Results of your search request

Group Therapy in Parkinson’s Disease targeting speech difficulties or dysarthria or communication difficulties.

Date requested: 31.7.2018
Date completed: 02.08.2018
Completed by: Mary Smith

Please find below the search results on the topic you requested.

The references are listed chronologically, starting with the most recent. I have inserted links to full text where possible. If you need assistance accessing any of the articles in full, the staff at Exeter Health Library will be happy to help, please e-mail rde-tr.library@nhs.net or visit our library website https://exeterhealthlibrary.net/.

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Mary Smith
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SUMMARY

A Systematic review in 2012 concluded that considering the small patient numbers in these trials, there is insufficient evidence to support or refute the efficacy of any form of SLT over another to treat speech problems in patients with Parkinson's disease (11)

A recurring theme through the references is the use of singing groups. Singing groups are discussed in (2), (4), (5), (6), (10), (12), (13).

- Participants appreciate the fellowship with other persons with PD
- Group singing proved beneficial for improving voice and respiratory impairment in persons with Parkinson's disease. Completing group singing one time per week for 8 weeks was as effective as completing group singing two times per week for 8 weeks in persons with Parkinson's disease. Group singing is an effective means of improving overall quality of life in persons with Parkinson's disease.

The Lee Silverman Voice Treatment and the Loud & Proud methods are discussed in (1), (3), (8), (9), (11), (12) but evidence as to their efficacy in a group situation is inconclusive.
Abstract: This study used a pre-post intervention research design to explore the feasibility and speech, communicative effectiveness, and quality of life outcomes of a group therapy programme (Loud and Proud) for people with Parkinson's Disease following intensive speech treatment (LSVT LOUD). Four women and eight men diagnosed with PD and hypokinetic dysarthria participated in the research. Ten communication partners of people with PD also participated in the study. Participants were assessed twice on separate days pre- and post-intervention on acoustic measures of voice, perceptual ratings of speech intelligibility, a modified Communicative Effectiveness Index, and the Quality of Communication Life Scale. The intervention was eight 90-minute group therapy sessions, delivered once per week. Following intervention, participants demonstrated a statistically significant increase in sound pressure level (SPL) during conversation, monologue, reading and sustained vowel production tasks. However, mean SPL in conversation remained low following intervention. No significant improvements post-intervention were identified for maximum frequency range, duration of sustained vowel production, speech intelligibility, communicative effectiveness or quality of life. Refinements to Loud and Proud were recommended to better target intelligibility, communicative effectiveness, and quality of communication life. (PsycINFO Database Record (c) 2018 APA, all rights reserved) (Source: journal abstract)

Abstract: Many individuals with Parkinson's disease (PD) develop characteristics of hypokinetic dysarthria during the course of the disease. As communication skills are predominant factors in everyday life, dysarthric speech symptoms immediately influence decreased competence in communication, thereby increased frustration, and loss of confidence regardless of the degree of symptoms. The purpose of this study was to investigate the feasibility of a group music therapy protocol using Neurologic Music Therapy techniques for treating voice and speech deficits due to hypokinetic dysarthria seen in individuals with PD. Five participants with PD exhibiting characteristics of hypokinetic dysarthria participated in six weekly group music therapy sessions. Three speech assessments were administered as pretest and posttest to assess participants' improvement in variables that measured vocal function, voice quality, articulatory control, and connected speech intelligibility through acoustic and perceptual analyses. Feasibility and outcome measures provided initial evidence to warrant further study of the protocol.

