
This is the **accepted version** of the journal article:

Palahí Calsina, Ivan [et al.]. «Barriers to adhering to a pain neuroscience education and therapeutic exercise programme in people with chronic neck pain : a mixed-methods study». *Clinical Rehabilitation*, 2026 DOI 10.1177/02692155261485354, PMID 42709506

This version is available at <https://ddd.uab.cat/record/337249>

under the terms of the  license.

Barriers to adhering to a pain neuroscience education and therapeutic exercise programme in people with chronic neck pain: a mixed-methods study

Author Accepted Manuscript

This is the author-accepted manuscript, incorporating the revisions accepted following peer review, before publisher copyediting and typesetting.

Published version

Palahí-Calsina I, Jubany J, Espelt A, Viladomat-Sallés J, Bettagnier S, Borao O. Barriers to adhering to a pain neuroscience education and therapeutic exercise programme in people with chronic neck pain: A mixed-methods study. *Clinical Rehabilitation*. Published online September 8, 2026. <https://doi.org/10.1177/02692155261485354>

© The Author(s) 2026.

This manuscript is shared in accordance with Sage's author archiving and reuse policy. Reuse is restricted to non-commercial purposes and no derivative works.

Barriers to adhering to a pain neuroscience education and therapeutic exercise programme in people with chronic neck pain: a mixed-methods study

Ivan Palahí-Calsina, PT, MSc,^{1,2} Júlia Jubany, PT, MSc, PhD,^{1,*} Albert Espelt, BSc, MSc, PhD,^{3,4} Joan Viladomat-Sallés, PT,^{5,6} Sonny Bettagnier, PT,^{5,6} Olga Borao, PT, MSc, PhD¹

¹ *Sport Exercise and Human Movement (SEaHM). Faculty of Health Sciences at Manresa. Universitat de Vic – Universitat Central de Catalunya (UVic-UCC), Manresa, Spain (ipalahi@umanresa.cat / jjubany@umanresa.cat / oborao@umanresa.cat)*

² *University School of Health and Sport, Universitat de Girona, Girona, Spain*

³ *Departament de Psicobiologia i Metodologia de les Ciències de la Salut. Universitat Autònoma de Barcelona, Barcelona, Spain (albert.espelt@uab.cat)*

⁴ *Center for Biomedical Research in Epidemiology and Public Health (CIBER), Madrid, Spain*

⁵ *Rehabilitation Service, Althaia Xarxa Assistencial Universitària de Manresa, 08243 Manresa, Spain (jviladom1@althaia.cat / smbettagnier@althaia.cat)*

⁶ *Institut de Recerca I Innovació en Ciències de la Vida i de la Salut a la Catalunya Central (IRIS-CC), 08500 Vic, Spain*

*** Corresponding author:** *Júlia Jubany. Faculty of Health Sciences at Manresa. Universitat de Vic – Universitat Central de Catalunya (UVic-UCC), Av. Universitària, 4-6, 08242 Manresa, Spain. jjubany@umanresa.cat; Tel.: +34-938-774-179*

Acknowledgments: This work was conducted as part of the PhD programme in Sports and Human Movement Sciences at the Universitat de Vic – Universitat Central de Catalunya. The authors thank Fundació Althaia for its support.

Authors contributions:

Statements and declarations

Ethical considerations: The study was approved by the relevant Research Ethics Committee [Comitè d'Ètica d'Investigació amb Medicaments de l'Institut de Recerca i Innovació en Ciències de la Vida i de la Salut a la Catalunya Central (CEIm IRIS-CC); code 24/052] and was conducted according to the principles of the Declaration of Helsinki.

Consent to participate: All participants provided written informed consent prior to participation.

Consent for publication: Not applicable.

Declaration of conflicting interest: No potential conflict of interest was reported by the author(s).

Funding statement: This study received no external funding.

Data availability: Data are available from the corresponding author upon reasonable request.

Setting: The study was conducted in two primary-care centres in Manresa (Catalonia, Spain), managed by Fundació Althaia and integrated into the Catalan public healthcare system (SISCAT).

Abstract

Objective: To identify perceived barriers to adhering to a group-based programme combining pain neuroscience education and therapeutic exercise among people with chronic neck pain, and to assess the perceived relative importance and frequency of such barriers according to sociodemographic factors and programme attendance.

Design: Mixed-methods study using a concept mapping approach.

Setting: Two primary care centres in Catalonia (Spain).

Participants: Sixty-three individuals with chronic neck pain.

Intervention: Participation in a group-based pain neuroscience education and therapeutic exercise programme.

Main measures: Perceived barriers to adhering to a combined pain neuroscience education and therapeutic exercise programme were generated, sorted, and rated by participants according to importance and frequency scores (5-point Likert scale). Cluster maps and go-zone plots were derived using multidimensional scaling and hierarchical cluster analysis. Exploratory subgroup analyses were conducted.

Results: Thirty-two statements were grouped into four clusters: Adequacy and adaptation, Organisation and format, Information and educational support, and Therapeutic relationship. Adequacy and adaptation showed the highest ratings for importance and frequency, followed by Information and educational support, and Therapeutic relationship; Organisation and format showed the lowest. Exploratory analyses indicated higher ratings for barriers related to organisational and information-related aspects among younger participants, and for understanding-related difficulties among participants with <70% programme attendance.

Conclusions: Perceived barriers to adherence appear to be structured around three interrelated domains: programme adequacy and adaptation, information and educational

support, and therapeutic relationship. Organisational and information-related barriers were perceived as more relevant among younger participants, whereas understanding-related difficulties were more relevant among participants with <70% programme attendance.

Keywords: Chronic neck pain; Pain neuroscience education; Therapeutic exercise; Adherence; Barriers; Concept Mapping; Mixed methods; Primary care.

Clinical Messages

- Clinicians should individualise pain neuroscience education and therapeutic exercise programmes, as perceived coherence and symptom interpretation appear central to adherence in chronic neck pain.
- Clinicians should address communication and therapeutic relationship aspects throughout rehabilitation, as difficulties related to understanding and expectations may contribute to barriers to engagement.
- Rehabilitation programmes should consider organisational flexibility and educational support, particularly for younger adults, who may experience greater organisational and information-related barriers.

Introduction

Chronic neck pain, defined as pain lasting longer than three months, is one of the leading causes of disability worldwide, with substantial functional and socioeconomic consequences (1–3). The therapeutic management of chronic neck pain involves multimodal strategies, among which pain neuroscience education and therapeutic exercise are particularly predominant (4). Pain neuroscience education provides a framework for reconceptualising pain-related beliefs (5), whereas therapeutic exercise, in addition to improving physical function and capacity, reinforces this cognitive shift through the experiential process of movement (6). Integrating these two strategies constitutes a comprehensive approach to chronic neck pain management (4,7).

Despite evidence supporting these interventions (4,7), their implementation may be constrained by various barriers affecting access to or engagement with treatment. These barriers may be related to personal or contextual factors, or to characteristics inherent to the intervention itself, and may influence the level of adherence to the programme (8). Reported barriers to therapeutic exercise include pain or fatigue during activity, lack of time, and low motivation (9,10). Regarding pain neuroscience education, existing studies have primarily focused on the professional perspective, identifying obstacles such as the predominance of a biomedical approach, insufficient training in the biopsychosocial model, and challenges in integrating pain neuroscience education into routine clinical practice (11,12). However, people's previous pain experiences and social determinants also shape engagement with treatment (13,14). Sociodemographic and personal factors, including gender, age and migration background, may therefore influence access, participation, continuity of care and experiences within healthcare systems (15,16).

