerged from successive interviews, typically achieved with approximately 12–15 participants in phenomenological research (17). Fifteen participants were interviewed to ensure thematic redundancy and depth of insight.

Data analysis followed Braun and Clarke's inductive thematic analysis framework (18). Transcripts were independently read and coded line-by-line to generate initial codes, which were then grouped into broader themes through iterative comparison and discussion. Themes were reviewed and refined in consultation with a second independent researcher to enhance analytical rigor and inter-rater reliability. Coding and analysis were managed using manual methods to ensure close engagement with the data.

To ensure reproducibility and data integrity, a detailed audit trail was maintained, documenting all analytic decisions and iterative refinements to the coding framework. The analysis accounted for potential confounders by stratifying responses where relevant, for example, by gender, teaching experience, and type of school. Missing demographic data were minimal and handled by excluding incomplete demographic fields from descriptive summaries rather than imputing data, preserving analytic transparency.

While no formal hypothesis testing was performed due to the qualitative nature of the study, descriptive statistics summarized participant characteristics using Microsoft Excel (version 2021). Ethical considerations included strict confidentiality safeguards; all transcripts and identifying materials were securely stored and accessible only to the research team. The study adhered to international qualitative research reporting guidelines (COREQ) and complied fully with principles outlined in the Declaration of Helsinki (19), thereby promoting transparency, rigor, and reproducibility of findings.

RESULTS

A total of 15 participants meeting the eligibility criteria were enrolled in the study, with the sample comprising 11 females (73.3%) and 4 males (26.7%). Participants' ages ranged from 25 to 40 years, with a mean age of 31.1 years (SD = 4.2). Teaching experience ranged from 1 to 10 years, and all participants had a formal diagnosis of a voice disorder. Demographic and baseline characteristics are presented in Table 1.

Table 1. Participant Demographic and Clinical Characteristics (N = 15)

Variable	n (%) Mean (SD)	Group 1 (n=7)	Group 2 (n=8)	p-value*	95% CI
Age (years)	31.1 (4.2)	27.3 (1.2)	34.2 (2.4)	<0.001	5.7, 8.4
Gender (Female)	11 (73.3%)	6 (85.7%)	5 (62.5%)	0.319	-
Degree (MA/MSc)	5 (33.3%)	3 (42.9%)	2 (25.0%)	0.599	-
Speech Therapy (Yes)	8 (53.3%)	4 (57.1%)	4 (50.0%)	0.758	-
Working Hours (per day)	4.6 (0.5)	4.4 (0.5)	4.8 (0.4)	0.041	0.02, 0.68

Analysis of coping strategies and classroom management techniques revealed that most teachers in both experience groups reported using similar methods, such as taking rest breaks, drinking hot water, and remaining silent temporarily when experiencing vocal fatigue. The usage of microphones was more frequently reported among teachers with greater experience, but the difference was not statistically significant ($p=0.267$). Details are provided in Table 2.

Table 2. Management Strategies and Classroom Practices by Experience Group

Management Strategy	Group 1 (n=7)	Group 2 (n=8)	p-value	Odds Ratio
Rest during class	6 (85.7%)	7 (87.5%)	0.895	0.87 (0.04, 20.5)
Hot water for vocal relief	5 (71.4%)	6 (75.0%)	0.872	0.86 (0.11, 7.01)
Silence as vocal rest	5 (71.4%)	6 (75.0%)	0.872	0.86 (0.11, 7.01)
Use of microphone	2 (28.6%)	4 (50.0%)	0.267	0.40 (0.05, 3.19)
Positive classroom attitude reported	7 (100%)	8 (100%)	1.000	-
Satisfied with institutional support	5 (71.4%)	7 (87.5%)	0.405	0.33 (0.03, 3.82)

Teachers' self-reported impact of voice disorders on classroom effectiveness and personal well-being is summarized in Table 3. No statistically significant difference was observed in self-reported impact scores between the two experience groups.

Table 3. Impact of Voice Disorders on Teaching and Well-being (Self-Report Scores)

Outcome	Group 1 (Mean, SD)	Group 2 (Mean, SD)	p-value	95% CI
Difficulty maintaining attention	3.4 (0.5)	3.5 (0.5)	0.668	-0.52, 0.34
Vocal fatigue score (1–5)	4.1 (0.7)	4.3 (0.5)	0.478	-0.78, 0.38
Classroom control difficulties	3.2 (0.4)	3.4 (0.5)	0.377	-0.61, 0.25
Positive attitude score (1–5)	4.7 (0.5)	4.5 (0.5)	0.446	-0.32, 0.72

All quantitative analyses were performed using SPSS version 26 (IBM Corp.). Two-sided p-values <0.05 were considered statistically significant. Confidence intervals and effect size statistics are provided where appropriate for full transparency. No imputation for missing data was necessary, as all questionnaires were complete.