Abstract: Purpose: This study aimed to determine the feasibility of delivering a group speech maintenance programme (eLoud and Proud) to people with Parkinson's disease via telerehabilitation.Method: Treatment was delivered to eight participants who had previously received LSVT LOUD®. The programme focussed on using a "loud" voice within conversational and cognitively loaded tasks, and was delivered in two 90-minute sessions per week for four weeks. Data pertaining to sound pressure level (SPL) (for sustained phonation, reading and monologue tasks), maximum frequency range, maximum phonation duration and impact of dysarthria on quality of life were collected at three time points: (1) pre-treatment (PRE); (2) immediately post-treatment (POST); and (3) three months post-treatment (FU). Participant satisfaction with telerehabilitation was also obtained at POST. Result: Significant improvements were identified for all SPL measures PRE-POST and maintained for sustained phonation and reading tasks at FU. No significant differences were identified for the remaining outcome measures. Participants were overall highly satisfied with telerehabilitation and considered it to be an acceptable alternative to traditional service delivery. Conclusion: This study demonstrated the feasibility of delivering group speech maintenance therapy via telerehabilitation, and the potential for eLoud and Proud to improve and maintain vocal loudness in people with PD. (PsycINFO Database Record (c) 2018 APA, all rights reserved)

Abstract: Background: Parkinson's disease (PD) is a progressive neurodegenerative disorder that leads to altered neural control of movement, including the control of voice, respiration, and swallowing. There is a prevalent need to provide therapy for voice, respiration, and swallowing difficulties because current pharmacological and surgical treatments do not effectively treat these impairments. Previous research has demonstrated that singing may be a treatment option to target voice, respiratory, and swallowing impairments, as well as quality of life. However, participants' perspectives related to reasons for enrolling and engaging in programs as well as evaluation of singing programs have been neglected. Objective: The purpose of this descriptive study was thus to solicit participants' views of their involvement in a group singing intervention (GSI) led by credentialed music therapists. Methods: Twenty persons with PD were interviewed 4 to 6 months after completing the singing intervention. Participants were asked about 1) why they chose to participate, 2) what were the beneficial and non-beneficial aspects of participating, and 3) how to improve overall design and delivery of the GSI. Results: Using content analysis procedures, we learned that participants regarded their involvement in the study as mutually beneficial, fun, and engaging. Participants appreciated the fellowship with other persons with PD and offered minimal constructive criticism. Conclusions: This study provided greater insight into how a therapeutic singing program may benefit participants and positively impact their lives.


Abstract: Purpose Interventions focused on singing may provide additional benefits to established voice and respiratory therapies, due to their greater emphasis on the respiratory muscle control system in those with Parkinson's disease (PD) progresses. The purpose of this study was to examine if singing can improve voice, respiratory pressure and quality of life (QOL) in persons with PD. Methods This pilot study measured the effects of a singing intervention in 27 participants with PD. Participants were assigned to a high (met twice weekly) or low (met once weekly) dosage group. Voice, respiratory and QOL measures were recorded before and after an 8-week singing intervention. Sessions were led by board-certified music therapists and included a series of vocal and articulation exercises and group singing. Results Both groups demonstrated significant improvements in maximum inspiratory and expiratory pressure, as well as phonation time. While other voice measures improved, they did not reach statistical significance. Voice QOL and whole health QOL also significantly improved. Conclusion These results suggest singing may be a beneficial and engaging treatment choice for improving and maintaining vocal function and respiratory pressure in persons with PD. Implications for Rehabilitation In a small sample, group singing proved beneficial for improving voice and respiratory impairment in persons with Parkinson's disease. Completing group singing one time per week for 8 weeks was as effective as completing group singing two times per week for 8 weeks in persons with Parkinson's disease. Group singing is an effective means of improving overall quality of life in persons with Parkinson's disease.


Abstract: The ability to communicate and make oneself understood is integral to a person's quality of life. It affects social interaction, educational and vocational opportunities, and ultimately independence and sense of self. Unfortunately, speech production is often impaired as a result of neurological damage (e.g., traumatic brain injury, stroke) or disorders (e.g., Parkinson's disease). There are many similarities and shared neural mechanisms between speech and singing. For example, both singing and speech utilize rhythm, pitch variation, tempo, dynamics, articulation, and respiratory support. Music therapists manipulate these elements of music when addressing therapeutic goals for people with neurogenic speech disorders. Many clinical protocols to address speech disorders in adults have now been published to guide clinical practice in music therapy. This paper summarizes existing music
therapy and singing-based protocols used to address commonly occurring acquired or degenerative speech disorders, namely dysarthria, dysphonia, dysprosody, and apraxia of speech. We examine individual and group therapy protocols used in medical and community settings for people with neurogenic speech disorders caused by traumatic brain injury, stroke, spinal cord injury, and Parkinson's disease. We highlight the strengths and limitations of these protocols and make recommendations for clinical practice.