Identifying barriers within the population and the setting in which an intervention is delivered is essential to support programme-design effectiveness, implementation, and sustainability. Actively involving users can provide insight into how organisational, resource-related, and clinical factors affect interventions under real-world conditions (17,18). In chronic neck pain, such knowledge may help adapt treatment programmes, and optimise therapeutic exercise prescription and implementation in routine clinical practice (19). This is particularly relevant in primary care, where patient heterogeneity, limited time and resources, clinical complexity, community engagement and inter-service coordination may influence implementation, continuity of care, and adherence (20,21). Delivery format may also shape people's experiences and the barriers encountered; consequently, understanding adherence to group-based programmes is especially important when these interventions are delivered in routine practice. Accordingly, this study aimed to identify perceived barriers to adhering to a group-based programme combining pain neuroscience education and therapeutic exercise among people with chronic neck pain, and to assess the perceived relative importance and frequency of such barriers according to sociodemographic factors and programme attendance.

Methods

This study was approved by the relevant Research Ethics Committee [Comitè d'Ètica d'Investigació amb Medicaments de l'Institut de Recerca i Innovació en Ciències de la Vida i de la Salut a la Catalunya Central (CEIm IRIS-CC); code 24/052] and was conducted according to the principles of the Declaration of Helsinki. All participants provided written informed consent prior to participation.

Design

We conducted a cross-sectional study with people diagnosed with chronic neck pain and applied the Concept mapping methodology (22), a participatory mixed-methods approach integrating qualitative data collection and quantitative analytical techniques (23). Concept mapping facilitates the generation of ideas, supports the organisation of complex issues, and enables the evaluation of relevance of identified factors within a specific context. These characteristics contribute to its effectiveness in exploring and prioritising factors related to adherence in real-world healthcare settings (24,25). This study was reported following the Mixed Methods Reporting in Rehabilitation and Health Sciences (MMR-RHS) guidelines (26).

Participants and Recruitment

We recruited people with chronic neck pain between April and December 2025 using non-probabilistic convenience sampling from two primary-care centres in Catalonia, Spain, integrated into the regional public healthcare system. We invited all eligible patients attending the physiotherapy service to participate voluntarily. 63 people were finally included in the analysis, with recruitment concluding once an adequate sample size for concept mapping was reached (27). In a typical year, the two centres attend approximately 53 and 37 patients with chronic neck pain, respectively, who may be referred to the programme. Due to routine clinical constraints, it was not feasible to systematically record the number of patients who declined participation. Inclusion criteria were: (a) previous chronic neck pain diagnosis (symptoms lasting more than 12 weeks); (b) referral to a combined pain neuroscience education and therapeutic exercise programme for chronic neck pain at one of the two centres; and (c) age ≥ 18 years. Prior

to enrolment, participants were informed of their right to withdraw from the study at any time.

Programme

The programme, which incorporated pain neuroscience education and therapeutic exercise, constituted a component of routine clinical care. The programme was administered in a group format by two physiotherapists and comprised 10 one-hour sessions held twice weekly. The initial two sessions concentrated on pain neuroscience education, with therapeutic exercise being progressively incorporated. The subsequent eight sessions focused on cervical therapeutic exercise. The programme was characterised by a uniform structure that was consistent across all people enrolled in the study (Supplementary file 1). Participants were also encouraged to perform the exercises outside the supervised group sessions; however, home exercise was not systematically monitored.

Concept mapping methodology

The concept mapping steps are described below (Figure 1):

In Step 1 (Preparation), we formulated the following focus prompt: “What aspects do you think may represent a barrier when carrying out the pain neuroscience education and therapeutic exercise programme? Consider aspects related to the therapy itself (what was explained, what were you asked to do, etc.), logistical aspects, personal factors, and any other relevant issues.”

In Step 2 (Generation; Phase 1), participants were organised into four small groups of three to six people. During structured face-to-face sessions, they generated statements in response to the focus prompt using a structured brainstorming process (Supplementary file 2). The process continued until a sufficient list to consider the variability of experiences was obtained. Two researchers independently reviewed the statements to remove duplicates and merge similar ideas. Discrepancies were resolved by consensus or with a third researcher. This process resulted in a final agreed-upon list of statements.

In Step 3 (Structuring; Phase 2), participants from the previous phase and additional people meeting the same inclusion criteria sorted and rated the final list of statements. Furthermore, participants grouped the statements according to conceptual similarity and assigned a label to each cluster, ensuring that each statement belonged to only one group. They then rated each statement in terms of perceived importance and frequency of occurrence as a barrier using a 5-point Likert scale (1 = very low/never; 5 = very high/always). Participation in the rating phase was expanded to achieve a sample size consistent with concept mapping methodological recommendations (27), through both in-person and digital data collection, via REDCap (Research Electronic Data Capture) platform (28,29).

In Step 4 (Representation), the data was entered into the R-CMap software for computerised analysis (30). Multidimensional scaling and hierarchical cluster analysis were applied to organise the statements into conceptual clusters. The number of clusters was determined by inspecting the dendrogram and evaluating the resulting groupings of statements in terms of their conceptual coherence within clusters and differentiation between clusters. Results were displayed using cluster maps and go-zone scatterplots, and the means of importance and frequency scores were calculated for each statement and

cluster. When participants had missing responses in importance or frequency ratings, within-participant mean imputations were applied. This approach preserved dataset coherence and avoided participant loss without affecting the relational structure of the conceptual maps (31).

In Steps 5 and 6 (Interpretation and Utilisation), the concept mapping results were shared with participants to collect feedback. Moreover, the research team discussed their interpretation and applicability within the healthcare context.

-----Insert Figure 1 here or near here-----

To characterise the sample, a questionnaire collecting sociodemographic and clinical data was administered, including characteristics such as gender, age and origin. Pain intensity was assessed using the Numeric Pain Rating Scale, ranging from 0 (no pain) to 10 (worst pain imaginable). Participants reported their mean neck pain intensity during the three days preceding completion of the questionnaire (32). Data were collected anonymously and managed using REDCap. Information on programme attendance was also collected, primarily from attendance records at the centres. Exceptionally, for participants who had completed the programme prior to study initiation and for those whose centre records were unavailable, attendance data were obtained through self-report. Sample characteristics were described using frequencies and percentages (n, %) for categorical variables and mean (SD) for continuous variables. Phases were compared using two-sided Fisher's exact tests for categorical variables and an independent-samples t-test for continuous variables, with statistical significance set at $p < 0.05$.

Additionally, an exploratory analysis of mean statement importance and frequency ratings stratified by gender, age, origin, and programme attendance was conducted. Age was recoded into two categories (<60 and ≥ 60 years). Programme attendance was

categorized using a 70% threshold, defined a priori based on the programme characteristics and supported by previously used criteria for acceptable adherence to prescribed rehabilitation intervention (33), with participants classified as attending $\geq 70\%$ or $< 70\%$ of the scheduled sessions. Mean ratings for each statement were calculated within each subgroup, and differences in mean ratings between two-group comparisons were examined using independent t-test samples based on individual statement ratings. Stratified go-zone scatterplots were also generated for each subgroup. These subgroup comparisons were considered exploratory, and no corrections for multiple comparisons were applied.

Results

Description of the sample

A total of 63 people with chronic neck pain participated in the study: 19 in phase 1 and 44 in phase 2. As shown in Table 1, no statistically significant differences were observed between the groups from the two phases. The sample mostly had the following characteristics: it was composed of women (70%), people were of Spanish origin (68%), and the most common age range was 60-69 years (29%). Twenty-nine percent of participants attended less than 70% of the scheduled sessions.

