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Attitudes and beliefs towards low back pain (LBP) among physiotherapists in Spain

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Abstract

Background: The aim of this study is to investigate the attitudes and beliefs of Spanish physiotherapists towards the diagnosis and management of low back pain (LBP). A descriptive, cross-sectional study was conducted according to STROBE guidelines from December 18, 2021, to May 2022. An online survey was developed based on Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT), a reliable and validated self-administered instrument developed to assess the strength of two possible treatment orientations of physiotherapists towards the diagnosis and management of LBP. Respondents were selected through a non-probabilistic convenience sampling technique, and the selection criteria were (1) active physiotherapists with no restrictions on gender and length of service, (2) physical therapists who have worked in both public and private environments, and (3) physiotherapists who have been officially registered with no restriction on the place of practice in Spain. Survey data was obtained and analyzed using the SPSS Statistic 28 (IBM®) statistical software.

Results: Three hundred eighty-one questionnaires were finally included (F; $n=151$, M; $n=230$). In relation to the diagnosis, the respondents indicated that the tissue damage was sufficient to explain widespread and lasting pain, but rather that it was due to psychological factors. In addition, for those surveyed, the diagnosis should not focus exclusively on imaging tests but on clinical symptoms and signs. However, the weak relationship between objective damage and perceived pain intensity, as well as the weak relationship between posture and the development or worsening of LBP, did not seem to be clear to physiotherapists. From the point of view of treatment, we can indicate that professionals are committed to maintaining adequate and individualized physical activity as a first-line treatment in pain management.

Conclusions: Most physiotherapists in Spain have up-to-date knowledge of the biopsychosocial model of pain care. However, regarding attitudes and beliefs towards LBP, there are still contents and behaviors based on spine protective paradigms that are not conducive to active pain management.

Keywords: Attitudes, Beliefs, Low back pain, Physiotherapist, Spain

Background

Low back pain (LBP) is an inherently recurring disorder for which many explanations have been given [1]. Despite that many treatments targeting biological alterations frequently fail, clear explanations to it are difficult to find in the Western understanding of disease, where conceptualizations are often reduced to just a few causes.

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While definitive new conceptual of pain paradigms are yet to come, one of them is the so-called biopsychosocial approach [2, 3]. In it, in addition to assuming tissue damage as a cause of pain, it also considers the possible impact of patients' psychological and social status on painful perception [4].

This caring model has shown significant success in published studies such as the meta-analysis by Kamper et al. (2017) in which multidisciplinary biopsychosocial rehabilitation interventions were shown to be more effective than usual care in reducing pain and disability in people with chronic LBP [5].

However, the low rate of implementation of this paradigm in clinical practice means that physiotherapists' treatment decisions continue to be based on the physician's perspective and not on the patient's preference. Cultural aspects [6, 7], the type of academic training, previous work experience with similar cases, or the socio-economic background of the patient may be just some of the factors that encourage physiotherapists to choose certain treatment attitudes [8–10].

Within this theoretical framework, imaging studies are often requested by healthcare professionals with biomedical characteristics to advise on the specific cause of a patient's pain and rest to reduce tissue damage. Conversely, professionals imbued with the biopsychosocial care model and active pain management tend to work interdisciplinarily, developing therapeutic activities for patients that promote active self-caring [11].

In our context, published research examines the opinions and preferences of physicians or other health professionals when it comes to aligning their professional practice with biomedical or biopsychosocial paradigms [12]. However, we do not know the attitudes and beliefs of physiotherapists regarding the diagnosis and treatment of LBP. Furthermore, we did not have a descriptive cross-sectional study focused on examining the extent to which physiotherapists implemented the two models of back pain care in Spain.

Given the scientific interest in descriptive research to understand the knowledge and preferences of these professionals, we aimed to determine the attitudes and beliefs of Spanish physiotherapists regarding the diagnosis and treatment of LBP.

Methods

Study design

A descriptive cross-sectional study was conducted on the basis of an online survey in accordance with the STROBE guidelines in the period from December 18, 2021, to May 20, 2022. All study participants received information about the overall objectives of the study and informed

consent at the start of the study. The obtained data was saved in an anonymous database by the same researchers.

Participants

Inclusion and exclusion criteria

Participants were selected using a non-probabilistic convenient sampling technique based on the following selection criteria: (1) active physiotherapists with no restrictions because of gender and length of service, (2) physiotherapists who have worked in both public and private environments, and (3) physiotherapists who have been officially registered with no restriction on the place of practice in Spain.