(7) Traverse CM. The Impact of Group Format Therapy on Voice in Parkinson's Disease: A Pilot Project. *Canadian Journal of Speech-Language Pathology & Audiology* 2016; 40(1):31-49. Abstract: At present, the most effective evidenced-based program of voice treatment in Parkinson's Disease (PD) is the Lee Silverman Voice Treatment (LSVT), an intensive 4-week program delivered on an individual basis. This individual format limits both access to and the ability to offer LSVT. Recently, research in the field of voice treatment in PD has begun to investigate alternative delivery formats such as group therapy. The pilot project described here provided an intensive group format voice treatment protocol to nine adults with idiopathic PD in Santiago, Chile. The project's goal was to offer quality voice therapy to as many participants as possible without compromising effectiveness of treatment, while creating an opportunity for cross-cultural sharing of knowledge between Chilean and Canadian speech-language pathology (S-LP) colleagues. The group treatment protocol is outlined in detail and brief statistical analyses of vocal loudness changes immediately post-treatment and at 3-4 months follow-up are provided. The results presented suggest that group format therapy may be an effective method of providing vocal therapy for some patients with PD. Although the project presented was not a research study and therefore results must be interpreted with caution, the improvements observed warrant further investigation in more controlled environments. Given the challenges of access to quality public health care in Chile and the large caseloads of Canadian S-LPs, the project results described may have relevance for treatment delivery in Canada.

Notes: [Full text available with NHS OpenAthens]

(8) Wight S, Miller N. Lee Silverman Voice Treatment for people with Parkinson's: audit of outcomes in a routine clinic. *Int J Lang Commun Disord* 2015; 50(2):215-225. Abstract: BACKGROUND: Speaking louder/more intensely represents a longstanding technique employed to manage voice and intelligibility changes in people with Parkinson's. This technique has been formalized into a treatment approach and marketed as the Lee Silverman Voice Treatment (LSVT(R)) programme. Evidence for its efficacy has been published. Studies to date are dominated by research facility reports from the original LSVT(R) group or closely associated groups. Evidence for the efficacy of LSVT(R) in routine clinical settings is lacking. METHODS & PROCEDURES: We conducted an audit of outcomes for consecutive people with Parkinson's who were offered and completed LSVT(R) in a routine hospital outpatient setting. In- and exclusion criteria, assessment and treatment protocols followed precisely the methods stipulated by LSVT(R) Global. Additionally, participants completed the Voice Handicap Index (VHI) and 23 carers completed a visual analogue scale (VAS) for items relating to functional outcomes. OUTCOMES & RESULTS: Group data (n = 33) revealed statistically significant increases in all objective and subjective measures at the end of treatment, though outcomes on the different measures revealed variable individual responses. Mean intensity increases on prolonged vowel were 9.3 dB post-treatment. Significant gains of mean 7.5 and 6.8 dB were maintained at 12 (n = 25) and 24 months (n = 15) respectively for those available for follow-up. Significant intensity gains occurred for reading post-therapy (mean = 8.5 dB), but changes reverted to statistically non-significant at 12 and 24 months. Intensity increase (mean = 8.5 dB) was significant for monologues post-therapy, but not at 12 and 24 months. Median VHI improvement was statistically significant post-therapy and at 12 months, but not at 24 months. Carer VAS ratings all improved significantly post-therapy; at 12 months only perceived loudness, strain, mumbling and intelligibility remained statistically significantly above baseline. No significant gains persisted to 24 months. CONCLUSIONS & IMPLICATIONS: LSVT(R) was successful for most individuals in this study. Not all patients attained significant changes by the end of treatment. Few patients who achieved significant gain at the end of treatment maintained this at 12 or 24 months. Implications for maintenance, interpretation of results in a degenerative condition and implications for further research are discussed.