-----Insert Table 1 here or near here-----

Statements and clusters

A final list of 32 statements and four participant groups were obtained from phase 1 (Brainstorming). Based on the classifications made by the participants, inspection of the dendrogram and evaluation of the conceptual coherence of the resulting groupings

supported a four-cluster solution. The final map therefore consisted of four conceptual clusters (Figure 2): 1) Adequacy and adaptation (6 statements); 2) Organisation and format (12 statements); 3) Information and educational support (9 statements); and 4) Therapeutic relationship (5 statements).

-----Insert Figure 2 here or near here-----

Overall, ‘adequacy and adaptation’ showed the highest mean in importance and frequency scores (Table 2). Within this cluster, statement 9 (“Little variability and progression of exercises”) received the highest importance score across the study, whereas statement 1 (“Performing generic exercises for the entire group, without individual adaptation”) received the highest frequency score. This cluster also included barriers related to pain during or after treatment sessions and lack of perceived improvement throughout the programme. ‘Information and educational support’ showed the second highest scores, particularly regarding follow-up by referring professionals. Barriers related to educational content, individualised explanations, opportunities to share experiences during the intervention, and multidisciplinary coordination received high importance scores despite comparatively lower frequency values. ‘Therapeutic relationship’ showed lower scores than the previous clusters and included barriers associated with complementary therapeutic options, trust in healthcare professionals, and unmet initial expectations regarding treatment. In contrast, ‘organisation and format’ showed the lowest scores across both dimensions and mainly comprised barriers related to programme duration, referral delays, and rescheduling options for missed sessions. Figure 3 presents the distributions of statements according to their mean importance and frequency scores through a go-zone scatter plot.

-----Insert Table 2 here or near here-----

-----Insert Figure 3 here or near here-----

Exploratory subgroup analyses according to gender, age, origin, and programme attendance are presented in Table 3 and Supplementary File 3. No differentiated patterns were identified according to gender or origin, apart from isolated differences related to group size perception, referral delays, and schedule compatibility. Regarding age, younger participants (30-59 years) generally showed higher importance and frequency scores than older participants (≥ 60 years), particularly in ‘organisation and format’ and ‘information and educational support’. These differences were mainly related to programme duration, schedule compatibility, referral delays, educational content, individualised explanations, and follow-up by referring professionals. Additionally, younger participants also showed higher scores regarding pain during or after treatment sessions and trust in healthcare professionals. Regarding programme attendance, participants attending $< 70\%$ of the scheduled sessions mainly showed higher scores in ‘information and educational support’, particularly in relation to guidance materials, programme-related information, and theoretical or pedagogical content related to the intervention. Higher scores were also observed for barriers related to knowledge and guidance on the proper execution of exercises.

-----Insert Table 3 here or near here-----

Discussion

Our study identified four clusters of important barriers to adhering to a group-based combined pain neuroscience education and therapeutic exercise programme among

people with chronic neck pain: adequacy and adaptation, organisation and format, information and educational support, and therapeutic relationship. Adherence was influenced primarily by participants' perceptions of the programme's relevance, meaningfulness, and coherence with their lived experience of pain, and to a much lesser extent by isolated logistical factors. Our findings suggest that clear explanations, perceived relevance, and ongoing reinforcement throughout the therapeutic process are key drivers of adherence alongside consideration of individual characteristics of people living with chronic neck pain.

Barriers related to 'adequacy and adaptation' appear central because they connect programme structure with the patient's clinical response. Limited individualisation, poorly adjusted progression, pain during or after sessions, and lack of perceived improvement may create a perceived mismatch between programme demands and what the patient feels able to tolerate or achieve. In chronic pain, where symptom persistence does not necessarily indicate treatment failure (34), such mismatch may be particularly problematic if pain or limited improvement is interpreted as evidence that the programme is inappropriate or ineffective (35,36). Exercise progression should therefore consider function, activity, and patient-perceived change, rather than symptom reduction alone; and should be accompanied by clear clinical explanation, shared adjustment, and discussion of expected symptom fluctuations and relevant indicators of progress (35,37–39). This interpretation is closely linked to 'information and educational support', as some patients may continue to understand pain and exercise-related symptoms primarily as indicators of tissue damage. Adherence depends not only on exercise prescription but also on whether patients understand the therapeutic rationale and can reinterpret pain beyond a biomedical model (12,40,41). Barriers related to diagnostic information, educational

content, individualised explanations, support materials and follow-up treatment suggest that, for some participants, this reconceptualisation process may not have been fully consolidated, making symptom fluctuations more difficult to interpret during treatment. Pain reconceptualisation is considered a key mechanism of pain neuroscience education (42–44), with meta-analytic evidence supporting beneficial effects on pain and kinesiophobia in chronic neck pain (45). As pain neuroscience education was concentrated in the initial sessions, these findings support viewing it as an ongoing process requiring reinforcement and contextualisation throughout treatment rather than as a standardised initial component.

The ‘therapeutic relationship’ may therefore support education, expectation-setting, and shared adjustment throughout treatment. In musculoskeletal pain management, a strong therapeutic alliance has been associated with improved adherence to physiotherapy interventions (46,47) and may facilitate patient-centred care and shared decision-making (48,49). In this study, barriers related to unmet expectations, limited trust, and the perceived need for alternative therapeutic options suggest that some participants’ expectations may not have fully aligned with the aims of the programme. The therapeutic relationship may therefore support adherence by facilitating information exchange, eliciting concerns, aligning expectations, and helping patients integrate education and exercise into a coherent therapeutic process. ‘Organisational and format’-related barriers should be interpreted as relevant but secondary within this pattern. In high-demand primary care settings, referral delays, programme duration, and limited flexibility to reschedule missed sessions may affect access and continuity of care (50,51). However, their lower relative relevance suggests that they may modulate rather than determine adherence. Addressing organisational constraints may improve programme feasibility,

but sustained participation is likely to depend more on whether the intervention is perceived as adapted, understandable, and therapeutically supported.

Younger participants appeared to attribute greater relevance to organisational constraints, educational support and pain-related barriers. This may reflect the greater impact of time, work, and family demands in more active life stages and a stronger need for educational reinforcement when symptoms persist (52,53). These exploratory findings suggest that programme delivery for younger adults may benefit from greater flexibility, clearer discussion of expected symptom responses, and explicit links between exercise progression and personally relevant goals. Participants attending <70% of the scheduled sessions also gave greater relevance to barriers involving information, guidance materials, and understanding of the intervention, suggesting that verifying patients' understanding and adapting educational support may be valuable when early difficulties with attendance or engagement arise. In contrast, no clear differential pattern according to gender or origin was observed.

Several limitations should be considered. The identified barriers reflect perceptions assessed at programme completion and may vary across treatment stages, although they remain clinically relevant to adherence. Although the sample was adequate for concept mapping (24), convenience sampling from two primary care centres in one geographical area may limit generalisability, particularly of subgroup findings, while the real-world setting may enhance ecological validity. The group-based format may have influenced barriers related to individualisation and adaptation, potentially limiting the applicability of these findings to individually delivered physiotherapy. Exploratory subgroup analyses involved small samples and no correction for multiple comparisons. Despite ordinal

ratings, t-tests were retained for consistency with R-CMap mean-based outputs; sensitivity analyses using exact Mann–Whitney U tests yielded a similar overall pattern. Type I error nevertheless remains possible, and subgroup findings should be considered hypothesis-generating rather than confirmatory.