Instrumentation

Survey design

Firstly, informed consent and a patient information sheet were issued, which had to be read and signed before responding to the questionnaire. Secondly, the survey contained questions about personal data, in which participants had to answer questions about gender, age, length of service, education level, type of employment status, type of employment contract, region of practice, and place of establishment. Thirdly, the Spanish version of the *Attitude and Belief Scale for Physiotherapists (PABS-PT)* was used to assess attitudes and beliefs about pain [13]. This is a validated questionnaire, originally developed in Dutch, which aims to measure the attitudes and beliefs of physiotherapists by distinguishing the two dominant treatment orientations in musculoskeletal care on two subscales, one of which represents biomedical treatment, and the second treatment is biopsychosocial orientation. Participants must answer on a scale of 0 to 6 based on their degree of agreement with the content of the question, with 0 being totally disagree and 6 being the maximum possible agreement.

Lastly, the questionnaire was distributed by the authors I.A., R.B., and L.L. from April 1, 2022, to July 10, 2022. Invitations were sent via email and instant messaging (*WhatsApp*), as well as via various social networks such as *Instagram*, *Facebook*, and *Twitter*. Finally, a communication was prepared and sent to the members of the *General Council of Physiotherapists* in Spain.

Registration of survey data

Similarly, various data logging was performed by E.A.S.R and M.D.S.R using the standardized data collection form of the SPSS Statistic 28 (IBM®) statistical software. which allowed for the registration and storage of responses obtained in various forms of the survey. Ultimately, to limit the dumping error, the registration process was supervised by two investigators, R.B.B. and L.L.G.

Sample size determination

The sample size was calculated using the *G*Power* software (3.1.9.7; *Heinrich-Heine-Universität Düsseldorf*, Düsseldorf, Germany) considering the total known population based on data required from the General Council of Physiotherapists of Spain, which includes a total of 16,643 physiotherapists in Spain up to the date of this study. A confidence level of 95% with an error of 5% was considered, which meant that a total of 377 surveys had to be completed.

Ethical considerations

The Regional Ethics Committee of the *European University of Madrid* (Spain) reviewed and approved the study. Written consent from the physiotherapist was collected, but the Regional Ethics Committee of the European University of Madrid in Spain considered that the written consent of each physical therapist was not necessary as the intervention was at the practice level and each participating physiotherapist agreed to participate.

Statistical analysis

Statistical analysis was performed by I.M.P., E.A.S.R., and J.L.A.P. using the SPSS Statistic 28 (IBM®) statistical software. Firstly, a descriptive analysis of sociodemographic variables was performed calculating absolute and relative frequencies. Secondly, the centralization (*mean*) and dispersion (*standard deviation*) parameters were calculated for every question of the questionnaire. Finally, to summarize the data, two tables were created.

Results

Description of sample

A total of 381 questionnaires were analyzed and correctly filled in by the participants. 60.5% ($n = 230$) of male physiotherapists and 39.5% ($n = 151$) of women participated in the survey, of which almost half 45.4% ($n=173$) were young physiotherapists aged 20–30.

Moreover, as far as the professional experience of the participants is concerned, 51.4% of the sample ($n = 196$) had between 1 and 5 years of work experience, while only 22 respondents (5.7%) of the sample had more than 15 years of professional experience.

Most of the participants ($n=227$, 59.5%) had a bachelor's degree, while 141 (37%) had a master's degree and only 3.5% ($n=13$) were PhDs in physiotherapy. Regarding the employment relationship, most participants (63.2%) are currently working as employees and 28.9% are self-employed. Moreover, 74.2% ($n = 283$) worked full-time, and the rest $n = 98$ (25.8%) part-time. Finally, regarding the geographic location of respondents' jobs, most of them are concentrated in the urban areas of *Madrid*,

Catalonia, and the *Basque Country* ($n = 56.6%$), right behind other communities such as the *Canary Islands*, *Galicia*, *Andalusia*, *Murcia*, or *Castilla y Leon* with a mixed profile of the urban and rural establishment (see Table 1).

