THE ROLE OF SOCIAL SUPPORT IN THE VOICE-SPEECH REHABILITATION PROCESS

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Objective: to investigate the relationship between perceived informal social support and speech therapy parameters including the following: applying instructions given by the speech-language pathologist, success in acquisition of alaryngeal speech, and use of alaryngeal voice in everyday social interactions in laryngectomized patients. Methods: this retrospective study included 47 laryngectomized males, mean age 67.19 years. Data were collected in a semi-structured interview over the voice-speech therapy duration. The data collected were statistically analyzed in a JASP software (version 0.12.2., University of Amsterdam, The Netherlands) by appropriate statistical methods. Results: the alaryngeal speech usage in real communication circumstances is positively strongly associated with marital status, social support, following instructions and self-discipline, and successful voice-speech rehabilitation. Discussion: these findings suggest that informal social support is an important protective factor in rehabilitation process of laryngectomized patients that facilitates acquisition of alaryngeal voice. The results were in concordance with similar research findings indicating association between greater perceived social support and better treatment outcomes. Conclusion: informal social support has an important role in all components of voice-speech therapy of laryngectomees, where the most important association is with success in learning substitute speech.

Key words: laryngectomy, psychosocial adaptation, social support, speech therapy, voice rehabilitation

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INTRODUCTION

Diagnosis of malignant disease represents a direct threat to one's life and integrity. From the time of receiving a cancer diagnosis, these people are faced with extreme distress accompanied by a wide range of emotional responses that can influence both morbidity and mortality, and as such affect the lives of patients in many ways. Although medical treatment largely depends on the cancer size, stage and site, total laryngectomy is still considered the gold standard and the most common treatment choice in laryngeal malignancies, often followed by neck dissection and chemo-radiotherapy. These highly invasive treatment procedures combined with illness intrusiveness result in multiple permanent debilitating side effects and functional difficulties related to swallowing, chewing, eating and speaking accompanied by chronic pain.

Besides these disease-specific challenges, individuals with laryngeal cancer have to face incremental psychosocial stressors common to the majority of cancer patients, such as fear of dying slow, painful death, fear of disability, becoming helpless and dependent on their loved ones, fear of change in appearance and body function, emotional vulnerability, uncertainty, altered social roles, social isolation and embarrassment (1). There is a growing body of literature that highlights the adverse consequences of unmet psychological needs of head and neck cancer patients, most of them leading to the increased length of hospital stay, more treatment complications, increased noncompliance with treatment protocols, higher psychiatric
The role of social support in the voice speech rehabilitation process

PATIENTS AND METHODS

The sample consisted of 47 totally laryngectomized males, mean age 67.19 years. Data were collected by use of a retrospective semi-structured interview over the voice-speech therapy duration. Semi-structured interview was conducted targeting the degree of perceived informal social support from different groups of sources, i.e. partners, children, other family members, friends, work colleagues, and other laryngectomized patients. Patients were asked whether or not they felt supported and understood by their close ones and if they received emotional help and support they needed. The effectiveness of voice rehabilitation was assessed on the basis of the Harrison-Robillard-Schultz (HRS) scale for tracheoesophageal speech, Stanković scale for esophageal speech, and auditory-perceptual assessment of the speech intelligibility for electrolaryngeal speech.

The data collected were statistically analyzed in JASP computer program (version 0.12.2., University of Amsterdam, The Netherlands). Categorical variables were statistically expressed as absolute and relative frequencies. Numerical data were expressed as arithmetic mean and standard deviation. Preliminary analyses showed that the assumptions of normality, linearity and homogeneity of variance were not violated. The correlation of numerical variables was estimated by Pearson correlation coefficient r. All p values were two-sided. The level of significance was set at α=0.05.

RESULTS

Based on the analysis of the data collected, 47 male respondents, mean age 67.19 years, age range 39-86 years, participated in the research. The majority of subjects, 44 (93.61%) of them, were included in the voice-speech therapy after laryngectomy. According to the level of education, 30 (63.83%) respondents had acquired some education level, whereas 17 (36.17%)
had not completed their education. Psychiatric heredity was recorded in 44 (93.16%) and psychiatric comorbidity in 34 (72.34%) subjects. More than half of the respondents, 31 (65.95%) of them, were in a marital, extramarital or partnership union, whereas 16 (34.04%) respondents had the status of a widower, divorced or unmarried. Thirty-four (72.34%) respondents had informal psychosocial support during medical treatment and voice rehabilitation. During voice-speech therapy, 34 (72.34%) respondents followed the instructions of a speech-language pathologist and regularly performed rehabilitation operators independently at home with formal voice-speech therapy by speech-language pathologist. Thirty-six (76.59%) respondents were successfully rehabilitated regardless of a substitute modality of alaryngeal speech, and 34 of them (94.44%) used alaryngeal speech in everyday real communication circumstances.

Analysis of the results showed a medium positive correlation between psychiatric heredity and psychiatric comorbidity \((r=0.42, p=0.003)\), medium negative correlation between the level of education and perception of informal social support \((r=-0.32, p=0.025)\), and strong positive correlation between marital status and perception of informal social support \((r=0.76, p=0.056)\). There was a strong negative correlation between following instructions and self-discipline and the patient level of education \((r=0.52, p=0.543)\) and strong positive correlation between marital status and following instructions and self-discipline \((r=0.66, p=0.256)\).