In conclusion, to improve adherence to combined pain neuroscience education and therapeutic exercise programmes, we need to move beyond standardised delivery and prioritise patients' understanding of the therapeutic rationale, interpretation of symptom fluctuations, and the therapeutic relationship. Individualised progression, repeated educational reinforcement, and relational strategies that support meaning-making around symptoms are likely key to adherence in active rehabilitation. Future studies should test these implementation strategies across settings and explore how perceived barriers change over time.

Bibliography

1. Cohen SP. Epidemiology, Diagnosis, and Treatment of Neck Pain. *Mayo Clin Proc.* 2015 Feb;90(2):284–99. doi:10.1016/j.mayocp.2014.09.008
2. Hurwitz EL, Randhawa K, Yu H, Côté P, Haldeman S. The Global Spine Care Initiative: a summary of the global burden of low back and neck pain studies. *Eur Spine J.* 2018 Sep;27:796–801. doi:10.1007/s00586-017-5432-9
3. Kazeminasab S, Nejadghaderi SA, Amiri P, Pourfathi H, Araj-Khodaei M, Sullman MJM, et al. Neck pain: global epidemiology, trends and risk factors. *BMC Musculoskelet Disord.* 2022 Jan 3;23(1):1. doi:10.1186/s12891-021-04957-4 PubMed PMID: 34980079; PubMed Central PMCID: PMC8725362.
4. Palahi-Calsina I, Jubany J, Sordo L, Lorente S, Espelt A, Borao O. Effectiveness of pain neuroscience education among adults with chronic neck pain. Systematic review. *Eur J Physiother.* 2025 May 4;27(3):147–58. doi:10.1080/21679169.2024.2365694
5. Louw A, Zimney K, Puentedura EJ, Diener I. The efficacy of pain neuroscience education on musculoskeletal pain: A systematic review of the literature. *Physiother Theory Pract.* 2016;32(5). doi:10.1080/09593985.2016.1194646
6. Diritto AM, Abichandani D, Jadhakhan F, Falla D. The effects of exercise on neuromuscular function in people with chronic neck pain: A systematic review and meta-analysis. Anwar S, editor. *PLOS ONE.* 2024 Dec 19;19(12):e0315817. doi:10.1371/journal.pone.0315817
7. Zhang Y, Yang C. Influence of pain neuroscience education and exercises for the management of neck pain: A meta-analysis of randomized controlled trials. *Medicine (Baltimore).* 2024 Nov 29;103(48):e40760. doi:10.1097/MD.00000000000040760
8. Dickson C, De Zoete RMJ, Berryman C, Weinstein P, Chen KK, Rothmore P. Patient-related barriers and enablers to the implementation of high-value physiotherapy for chronic pain: a systematic review. *Pain Med.* 2024 Feb 1;25(2):104–15. doi:10.1093/pm/pnad134
9. Boutevillain L, Dupeyron A, Rouch C, Richard E, Coudeyre E. Facilitators and barriers to physical activity in people with chronic low back pain: A qualitative study. Jepson R, editor. *PLOS ONE.* 2017 Jul 25;12(7):e0179826. doi:10.1371/journal.pone.0179826
10. Vader K, Doulas T, Patel R, Miller J. Experiences, barriers, and facilitators to participating in physical activity and exercise in adults living with chronic pain: a qualitative study. *Disabil Rehabil.* 2019 Oct 2;43(13):1829–37. doi:10.1080/09638288.2019.1676834
11. Najem C, Wijma AJ, Meeus M, Cagnie B, Ayoubi F, Van Oosterwijck J, et al. Facilitators and barriers to the implementation of pain neuroscience education in the current Lebanese physical therapist health care approach: a qualitative study. *Disabil Rehabil.* 2024 Jan 30;46(3):524–32. doi:10.1080/09638288.2023.2168076
12. Jubany J, Borao O, Espelt A, Paton D, Campoy-Vila M. Spanish physiotherapists' explanatory models regarding low back pain and its associated factors. *Retos.* 2026 Jan 21;77:143–53. doi:10.47197/retos.v77.117865
13. Thompson EL, Broadbent J, Bertino MD, Staiger PK. Do Pain-related Beliefs Influence Adherence to Multidisciplinary Rehabilitation?: A Systematic Review. *Clin J Pain.* 2016 Feb;32(2):164–78. doi:10.1097/AJP.0000000000000235

14. Espelt A, Borrell C, Sanahuja J, Codinach E, Espelt C, Daban F, et al. Being Called Social Does Not Necessarily Make You Community-Focused. *Int J Soc Determinants Health Health Serv.* 2025;55(3):262–7.
15. Cogollos-de-la-Peña R, Álvarez-Vargas A, Domínguez-Navarro F, Espelt A, Fuentes-Aparicio L, Puigpinós-Riera R. Social inequalities in the use of physiotherapy in women diagnosed with breast cancer in Barcelona: DAMA cohort. *Breast Cancer Res Treat.* 2023. doi:10.1007/s10549-023-07191-9
16. Espelt A, Continente X, Domingo-Salvany A, Domínguez-Berjón MF, Fernández-Villa T, Monge S, et al. La vigilancia de los determinantes sociales de la salud. *Gac Sanit.* 2016 Nov;30:38–44. doi:10.1016/j.gaceta.2016.05.011
17. Van Rysewyk S, Blomkvist R, Chuter A, Crighton R, Hodson F, Roomes D, et al. Understanding the lived experience of chronic pain: A systematic review and synthesis of qualitative evidence syntheses. *Br J Pain.* 2023 Dec;17(6):592–605. doi:10.1177/20494637231196426
18. Toye F, Seers K, Allcock N, Briggs M, Carr E, Andrews J, et al. Patients' experiences of chronic non-malignant musculoskeletal pain: a qualitative systematic review. *Br J Gen Pract.* 2013 Dec;63(617):e829–41. doi:10.3399/bjgp13X675412
19. De Zoete RMJ. Exercise Therapy for Chronic Neck Pain: Tailoring Person-Centred Approaches within Contemporary Management. *J Clin Med.* 2023 Nov 15;12(22):7108. doi:10.3390/jcm12227108
20. Lau R, Stevenson F, Ong BN, Dziedzic K, Treweek S, Eldridge S, et al. Achieving change in primary care—effectiveness of strategies for improving implementation of complex interventions: systematic review of reviews. *BMJ Open.* 2015 Dec;5(12):e009993. doi:10.1136/bmjopen-2015-009993
21. George NC, Radman D, Zomahoun HTV, Boivin A, Ahmed S. Linkages between health systems and communities for chronic care: a scoping review protocol. *BMJ Open.* 2022 Aug;12(8):e060430. doi:10.1136/bmjopen-2021-060430
22. Vaughn LM, Jones JR, Booth E, Burke JG. Concept mapping methodology and community-engaged research: A perfect pairing. *Eval Program Plann.* 2017 Feb;60:229–37. doi:10.1016/j.evalprogplan.2016.08.013
23. L. Allen M, Schaleben-Boateng D, Davey CS, Hang M, Pergament S. Concept Mapping as an Approach to Facilitate Participatory Intervention Building. *Prog Community Health Partnersh Res Educ Action.* 2015 Dec;9(4):599–608. doi:10.1353/cpr.2015.0076
24. Burke JG, O'Campo P, Peak GL, Gielen AC, McDonnell KA, Trochim WMK. Pearls, Pith, and Provocation. An Introduction to Concept Mapping as a Participatory Public Health Research Method. *Qual Health Res.* 2005;15(10):1392–410. doi:10.1177/1049732305278876
25. Maxwell C, Salsberg J, Robinson K, Desmeules F, Lowry V, Tetreault C, et al. Fostering Adherence to Evidence-Based Care in the Management of Musculoskeletal Shoulder Pain: A Mixed-Methods Study. *Phys Ther.* 2025 Mar 3;105(3):pzae176. doi:10.1093/ptj/pzae176
26. Tovinn MM, Wormley ME. Systematic Development of Standards for Mixed Methods Reporting in Rehabilitation Health Sciences Research. *Phys Ther.* 2023 Nov 4;103(11):pzad084. doi:10.1093/ptj/pzad084
27. Rosas SR, Kane M. Quality and rigor of the concept mapping methodology: A pooled study analysis. *Eval Program Plann.* 2012 May;35(2):236–45. doi:10.1016/j.evalprogplan.2011.10.003
28. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—A metadata-driven methodology and workflow

