https://doi.org/10.22365/jpsych.2022.104 / Psychiatriki 2023, 34:231–242

Review

The efficacy of psychoeducation in managing low back pain: A systematic review

Basant K. Puri,[1] Maria Theodoratou[2,3]

[1]*University of Winchester, United Kingdom*
[2]*Hellenic Open University, Greece*
[3]*Neapolis University of Pafos, Cyprus*

ARTICLE HISTORY: Received 28 April 2022/Revised 16 August 2022/Published Online 15 December 2022

ABSTRACT

Low back pain is a relatively common health problem that afflicts many adults, and its prevalence increases with age. Several studies have indicated that psychosocial factors are of importance in low back pain. The aim of this study was to carry out a systematic review of the efficacy of psychoeducation in managing low back pain from the evidence provided by randomized controlled trials. The inclusion criteria for studies included in this systematic review were randomized controlled trials; patients with low back pain, with or without sciatica; the inclusion of a psychoeducation (treatment) arm; and the age of patients ≥ 17 years. Data extraction revealed the heterogeneous nature of the psychoeducational interventions. Accordingly, it was deemed inappropriate to carry out a formal meta-analysis. Ultimately, nine studies, corresponding to 10 publications, were included in the systematic review. When possible, group contrast means different effect sizes were calculated for the studies. Overall, favorable outcomes were associated with personalized telephone coaching, while unfavorable outcomes were associated with both Transtheoretical Model-based counseling and motivational enhancement treatment. Other forms of one-to-one counseling were associated with intermediate outcomes. Psychoeducation via personalized telephone coaching was particularly associated with reduced low back pain, reduced daily living disability, improved function, and improved recovery expectation. On the basis of this review, the following suggestions are made relating to the design and publication of future studies on the efficacy of psychoeducation in the management of low back pain. First, it would be good to use an experimental design that blinds both the patients and the assessors to group status. Second, it is recommended that all the relevant outcome data from a study are published, either in the corresponding paper or in an online supplement. Third, it is important to ensure that the intervention and control groups are matched at baseline. Clearly, baseline group differences can emerge following the random allocation of patients into two groups. It may be useful, therefore, to carry out all baseline assessments immediately prior to the randomization process; an independent assessor could then examine the degree of matching at baseline before the rest of the study proceeds. It is also important that sufficiently large sample sizes be recruited.

KEYWORDS: Adult low back pain, randomized controlled trials, mood, psychoeducation, disability.

Introduction

Low back pain is a relatively common health problem that afflicts many adults, and its prevalence increases with age.[1] Worldwide, it is estimated to affect one in five of those aged between 20 and 59 years,[2] while for those aged 60 years or older a Brazilian study has reported a prevalence of over one in four.[3] It has a major adverse economic effect, often being reported as the most important cause of both sick leave and medical rehabilitation.[4] So serious is the situation, accentuated as it is

Corresponding author: Maria Theodoratou, Hellenic Open University, 18 Perivola street, GR-263 35 Patras, Greece • e-mail: theodoratou.maria@ac.eap.gr

worldwide by both an increasing population and an aging population, that in 2018 the Lancet medical journal issued a call for action regarding low back pain.[5]

Several studies have indicated that psychosocial factors are of importance in low back pain.[6,7] Indeed, a recent systematic review reported that fear-avoidance beliefs, self-efficacy, pain coping, catastrophizing, and depressed mood are predictive, in patients with low back pain, of disability status.[8]

The goal of educational and informational treatments is to provide patients with an understanding of their painful diseases which will support them in coping with the situation more effectively. Psychoeducation describes approaches that emphasize the application of psychological information and counseling, in person or in groups. In the context of pain management, part of the objective of psychoeducation is to teach patients fundamental information about pain, and how it functions, leading to increased understanding and reduced anxiety and ambiguity regarding the pain. In addition, educational activities nearly always aim to modify patients' behavior to improve their ability to cope with pain.[9] Thus, psychoeducation for pain management can be considered to encompass interventions such as counseling, motivational interviewing, education, skills building, and health or nurse coaching; indeed, psychoeducational interventions have been shown to diminish pain in patients with advanced cancer.[10] The counseling itself is often based on the transtheoretical model of behavior change, also known as the stages of change, and may include facilitative or stage-based motivational methodologies.[11–15] Strict operational criteria defining the above psychoeducational interventions are not in current use; for example, health or nurse coaching is not strictly defined and, indeed, such intervention need not be administered in person but may be given by telephone (when it is sometimes referred to as telehealth coaching).[16–18]

Given that pain-related psychoeducation has been found to transform thought patterns and coping strategies and to reduce pessimistic attitudes in patients dealing with acute or chronic pain symptoms,[19] it is reasonable to hypothesise that psychoeducation may be efficacious in the management of low back pain.

The aim of this study was to carry out a systematic review of the efficacy of psychoeducation in managing low back pain from evidence provided by randomised controlled trials.

Material and Method

The inclusion criteria for studies included in this systematic review were randomised controlled trials; patients with low back pain, with or without sciatica; the inclusion of a psychoeducation (treatment) arm; and age of patients ≥17 years. Studies of children, cognitive-behavioural therapy or pregnancy were excluded, as were any studies for which an English translation of the paper was not available.

On 30th March 2022, the National Library of Medicine PubMed was searched using the following Boolean search strategy: ((“randomized controlled trial”[Publication Type]) OR (“clinical trial”[Publication Type]) OR (“controlled clinical trial”[Publication Type]) OR (“comparative study”[Publication Type]) OR (“randomized”[Title/Abstract]) OR (“randomised”[Title/Abstract]) OR (“trial”[Title/Abstract]) OR (“placebo”[Title/Abstract])) AND ((“psychoeducation”[All Fields]) OR (“psychological”[All Fields]) OR (“coaching”[All Fields]) OR (“coach”[All Fields])) AND ((“low back pain”[All Fields]) OR (“back pain”[All Fields]) OR (“sciatica”[All Fields])) AND (Filter: Humans[Species]). Since the PubMed database included the MEDLINE database, the latter was not searched separately. ClinicalTrials.gov was searched using the primary search term “Back Pain, Low” and the filters “Adult” and “Older Adult”. CENTRAL (The Cochrane Central Register of Controlled Trials) was also searched, using the MeSH descriptor [Low Back Pain] + therapy + [psychoeducation OR counselling]. The PubMed search strategy was carried out using the SCOPUS database on 11th July 2022; no new publications were forthcoming. A similar strategy using the database APA Psychinfo via EBSCO on 15th August 2022 also revealed no new publications.