A weak negative correlation was found between psychiatric comorbidity and following instructions and self-discipline \((r=-0.25, p=0.083)\) and medium positive correlation between the level of education and success in voice-speech therapy \((r=0.42, p=0.003)\). There was a strong positive correlation between success in voice-speech therapy and marital status \((r=0.55, p=0.460)\), perception of informal social support \((r=0.66, p=0.490)\), and following the instructions and self-discipline \((r=0.66, p=0.002)\). A medium negative correlation was found between the level of education and alaryngeal speech usage in real communication circumstances \((r=-0.42, p=0.003)\). The alaryngeal speech usage in real communication circumstances showed strong positive correlation with marital status \((r=0.56, p=0.322)\), social support \((r=0.57, p=0.473)\), following instructions and self-discipline \((r=0.68, p=0.304)\) and successful voice-speech rehabilitation \((r=0.89, p=0.04)\).

**DISCUSSION**

In this study, we examined the relationship between perceived informal social support and three parameters of voice rehabilitation in patients after total laryngectomy including following instructions given by the speech-language pathologist, success in acquisition of alaryngeal speech, and use of alaryngeal voice in everyday social interactions. The results indicated positive correlation between perceived informal social support and two important components of voice-speech therapy (following instructions during rehabilitation and success in acquisition of alaryngeal speech), as well as a significant positive association between perceived informal social support and use of alaryngeal voice in everyday communication. These findings suggest that informal social support is an important protective factor in rehabilitation process of laryngectomized patients that facilitates acquisition of alaryngeal voice. The results are in concordance with similar research findings indicating association between greater perceived social support and better treatment outcomes (6). It is possible that this interaction is mediated through good psychological adjustment to illness and treatment since it is well known that social support promotes psychological adjustment of cancer patients (10).

Considering literature findings emphasizing social support seeking as the most frequently used coping strategy in laryngeal cancer patients, it is plausible that increased perceived social support and encouragement provided by the loved ones enhances individual's involvement in treatment resulting in better treatment results. However, since these correlations do not allow causative conclusions, it is possible that the successful alternative voice acquisition promotes patient perception of better social involvement and support. Non-significant relationship between perceived informal social support and following instructions given by the speech-language pathologist and alaryngeal speech usage in this specific male sample could be explained by a study showing that perceived informal social support was not significantly related to psychosocial adjustment of men (7). This finding might also be due to a relatively small patient sample. The research also yielded a statistically significant correlation between successful acquisition of alaryngeal speech and the alaryngeal voice usage. This association could be explained by the fact that patients who successfully acquired alaryngeal speech were frequently encouraged by the speech-language pathologist to practice it in everyday situations. Furthermore, we found a significant positive correlation between marital status and perceived informal social support. These findings are supported by a study claiming positive correlation between social support from family member and physical and psychological adjustment to cancer (11). Finally, this study found a significant positive correlation between educational level and successful alaryngeal voice acquisition. It is possible that this finding
could be explained through the mediating process of self-efficacy. Namely, research in this field claim a strong positive association between the level of education and perceived self-efficacy (12).

The limitations of this study included a relatively small sample that limited the power of conclusions about investigated relationships. The lack of sex diversity prevents extrapolation of the results to all laryngectomized patients in voice therapy. Furthermore, the data presented were strictly correlational and did not include causal associations between perceived social support and parameters of voice rehabilitation. Finally, there was a lack of standardized measures of the observed and reported parameters in the study. Although there are several assessment tools to assess social support in adults, there is a lack of instruments for measuring the concept of informal social support in clinical settings. The use of standardized questionnaires would provide more reliable and objective measurements and enable comparison of the results with those in other cancer patients, as well as those in the general population. A key strength of the present study was that it provided valuable information on the potential role of informal social support in the course and outcomes of voice-speech therapy, which is considered a vital part of rehabilitation of laryngectomees. Study results could facilitate rehabilitation and promote recovery of laryngectomized patients.

CONCLUSION

Social support has an important role in all components of voice-speech therapy of laryngectomized persons, with a statistically significant association between social support and success in substitute speech learning, as well as between alaryngeal speech usage in real communication circumstances and successful voice-speech rehabilitation.

REFERENCES


Cilj istraživanja bio je istražiti odnos između percipirane neformalne socijalne potpore i bitnih sastavnica logopedske terapije, uključujući samostalno provođenje rehabilitaciji prema uputama logopeda, uspješno usvajanje i upotreba alaringealnog glasa i govora u svakodnevnim socijalnim interakcijama kod laringektomiranih osoba. 

Metode: Retrospektivna studija obuhvatala je 47 laringektomiranih muškaraca srednje dobi 67,19 godina. Podatci su prikupljeni polustrukturiranim intervjuom tijekom glasovno-govorne terapije. Prikupljeni podaci statistički su analizirani u računalnom programu JASP (verzija 0.12.2., Sveučilište u Amsterdamu, Nizozemska) odgovarajućim statističkim metodama.

Rezultati: Upotreba alaringealnog govora u stvarnim komunikacijskim okolnostima pozitivno je snažno povezana s bračnim statusom, socijalnom potporom, samodisciplinom laringektomiranih tijekom terapije i uspješnom glasovno-govornoj rehabilitaciji. 

Rasprava: Dobiveni rezultati ukazuju na to da je neformalna socijalna potpora važan zaštitni čimbenik u procesu rehabilitacije laringektomiranih osoba, koji olakšava proces rehabilitacije. Rezultati su sukladni rezultatima sličnih istraživanja koji ukazuju na povezanost veće percipirane socijalne potpore i boljih rezultata liječenja. 

Zaključak: Neformalna socijalna potpora ima važnu ulogu u svim sastavnicama glasovno-govorne terapije laringektomiranih, pri čemu je značajnija povezanost socijalne potpore s uspješnim usvajanjem alaringealnog glasa i govora.

Ključne riječi: laringektomija, psihosocijalna prilagodba, socijalna potpora, logopedska terapija, glasovna rehabilitacija