- process for providing translational research informatics support. *J Biomed Inform.* 2009 Apr;42(2):377–81. doi:10.1016/j.jbi.2008.08.010
29. Harris PA, Taylor R, Minor BL, Elliott V, Fernandez M, O’Neal L, et al. The REDCap consortium: Building an international community of software platform partners. *J Biomed Inform.* 2019;95:103208. doi:10.1016/j.jbi.2019.103208
 30. Bar H, Mentch L. R-CMap—An open-source software for concept mapping. *Eval Program Plann.* 2017 Feb;60:284–92. doi:10.1016/j.evalprogplan.2016.08.018
 31. Schafer JL, Graham JW. Missing data: Our view of the state of the art. *Psychol Methods.* 2002;7(2):147–77. doi:10.1037/1082-989X.7.2.147
 32. Jensen MP, Turner JA, Romano JM, Fisher LD. Comparative reliability and validity of chronic pain intensity measures: *Pain.* 1999 Nov;83(2):157–62. doi:10.1016/S0304-3959(99)00101-3
 33. Silveira AMC, Comachio J, Mesa-Castrillon C, Roberts K, Beckenkamp P, Ho EK, et al. My Back Exercise app: an automated exercise intervention supported by educational notifications, a sleep programme and diet advice to improve function in people with chronic non-specific low back pain – protocol for a superiority, adaptive multi-arm multi-stage randomised controlled trial. *BMJ Open.* 2025 Aug;15(7):e098324. doi:10.1136/bmjopen-2024-098324
 34. Treede RD, Rief W, Barke A, Aziz Q, Bennett MI, Benoliel R, et al. A classification of chronic pain for ICD-11. *Pain.* 2015 Jun;156(6):1003–7. doi:10.1097/j.pain.0000000000000160
 35. Slade S, Patel S, Underwood M, Keating J. What are patient beliefs and perceptions about exercise for non-specific chronic low back pain: a systematic review of qualitative research. *Physiotherapy.* 2015 May;101:e1407. doi:10.1016/j.physio.2015.03.1359
 36. Booth J, Moseley GL, Schiltenswolf M, Cashin A, Davies M, Hübscher M. Exercise for chronic musculoskeletal pain: A biopsychosocial approach. *Musculoskeletal Care.* 2017;15(4). doi:10.1002/msc.1191
 37. Bova G, De Paepe AL, Nicholson KM, Wandner LD, Pogatzki-Zahn EM. Moving beyond pain intensity as the primary outcome measure: the INTEGRATE pain framework and beyond. *Pain.* 2025 Nov;166(11S):S91–4. doi:10.1097/j.pain.00000000000003714
 38. Geurts JW, Willems PC, Lockwood C, Van Kleef M, Kleijnen J, Dirksen C. Patient expectations for management of chronic non-cancer pain: A systematic review. *Health Expect.* 2017 Dec;20(6):1201–17. doi:10.1111/hex.12527
 39. Shaikh M, Hapidou EG. Factors involved in patients’ perceptions of self-improvement after chronic pain treatment. *Can J Pain.* 2018 Jan 1;2(1):145–57. doi:10.1080/24740527.2018.1476821
 40. Mbarga J, Favre C, Ribeiro C, Pichonnaz C, Ancey C, Foley R -A., et al. Beyond activity patterns: The complex process of activity management among individuals with chronic musculoskeletal pain after an orthopaedic trauma. *Eur J Pain.* 2024 Aug;28(7):1127–43. doi:10.1002/ejp.2246
 41. Moseley GL, Butler DS. Fifteen Years of Explaining Pain: The Past, Present, and Future. *J Pain.* 2015;16(9):807–13. doi:10.1016/j.jpain.2015.05.005
 42. Lorimer Moseley G, Leake HB, Beetsma AJ, Watson JA, Butler DS, Van Der Mee A, et al. Teaching Patients About Pain: The Emergence of Pain Science Education, its Learning Frameworks and Delivery Strategies. *J Pain.* 2024 May;25(5):104425. doi:10.1016/j.jpain.2023.11.008
 43. King R, Robinson V, Ryan CG, Martin DJ. An exploration of the extent and nature of reconceptualisation of pain following pain neurophysiology education: A

- qualitative study of experiences of people with chronic musculoskeletal pain. *Patient Educ Couns*. 2016 Aug;99(8):1389–93. doi:10.1016/j.pec.2016.03.008
44. King R, Robinson V, Elliott-Button HL, Watson JA, Ryan CG, Martin DJ. Pain Reconceptualisation after Pain Neurophysiology Education in Adults with Chronic Low Back Pain: A Qualitative Study. *Pain Res Manag*. 2018 Sep 12;2018:1–10. doi:10.1155/2018/3745651
 45. Lin L, Lin T, Chang K, Wu W, Özçakar L. Pain neuroscience education for reducing pain and kinesiophobia in patients with chronic neck pain: A systematic review and meta-analysis of randomized controlled trials. *Eur J Pain*. 2023 Sep 11;ejp.2182. doi:10.1002/ejp.2182
 46. Moore AJ, Holden MA, Foster NE, Jinks C. Therapeutic alliance facilitates adherence to physiotherapy-led exercise and physical activity for older adults with knee pain: a longitudinal qualitative study. *J Physiother*. 2020 Jan;66(1):45–53. doi:10.1016/j.jphys.2019.11.004
 47. Babatunde F, MacDermid J, MacIntyre N. Characteristics of therapeutic alliance in musculoskeletal physiotherapy and occupational therapy practice: a scoping review of the literature. *BMC Health Serv Res*. 2017 Dec;17(1):375. doi:10.1186/s12913-017-2311-3
 48. Hoffmann T, Bakhit M, Michaleff Z. Shared decision making and physical therapy: What, when, how, and why? *Braz J Phys Ther*. 2022 Jan;26(1):100382. doi:10.1016/j.bjpt.2021.100382
 49. Hutting N, Caneiro JP, Ong'wen OM, Miciak M, Roberts L. Patient-centered care in musculoskeletal practice: Key elements to support clinicians to focus on the person. *Musculoskelet Sci Pract*. 2022 Feb;57:102434. doi:10.1016/j.msksp.2021.102434
 50. Strengthening relational continuity in primary care in Spain: key insights and recommended policy actions [Internet]. Copenhagen: WHO Regional Office for Europe; 2025. Available from: https://www.sanidad.gob.es/areas/calidadAsistencial/estrategias/atencionPrimaria/docs/Strengthening_relational_continuity_in_primary_care_in_Spain_key_insights_and_recommended_policy_actions.pdf?utm_source=
 51. Gilanyi YL, Shah B, Cashin AG, Gibbs MT, Bellamy J, Day R, et al. Barriers and enablers to exercise adherence in people with nonspecific chronic low back pain: a systematic review of qualitative evidence. *Pain*. 2024 Oct;165(10):2200–14. doi:10.1097/j.pain.0000000000003234
 52. Fernandez-Lazaro CI, García-González JM, Adams DP, Fernandez-Lazaro D, Mielgo-Ayuso J, Caballero-Garcia A, et al. Adherence to treatment and related factors among patients with chronic conditions in primary care: a cross-sectional study. *BMC Fam Pract*. 2019 Dec;20(1):132. doi:10.1186/s12875-019-1019-3
 53. Huffman A, S. Culbertson S, B. Henning J, Goh A. Work-family conflict across the lifespan. Hertel, Béatrice I.J.M. Van Der Hei G, editor. *J Manag Psychol*. 2013 Nov 4;28(7/8):761–80. doi:10.1108/JMP-07-2013-0220