The full texts were assessed for eligibility for inclusion in the systematic review after duplicates were removed and the study abstracts and titles screened. Data extraction revealed the heterogeneous nature of the psychoeducational interventions. Accordingly, it was deemed inappropriate to carry out a formal meta-analysis.[20] Instead, the effect size formula for group contrast mean difference effect size shown in the following eequation:

$$d = (\Delta\bar{x}_i - \Delta\bar{x}_c)\sqrt{\frac{\sum_{k=1}^{4} n_k - 4}{\sum_{k=1}^{4}(n_k - 1)s_k^2}}$$

was calculated for each study, based on the mean difference effect size calculated in meta-analytic studies.[20]

In this formula, the subscript i refers to the intervention group and the subscript c refers to the control group. On the right-hand side, the first term, in parentheses, represents the difference between the mean change in the intervention group and the mean change in the control group. The second term on the right-hand side, namely the square root of a quotient, represents the reciprocal of the pooled standard deviation, with n being the number of subjects, and s being the standard deviation.

Results

As shown in figure 1, 65 studies were potentially eligible for inclusion in this systematic review. Ultimately, nine studies, corresponding to 10 publications,[21–30] were included in the systematic review. The first authors, country locations and details of the participants in these studies are given in table 1. Although identified as two different studies, the German studies by Leonhardt et al[22] and Becker et al.[23] refer essentially to the same cluster randomised controlled trial; they have therefore been paired together in the table and have been treated as one study in this systematic review. This German study included three groups, namely a multifaceted guideline implementation group, a second group which consisted of multifaceted guideline implementation plus motivational counselling (by trained practice nurses), and a third group who received guidelines by post.[22,23] Since the only difference between the first two groups is the inclusion of a psychoeducation element in one of them, for this review the second group has been treated as the intervention group while the first group has been treated as the corresponding control group.[22,23] The duration of low back pain was not given in this study; all patients had presented to their general practitioners with low back pain and the researchers reported the mean number of days of such pain experienced during the previous year for each group, as given in table 1.

The treatment, if any, received by the intervention and control groups in each of the reviewed studies is given in table 2. The duration of the intervention the principal and secondary dependent variables and results in each of the studies are also given in this table. In those studies, in which there were two follow-up time-points, the time-point closer to six months was chosen. The corresponding effect sizes for the group contrast mean differences are given as Cohen's d.[31] The signs of these differences, and therefore of the effect sizes, were positive for beneficial increases and vice versa. For example, an improvement in physical action duration corresponded to a positive change in difference scores. On the other hand, an increase in days in pain corresponded to a negative change in difference scores. Overall, this means that a positive effect size in table 2 corresponds to a change between the time-points in favour of the inter-

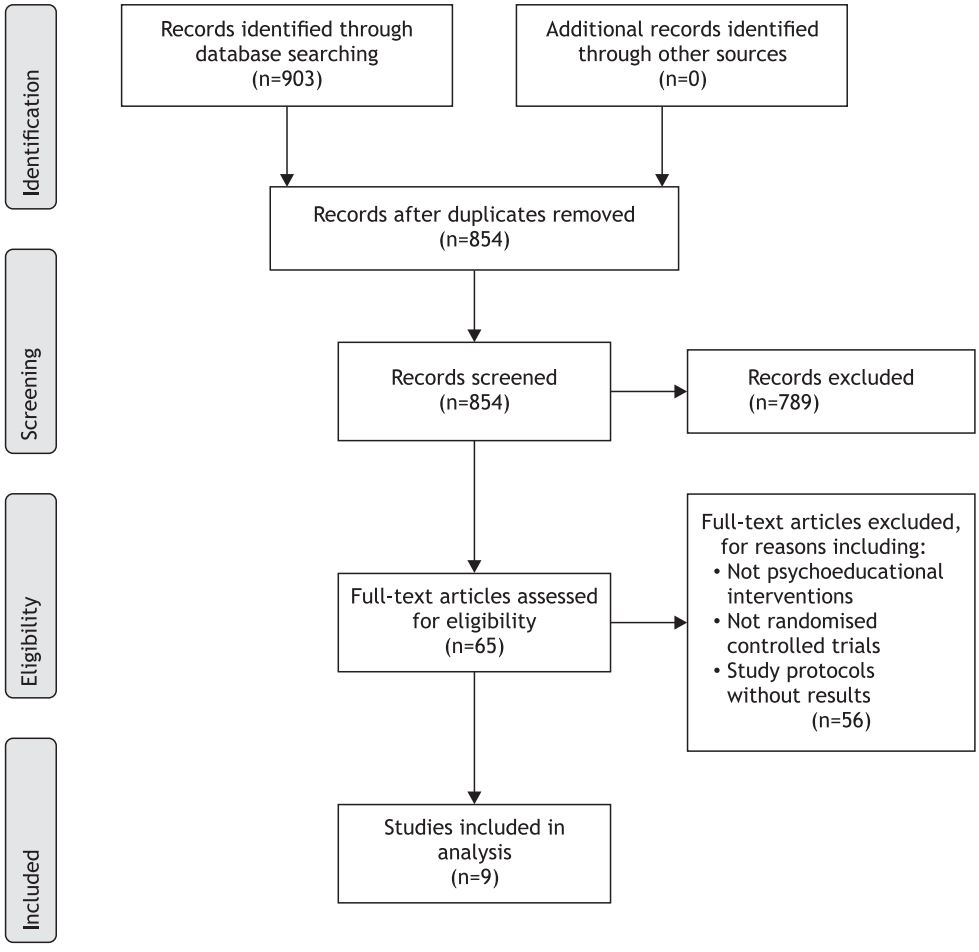

Figure 1. Flowchart of exclusions and inclusions of studies in the systematic review.

Table 1. Baseline demographic and symptom duration details of participants in the studies.

First author	Year	Country	Intervention group				Control group			
			n	% F	Mean (sd) age (y)	Symptom duration	n	% F	Mean (sd) age (y)	Symptom duration
Basler[21]	2007	Germany	86	63	70.1 (4.2)	Chronic	84	65	70.6 (4.6)	Chronic
Leonhardt[22] & Becker[23]	2008	Germany	489	61	47.4 (13.5)	103 (123) days in previous year	479	59	49.1 (13.3)	101 (132) days in previous year
Iles[24]	2011	Australia	15	47	39.5 (11.7)	25.5 (17.9) days	15	33	39.5 (12.7)	25.1 (15.5) days
Vong[25]	2011	China	38	58	44.6 (11.2)	41.6 (56.8) months	38	68	45.1 (10.7)	51.0 (71.5) months
Jensen[26]	2012	Denmark	110	51	46.2 (9.5)	Not given	114	59	44.6 (10.3)	Not given
Tse[27]	2013	China	30	93	75.9 (6.4)	≥ 3 months	23	96	77.2 (5.1)	≥ 3 months
Suni[28]	2018	Finland	55	100	46.4 (6.4)	4 weeks to 7 months	55	100	46.7 (7.2)	4 weeks to 7 months
Kim[29]	2021	S. Korea	21	71	61.3 (11.5)	≥ 3 months	22	77	54.5 (12.8)	≥ 3 months
Shimo[30]	2021	Japan	20	0	47.8 (12.8)	≥ 12 weeks	17	0	41.4 (11.9)	≥ 12 weeks

vention group, while a negative effect size corresponds to a change in favour of the control group.