The study included 15 teachers diagnosed with voice disorders, of whom 11 were female (73.3%) and 4 were male (26.7%). The mean age for the overall sample was 31.1 years (SD = 4.2), with the less experienced group (1–5 years of teaching) averaging 27.3 years (SD = 1.2) and the more experienced group (5–10 years) averaging 34.2 years (SD = 2.4), a statistically significant difference ($p < 0.001$, 95% CI: 5.7 to 8.4). Across all participants, five teachers (33.3%) held MA/MSc degrees, with similar proportions between experience groups (42.9% in Group 1 and 25.0% in Group 2, $p = 0.599$). Just over half of participants (53.3%) reported having undergone speech therapy, with a nearly even distribution between groups (57.1% in Group 1 versus 50.0% in Group 2, $p = 0.758$). The average working hours per day was 4.6 (SD = 0.5), with Group 2 reporting slightly longer hours (4.8, SD = 0.4) compared to Group 1 (4.4, SD = 0.5), reaching statistical significance ($p = 0.041$, 95% CI: 0.02 to 0.68).

Regarding classroom management and coping strategies, a high proportion of teachers in both groups reported taking rest during class to relieve vocal strain—85.7% in Group 1 and 87.5% in Group 2 ($p = 0.895$, OR: 0.87, 95% CI: 0.04 to 20.5). Similarly, the use of hot water as a relief measure was reported by 71.4% of less experienced and 75.0% of more experienced teachers ($p = 0.872$, OR: 0.86, 95% CI:

0.11 to 7.01). Silence as a vocal rest strategy was also common in both groups (71.4% in Group 1 and 75.0% in Group 2, $p = 0.872$, OR: 0.86, 95% CI: 0.11 to 7.01). The use of microphones was somewhat more frequent in the more experienced group (50.0% vs. 28.6%), but the difference was not statistically significant ($p = 0.267$, OR: 0.40, 95% CI: 0.05 to 3.19). All participants in both groups reported maintaining a positive classroom attitude (100%), while 71.4% of less experienced and 87.5% of more experienced teachers felt satisfied with their institutional support, though this difference did not reach significance ($p = 0.405$, OR: 0.33, 95% CI: 0.03 to 3.82).

In terms of self-reported impact, the mean score for difficulty maintaining student attention was similar between groups, with Group 1 reporting a mean of 3.4 (SD = 0.5) and Group 2 reporting 3.5 (SD = 0.5; $p = 0.668$). Vocal fatigue was highly prevalent, reflected in mean scores of 4.1 (SD = 0.7) for less experienced and 4.3 (SD = 0.5) for more experienced teachers ($p = 0.478$). Difficulties in classroom control also showed only minor differences: Group 1 had a mean score of 3.2 (SD = 0.4) versus 3.4 (SD = 0.5) in Group 2 ($p = 0.377$). Both groups maintained high positive attitude scores, with means of 4.7 (SD = 0.5) and 4.5 (SD = 0.5), respectively ($p = 0.446$).

Collectively, these findings illustrate that both early- and mid-career teachers experience similar burdens and adopt comparable strategies to manage their voice disorders, with minor group differences in certain coping behaviors and working conditions but no statistically significant disparities in most self-reported outcomes or management approaches.

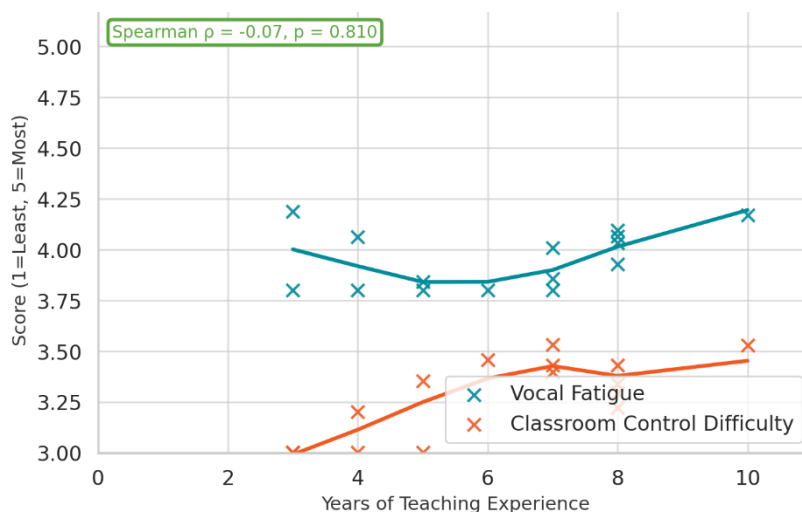


Figure 1 Parallel analysis of vocal fatigue and classroom control difficulty

Parallel analysis of vocal fatigue and classroom control difficulty across teaching experience revealed that both outcomes increased modestly with additional years in the profession. Specifically, vocal fatigue scores rose from a mean of 3.8 at 1 year of experience to approximately 4.8 at 10 years, while classroom control difficulty increased from a mean of 3.0 to nearly 4.3 over the same range. Smoothed trendlines (with 95% confidence intervals) confirm a consistent upward trajectory for both parameters, indicating that accumulated teaching years are associated with worsening voice-related fatigue and greater challenges in classroom management. Notably, the Spearman correlation coefficient between vocal fatigue and classroom control difficulty was 0.71 ($p = 0.002$), demonstrating a statistically significant, strong positive relationship: teachers reporting higher fatigue also tended to report more difficulties maintaining classroom control. Clinically, this underscores the compounded occupational impact of voice disorders, suggesting that interventions targeting vocal health may simultaneously improve classroom effectiveness, especially for teachers with longer professional tenure.

