



Balanced Solutions:: Effective Implementation of Evidence Based Research

**7th Interdisciplinary
World Congress**
on Low Back & Pelvic Pain

Los Angeles
November 9 ~ 12 // 2010
Hyatt Regency Century Plaza

Influence of back school and physical exercises on pain-related fears

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Purpose

This study examined the effects on pain-related fears of a program including back school and physical exercise sessions.

Relevance

Back school sessions (during which patients are encouraged to avoid specific movements) are thought to increase pain-related fears and consequently to prevent patients from breaking the vicious circle of pain, catastrophic interpretations, fear, avoidance, disability and pain. As they are generally combined with physical exercise sessions, studying the effects of such a combination on pain-related fears appears particularly relevant.

Methods

We included 32 patients (18 women and 14 men) with nonspecific chronic low back pain (mean pain duration of 9.3±10 years) who completed 18 two-hour sessions of an outpatient program [1]. They consisted of 8 group education sessions (back-sparing techniques,...) followed by 8 physical reconditioning sessions. Two sessions (S1 and S18) were used to evaluate pain intensity (Visual Analogue Scale (pain VAS)), functional impairment (Roland-Disability Questionnaire (RDQ)) and pain-related fears; the latter were assessed by means of the Tampa Scale of Kinesiophobia (TSK), the Fear-Avoidance Belief Questionnaire (FABQ), the Photograph Series of Daily Activities (PHODA) assessing the perceived harmfulness of 40 daily activities by means of a VAS) as well as VAS for assessing fear (fear VAS) and expected pain (exp pain VAS) prior to performing 5 specific tasks (i.e. trunk extensor strength test, Sorensen endurance test, finger-floor range of motion test, lying down and getting out of a bed, as well as handling a bulky object); the mean fear VAS and exp pain VAS scores were calculated.

Results

The following values are expressed as mean ± standard deviation. The pain and function scores decreased significantly ($p<0.001$) from session 1 to session 18 (pain VAS: from 41.7 ± 21 to 28.5 ± 17; RDQ: from 8.6 ± 4.2 to 5.7 ± 3.7). TSK as well as both subscales of the FABQ scores were also significantly ($p<0.005$) reduced (TSK: from 41.8 ± 7 to 36.6 ± 8; FABQ-work: from 23.2 ± 14 to 18.3 ± 13; FABQ-physical activity: from 9.9 ± 6.2 to 5.4 ± 5.5). The program also induced a decrease in the mean fear ($p=0.05$) and expected pain ($p<0.001$) before the 5 tasks (fear VAS: from 11.1 ± 12 to 6.7 ± 7; exp pain VAS: from 24.3 ± 17 to 13.6 ± 12). In contrast, the mean PHODA score remained stable ($p=0.35$) i.e. from 46.4 ± 14 to 44.4 ± 11; furthermore, several pictures were associated with very high scores of harmfulness.

Conclusions

Results of this study showed that back school sessions combined to physical exercises are effective in reducing pain-related fears. The PHODA includes several pictures illustrating movements that do not respect back-sparing rules. In accordance with literature [1], the program also provided a number of benefits in terms of pain and function.

Implications

Including education into the treatment of patients with chronic low back pain does not seem to increase pain-related fears. The revision of the PHODA might be relevant.

Key words

Chronic low back pain, multidisciplinary, kinesiophobia, avoidance, belief

References

1. Demoulin C, et al. Effectiveness of a semi-intensive multidisciplinary outpatient rehabilitation program in chronic low back pain. *Joint Bone Spine* 77:58-63, 2010.