In the studies by Basler et al[21] and by Leonhardt et al[22]/Becker et al,[23] functional capacity (as a percentage of normal function) was assessed using the Hanover Functional Disability Scale, which assesses activities of daily living in relation to back pain-related disability.[32] In the study by Basler et al., the motion range refers to the degree of flexion of the trunk and was assessed using ultrasound topometry by a physiotherapist blinded to group allocation.[21]

In the Leonhardt/Becker study, the overall activity was calculated as a weighted metabolic equivalent based on the first eight items of the 12-item Freiburg Questionnaire on Physical Activity.[22,23,33] While the follow-up sick leave in this study referred to the mean number of days of sick leave during the previous six months, the duration of time over which the number of sick days were assessed at baseline was not clear from either published paper.[22,23] Quality of life was assessed in this study using a German version of the EuroQol instrument.[34]

The primary outcome variable in the study by Iles et al. was activity limitation indexed by the Patient Specific Functional Scale, which gives a total score between zero and 10.[24,35] The primary non-leisure activity was also assessed using the Patient Specific Functional Scale, also measured on a scale of zero to 10.35 Iles et al. reported the 95% confidence interval for the group difference of the primary non-leisure activity scores at 12 weeks as extending from –0.6 to 5.0; the authors calculated this difference after covarying for the corresponding baseline scores.[24] The modified Oswestry Disability Index was given as a percentage, while the Pain Self-Efficacy Questionnaire was scored out of 60.[36,37]

In the study by Vong et al, the following subscales of the Pain Rehabilitation Expectations Scale, a clinical tool designed to assess expectations in patients with back pain regarding rehabilitation treatment and outcome, were assessed after the first session (denoted as "Session 1" in table 2) and after the final (tenth) session (labelled "End" in table 2) of integrated motivational enhancement therapy plus physical therapy (the intervention group) or physical therapy alone (the control group): proxy efficacy (scaled from zero to 40); working alliance (zero to 44); and treatment expectancy (zero to 56).[25,38] Assessments for these three subscales were carried out neither at baseline (before the first session) nor at one-month follow-up.[25] These three subscales, together with the Pain Self-Efficacy Questionnaire (see above), constituted the primary outcome variables of this study.[25,37,38] In terms of the secondary outcomes of this study shown in table 2, the level of pain was assessed

Table 2. Treatments received, dependent variables and results.

First author	Intervention group [Length of intervention]	Control group	Dependent variable	Time-point	Effect size (Cohen's d)
Basler[21]	10 physiotherapy sessions (each 20 min) + 10 min counselling at each session based on the Transtheoretical Model [6 to 7 weeks]	10 physiotherapy sessions (each 20 min) + 10 min placebo ultrasound therapy at each session	Physical activity duration (min/day)	Baseline/6 months	0.12
			Functional capacity (% of normal function)	Baseline/6 months	0.13
			Motion range (degrees)	Baseline/6 months	0.15
Leonhardt[22] & Becker[23]	Multifaceted general practitioner education + up to three counselling sessions (≤ 20 min each) based on the Transtheoretical Model [3 sessions]	Multifaceted general practitioner education	Functional capacity (% of normal function)	Baseline/6 months	0.02
			Days in pain in previous year Days in pain in last 6 months	Baseline/6 months	0.02
			Overall activity: weighted metabolic equivalent (h/week)	Baseline/6 months	0.24
			Sick leave (days)	Baseline/6 months	0.07
			Quality of life	Baseline/6 months	0.00
Iles[24]	Usual physiotherapy + 5 sessions of telephone health coaching [7 weeks]	Usual physiotherapy	Patient Specific Functional Scale	Baseline/12 weeks	0.98
			Primary non-leisure activity	Baseline/12 weeks	0.65
			Oswestry Disability Index	Baseline/12 weeks	0.77
			Recovery expectation	Baseline/12 weeks	1.08
			Pain Self-Efficacy Questionnaire	Baseline/12 weeks	0.63
Vong[25]	10 30-min sessions comprising conventional physical therapy (interferential therapy & back exercises) + motivational enhancement treatment [10 sessions]	10 30-min sessions comprising conventional physical therapy (interferential therapy & back exercises) + dummy motivational enhancement treatment	Proxy efficacy	Session 1/End	–0.12
			Working alliance	Session 1/End	–0.20
			Treatment expectancy	Session 1/End	0.10
			Pain Self-Efficacy Questionnaire	Baseline/1 month	0.08
			Pain (visual analogue scale)	Baseline/1 month	0.36
			Lifting capacity (kg)	Baseline/1 month	0.40
			Roland-Morris Disability Questionnaire	Baseline/1 month	0.37
			Exercise compliance (sessions)	1 month	1.21
Jensen[26]	Initial counselling session ± workplace visit (if required) + status interview at 6 weeks + counselling session at 3 months [3 months]	Usual care	Pain	Baseline/Difference	0.24
			SF-36 bodily pain	Baseline/Difference	0.30
			Roland-Morris Disability Questionnaire	Baseline/Difference	0.20
			SF-36 physical functioning	Baseline/Difference	0.36
			Maximum oxygen uptake (mL/min/kg)	Baseline/Difference	0.31
			Fear-Avoidance Beliefs: work	Baseline/Difference	0.02
			Fear-Avoidance Beliefs: physical activity	Baseline/Difference	0.56

Continues

Table 2. Continued.

First author	Intervention group [Length of intervention]	Control group	Dependent variable	Time-point	Effect size (Cohen's d)
Tse[27]	Integrated motivational interviewing counselling (pain education) and physical exercise (pain controlling & coping skills) programme for 8 weeks in a community centre [8 weeks]	Regular activities for 8 weeks in a community centre	Pain (numerical rating scale)	Baseline/8 weeks	0.46
			Pain Self-Efficacy Questionnaire	Baseline/8 weeks	0.25
			State anxiety	Baseline/8 weeks	1.44
			Trait anxiety	Baseline/8 weeks	–0.05
			Depression	Baseline/8 weeks	0.60
			Happiness	Baseline/8 weeks	0.00
			Mobility	Baseline/8 weeks	0.79
			SF-12 physical	Baseline/8 weeks	0.00
			SF-12 mental	Baseline/8 weeks	–0.04
Suni[28]	48 neuromuscular exercise sessions (each 60 min) twice per week for 24 weeks + 10 sessions of back care counselling (based on cognitive behavioural therapy; each 45 min) once per week for first month and then every 3rd week for remainder of 24 weeks [24 weeks]	48 neuromuscular exercise sessions (each 60 min) twice per week for 24 weeks	Full data unavailable		
Kim[29]	Provided with an educational brochure on low back pain + biweekly personalised telephone & face-to-face education for 8 weeks [8 weeks]	Provided with an educational brochure on low back pain	Maximum low back pain over previous 24 h	Baseline/8 weeks	0.90
			Average low back pain over previous 24 h	Baseline/8 weeks	1.00
			Current low back pain	Baseline/8 weeks	0.84
			Minimum low back pain over previous 24 h	Baseline/8 weeks	0.68
			Daily living disability (%)	Baseline/8 weeks	1.06
			Back muscle strength (%)	Baseline/8 weeks	0.24
			Medication adherence	Baseline/8 weeks	0.74
Shimo[30]	Accelerometer worn around waist + weekly one-to-one counselling sessions for 12 weeks [12 weeks]	Accelerometer worn around waist	Steps per day	Baseline/6 months	0.89
			Motor activity (kcal/day)	Baseline/6 months	0.93
			Pain (visual analogue scale)	Baseline/6 months	0.13
			Roland-Morris Disability Questionnaire	Baseline/6 months	0.73
			6-min walking distance (m)	Baseline/6 months	–0.09
			Seated forwards bends (cm)	Baseline/6 months	0.20

