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ملاحظات: ....

Comparison between Voice Disorders among Female Professional and Nonprofessional Voice users Dealing with Early School Aged Children

Thesis

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List of Abbreviations

Abb.	Full term
APQ	Amplitude perturbation quotient
DSI	Dysphonia severity index
Fo	Average Fundamental Frequency
FVD	Functional voice disorders
GERD	gastroesophageal reflux disease
HA	Hyaluronic acid
Jitt%	Jitter percent.
MAPLs	Minimal Associated Pathological Lesions.
MDVP	Multi-Dimensional Voice Program.
MPT	Maximum phonation time
NHR	Noise-to-harmonic ratio.
NPVUS	Non professional voice users
PVUS	Professional voice users
RAP%	Relative average perturbation.
Shim%	Shimer percent
U.S.	United States
VD	Ventricular dysphonia
VHI	Voice handicap index
VRQOL	Voice related quality of life

INTRODUCTION

Voice is a multidimensional and an essential feature of human life without which individuals suffer serious communication difficulties. Voice disorders can have a significant impact on the quality of life, social well-being, work productivity, and health care cost. Individuals with voice problems suffer from depression, impaired quality of life, social isolation, and work related absenteeism. In addition, they may often avoid challenging social situations and may decrease socio emotional contentedness. As a result, voice problems are gaining public health recognition ***(Sheyona and Devadas, 2020).***

Disruption of the voice function may occur as a result of fault in one or more of the following: the range of movement of the vocal folds, movement of the mucosa over the deeper structures, the coaptation of the vocal fold's edges, the timing between the closure of the vocal folds and the pulmonary exhalation, the motor force, the pulmonary breath control and the tuning of the vocal fold musculature ***(Kotby et al., 2016).*** There are other definitions of voice disorder including: An abnormality of one or more of the three characteristics of voice: pitch, intensity and quality. Moreover, any time the voice does not work, perform or sound as it normally should, so that it interferes with communication. Among various definitions, those ones adequately suggest that a voice disorder occurs when there is some physical and perceptual difference in the voice of an individual ***(Byrd et al., 2013).***

Voice disorders can be classified into ***(Kotby et al., 2016)*:**

- Organic voice disorders where there are detectable morphological changes in the vocal apparatus.
- Non-organic voice disorders where no visible structural or neurological pathology exists to explain the voice disturbance (the larynx is organically free).
- Minimal Associated Pathological Lesions (MAPLs) which is non-neoplastic, non-inflammatory, traumatic lesion of the vocal fold. This group occupies a position somewhere between the organic benign and non-organic groups as they are usually associated with and might have been predisposed by long standing non-organic vocal dysfunction.
- Accompaniments of neuro-psychiatric ailments as an element of dysarthrophonia or personality and mood changes.

There are different symptoms of voice disorders ranging from ***Dysphonia*** "change of voice", ***Aphonia*** "loss of voice", ***Dysodia*** "change of singing voice" and ***Phonasthenia*** "voice fatigue". Phonasthenia give rise to symptoms like; throat dryness, throat soreness, frequent clearance of the throat, tightness in the neck over the larynx and difficulty in swallowing saliva / sticky throat secretions ***(Kotby et al., 2016).***

Voice disorders can affect patients of all ages and sex ***(Stachler et al., 2018).*** But previous researches suggest that females have more voice disorders than males. Females may be nearly twice as likely to report a history of voice problems as

males and represent up to 76% of voice clinicians' referrals ***(Hunter et al., 2011).*** Females had a higher prevalence of voice disorders regardless of occupational status. Several studies have been documented that females are more likely to report and seek help for voice related problems as well as reporting problems of longer duration (voice problems greater than 4 weeks in duration) regardless of age ***(Coyle et al., 2001 and Smith et al., 1998).***

Adult male and female larynxes differ in anatomic and physiological characteristics. These differences have determining effects on vocal fold vibratory patterns and glottal flow waveforms. The dimensions of the soft tissues of the larynx are shorter in the adult female than the adult male, and thus the mass in vibration also is less, resulting in higher fundamental frequencies produced by females than by males. It can be hypothesized that the differences in the dimensions between the typical male and female vocal fold may create substantial differences in the transglottal and glottal wall pressures, and thus cause important differences in the forces applied to the medial vocal fold surfaces, the subsequent motion of the vocal folds, and consequently the glottal volume velocity waveform ***(Li et al., 2020).***

Professional voice users (PVUS) are defined as individuals whose profession, either wholly or partially, depends on the use of voice. For such individuals, the consistent quality and endurance of their voice is paramount. As these individuals are perpetually exposed to increased phonotrauma, inefficient voice use and heavy vocal loading, a higher prevalence of vocal fold

lesions has been reported in PVUS than that observed in the general population ***(Chitguppi et al., 2019).***

Teachers, the most frequently studied group of voice professionals need not solely a resilient voice, but also a unique communicative competence to attract students and maintain their attention ***(Behlau et al., 2014).*** The greatest vocal demand is placed on those teachers who lecture or discipline children's for 5-7 hours a day, often getting louder and more emphatic as the day wears on. All teachers, however, need a functional voice in order to be effective in establishing classroom control and in developing effective working relationships with students ***(Mattiske et al., 1998).***

Nonprofessional voice users (NPVUS) are those individuals, who are not exclusively dependent on their voice to earn their livelihood; various studies had found that the most common NPVUS among the population was housewife ***(Edwin and Patricia, 1991 and Herrington-Hall et al., 1988).*** It was also noted that housewives, especially mothers of small kids had voice disorders. This may be due to chronic screaming habits at home ***(Vindrani et al., 2020).***

Numerous studies have explored the prevalence, risk factors, and impact of voice problems in PVUS (especially teachers) However, a relatively small number of studies provide data on the prevalence, risk factors, and impact of voice problems in the NPVUS (especially housewives) even though their frequent visits to our clinics.