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EFFICACY OF VOICE THERAPY IN NON-ORGANIC DYSPHONIA

ABSTRACT:

Objective:
To assess the effectiveness of voice therapy in patients with non-organic dysphonia

Material and Methods:
A Prospective, longitudinal, randomised, interventional and comparative Study was carried out in the Department of ENT and Head Neck Surgery, Ganesh Man Singh Memorial Academy of ENT-Head and Neck Studies, Tribhuvan University Teaching Hospital, Kathmandu, Nepal from 1st November, 2009 to 31st August, 2011. Patients were allocated in one of three groups; Control group (Group 1), Indirect therapy group (Group 2) and Direct therapy group (Group 3). The patients were assessed with modified Voice Handicap Index at initial evaluation (Pre-interventional score) and after 6 to 8 weeks of first evaluation (Post-interventional score).

Results:
Seventy five patients completed the study.Out of seventy five patients, there were 26 patients in Group 1, 27 patients in Group 2 and 22 patients in Group 3. Five patients (19.23%) in Group 1, fourteen patients (51.85%) in Group 2 and nineteen patients (86.36%) in Group 3 had improvement. The proportion of improvement between Groups1 and 2, Groups 2 and 3 and Groups 1 and 3 were statistically significant ($p<0.05$).

Conclusion:
Voice therapy is effective in improving voice quality in patients with non-organic dysphonia.

Key words: Non-organic Dysphonia, Modified VHI, Voice Therapy

INTRODUCTION

Dysphonia can be defined as deviation in any of the parameters timbre, pitch, intensity, or noise from the normal[1]. Recent definitions of a disordered voice stress the inability of the voice to fulfill the speaker's social and occupational requirements.[2] There is no universally accepted classification system for voice problems, apart from two major classes of voice disorder related to etiology: organic and non-organic.[3] Non-organic dysphonia is defined as "disordered voice" when direct , indirect, and\ or fibreoptic laryngoscopy reveals either (a) no apparent significant organic impairment in terms of laryngeal structure or function e.g. habitual dysphonia or b) minor laryngeal abnormalities which may be attributed to excessive voice use and abuse and where no surgical intervention is deemed appropriate e.g. early vocal cord nodule.[4]

For non-organic dysphonia, most experts agree that surgical or medical interventions are not indicated [4] and voice therapy is recommended. The outcome of therapy is increasingly evaluated in terms of the patient's quality of life.

Numerous instruments for the self-rating of voice problems are available. The Voice Handicap Index (VHI) along with the shortened VHI, VHI-10; the Voice Activity and Participation Profile (VAPP); the Voice-Related Quality of Life (VRQoL); the Voice Outcome Survey (VOS) and the Voice symptom scale (VoiSS) are all designed for measuring perceived handicap and quality of life, and perceived limitations of participation and activity.[5] The effectiveness of voice therapy using VHI as outcome measure has not been conducted in Nepal till date and the study is first of its kind in Nepal. Modified Nepali translated VHI not only helps in the assessment of severity of disease but also provides the evidence based documentation of treatment effectiveness.

MATERIALS AND METHODS

This prospective, longitudinal, randomised, interventional and comparative study was carried out in the department of ENT and Head Neck Suregry,Ganesh ManSingh Memorial Academy of ENT-Head and Neck Studies Tribhuvan University TeachingHospital, Kathmandu, Nepal. The study was carried out from 1st November 2009 to 31st August 2011. All the dysphonic patients were assessed by flexible endoscope in the presence of otorhinolaryngologists and speech pathologists. All the patients aged between 18

and 50 years with non-organic dysphonia with at least 1 month duration of symptomwere included in the study. Patients suffering from dysphonia due to organic causes such as significant vocal nodule, polyp, cyst, granuloma,vocal cord palsy and paresis, malignancy, hormonal cause, functional dysphonia, puberphonia, resonance disorders (Rhinolaliaclausa and aperta), previous surgery on vocal cords and undergone end otracheal intubation within past 6 weeks were excluded from the study.

Informed consent was taken from all the patients. Randomisation was done by the lottery system and patients were allocated in one of the three groups.

