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Case Report

Application of psychodynamic model in the assessment and management of psychogenic voice disorder: a case report

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ABSTRACT

The psychological state is considered to contribute to the overall well-being of an individual. Disequilibrium due to psychological reasons such as anxiety, stress, depression, or other psychological conditions may affect voice production entirely or partially, significantly affecting the person's occupational, social, and emotional well-being. The present study discusses a sudden onset of aphonia in a 37-year-old female without an underlying physiological illness. The study illustrates the importance of interpreting the voice problem in the patient considering the influence of the individual's psychological, physiological, physical, emotional, and social health by applying the psychodynamic model.

Keywords: Psychogenic voice disorders, Counselling, Lombard effect, Psychodynamic model, Functional aphonia

INTRODUCTION

A normal voice is intricate to physical, mental, social, and emotional well-being. The influence of the psychological state on voice production has been explored for decades. However, the actual relationship needs to be understood. According to Aronson (1990), psychogenic voice disorder (PVD) manifests psychological disequilibrium that interferes with voluntary control over phonation.[1] Epidemiological studies have revealed that women are more affected by PVD than men, bearing a ratio of 8:1. The causes of psychogenic voice disorders are often multi-factorial, with the main reasons being psychological and emotional conflicts contributed by personal, family, work, and society-related stress.[2] Patients with PVD often present with effortful voice production and vocal fatigue, and the symptomatology often contradicts the clinical examination findings. Often, psychological stress influences voice production significantly, contributing to a voice disorder.[2] This influence has been explained through the psychodynamic model by Maurice Greenberg (Figure 1).[3]

According to the model, an episode of dysphonia or aphonia is triggered by a pre-disposing "event" that could be organic or psychogenic. The dysphonia then results in emotional reactions, resulting in voice change. The "illness behaviour" that has developed slowly takes a reinforcing form, and the patient uses this to seek attention. The model emphasises the clinician's role in prolonging the symptoms by increasing evaluations, reinforcing the patient's anxiety.[3] The psychodynamic model interpretation helps the clinician follow a holistic approach in assessing and managing PVD, with counselling taking the cynosure role. Counselling is the process that will help an individual to explore and formulate feelings/ thoughts as well as help the individual visualise the difficulties equitably and accomplish appropriate judgments.[4] Generally, counselling in

communication disorders involves a process of information transfer wherein the technicalities of diagnosis and treatment are illustrated but do not explore the intricacies of the personal perspectives of the patient.[5]

However, when dealing with patients, especially PVDs, it is inevitable for the clinician to communicate with the patient and understand the psychological factors contributing to the disorder, enabling better insight into the patient's problems. The present article will highlight a PVD, functional aphonia in a middle-aged female patient, and the assessment and applications of the psychodynamic model in assessment and management.

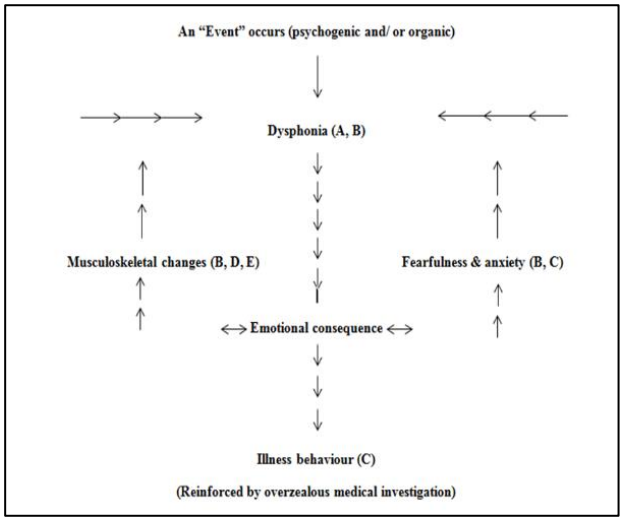

Figure 1: Psychodynamic model by Greenberg (1986).[13]

CASE REPORT

Patient XYZ, 37 years/female, married homemaker, reported to the outpatient unit of the department of otorhinolaryngology on 09 May 2020 with the complaint of sudden onset loss of voice three months after an attack of fever and cough. the medical history indicated that the patient was under medication for uterine issues and hormonal distress for ten years and had surgical excision of uterine cystic growth three months back. the patient reported a significant history of psychological stress due to uterine problems and family-related issues and was under medication for depression and anxiety-related problems for one year. the patient appeared highly concerned and anxious about her voice problem and was diagnosed with functional aphonia.

Follow up

The patient and her family re-visited the department for a follow-up on 28 May 2020. the laryngoscopic evaluation revealed healthy vocal folds with normal movements and inter-arytenoid congestion. the auditory-perceptual evaluation revealed aphonia and no modal voice, but traces of falsetto voice were observed intermittently. cough, phonation, and glottal coup were carried out, and the client presented with an inconsistent, severe asthenic voice. an acoustic assessment could not be done as the vocal sample was insufficient for analysis. the incidence of a predisposing event was identified through patient and family counselling, taking insights from the model. A psycho-traumatic stress incident triggered by hormonal, uterine, and family-related problems was identified during the face-to-face interaction. the speech-language pathologist framed a holistic voice therapy regimen comprising counselling, voice facilitation techniques, the Lombard effect, and cough phonation for the patient, with the psychodynamic model as the foundation.