Figures

Figure 1. Steps of Concept Mapping and the main activities involved in each step

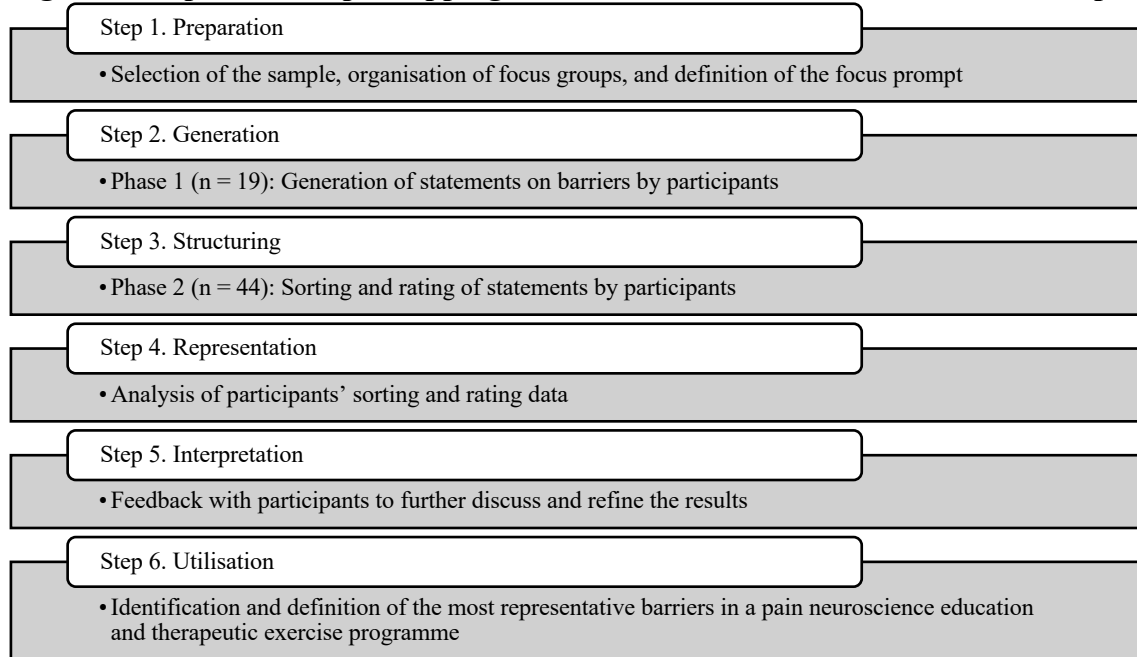
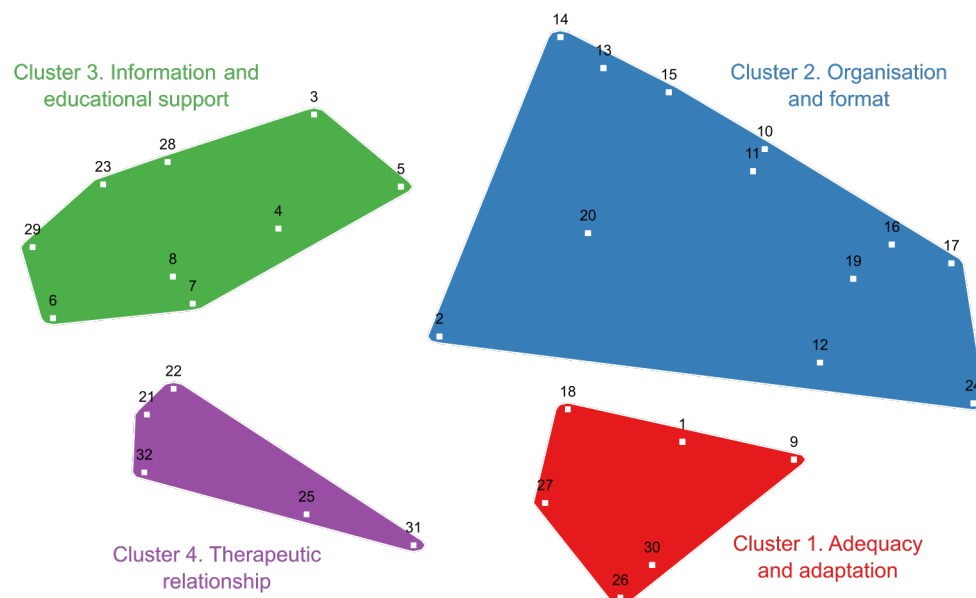
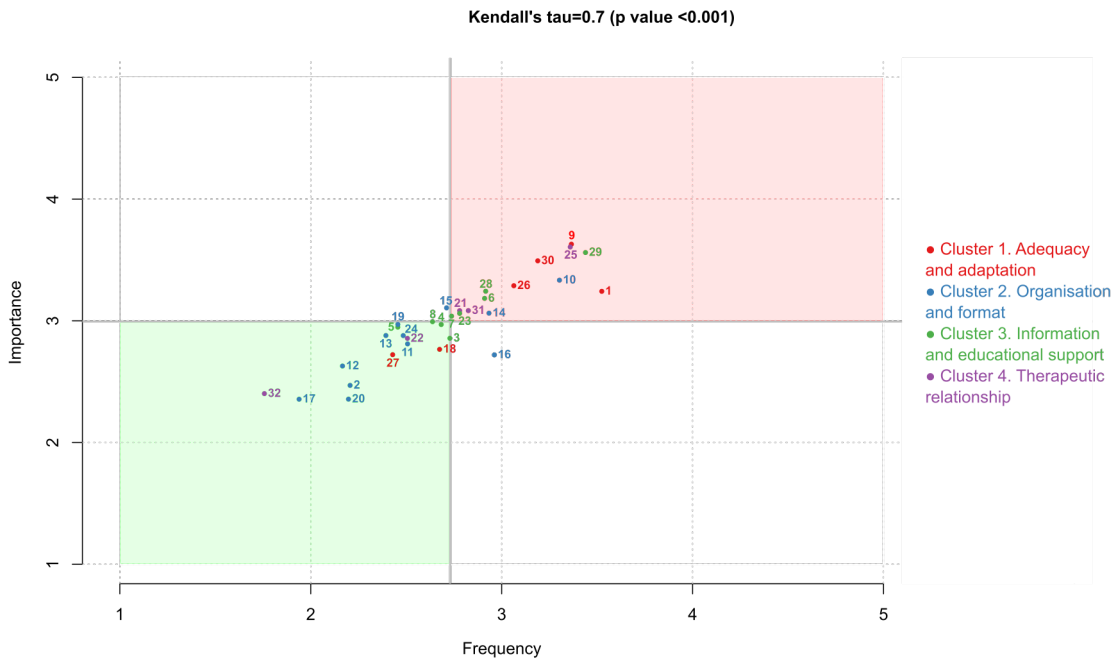


Figure 2. Cluster map of patient-perceived barriers to adhering to a group-based combined pain neuroscience education and therapeutic exercise programme



Note. The four clusters comprise a total of 32 statements generated during the brainstorming session (Step 2: Generation; Phase 1). The numbering within each cluster corresponds to the individual statements. Cluster labels were derived from participants' proposed titles. Statements located closer together indicate greater conceptual similarity, whereas those positioned farther apart indicate lower relatedness. This spatial distribution reflects the individual sorting performed by participants (Step 3: Structuring; Phase 2).