using a 10-cm visual analogue scale; the lifting capacity was determined from the mean of two trials of the maximum pain-free lifting force in a standardised test;[39] a Hong Kong Chinese version of the 24-item self-reported Roland-Morris Disability Questionnaire assessment of lower back pain (rated between zero and 24);[40,41] and exercise compliance, which was not assessed at baseline or at one-month follow-up, and was calculated from the product of the number of home exercises carried out per day and the number of days of practice per week.

In table 2 for the study by Jensen et al. the primary outcomes were the level of low back pain over the previous three months; both the bodily pain and the physical function assessments of the Short Form 36 (SF-36) instrument;[42–44] the Roland-Morris Disability Questionnaire (see above);[40] and both the proportion of patients who had accumulated at least eight weeks' sick leave and the cumulated sick leave duration.[26] The results of the last of these did not readily fit into the format of table 2 and are therefore given here: there was a significant reduction in both the proportion of patients who had accumulated at least eight weeks' sick leave and the cumulated sick leave duration in the intervention group, whether measured via self-report or based on register data.[26] The explanatory variables were maximum oxygen uptake and both the five-item work factor (measured from zero to 30) of the Fear-Avoidance Beliefs Questionnaire and the four-item physical activity factor (measured from zero to 24) part of this questionnaire; this questionnaire was specifically designed for patients suffering from low back pain.[45,46]

In the Hong Kong Chinese study by Tse et al., pain intensity was assessed using an ordinal rating scale, from zero to 10, with verbal descriptions given in Cantonese for each of the 11 points, from "no pain" for zero to "unimaginably unspeakable pain" for 10.[27,47] A Chinese version of the Pain Self-Efficacy Questionnaire was used.[37,48] State anxiety and trait anxiety, each scored between 20 and 80 (inclusive), with lower scores corresponding to lower anxiety levels, were assessed using a Chinese version of the State-Trait Anxiety Inventory.[49,50] The level of depression was assessed using a Chinese version of the 15-item Geriatric Depression Scale – Short Form, giving total scores between zero and 15.[51,52] A Chinese translation of the four-item Subjective Happiness Scale was used to assess happiness, with scores ranging from four (lowest level of happiness) to 28.[53,54] Mobility was assessed using the Elderly Mobility Scale, scoring between zero (lowest level of mobility and balance) and 20.[55] A Chinese version of the Short Form 12 (SF-12) was used, with each component (physical and mental) scoring from zero to 100, with a mean of 50 and standard deviation of 10.[56,57]

Only the baseline means and standard deviations of the outcome measures were published in the paper by Suni et al.[28] Four relatively small graphs appeared in one of their published figures showing mean values and corresponding 95% confidence intervals at six-month and 12-month follow-up for four outcomes; unfortunately, it was not possible to derive accurate figures from these graphical representations.[28] Adjusted P-values based on generalised linear mixed modelling were given for each of the four outcome measures, based not on the two groups identified in table 1, but rather on four groups; the two additional groups were counselling only and a "control" group, the members of which did not receive any intervention.[28,58] From the published paper, it was not possible formally to report on the difference between the intervention ("combined") and control ("exercise") groups.

A Korean version of the Brief Pain Inventory (originally the Wisconsin Brief Pain Questionnaire) was used in the study by Kim et al. to assess the maximum, average and minimum levels of low back pain over the previous 24 hours, as well as the current level of low back pain.[29,59,60] Similarly, a Korean version of the Oswestry Disability Index was used to assess the percentage daily living disability, with lower scores corresponding to lower levels of functional disability.[61,62] The mean back muscle strength was assessed blindly using a lumbar extension machine.[29] Medication adherence was scored from zero to four, with a lower score corresponding to higher adherence, using a Korean translation of a self-report instrument.[63,64]

The primary outcomes in the study by Shimo et al were related to physical activity and consisted of the mean number of steps per day and the mean rate of motor activity, both assessed using an accelerometer worn around the waist.[30] The secondary outcomes were low back pain severity, assessed using a 10-cm visual analogue scale; low back pain-related disability, assessed using a Japanese version of the Roland-Morris Disability Questionnaire; endurance, assessed by the six-minute walking distance; and flexibility, assessed using a seated forwards arrangement from the fingertip to toe distance with the legs in maximum extension at the knee joints, with zero corresponding to the fingertips just reaching the toes, and positive or negative readings corresponding to the fingertips surpassing or not reaching this level, respectively.[30,40,65,66] In their original paper Shimo et al. calculated group differences using median and range values.[30]

The overall quality of the body of evidence reviewed was assessed using the latest Grades of Recommendation, Assessment, Development and

Evaluation (GRADE) guidelines.[67] All nine studies were (cluster) randomised controlled trials. This corresponds to a GRADE level of high certainty. In terms of the first GRADE criterion of risk of bias or limitations in the detailed design and implementation, it was noted that all studies entailed random allocation of patients and observer blindness to group allocation, and it was decided not to downgrade the quality of the body of evidence at this stage. Regarding the second GRADE criterion of unexplained heterogeneity or inconsistency of results, as has been noted above it was not appropriate to carry out a formal meta-analysis.[20] Therefore, for example, the I2 measure which could otherwise have been used to index inconsistency was not calculated.[20,31] On balance, it did not seem reasonable to downgrade the quality of the body of evidence at this stage. The third GRADE criterion refers to indirectness of evidence. There was no evidence of indirect comparisons or a restricted version of the main review question in the studies and therefore the body of evidence was not downgraded at this stage. The fourth GRADE criterion refers to imprecision of results. From the data published in the studies, it can be inferred that some of the corresponding confidence intervals are relatively wide; taking a conservative approach, it seemed appropriate to downgrade the quality of the body of evidence on this criterion. Finally, the fifth GRADE criterion refers to a high probability of publication bias. Had a formal meta-analysis been appropriate, then it would have been possible formally to investigate the level of publication bias by, for example, constructing a funnel plot and carrying out an Egger regression test.[20] Notwithstanding the fact that, as mentioned above, the studies by Leonhardt et al[22] and Becker et al[23] referred essentially to the same cluster randomised controlled trial, it was considered inappropriate to downgrade the body of evidence at this stage. Hence, overall, the GRADE quality of the body of evidence was assessed as moderate.