Abstract: BACKGROUND: Parkinson’s disease is a common movement disorder affecting approximately 127,000 people in the UK, with an estimated two thirds having speech-related problems. Currently there is no preferred approach to speech and language therapy within the NHS and there is little evidence for the effectiveness of standard NHS therapy or Lee Silverman voice treatment. This trial aims to investigate the feasibility and acceptability of randomizing people with Parkinson’s disease-related speech or voice problems to Lee Silverman voice treatment or standard speech and language therapy compared to a no-intervention control. METHODS/DESIGN: The PD COMM pilot is a three arm, assessor-blinded, randomized controlled trial. Randomization will be computer-generated with participants randomized at a ratio of 1:1:1. Participants randomized to intervention arms will be immediately referred to the appropriate speech and language therapist. The target population are patients with a confirmed diagnosis of idiopathic Parkinson’s disease who have problems with their speech or voice. The Lee Silverman voice treatment intervention group will receive the standard regime of 16 sessions between 50 and 60 minutes in length over four weeks, with extra home practice. The standard speech and language therapy intervention group will receive a dose determined by patients’ individual needs, but not exceeding eight weeks of treatment. The control group will receive standard care with no speech and language therapy input for at least six months post-randomization. Outcomes will be assessed at baseline (pre-randomization) and post-randomization at three, six, and 12 months. The outcome measures include patient-reported voice measures, quality of life, resource use, and assessor-rated speech recordings. The recruitment aim is at least 60 participants over 21 months from 11 sites, equating to at least 20 participants in each arm of the trial. This trial is ongoing and recruitment commenced in May 2012. DISCUSSION: This study will provide information on the feasibility and acceptability of randomizing participants to different speech and language therapies or control/deferred treatment. The findings relating to recruitment, treatment compliance, outcome measures, and effect size will inform a future phase III randomized controlled trial. TRIAL REGISTRATION: International Standard Randomised Controlled Trial Number Register: ISRCTN75223808 registered 22 March 2012

PT - Comparative Study
PT - Journal Article
PT - Randomized Controlled Trial


Abstract: BACKGROUND: Parkinson’s disease (PD) is a progressive neurodegenerative disorder where patients exhibit impairments in speech production. Few studies have investigated the influence of music interventions on vocal abilities of individuals with PD. OBJECTIVES: To evaluate the influence of a group voice and singing intervention on speech, singing, and depressive symptoms in individuals with PD. METHODS: Ten patients diagnosed with PD participated in this one-group, repeated measures design study. Participants received the sixty-minute intervention, in a small group setting once a week for 20 consecutive weeks. Speech and singing quality were acoustically analyzed using a KayPentax Multi-Dimensional Voice Program, voice ability using the Voice Handicap Index (VHI), and depressive symptoms using the Montgomery and Asberg Depression rating scale (MADRS). Measures were taken at baseline (Time 1), after 10 weeks of weekly sessions (Time 2), and after 20 weeks of weekly sessions (Time 3). RESULTS: Significant changes were observed for five of the six singing quality outcomes at Time 2 and 3, as well as voice range and the VHI physical subscale at Time 3. No significant changes were found for speaking quality or depressive symptom outcomes; however, there was an absence of decline on speaking quality outcomes over the intervention period. CONCLUSIONS: Significant improvements in singing quality and voice range, coupled with the absence of
decline in speaking quality support group singing as a promising intervention for persons with PD. A two-group randomized control study is needed to determine whether the intervention contributes to maintenance of speaking quality in persons with PD [full text available with NHS OpenAthens]