Figure 3. Go-zone scatterplot of the statements according to mean importance and frequency ratings



Note. The scatterplot displays the importance and frequency ratings of statements identified as barriers to implementing the pain neuroscience education and therapeutic exercise programme, based on participants' evaluations. The lower-left quadrant includes factors rated below the mean for both importance and frequency, whereas the upper-right quadrant includes factors rated above the mean for both dimensions.

Tables

Table 1. Baseline sociodemographic and clinical characteristics of participants

	Phase 1 (n = 19) n (%) or mean (SD)	Phase 2 (n = 44) n (%) or mean (SD)	Total (n = 63) n (%) or mean (SD)	p value
Gender				1.00
Women	13 (68.42)	31 (70.45)	44 (69.84)	
Men	6 (31.58)	13 (29.55)	19 (30.16)	
Age group				0.57
30-39 years	0 (0.00)	4 (9.09)	4 (6.35)	
40-49 years	6 (31.58)	10 (22.73)	16 (25.40)	
50-59 years	6 (31.58)	9 (20.45)	15 (23.81)	
60-69 years	4 (21.05)	14 (31.82)	18 (28.57)	
≥70 years	3 (15.79)	7 (15.91)	10 (15.87)	
Origin				0.38
Native	15 (78.95)	28 (63.64)	43 (68.25)	
Non-native	4 (21.05)	16 (36.36)	20 (31.75)	
Educational level				0.88
Primary education	5 (26.32)	14 (31.82)	19 (30.16)	
Secondary education	10 (52.63)	22 (50.00)	32 (50.79)	
University education	4 (21.05)	8 (18.18)	12 (19.05)	
Employment status				0.99
Employed	8 (42.11)	19 (43.18)	27 (42.86)	
Unemployed	2 (10.53)	5 (11.36)	7 (11.11)	
Retired	4 (21.05)	10 (22.73)	14 (22.22)	
Permanent disability	3 (15.79)	5 (11.36)	8 (12.70)	
Homemaker	0 (0.00)	1 (2.27)	1 (1.59)	
Other	2 (10.53)	4 (9.09)	6 (9.52)	
Proficiency in the local language				0.28
Very low	2 (10.53)	2 (4.55)	4 (6.35)	
Low	0 (0.00)	3 (6.82)	3 (4.76)	
Intermediate	0 (0.00)	5 (11.36)	5 (7.94)	
High	2 (10.53)	8 (18.18)	10 (15.87)	
Very high	15 (78.95)	26 (59.09)	41 (65.08)	
Household composition				0.92
Nuclear family (parents and children)	9 (47.37)	17 (38.64)	26 (41.27)	
Single-parent family	4 (21.05)	8 (18.18)	12 (19.05)	
Couple without children	2 (10.53)	8 (18.18)	10 (15.87)	
Living alone	4 (21.05)	9 (20.45)	13 (20.63)	
Other	0 (0.00)	2 (4.55)	2 (3.17)	
Net annual household income				0.96
<10,000 €	2 (10.53)	5 (11.36)	7 (11.11)	
10,001-20,000 €	10 (52.63)	26 (59.09)	36 (57.14)	

20,001-30,000 €	4 (21.05)	7 (15.91)	11 (17.46)	
30,001-40,000 €	2 (10.53)	3 (6.82)	5 (7.94)	
>40,000 €	1 (5.26)	3 (6.82)	4 (6.35)	
Religious/spiritual beliefs				0.60
None	11 (57.89)	22 (50.00)	33 (52.38)	
Yes	8 (42.11)	22 (50.00)	30 (47.62)	
Trust in the local healthcare system				0.97
Very low	1 (5.26)	2 (4.55)	3 (4.76)	
Low	2 (10.53)	3 (6.82)	5 (7.94)	
Intermediate	7 (36.84)	15 (34.09)	22 (34.92)	
High	5 (26.32)	13 (29.55)	18 (28.57)	
Very high	4 (21.05)	11 (25.00)	15 (23.81)	
Pain intensity				0.80
NPRS, 0-10	5.53 (2.37)	5.36 (2.23)	5.41 (2.25)	
Programme attendance				1.00
<70%	5 (26.32)	13 (29.55)	18 (28.57)	
≥70%	14 (73.68)	31 (70.45)	45 (71.43)	

Note. NPRS: Numeric Pain Rating Scale. SD: standard deviation. p values correspond to two-sided Fisher's exact tests for categorical variables and an independent-samples t-test for pain intensity.

Table 2. Statements, clusters and their ratings according to importance (1 = very low; 5 = very high) and frequency (1 = never; 5 = always)

ID	Statement	Importance		Frequency	
		Mean	DE	Mean	DE
	Cluster 1: Adequacy and adaptation	3.20	1.42	3.05	1.52
1	Performing generic exercises for the entire group, without individual adaptation	3.25	1.46	3.52	1.65
9	Little variability and progression of exercises	3.64	1.20	3.36	1.48
18	Diversity of health problems or different ways of experiencing pain within the group	2.77	1.46	2.69	1.50
26	Feeling pain during the treatment or the days after	3.30	1.36	3.08	1.44
27	Carrying out therapeutic activities that do not provide a clear benefit	2.73	1.52	2.44	1.40
30	Not feeling any improvement over the course of the sessions	3.50	1.36	3.20	1.46
	Cluster 2: Organisation and format	2.81	1.49	2.54	1.43
2	Lack of knowledge and guidance on the proper execution of the exercises	2.48	1.42	2.20	1.34
10	Programme with few sessions	3.34	1.29	3.32	1.29
11	Short-duration sessions	2.82	1.42	2.52	1.41
12	Little time for exercise during sessions	2.64	1.42	2.18	1.13
13	Session schedules hardly compatible with personal or family life	2.89	1.54	2.41	1.50
14	Extended referral time to the programme	3.07	1.45	2.95	1.43
15	Lack of options to reschedule missed sessions	3.11	1.53	2.73	1.44
16	Loss of group members throughout the sessions	2.73	1.48	2.98	1.49
17	Too large groups	2.36	1.56	1.95	1.28

19	Group environment	2.98	1.56	2.47	1.55
20	Language used in sessions (not one's own)	2.36	1.69	2.21	1.62
24	Inadequate space or materials	2.89	1.37	2.50	1.25
Cluster 3: Information and educational support		3.10	1.46	2.81	1.52
3	Not having guidance material to check at home	2.86	1.50	2.73	1.70
4	Lack of post-programme guidance	2.98	1.50	2.68	1.60
5	Lack of information about the programme and the content of the sessions	2.95	1.46	2.45	1.35
6	Lack of information about the diagnosis made by the medical professional	3.19	1.41	2.91	1.49
7	Lack of theoretical/pedagogical content to understand the actions carried out in the rehabilitation programme	3.05	1.54	2.74	1.51
8	Lack of individualised explanations	3.00	1.57	2.64	1.59
23	Few opportunities to express how the intervention is experienced	3.07	1.34	2.80	1.44
28	Lack of multidisciplinary approach	3.25	1.45	2.93	1.42
29	Lack of follow-up after treatment by the referring professionals	3.57	1.40	3.45	1.47
Cluster 4: Therapeutic relationship		3.01	1.48	2.66	1.46
21	Trust in healthcare professionals	3.09	1.61	2.80	1.56
22	Lack of effective communication between professional and patient	2.86	1.52	2.52	1.37
25	Absence of other therapeutic options to complement the treatment	3.61	1.28	3.37	1.46
31	Not meeting initial expectations	3.09	1.33	2.84	1.35
32	Change of professionals throughout the sessions	2.41	1.45	1.77	1.10