Discussion

The group contrast mean difference effect size data (table 2) show a large variation in the efficacy of psychoeducation. Categorising these effect sizes as large ($d \geq 0.8$), medium ($0.5 \leq d < 0.8$), small ($0.2 \leq d < 0.5$), very small ($0 < d < 0.2$), nil ($d = 0$) or negative ($d < 0$), it is clear from table 2 that only two of the published psychoeducation intervention results showed predominantly large-medium effect sizes, namely those by Iles et al[24] and Kim et al[29] In the former study, psychoeducation was administered through telephone health coaching, while in the latter study biweekly personalised telephone education was also used, but in conjunction with face-to-face education and with the provision of an educational brochure.[24,29]

In the weekly one-to-one counselling study by Shimo et al., the accelerometer-derived outcomes of the number of steps per day, motor activity and disability showed improvements at six-month follow-up associated with medium to large corresponding effect sizes.[30] However, the effect sizes for the remaining three dependent variables ranged from small to negative.[30]

The improvements reported at eight weeks in the community centre-based study by Tse et al in state anxiety, level of depression and mobility were associated with medium to large effect sizes.[27] The remaining six dependent variables, however, were associated with effect sizes which varied from small, at best, to negative at worst; indeed, for physical and mental symptoms (scored with the SF-12) and trait anxiety, the effect sizes were either zero or negative.[27]

In the study by Jensen et al., entailing counselling, a status interview and, if required, a workplace visit, the improvement in fear-avoidance beliefs in relation to physical activity was associated with a medium effect size.[26] However, all remaining six dependent variables were associated with small or very small effect sizes.[26]

In the remaining three studies for which suitable data were available, the effect sizes were predominantly small, very small, null or negative. In the case of two of these studies, namely those by Basler et al[21] and Leonhardt et al/Becker et al,[22,23] the psychoeducational intervention consisted of counselling sessions based on the Transtheoretical Model. The psychoeducational intervention in the third study, by Vong et al, was motivational enhancement treatment.[25]

Overall, the results show favourable outcomes with personalised telephone coaching, but unfavourable outcomes with both Transtheoretical Model-based counselling and motivational enhancement treatment. Other forms of one-to-one counselling were associated with intermediate outcomes.

Those embarking on future studies of the efficacy of psychoeducation in the management of low back pain might wish to draw the following lessons from this systematic review. First, it would be good to use an experimental design which blinds both the patients and the assessors, so far as possible, to group status. For example, this was clearly not the case in the study by Jensen et al., in which the control group did not receive counselling sessions or workplace visits.[26] Second, it is recommended that all the relevant outcome data from a study are published, either in the corresponding paper or in an on-line supplement. It has been mentioned above that not all such outcome data are readily avail-

able for the study by Suni et al.[28] Third, it is important to ensure that the intervention and control groups are matched at baseline. In the study by Vong et al., there were significant group differences at baseline in four out of their seven main outcome measures.[25] Clearly, such baseline group differences can emerge following random allocation of patients into two groups. It may be useful, therefore, to carry out all baseline assessments immediately prior to the randomisation process; an independent assessor could then examine the degree of matching at baseline before the rest of the study proceeds. Given that the level of the body of evidence was moderate according to the GRADE criteria, although one can be moderately confident in the above conclusions, further clinical research should be carried out as it is likely to impact upon the confidence one has in the benefits of psychoeducation in the management of low back pain in adults.[67] Larger sample sizes would be likely to lead to narrower confidence intervals and a higher GRADE level. Finally, the results of the studies reviewed in this paper indicate that it may be useful to carry out future studies in which the intervention is administered for around seven weeks. Two follow-up time-points, one at seven weeks and one at, say, six months, would give information both on the efficacy of the psychoeducational intervention and on the longevity of the improvements.

If psychoeducational interventions are shown to be effective in the management of adult low back pain, their implementation would be expected to have a number of beneficial consequences. Suffering would be alleviated relatively quickly, perhaps in less than two months. Patients would become more mobile and less disabled; suffer less from anxiety and from depressive symptomatology; develop improved back muscle strength; increase their daily activity; and be more likely to return to work. Health services would benefit by having fewer patients in the corresponding clinics; issuing fewer prescriptions for analgesics and hypnotics; dealing with fewer patients suffering from the side-effects of prescription analgesics and hypnotics; and having fewer patients who, owing to their low back pain, develop obesity and, subsequently, related disorders such as type 2 diabetes mellitus. The reduced morbidity would also have wider socio-economic effects. Given that psychoeducational interventions, particularly if administered by telephone, are relatively inexpensive, not only would there accrue financial benefits to the taxpayer (in those countries with a well-developed social security system) in terms of reduced expenditure on healthcare and sickness and/or unemployment benefits, but by returning to work some patients would turn into net contributors to the tax base.

In sum, it is important to recognise that psychosocial issues may play a role in the development and maintenance of low back pain. This systematic review provides good evidence in favour of the hypothesis that some forms of psychoeducation, particularly those administered by telephone, may be efficacious in the management of low back pain.

References

1. Fatoye F, Gebrye T, Odeyemi I. Real-world incidence and prevalence of low back pain using routinely collected data. *Rheumatol Int* 2019, 39:619–626, doi:10.1007/s00296-019-04273-0
2. Meucci RD, Fassa AG, Faria NMX. Prevalence of chronic low back pain: systematic review. *Rev Saude Publica* 2015, 49:S0034-89102015000100420, doi: 10.1590/S0034-8910.2015049005874
3. Dellaroza MSG, Pimenta CA de M, Duarte YA, Lebrão ML. [Chronic pain among elderly residents in São Paulo, Brazil: prevalence, characteristics, and association with functional capacity and mobility (SABE Study)]. *Cad Saude Publica* 2013, 29:325–334, doi: 10.1590/s0102-311x2013000200019 [in Spanish]
4. Chenot JF, Greitemann B, Kladny B, Petzke F, Pfingsten M, Schorr SG. Non-Specific Low Back Pain. Dtsch Arztebl Int 2017, 114:883–890, doi:10.3238/arztebl.2017.0883
5. Buchbinder R, van Tulder M, Öberg B, Costa L, Woolf A, Schoene M et al. Low back pain: a call for action. *The Lancet* 2018, 391:2384–2388, doi:10.1016/S0140-6736(18)30488-4
6. Kahere M, Ginindza T. The prevalence and psychosocial risk factors of chronic low back pain in KwaZulu-Natal. *Afr J Prim Health Care Fam Med* 2022, 14:e1–e8, doi: 10.4102/phcfm.v14i1.3134
7. Andersen TE, Karstoft KI, Lauridsen HH, Manniche C. Trajectories of disability in low back pain. *Pain Rep* 2022,7:e985, doi: 10.1097/PR9.0000000000000985
8. Alhowimel A, Alotaibi M, Alenazi A, Alqahtani B, Alshehri M, Alamam D et al. Psychosocial Predictors of Pain and Disability Outcomes in People with Chronic Low Back Pain Treated Conservatively by Guideline-Based Intervention: A Systematic Review. *Journal of Multidisciplinary Healthcare* 2021, 14:3549–3559, doi: 10.2147/JMDH.S343494
9. Linton SJ. Information and psychoeducation in the early management of persistentpain. In: Gebhart GF, Schmidt RF (eds) *Encyclopedia of Pain*. Springer, Heidelberg, 2013:1632–1636, doi: 10.1007/978-3-642-28753-4
10. Valenta S, Miaskowski C, Spirig R, Zaugg K, Denhaerynck K, Rettke H et al. Randomized clinical trial to evaluate a cancer pain self-management intervention for outpatients. *Asia Pac J Oncol Nurs* 2022, 9:39–47, doi: 10.1016/j.apjon.2021.12.003
11. Prochaska JO, Velicer WF. The transtheoretical model of health behavior change. *Am J Health Promot* 1997, 12:38–48, doi: 10.4278/0890-1171-12.1.38
12. Norcross JC, Prochaska JO. Using the stages of change. *Harv Ment Health Lett* 2002, 18:5–7, PMID: 12021030
13. Prochaska JO. Decision making in the transtheoretical model of behavior change. *Med Decis Making* 2008, 28:845–849, doi: 10.1177/0272989X08327068
14. Skouteris H, McCabe M, Milgrom J, Kent B, Bruce LJ, Mihalopoulos C et al. Protocol for a randomized controlled trial of a specialized health coaching intervention to prevent excessive gestational weight gain

