

Supplementing Global Postural Re-Education with Nonspecific Neck Discomfort with their Posture, Quality of Life, and Endurance

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Abstract

Programme on patients with chronic neck pain and FHP's forward head posture (FHP), endurance, quality of life, and neck pain was assessed. Pre- and post-8-week interventions were used to assess pain, disability, endurance, quality of life, and posture using the visual analogue scale (VAS), neck disability index (NDI), progressive iso-inertial lifting evaluation (PILE) test, SF-36 quality of life questionnaire, and photogrammetry, respectively. The data have been statistically analysed using an ANCOVA, or one-way analysis of covariance.

Keywords: Neck pain; Posture; Musculoskeletal abnormalities; Disability

Introduction

The frequency of non-specific musculoskeletal complaints is 42–63% among computer office workers. Changes in discomfort, function, and impairment must be taken into consideration while treating patients with neck pain (NP). Additionally, research has found that users of computers complain of having less control over their head posture and mobility because of diminished sensation and aberrant proprioception in their neck joints. Inadequate strength or muscle endurance, poor posture, and extended static or awkward postures are physical and environmental variables that contribute to the development of work-related neck pain. Level II evidence was recommended by a recent systematic review for strengthening exercise to reduce pain, although it noted that further research was needed to determine the effects of endurance and stretching exercises. However, some writers suggested that NP may be controlled with various exercise regimens, like global postural reeducation (GPR) [1].

GPR is a conservative alternative therapy for managing NP. This treatment approach concentrates on extending the two anterior and posterior muscle chains, which make up the "muscle chains" that make up the postural muscles. To promote muscle balance and postural symmetry, GPR concentrates specifically on stretching the shortened muscles and promoting the activity of the antagonists' muscles through the use of protracted active postures [2]. More research is still required to determine the best ways to treat computer users who have musculoskeletal symptoms with therapeutic activity.

Additionally, the widespread use of smartphone technology and its software applications, along with the popularity of mobile technologies, has prompted some to view smartphones as a tool to support patients and the future of healthcare, which will be based on self-management of a home exercise programme. Smartphones are simple to use, reasonably priced, and widely available. With the use of smartphone apps, a patient might carry out a programme in accordance with the planned timetable and fully independently of the healthcare system [3]. advised using a smartphone app to manage a patient's programme for Iranian consumers. The use of such apps reduces patient misinformation about the programme and promotes patient knowledge of the kind, dose, and timing of the activities. The accuracy of functional tasks may therefore be improved, patients' interest in their rehabilitation and postural control may rise, and the requirement for continual interaction with healthcare experts to oversee the implementation of rehabilitation programmes may be decreased. High-quality randomised, controlled

trials are required to assess the efficacy of an exercise intervention alone without health information/stress management training and a workplace assessment as part of the intervention, according to a recent systematic review (2018) investigating the role of exercise in preventing a new episode of neck pain. No randomised controlled trial (RCT) has been conducted, as far as the authors are aware, to give a patient's home exercise regimen without also including a workplace assessment as part of the intervention [4].

Materials and Method

Randomization and participants

Physical therapists in Tehran, Iran, recruited participants between September 2018 and January 2019 by handing out brochures at physical therapy clinics and hospitals. Participants included male and female office employees with persistent neck discomfort. To prevent clustering between study groups, an independent researcher used randomization by employing computer-generated numbers that were stratified by age and sex.

Procedure

Following a methodical explanation of the study's objectives, each participant was given a neck pain pamphlet that had some helpful tips and illustrations for correcting their postures while engaging in various daily tasks. Each participant's attributes, including age, gender, job title, employment status, number of computer hours per day (at least 4), and type of work performed, were documented through an employee profile.

Measures of results

Disability, endurance, FHP, and quality of life were secondary

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objectives, with pain in the previous 24 hours serving as the primary result. At baseline and eight weeks after the therapies, every variable was measured twice in each group. Each time, outcome measurements were given by an assessor who was unaware of the participants' assigned groups. The participants and therapists were also blinded to other groups [5].

Neck pain

Frequently used in clinical settings to evaluate the efficacy of pain management. The participants selected a number from 0 (no pain at all) to 10 (unbearable pain) presented along a horizontal line to represent their current pain level. As a baseline score indicated larger than 6.0 based on patient satisfaction following treatment, it has been reported that the least clinically significant difference for within-group on the pain scale in patients with NP is 2.5 points.

Discussion

To our knowledge, this is the first study to investigate how a GPR combined with a smartphone app can help persons with NP and FHP feel better. The findings demonstrated that, when compared to GPR alone, GPR+, a smartphone app, led to a larger alleviation of NP and improvements in disability, endurance, and FHP, but not in the quality of life for those with NP.

The amount of time spent on patient care and the frequency of medication errors could be significantly reduced by using a smartphone app. Any stage of the treatment procedure, regardless of how slight the inaccuracy, could have a significant negative effect on the processes involved. When a person becomes accustomed to the task, it can lessen distracting worry, cognitive burden, and the likelihood of mistakes. Additionally, the study demonstrates that even motivated individuals can forget to complete the activity. A smartphone has the potential to be used as both the most straightforward solution, such as a timer-based warning, and a more advanced technology. If you consider user behaviour and the particulars of their daily routines, this might be feasible [6-8]. During routine tasks to manage posture, the receptor systems of the human body may produce unclear or inaccurate information. The body may need the ability to adapt and control the proper posture using a reminder as a feedback in order to make up for

irrelevant information during any abnormal posture.

Conclusion

The findings of this study can be applied in clinical settings with affordable equipment and interventions. Our findings suggested that, when compared to the GPR alone and education, the GPR+ smartphone app provided superior pain relief and improvements in endurance and FHP in male and female workers with nonspecific neck pain. Adding a smartphone app to GPR for NP may be a suitable tool to deliver a home and work exercise programme that results in increasing pain and disability, as well as enhancing FHP and endurance, in cases where a workplace assessment and management could not be included as part of any intervention.

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