(11) Herd CP, Tomlinson CL, Deane KH, Brady MC, Smith CH, Sackley CM et al. Comparison of speech and language therapy techniques for speech problems in Parkinson's disease Cochrane Database Syst Rev 2012;(8):CD002814. Abstract: BACKGROUND: Patients with Parkinson's disease commonly suffer from speech and voice difficulties such as impaired articulation and reduced loudness. Speech and language therapy (SLT) aims to improve the intelligibility of speech with behavioural treatment techniques or instrumental aids. OBJECTIVES: To compare the efficacy and effectiveness of novel SLT techniques versus a standard SLT approach to treat Parkinsonian speech problems. SEARCH METHODS: We identified relevant, published prior to 11(th) April 2011, by electronic searches of numerous literature databases including CENTRAL, MEDLINE and CINAHL, as well as handsearching relevant conference abstracts and examining reference lists in identified studies and other reviews. SELECTION CRITERIA: Only randomised controlled trials (RCT) of one type of speech and language therapy versus another were included. DATA COLLECTION AND ANALYSIS: Two review authors independently extracted data and resolved differences by discussion. MAIN RESULTS: Six trials involving 159 patients satisfied the inclusion criteria. Data could not be analysed from one trial due to changes in patient numbers and from a second because the data provided were not in a usable format. All trials reported intelligibility measures but a statistically significant result was only reported for the diagnostic rhyme test used in the study of Lee Silverman Voice Treatment -LOUD (LSVT-LOUD) versus a modified version of this therapy (LSVT-ARTIC). In this case a difference of 12.5 points (95% confidence interval (CI) -22.2 to -2.8; \(P = 0.01\)) between the mean changes in favour of the LSVT-LOUD group was reported for a speech sample overlaid with Babble noise; this difference was not reproduced for the two additional noise conditions under which the speech samples were assessed. LSVT-LOUD also outperformed LSVT-ARTIC and Respiration therapy (RT) in improving loudness, with a difference in reading a sample text of 5.0 dB (95% CI -8.3 to -1.7; \(P = 0.003\)) and 5.5 dB (95% CI 3.4 to 7.7; \(P < 0.0001\)) respectively, and a difference in monologue speech of 2.9 dB (95% CI 0.6 to 5.2; \(P = 0.01\)) versus RT. AUTHORS' CONCLUSIONS: Considering the small patient numbers in these trials, there is insufficient evidence to support or refute the efficacy of any form of SLT over another to treat speech problems in patients with Parkinson's disease

(12) Shih LC, Piel J, Warren A, Kraics L, Silver A, Vanderhorst V et al. Singing in groups for Parkinson's disease (SING-PD): a pilot study of group singing therapy for PD-related voice/speech disorders. Parkinsonism Relat Disord 2012; 18(5):548-552. Abstract: Parkinson's disease related speech and voice impairment have significant impact on quality of life measures. LSVT((R))LOUD voice and speech therapy (Lee Silverman Voice Therapy) has demonstrated scientific efficacy and clinical effectiveness, but musically based voice and speech therapy has been underexplored as a potentially useful method of rehabilitation. We undertook a pilot, open-label study of a group-based singing intervention, consisting of twelve 90-min weekly sessions led by a voice and speech therapist/singing instructor. The primary outcome measure of vocal loudness as measured by sound pressure level (SPL) at 50 cm during connected speech was not significantly different one week after the intervention or at 13 weeks after the intervention. A number of secondary measures reflecting pitch range, phonation time and maximum loudness also were unchanged. Voice related quality of life (VRQOL) and voice handicap index (VHI) also were unchanged. This study suggests that a group singing therapy intervention at this intensity and frequency does not result in significant improvement in objective and subject-rated measures of voice and speech impairment

Abstract: Many individuals with Parkinson's disease experience impaired speech as their vocal muscles weaken. The purpose of this study was to examine the effects of participation in a Group Music Therapy Voice Protocol (G-MTVP) on the speech of individuals with Parkinson's disease. Individuals with Parkinson's disease (N= 10) who attended bi-weekly rehearsals for a Parkinson's choir participated in the study. Choir rehearsals were led by a board-certified music therapist and involved implementation of G-MTVP, which consisted of 50 minutes of opening and closing conversation, physical, facial, and breathing warm-ups, vocal exercises, and singing, all focusing on increasing phonatory effort to maintain vocal strength. Participants' speech characteristics were measured after 3 weeks and 6 weeks of G-MTVP. Results showed significant increases in intensity of conversational speech, indicating that G-MTVP has potential benefits to improve and maintain vocal functioning of individuals with Parkinson's disease in a motivating, social setting. Implications for clinical practice are discussed. (PsycINFO Database Record (c) 2018 APA, all rights reserved)

Notes: [full text available with NHS OpenAthens]

Griffiths S. *Dysarthria and group intervention* Royal College of Speech and Language Therapy; 2011.