and postpartum weight retention in women: the HIPP study. *BMC Public Health* 2012, 12:78, doi: 10.1186/1471-2458-12-78

15. Skouteris H, McPhie S, Hill B, McCabe M, Milgrom J, Kent B et al. Health coaching to prevent excessive gestational weight gain: A randomized-controlled trial. *Br J Health Psychol* 2016, 21:31–51, doi: 10.1111/bjhp.12154
16. Bennell KL, Egerton T, Bills C, Gale J, Kolt GS, Bunker SJ et al. Addition of telephone coaching to a physiotherapist-delivered physical activity program in people with knee osteoarthritis: a randomised controlled trial protocol. *BMC Musculoskelet Disord* 2012, 13:246, doi: 10.1186/1471-2474-13-246
17. Kelly JT, Conley M, Hoffmann T, Craig JC, Tong A, Reidlinger DP et al. A Coaching Program to Improve Dietary Intake of Patients with CKD: ENTICE-CKD. *Clin J Am Soc Nephrol* 2020, 15:330–340, doi: 10.2215/CJN.12341019
18. Kelly JT, Warner MM, Conley M, Reidlinger DP, Hoffmann T, Craig J et al. Feasibility and acceptability of telehealth coaching to promote healthy eating in chronic kidney disease: a mixed-methods process evaluation. *BMJ Open* 2019, 9:e024551, doi: 10.1136/bmjopen-2018-024551
19. Meeus M, Nijs J, Van Oosterwijck J, Van Alsenoy V, Truijen S. Pain physiology education improves pain beliefs in patients with chronic fatigue syndrome compared with pacing and self-management education: a double-blind randomized controlled trial. *Arch Phys Med Rehabil* 2010, 91:1153–1159, doi: 10.1016/j.apmr.2010.04.020
20. Lipsey MW, Wilson DB. Practical Meta-Analysis. Applied Social Research Methods Series, 49, Sage Publications, Inc, 2000
21. Basler HD, Bertalanffy H, Quint S, Wilke A, Wolf U. TTM-based counselling in physiotherapy does not contribute to an increase of adherence to activity recommendations in older adults with chronic low back pain-a randomised controlled trial. *Eur J Pain* 2007, 11:31–37, doi:10.1016/j.ejpain.2005.12.009
22. Leonhardt C, Keller S, Chenot J, Luckmann J, Basler H, Wegscheider K et al. TTM-based motivational counselling does not increase physical activity of low back pain patients in a primary care setting—A cluster-randomized controlled trial. *Patient Education and Counseling* 2008, 70:50–60, doi:10.1016/j.pec.2007.09.018
23. Becker A, Leonhardt C, Kochen M, Keller S, Wegscheider K, Baum E et al. Effects of Two Guideline Implementation Strategies on Patient Outcomes in Primary Care. *Spine* (Phila Pa 1976) 2008, 33:473–480, doi: 10.1097/BRS.0b013e3181657e0d
24. Iles R, Taylor N, Davidson M, O'Halloran P. Telephone coaching can increase activity levels for people with non-chronic low back pain: a randomised trial. *Journal of Physiotherapy* 2011, 57:231–238, doi: 10.1016/S1836-9553(11)70053-4
25. Vong S, Cheing G, Chan F, So E, Chan C. Motivational Enhancement Therapy in Addition to Physical Therapy Improves Motivational Factors and Treatment Outcomes in People With Low Back Pain: A Randomized Controlled Trial. *Archives of Physical Medicine and Rehabilitation* 2011, 92:176–183, doi: 10.1016/j.apmr.2010.10.01
26. Jensen LD, Maribo T, Schiøttz-Christensen B, Madsen FH, Gonge B, Christensen M, Frost P. Counselling low-back-pain patients in secondary healthcare: a randomised trial addressing experienced workplace barriers and physical activity. *Occup Environ Med* 2012, 69:21–28, doi: 10.1136/oem.2010.064055
27. Tse MMY, Vong SKS, Tang SK. Motivational interviewing and exercise programme for community-dwelling older persons with chronic pain: a randomised controlled study. *J Clin Nurs* 2013, 22:1843–1856, doi: 10.1111/j.1365-2702.2012.04317.x
28. Suni J, Kolu P, Tokola K, Raitanen J, Rinne M, Taulaniemi A et al. Effectiveness and cost-effectiveness of neuromuscular exercise and back care counseling in female healthcare workers with recurrent non-specific low back pain: a blinded four-arm randomized controlled trial. *BMC Public Health* 2018, 18:1376, doi: 10.1186/s12889-018-6293-9
29. Kim S, Kim H, Chung S. Effects of an Individualized Educational Program for Korean Patients with Chronic Low Back Pain: A Randomized Controlled Trial. *Journal of Nursing Research* 2021, 29:e177, doi: 10.1097/jnr.0000000000000455
30. Shimo K, Hasegawa M, Mizutani S, Hasegawa T, Ushida T. Effects of a 12-week workplace counseling program on physical activity and low back pain: A pilot randomized controlled study. *Journal of Back and Musculoskeletal Rehabilitation* 2021, 34:845–852, doi: 10.3233/BMR-200178
31. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. Routledge, 2013, doi: 10.4324/9780203771587d
32. Kohlmann T, Raspe H. [Hannover Functional Questionnaire in ambulatory diagnosis of functional disability caused by backache]. Rehabilitation (Stuttg) 1996, 35:I–VIII, PMID: 8693180 [in German]
33. Frey I, Berg A, Grathwohl D, Keul J. [Freiburg Questionnaire of physical activity--development, evaluation and application]. *Soz Praventivmed* 1999, 44:55–64, doi:10.1007/BF01667127[in German]
34. Brooks R. EuroQol: the current state of play. *Health Policy* 1996, 37:53–72, doi: 10.1016/0168-8510(96) 00822-6
35. Stratford, P, Gill, C, Westaway, M, Binkley, J. Assessing disability and change on individual patients: a report of a patient specific measure. *Physiother Can* 1995, 47:258–263, doi: 10.3138/ptc.47.4.25826
36. Fritz JM, Irrgang JJ. A comparison of a modified Oswestry Low Back Pain Disability Questionnaire and the Quebec Back Pain Disability Scale. *Phys Ther* 2001, 81:776–788, doi: 10.1093/ptj/81.2.776.
37. Nicholas MK. The pain self-efficacy questionnaire: Taking pain into account. *Eur J Pain* 2007, 11:153–163, doi: 10.1016/j.ejpain.2005.12.008
38. Cheing GLY, Lai AKM, Vong SKS, Chan FH. Factorial structure of the Pain Rehabilitation Expectations Scale: a preliminary study. *Int J Rehabil Res* 2010, 33:88–94, doi: 10.1097/MRR.0b013e32832e9884
39. Clarkson HM. *Musculoskeletal Assessment: Joint Range of Motion and Manual Muscle Strength*. 2nd ed. Lippincott, Willliams & Wilkins, 2000
40. Roland M, Morris R. A study of the natural history of back pain. Part I: development of a reliable and sensitive measure of disability in low-back pain. *Spine* (Phila Pa 1976) 1983, 8:141–144, doi: 10.1097/00007632-198303000-00004
41. Tsang RCC. Measurement properties of the Hong Kong Chinese version of the Roland-Morris Disability Questionnaire. *Hong Kong Physiother J* 2004, 22:40–49, doi: 10.1016/S1013-7025(09)70049-1
42. Gatchel RJ, Mayer T, Dersh J, Robinson R, Polatin P. The association of the SF-36 health status survey with 1-year socioeconomic outcomes in a chronically disabled spinal disorder population. *Spine* (Phila Pa 1976) 1999, 24:2162–2170, doi: 10.1097/00007632-199910150-00017
43. Guilfoyle MR, Seeley H, Laing RJ. The Short Form 36 health survey in spine disease--validation against condition-specific measures. *Br J Neurosurg* 2009, 23:401–405, doi: 10.1080/02688690902730731
44. Walsh TL, Hanscom B, Lurie JD, Weinstein JN. Is a condition-specific instrument for patients with low back pain/leg symptoms really necessary? The responsiveness of the Oswestry Disability Index, MODEMS, and the SF-36. *Spine* (Phila Pa 1976) 2003, 28:607–615, doi: 10.1097/01.BRS.0000050654.97387.DF
45. Astrand P-O, Rodahl K, Dahl HA, Stromme SB. *Textbook of Work Physiology: Physiological Bases of Exercise*. 4th ed. Human Kinetics, 2003
46. Waddell G, Newton M, Henderson I, Somerville D, Main CJ. A Fear-Avoidance Beliefs Questionnaire (FABQ) and the role of fear-avoidance beliefs in chronic low back pain and disability. *Pain* 1993, 52:157–168, doi: 10.1016/0304-3959(93)90127-B
47. Chung JW, Wong CH, Yang JC, Wong TK. The construction of a pain intensity verbal rating scale in Chinese. *Acta Anaesthesiol Sin* 1999, 37:65–71, PMID: 10410405
48. Lim HS, Chen PP, Wong TCM, et al. Validation of the Chinese version of pain self-efficacy questionnaire. *Anesth Analg* 2007, 104:918–923, doi: 10.1213/01.ane.0000255731.24092.a5