Patient and family counselling was carried out the patient counselling included educating the patient about the current nature of the issue and reassurance to regain the voice. to help the patient understand the potential contributing elements to the problem, the patient was also informed about the nature and causes of the issue. This aided in identifying the personal stress and issues that might have contributed to her condition and helped her regain healthy vocal behaviours and normal voice. the counselling session with the patient also followed the strategies of valuing and listening, which allowed her to express her feelings, emotions, and concerns the family, including the patient's husband and sister, were made aware of the stress and anxiety that the patient was undergoing due to medical and family-related issues. This was done to sensitise the family to the emotional responses and behaviours that the patient might present in daily life. They received advice on how anxiety and stress might affect voice quality by relating examples of the patient's voice issues and emotional disturbances to comprehend the condition better and create an empathetic situation in her daily life.

Voice therapy

The patient received two voice therapy sessions in the institute's outpatient department. during voice therapy, the Lombard effect was implemented wherein noise was generated using praat version 6.4.13 and presented through headphones (Audio Technica Ath M20x headphones) to the patient in two trials. in the first trial, the noise was presented gradually in increasing steps as the patient was engaged in a conversion task. minimal voicing was obtained toward the end of the task.[6] Perceptual voice analysis during the trial revealed a severely strained high-pitched voice on the GRBAS scale (Grade-3, Roughness-1, Breathiness-0, Asthenia-3, Strain-3).[7] Further, in the second trial, the patient was engaged in a reading task as the noise was presented gradually in increasing steps using headphones. during this, significant voicing emerged, which was high-pitched and strained. on the GRBAS perceptual scale, the phonation in the second trial was quantified as the following: G-3, R-1, B-1, A-0, S-3. this was followed by the implementation of the voice facilitation humming technique, wherein she was instructed to attempt to hum

as comfortably as possible. initial trials yielded a high-pitched hum, further shaping it into a lower-pitch voice and improved quality. the final sample was recorded and analysed perceptually and acoustically, and the results indicated normal voice perceptually and acoustically (G-0, R-0, B-0, A-0, S-0; Jitter (JITT %)-0.14%, shimmer (shim dB)-1.27 dB, habitual frequency (f0)-218 Hz, intensity (dB)-38, normalized noise energy (NNE)-17.05, harmonic-to-noise ratio (HNR)-30.18, signal-to-noise ratio-28.97). Hygienic voice therapy focusing on vocal hygiene measures, such as maintaining adequate hydration and minimalizing verbal abuse/misuse behaviours, was introduced at this stage when she regained her voice.

DISCUSSION

The present article highlights the assessment and intervention of a 37-year-old female with symptoms of loss of voice with normal vocal fold functions. Evidence has documented that female professional voice users experienced more outstanding anxiety-related issues and concluded that this anxiety and stress directly affect voice production.[8]

The comprehensive evaluation process involving instrumental evaluation using video laryngoscopy, voice assessment software, and perceptual assessment revealed that the patient presented with vocal symptoms without structural vocal cord pathologies. The detailed clinical examination indicated that the patient suffered from uterine cysts and was under treatment. As reported by the patient, she was worried and anxious about her medical issues, thereby becoming the pre-disposing factor affecting the patient's psychological status. This view has been supported by evidence that women suffering from ovarian and uterine cystic conditions are at higher risk of developing psychological disorders such as anxiety, depression, psycho-sexual dysfunctions, and eating disorders11 than healthy females.[9-11] In addition, the patient also reported psychological stress due to family-related problems. Applying the psychodynamic model, the health problem related to uterine cysts and psychological stress related to family life could be identified as the triggering factors contributing to the aphonic condition. The illness behavior, thus developed, 'loss of voice' takes a reinforcing state, resulting in continuing the problem of seeking attention.

Determining that the disorder has a more significant psychological influence, the SLP team planned a treatment regimen focusing on patient and family counselling reinforced with voice therapy, adapting the psychodynamic model.[3,12] There has been evidence documenting the efficacies of voice therapy methods such as the Lombard technique, cough and phonate relaxation, and humming exercises in the intervention for psychogenic voice disorders.[12,13] The therapy regimen for the patient primarily involved counselling the patient and the family. The humanistic model of counselling was applied here. A person is influenced directly by the changes in the environment surrounding them, and how the individual accepts these changes implies how they perceive reality.[14,15] This implementation of voice therapy methods such as cough and phonate relaxation, and humming enabled the strengthening of the strained voice to normal quality. The counselling process continued throughout the procedure, which indirectly helped the patient achieve consistent strong voicing by the end of the session.

CONCLUSION

Psychogenic influences may be quite common in patients with voice disorders, and the present study would add an illustrative scenario about the use of the psychodynamic model during voice assessment and therapy. The study clearly outlines the process underlying the psychological condition using the psychodynamic model and its application in diagnostics and therapeutics. Counselling methods hold a substantial role during both assessment and management of voice disorders. It can be concluded that a clinician has to address the psychological domain while assessing the client with voice disorders and adapt the therapeutic methods to suit individual client needs.

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