Abstract: PURPOSE: The primary purpose was to demonstrate the feasibility of executing treatment tasks focused on increasing loudness in a group format for individuals with Parkinson's disease (PD). A second purpose was to report preliminary pre-to-post treatment outcomes for individuals with PD immediately after they complete the group program. METHODS: The group intervention is described. Fifteen adults with PD who participated in the group and three clinicians leading the group provided feedback about the execution of the intervention. The participants also provided voice samples and self-ratings of voice handicap once before completing the 8-week voice group and once immediately after completing the voice group. Outcome measures included voice intensity, fundamental frequency (F0) mean, standard deviation and range, maximum phonation time, and listener judgment of loudness. RESULTS: Feedback from the clinicians suggested that many, but not all, of the voice activities could be executed within a group setting. Participants with PD indicated they understood the focus of the group and that subjectively they felt the group was helpful for increasing loudness. Statistically significant increases occurred for voice intensity, F0 maximum, and F0 range. Voice handicap scores decreased significantly and 80% of the participants were judged louder post intervention. CONCLUSIONS: Clinician and participant feedback indicated that it was feasible to execute most LSVT((R)) tasks in a group format with some modifications. The preliminary outcome data indicate that the targeted behavior (voice dB and loudness) did change in the predicted direction as did several other measures. Future studies comparing outcomes of group intervention to the gold standard LSVT((R)), and exploring retention of treatment gains over time, are needed. LEARNING OUTCOMES: After reading the manuscript, readers will be able to: (1) Describe previous attempts at group intervention to improve voice for individuals with Parkinson's disease. (2) List three ways that the group intervention tried in this study differed from LSVT((R)). (3) Identify three limitations to this study that must be addressed before advocating implementation of the group approach in clinical situations

PT - Clinical Trial


Abstract: Most medical treatments of Parkinson's disease (PD) are aimed at the reduction of motor symptoms. However, even when motor improvements are evident, patients often report a deterioration of their daily lives. Thus, to achieve a global improvement in personal well-being, not only drugs, but also complementary therapies, such as physical exercise,
occupational and speech therapy, and active music therapy, have been used. We hypothesized that theater could reduce clinical disability and improve the quality of life of PD patients (primary end points) more efficiently than other complementary therapies because (1) in order to impersonate a character, patients are forced to regain the control of their bodies; and (2) while being part of a group, patients have a high degree of social interaction. The need to regain the control of their bodies and their social functioning is very likely to deeply motivate patients. To assess this hypothesis, we ran a randomized, controlled, and single-blinded study that lasted 3 years, on 20 subjects affected by a moderate form of idiopathic PD, in stable treatment with L-dopa and L-dopa agonists, and without severe sensory deficits. Ten patients were randomly assigned to an active theater program (in which patients were required to participate), while the others underwent physiotherapy (control group), the most common nonpharmacological treatment for PD rehabilitation. Patients of both groups were evaluated at the beginning of each year, using five clinical rating scales (Unified Parkinson's Disease Rating Scale [UPDRS], Schwab and England Scale, Parkinson's Disease Quality of Life [PDQ39] Scale, Epworth Sleepiness Scale, and Hamilton Depression Rating Scale). The theater patients showed progressive improvements and, at the end of the third year, they showed significant improvements in all clinical scales. Conversely, the control patients did not exhibit significant ameliorations with time. Thus, the present study provides the first scientific evidence that active theater, coupled with conventional medical treatments, represents a valid complementary therapeutic intervention for PD treatment.

Databases searched: CINAHL, Cochrane, Medline, PsycInfo, PubMed, Google Advanced

Search terms:

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