In Control group, Group 1, no intervention was done and onlycounseling and reassurance was provided. In Indirect therapy group, Group 2, patients were educated regarding the vocal rest program, elimination of abuse-misuse, vocal hygiene program and steam inhalation. Counseling and reassurance was also given to all the patients. In Direct therapy group, Group 3, voice therapy was given along with indirect therapy as mentioned above. The voice therapy was given according to patient's need. Patient had two sessions of voice therapy in a week for six to eight weeks.

All the patients were assessed with modified VHI at initial evaluation (Pre-interventional score). The patients were again assessed with the same modified VHI after six to eight weeks of initial evaluation (Post-interventional score).The total of physical, functional and emotional of pre-interventional and post-interventional scores of each patient was compared, analysed and classified as improved, deteriorated or no change.

RESULTS:

Out of seventy five patients, 26 were in control group (Group 1) 27 were in indirect therapy group, (Group 2) and 22 in direct therapy group (Group 3). There was female predominance in the study. There were 60 female patients and remaining 15 were male patients. The age of the patient ranged from 19 yrs to 49 yrs, with mean age of 31. 22 yrs. Maximum number of patients in all groups were between 18 to 29 yrs.

In control group (Group 1), five patients (19.23%) showed improvement, nineteen patients (82.60%) deteriorated and two patients (7.6%) had no change. Similarly in indirect therapy group (Group 2) fourteen patients (51.85%) had improvement, eleven patients (40.70%) deteriorated and two patients (7.40%) had no change. In direct therapy group (Group 3), nineteen patients (86.36%) had improvement, one patient (4.54%) deteriorated and two patients (9.09%) had no change.

Z test for proportion of improvement between Groups was statistically significant ($p<0.05$). It was highly significant between Groups 1 and 3 and Groups 2 and 3 ($p<0.01$).

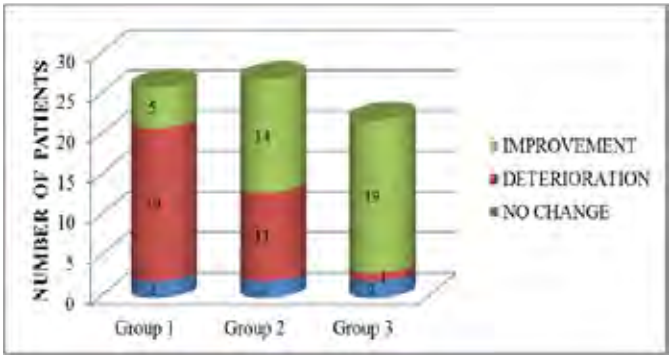

Fig1: Comparison of outcomes within each group

DISCUSSION

This study was the first randomized controlled trial to measure the efficacy of voice therapy in patients with non-organic dysphonia in our population. Though it is universally accepted that the gold standard treatment for non-organic dysphonia is voice therapy, the effectiveness of it has to be validated in our setup thus providing more scientific way of treating the patient. There had been no study till date and it is the first, prospective, longitudinal, interventional, randomized controlled study to evaluate the effectiveness of voice therapy in non-organic dysphonia in Nepalese population using modified VHI.

Five out of twenty six patients (19.2%) in control group (Group 1) had improvement. Fourteen patients out of twenty seven patients (51.85%) in indirect therapy group (Group 2) had improvement. Similarly, nineteen patients out of twenty two patients (86.36%) in direct therapy group (Group 3) had improvement. The comparison of proportion of improvement between control group (Group 1) and direct therapy (Group 3) was statistically significant ($p<0.01$). Similarly, the comparison of proportion of improvement between indirect group (Group 2) and direct therapy (Group 3) was also statistically significant ($p<0.01$).

The voice therapy had direct influence on vocal cords and improvement in its function compared to other modalities of treatment. According to Carding et al., MacKenzie et al. and Murphy et al.,combination of direct and indirect voice therapy was effective in improving vocal functioning compared with no intervention, when measured with self-reported measures of vocal functioning (VPQ and VRQoL).[4,6,7] The study by Simberg et al. showed that the intervention group's number of voice-related symptoms remained lower than that of the control group at three months and a year after the start of the study.[8] Results may differ from centre to centre and from one speech pathologist to the other. In our setup the voice therapy was effective in the treatment of non-organic dysphonia.

CONCLUSION

Voice therapy was effective in improving symptoms in patients with non-organic dysphonia. Combination of a direct and an indirect voice therapy was the best available intervention for treating non-organic dysphonia.

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