49. Spielberger CD. *State-Trait Anxiety Inventory for Adults: Sampler Set*, Manual, Test, Scoring Key, Mind Garden, Redwood, 1983
50. Shek DT. The Chinese version of the State-Trait Anxiety Inventory: its relationship to different measures of psychological well-being. *J Clin Psychol* 1993, 49:349–358, doi: 10.1002/1097-4679(199305)49:3<349::aid-jclp2270490308>3.0.co;2-j
51. Sheikh JI, Yesavage JA. Geriatric depression scale (GDS): recent evidence and development of a shorter version, *Clin Gerontol* 1986, 5:165–173, doi: 10.1300/JO18v05n01_09
52. Lee HB, Chiu HFK, Kwok WY, Leung CM, Kwong PK, Chung DWS. Chinese elderly and the GDS short form: A preliminary study. *Clin Gerontol* 1993,14:37
53. Lyubomirsky S, Lepper HS. A measure of subjective happiness: Preliminary reliability and construct validation. *Soc Indic Res* 1999, 46:137–155, doi: 10.1023/A:1006824100041
54. Chen SX, Benet-Martínez V, Harris Bond M. Bicultural identity, bilingualism, and psychological adjustment in multicultural societies: immigration-based and globalization-based acculturation. *J Pers* 2008, 76:803–838, doi: 10.1111/j.1467-6494.2008.00505.x
55. Smith R. Validation and reliability of the elderly mobility scale. *Physiother* 1994, 80:744–747, doi: 10.1016/S0031-9406(10)60612-8
56. Ware J, Kosinski M, Keller SD. A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Med Care* 1996, 34:220–233, doi: 10.1097/00005650-199603000-00003
57. Lam CLK, Tse EYY, Gandek B. Is the standard SF-12 health survey valid and equivalent for a Chinese population? *Qual Life Res* 2005, 14:539–547, doi: 10.1007/s11136-004-0704-3
58. Suni JH, Rinne M, Kankaanpää M, Taulaniemi A, Lusa S, Lindholm H et al. Neuromuscular exercise and back counselling for female nursing personnel with recurrent non-specific low back pain: study protocol of a randomised controlled trial (NURSE-RCT). *BMJ Open Sport Exerc Med* 2016, 2:e000098, doi: 10.1136/bmjsem-2015-000098
59. Daut RL, Cleeland CS, Flanery RC. Development of the Wisconsin Brief Pain Questionnaire to assess pain in cancer and other diseases. *Pain* 1983, 17:197–210, doi: 10.1016/0304-3959(83)90143-46494.2008.00505.x
60. Yun YH, Mendoza TR, Heo DS, Yoo T, Heo BY, Park H-A et al. Development of a cancer pain assessment tool in Korea: a validation study of a Korean version of the brief pain inventory. *Oncology* 2004, 66:439–444, doi: 10.1159/000079497
61. Fairbank JC, Pynsent PB. The Oswestry Disability Index. *Spine* 2000, 25:2940–2952, doi: 10.1097/00007632-200011150-00017
62. Jeon C-H, Kim D-J, Kim S-K, Kim D-J, Lee H-M, Park H-J. Validation in the cross-cultural adaptation of the Korean version of the Oswestry Disability Index. *J Korean Med Sci* 2006, 21:1092–1097, doi: 10.3346/jkms.2006.21.6.1092
63. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. *Med Care* 1986, 24:67–74, doi: 10.1097/00005650-198601000-00007
64. Kim SW, Kim MY, Yoo TW, Huh BR. Concurrent validity of the Korean version of self-reported questionnaire. *Korean J Fam Med* 1995, 162:172–180
65. Suzukamo Y, Fukuhara S, Kikuchi S, Konno S, Roland M, Iwamoto Y et al. Validation of the Japanese version of the Roland-Morris Disability Questionnaire. *J Orthop Sci* 2003, 8:543–548, doi: 10.1007/s00776-003-0679-x
66. ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories. ATS statement: guidelines for the six-minute walk test. *Am J Respir Crit Care Med* 2002, 166:111–117, doi: 10.1164/ajrccm.166.1.at1102
67. Schünemann HJ, Higgins JP, Vist GE, Glasziou P, Akl EA, Skoetz N, Guyatt GH. Completing 'Summary of findings' tables and grading the certainty of the evidence. In J.P. Higgins, J. Thomas, J. Chandler, M. Cumpston, T. Li, M.J.Page and V.A. Welch (eds) *Cochrane Handbook for Systematic Reviews of Interventions*, 2019, doi: 10.1002/9781119536604.ch14