Table 3. Statements, clusters and their mean scores according to importance (1 = very low; 5 = very high) and frequency (1 = never; 5 = always) across subgroups

		Mean importance								Mean frequency							
		Gender		Age group		Origin		Attendance		Gender		Age group		Origin		Attendance	
		Men	Women	Older adults	Younger adults	Native	Non-native	≥70%	<70%	Men	Women	Older adults	Younger adults	Native	Non-native	≥70%	<70%
Cluster 1: Adequacy and adaptation																	
1	Performing generic exercises for the entire group, without individual adaptation	3,2	3,3	2,9	3,6	3,3	3,1	3,3	3,2	3,4	3,6	3,1	3,9	3,5	3,6	3,5	3,7
9	Little variability and progression of exercises	4,2	3,4	3,5	3,7	3,7	3,6	3,7	3,5	3,2	3,4	3,1	3,6	3,5	3,1	3,2	3,7
18	Diversity of health problems or different ways of experiencing pain within the group	2,9	2,7	2,4	3,1	2,7	2,9	2,8	2,8	2,7	2,7	2,5	2,8	2,7	2,8	2,6	2,9
26	Feeling pain during the treatment or the days after	2,9	3,5	2,7	3,8	3,2	3,4	3,1	3,8	2,8	3,2	2,5	3,6	2,9	3,4	2,9	3,5
27	Carrying out therapeutic activities that do not provide a clear benefit	2,3	2,9	2,3	3,1	2,8	2,6	2,6	2,9	2,2	2,6	2,3	2,6	2,6	2,1	2,2	3,0
30	Not feeling any improvement over the course of the sessions	3,4	3,5	3,1	3,9	3,6	3,3	3,4	3,7	3,3	3,2	2,9	3,5	3,4	2,8	3,0	3,6
Cluster 2: Organisation and format																	
2	Lack of knowledge and guidance on the proper execution of the exercises	2,4	2,5	2,4	2,5	2,3	2,8	2,2	3,2	2,0	2,3	2,1	2,3	1,9	2,7	1,8	3,1
10	Programme with few sessions	3,5	3,3	2,9	3,7	3,1	3,8	3,4	3,2	3,2	3,4	2,9	3,7	3,1	3,8	3,4	3,2
11	Short-duration sessions	2,7	2,9	2,3	3,3	2,7	3,1	2,9	2,6	2,5	2,5	2,3	2,7	2,5	2,5	2,6	2,3
12	Little time for exercise during sessions	2,8	2,6	2,5	2,7	2,8	2,4	2,6	2,6	2,2	2,2	2,0	2,3	2,3	2,1	2,1	2,4
13	Session schedules hardly compatible with personal or family life	2,3	3,1	2,3	3,4	2,6	3,4	2,8	3,1	1,8	2,7	1,8	3,0	2,1	3,0	2,2	2,9
14	Extended referral time to the programme	2,6	3,3	2,5	3,6	3,0	3,3	3,1	3,1	2,2	3,3	2,4	3,4	2,9	3,1	2,9	3,2
15	Lack of options to reschedule missed sessions	2,6	3,3	2,9	3,3	2,8	3,7	3,0	3,4	2,1	3,0	2,7	2,8	2,6	3,0	2,6	3,0
16	Loss of group members throughout the sessions	3,1	2,6	2,9	2,6	2,9	2,4	2,9	2,3	2,7	3,1	2,9	3,0	2,9	3,1	3,0	3,0
17	Too large groups	1,5	2,7	2,0	2,7	2,2	2,6	2,2	2,8	1,5	2,1	1,9	2,0	1,8	2,2	1,7	2,5
19	Group environment	2,7	3,1	2,6	3,3	2,9	3,1	2,8	3,4	2,3	2,5	2,2	2,7	2,4	2,6	2,3	2,8

20	Language used in sessions (not one's own)	1,8	2,6	2,1	2,6	2,3	2,4	2,2	2,8	1,6	2,5	2,0	2,4	2,1	2,4	2,1	2,5
24	Inadequate space or materials	2,6	3,0	2,6	3,2	2,8	3,1	2,8	3,1	2,5	2,5	2,3	2,7	2,6	2,4	2,4	2,8
Cluster 3: Information and educational support																	
3	Not having guidance material to check at home	2,6	3,0	2,6	3,1	3,0	2,6	2,7	3,2	2,0	3,0	2,3	3,1	2,9	2,4	2,4	3,5
4	Lack of post-programme guidance	2,6	3,1	2,6	3,3	3,1	2,8	2,8	3,3	2,5	2,8	2,5	2,8	2,7	2,6	2,6	2,9
5	Lack of information about the programme and the content of the sessions	2,7	3,1	2,8	3,1	2,8	3,3	2,7	3,5	2,2	2,5	2,2	2,7	2,4	2,6	2,0	3,5
6	Lack of information about the diagnosis made by the medical professional	3,4	3,1	2,7	3,6	3,1	3,4	3,1	3,3	3,3	2,7	2,7	3,1	2,8	3,1	2,7	3,4
7	Lack of theoretical/pedagogical content to understand the actions carried out in the rehabilitation programme	2,8	3,1	2,6	3,5	3,0	3,1	2,9	3,4	2,8	2,7	2,6	2,9	2,9	2,4	2,4	3,5
8	Lack of individualised explanations	2,8	3,1	2,5	3,5	3,0	3,1	2,8	3,4	2,2	2,8	2,1	3,1	2,7	2,5	2,4	3,2
23	Few opportunities to express how the intervention is experienced	3,2	3,0	2,8	3,3	2,9	3,4	3,0	3,2	2,7	2,8	2,6	3,0	3,0	2,5	2,7	3,0
28	Lack of multidisciplinary approach	3,5	3,1	3,0	3,5	3,4	3,1	3,3	3,2	2,8	3,0	2,7	3,2	3,0	2,8	2,7	3,5
29	Lack of follow-up after treatment by the referring professionals	3,4	3,6	3,3	3,8	3,6	3,4	3,6	3,5	3,0	3,6	3,0	3,9	3,5	3,3	3,3	3,8
Cluster 4: Therapeutic relationship																	
21	Trust in healthcare professionals	2,5	3,4	2,5	3,7	2,9	3,4	3,1	3,1	2,5	2,9	2,3	3,2	2,8	2,9	2,7	2,9
22	Lack of effective communication between professional and patient	2,2	3,1	2,4	3,3	2,7	3,1	2,7	3,2	2,2	2,7	2,2	2,8	2,6	2,4	2,3	3,0
25	Absence of other therapeutic options to complement the treatment	3,5	3,6	3,2	4,0	3,5	3,9	3,6	3,6	3,5	3,3	3,0	3,7	3,1	3,8	3,2	3,7
31	Not meeting initial expectations	3,0	3,1	2,8	3,4	3,0	3,3	3,1	3,1	2,8	2,8	2,7	3,0	2,9	2,8	2,7	3,2
32	Change of professionals throughout the sessions	2,2	2,5	2,2	2,6	2,3	2,7	2,3	2,8	1,8	1,8	1,8	1,7	1,9	1,6	1,6	2,2
<i>Note. Values correspond to the mean scores of each statement within each subgroup. Bold values indicate statistically significant differences between subgroups defined by each sample characteristic ($p < 0.05$).</i>																	