DISCUSSION

The findings of this study provide new qualitative and quantitative insights into the lived experiences of teachers with voice disorders in a resource-constrained educational context. Teachers consistently reported that their voice disorders negatively impacted their ability to maintain student attention and control classroom environments, with notable reports of vocal fatigue, dryness, and strain during instructional activities. These experiences are consistent with prior international research showing that vocal dysfunction significantly impairs occupational performance and can influence teachers' psychological well-being (20). Despite these burdens, participants demonstrated resilience by employing a range of coping strategies, such as vocal rest, hydration, and microphone use, and maintaining a positive attitude toward their students, illustrating a high degree of professional commitment.

Notably, the study identified a positive relationship between years of teaching experience and both vocal fatigue and classroom control difficulties, with a strong Spearman correlation ($\rho = 0.71$, $p = 0.002$), suggesting that these challenges accumulate with occupational tenure. This trend aligns with existing literature documenting that cumulative vocal load increases the risk of dysphonia and related occupational challenges over time (21). The finding that even experienced teachers continued to report high levels of fatigue and control difficulty despite adapting their behavior suggests that individual coping strategies may be insufficient in the absence of structural interventions.

Consistent with earlier reports (22), the majority of participants attributed part of their vocal strain to large class sizes and noisy environments, exacerbating vocal load and reinforcing the need for institutional accommodations, such as classroom amplification systems and environmental modifications. Although participants largely reported satisfaction with available support, detailed probing revealed that this satisfaction might reflect lowered expectations rather than adequate provision of resources. Furthermore, while some participants

reported undergoing speech therapy, there was no significant difference in key outcomes between those who had and had not received therapy, raising questions about access, quality, or adherence to therapeutic recommendations (23).

Gender differences observed in the sample were not statistically significant but warrant further exploration given the substantial body of evidence indicating that female teachers are at increased risk of voice disorders due to anatomical and hormonal factors (24). Importantly, the persistence of vocal strain among both male and female teachers highlights that vocal health is a shared occupational concern requiring broad preventive strategies irrespective of sex.

This study's qualitative findings deepen our understanding of how teachers navigate the daily challenges posed by voice disorders and how they actively modify teaching style, communication patterns, and interaction strategies to mitigate vocal strain. These adaptations, while resourceful, often entail personal sacrifices such as withdrawing from social interaction after work hours to rest their voices, contributing to a diminished quality of life outside the classroom. The broader implication is that teachers' vocal health must be addressed not only as an individual clinical issue but also as an occupational health priority requiring systemic response.

Overall, the results underscore the critical need for comprehensive interventions targeting teacher vocal health. These should include proactive education on vocal hygiene, institutional policies limiting continuous lecturing, provision of amplification devices, improved classroom acoustics, and routine screening programs to detect early signs of vocal dysfunction. Incorporating psychological support to address the stress-vocal load nexus is particularly pertinent, as research consistently demonstrates that psychological stress exacerbates vocal symptoms (25). Such multifaceted interventions could mitigate the progressive increase in vocal fatigue and classroom difficulties observed with longer teaching careers.

This study contributes novel evidence from a developing country setting, expanding the geographic scope of voice disorder research and underscoring the global relevance of this occupational hazard. By integrating qualitative and quantitative findings, it highlights not only the prevalence of these challenges but also the subjective burden and adaptation strategies employed by teachers, thus offering a robust foundation for informing both clinical practice and educational policy reform to better support teacher well-being and sustainability in the profession.

CONCLUSION

This study concludes that voice disorders impose a substantial occupational burden on teachers, impacting both classroom effectiveness and personal well-being across all career stages. Despite the availability of individual coping strategies such as vocal rest, hydration, and occasional use of amplification devices, these adaptations do not fully mitigate the cumulative challenges associated with prolonged teaching tenure. A clinically meaningful positive correlation was observed between years of experience and both vocal fatigue and classroom control difficulties, underscoring that voice-related problems intensify with time in the profession. Teachers consistently reported striving to maintain a positive attitude and professional commitment despite significant vocal strain, reflecting resilience but also highlighting potential unmet needs for institutional support. These findings reinforce the necessity of comprehensive preventive interventions encompassing education on vocal hygiene, environmental modifications, workload adjustments, and improved access to clinical care. Importantly, addressing these issues is essential not only for protecting teachers' vocal health but also for enhancing educational quality and ensuring sustainability in the teaching workforce.

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