Ανασκόπηση

Η αποτελεσματικότητα της ψυχοεκπαίδευσης στη διαχείριση της οσφυαλγίας: Συστηματική ανασκόπηση

Basant K. Puri,[1] Μαρία Θεοδωράτου[2,3]

[1]*Πανεπιστήμιο Winchester, Ηνωμένο Βασίλειο*

[2]*Ελληνικό Ανοικτό Πανεπιστήμιο, Ελλάδα*

[3]*Πανεπιστήμιο Νεάπολις Πάφου, Κύπρος*

ΙΣΤΟΡΙΚΟ ΑΡΘΡΟΥ: Παραλήφθηκε 28 Απριλίου 2022/Αναθεωρήθηκε 16 Αυγούστου 2022/Δημοσιεύθηκε Διαδικτυακά 15 Δεκεμβρίου 2022

ΠΕΡΙΛΗΨΗ

Η οσφυαλγία είναι ένα σχετικά συχνό πρόβλημα υγείας που πλήττει πολλούς ενήλικες και ο επιπολασμός της αυξάνεται με την ηλικία. Αρκετές μελέτες έχουν δείξει ότι οι ψυχοκοινωνικοί παράγοντες είναι σημαντικοί στον πόνο στη μέση. Σκοπός της παρούσας μελέτης ήταν η συστηματική ανασκόπηση της αποτελεσματικότητας της ψυχοεκπαίδευσης στην αντιμετώπιση του πόνου στην οσφυαλγία από στοιχεία που παρέχονται από τυχαιοποιημένες ελεγχόμενες μελέτες. Τα κριτήρια ένταξης των μελετών που συμπεριλήφθηκαν σε αυτή τη συστηματική ανασκόπηση ήταν τυχαιοποιημένες ελεγχόμενες μελέτες- ασθενείς με πόνο στη μέση, με ή χωρίς ισχιαλγία- η συμπερίληψη ενός σκέλους ψυχοεκπαίδευσης (θεραπείας)- και η ηλικία των ασθενών ≥ 17 ετών. Η εξαγωγή δεδομένων αποκάλυψε την ετερογένεια των ψυχοεκπαιδευτικών παρεμβάσεων. Κατά συνέπεια, κρίθηκε ακατάλληλο να πραγματοποιηθεί επίσημη μετα-ανάλυση. Τελικά, εννέα μελέτες, που αντιστοιχούν σε 10 δημοσιεύσεις, συμπεριλήφθηκαν στη συστηματική ανασκόπηση. Όπου ήταν δυνατόν, υπολογίστηκε για τις μελέτες η μέση διαφορά της αποτελεσματικότητας (effect sizes) μεταξύ των ομάδων. Συνολικά, τα ευνοϊκά αποτελέσματα συσχετίστηκαν με την εξατομικευμένη τηλεφωνική καθοδήγηση, ενώ τα δυσμενή αποτελέσματα συσχετίστηκαν τόσο με τη συμβουλευτική με βάση το Διαθεωρητικό Μοντέλο όσο και με τη θεραπεία ενίσχυσης των κινήτρων. Άλλες μορφές ατομικής συμβουλευτικής συσχετίστηκαν με ενδιάμεσα αποτελέσματα. Η ψυχοεκπαίδευση μέσω εξατομικευμένης τηλεφωνικής καθοδήγησης συνδέθηκε ιδιαίτερα με μειωμένο πόνο στη μέση, μειωμένη αναπηρία στην καθημερινή ζωή, βελτιωμένη λειτουργία και βελτιωμένη προσδοκία ανάκαμψης. Βάσει της παρούσας ανασκόπησης, διατυπώνονται οι ακόλουθες προτάσεις σχετικά με το σχεδιασμό και τη δημοσίευση μελλοντικών μελετών για την αποτελεσματικότητα της ψυχοεκπαίδευσης στη διαχείριση του πόνου στη μέση. Κατ'αρχάς, θα ήταν καλό να σχεδιαστεί μία διπλά-τυφλή πειραματική μελέτη τόσο ως προς την ομάδα των ασθενών όσο ως προς τους αξιολογητές. Δεύτερον, συνιστάται να δημοσιεύονται όλα τα σχετικά δεδομένα έκβασης μιας μελέτης, είτε στην αντίστοιχη δημοσίευση είτε σε ένα ηλεκτρονικό συμπλήρωμα. Τρίτον, είναι σημαντικό να διασφαλιστεί ότι οι ομάδες παρέμβασης και ελέγχου αντιστοιχίζονται κατά την έναρξη της μελέτης. Είναι σαφές ότι οι διαφορές των ομάδων κατά την έναρξη μπορεί να προκύψουν μετά την τυχαία κατανομή των ασθενών σε δύο ομάδες. Συνεπώς, μπορεί να είναι χρήσιμο να διενεργούνται όλες οι αξιολογήσεις κατά την έναρξη αμέσως πριν από τη διαδικασία τυχαιοποίησης. Θα ήταν σημαντικό στη συνέχεια ένας ανεξάρτητος αξιολογητής να εξετάσει το βαθμό αντιστοίχισης κατά την έναρξη, πριν προχωρήσει η υπόλοιπη μελέτη. Είναι επίσης σημαντικό να προσλαμβάνονται επαρκώς μεγάλα μεγέθη δείγματος.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Οσφυαλγία ενηλίκων, τυχαιοποιημένες ελεγχόμενες μελέτες, διάθεση, ψυχοεκπαίδευση, αναπηρία.

Συγγραφέας επικοινωνίας: Μαρία Θεοδωράτου, Ελληνικό Ανοικτό Πανεπιστήμιο, Πάροδος Αριστοτέλους 18, Περιβόλα, 263 35 Πάτρα, Διεύθυνση e-mail: theodoratou.maria@ac.eap.gr