Main findings

Pain Attitudes and Beliefs Scale for Physiotherapists (PABS-PT) scores

Regarding the etiology of pain, respondents argued that they were not aware of the cause but indicated that tissue damage would explain inflammatory nociceptive pain,

Table 1 Sociodemographic characteristics of the sample

Variable	Frequency	Percentage
Gender		
Male	230	60.5%
Female	151	39.5%
Age		
20–30	173	45.4%
31–40	111	29.1%
41–50	76	19.9%
> 50 years	21	5.5%
Years of experience		
1–5	196	51.4%
6–10	92	21.1%
10–15	71	18.6%
>15 years	22	5.7%
Level of education		
BSc	227	59.5%
MSc	141	37%
PhD	13	3.5%
Type of employment status		
Employed	240	63.2%
Self-employed	141	28.9%
Type of employment contract		
Part-time	98	25.8%
Full-time	283	74.2%
Region of practice		
Andalusia	21	5.5%
Castilla y Leon	36	9.4%
Catalonia	81	21.2%
Galicia	30	7.8%
Canary Islands	68	17.8%
Madrid	79	20.7%
Murcia	12	3.1%
Basque Country	54	14.7%
Place of establishment		
Urban	221	58.0%
Rural	160	42.0%

but not pain that is long lasting and exceeds the topographical limits of objective change. Moreover, they concluded that the coexistence of psychological factors, such as mental stress, may be a sufficient cause of pain (5.1, SD = 0.7).

However, the weak relationship between objective damage and pain intensity did not appear clear among participants as it was indicated that increased pain indicated new tissue damage or spread of existing damage (4.1, SD=1.1). Moreover, the relationship between the mechanical cause of posture or movement as a trigger or perpetrator of pain is also unclear, as a significant number of participants indicated the need for correct posture to prevent pain from occurring 4.9 (0.9). Regarding the use of complementary imaging tests, a significant proportion of respondents 5.1 (0.8) noted their low value and rejected their use as a tool for the clinical diagnosis of patients suffering from pain.

From the point of view of treatment, we can indicate that professionals support the maintenance of adequate and individualized physical activity as the first-line treatment in pain management. Furthermore, respondents indicated that if the pain worsened, the intensity of the next procedure could not be increased (1.2, SD=1.1), but at the same time, they disagreed with the patient's recommendation not to exercise or avoid pain-causing tasks. In addition, many physiotherapists supported the use of TENS or spine corsets for the treatment of short-term and long-term pain (4.9, SD=0.9) (see Table 2).

Discussion

The aim of the study was to describe attitudes and beliefs about the diagnosis and therapeutic approach of LBP among Spanish physiotherapists. From an overview, participants showed a good level of current knowledge of the neurophysiology of pain and theoretical and practical content based on the biopsychosocial paradigm of care.

Moreover, participants agree with the conceptualization of LBP as a multicomponent disease in which physiotherapy as part of the healthcare providers plays a fundamental role in the treatment of symptoms but not in the treatment of etiology (2.9, SD = 0.4).

Furthermore, specialists recognize the interaction of not only biomedical but also psychological and social factors. In this sense, there is a consensus that the presence of mental stress (5.1, SD=0.7) or low self-efficacy (4.1; SD = 0.7) can change the way patients cope with the disease. This problem seems to have been discovered in similar studies, in which the physical therapist emphasizes the importance of the patient's individual factors in the ability to cope with LBP [14].

In addition, many disagree with the fact that there is no effective treatment for LBP (1.2; SD = 0.5), and most

advocate individualized exercise therapy that must be progressive and adapted according to symptoms. In addition, they also point out that the presence of pain during exercise is only an indicator that the load can be supported by the tissues but should in no case be interpreted as organic damage (2.1, SD=0.7) or a warning signal of tissue damage (3.5, SD = 0.6). In fact, they disagree with telling the patient that ADL is part of the problem (2.8, SD = 1.5) and that they should stop moving as soon as they feel pain.

Finally, we consider it a positive aspect that a significant proportion of respondents rethink their position regarding the value of the LBP imaging test, because, as many studies have shown, the poor correlation between the image and symptoms should not increase the test's value, especially in patients with prolonged pain [15].

As we noted, the practice against LBP by Spanish physiotherapists seems to be linked to contemporary standards of conceptualization and therapeutic approaches to this health problem with respect to clinical practice guidelines that suggest discarding isolation movement-based health models to restore it and go further and seek a change of lifestyle by mapping relevant biopsychosocial content for the patient that promotes awareness of the problem and self-care [16].

Despite the consistency of fully updated attitudes and beliefs, in some of the items analyzed, there are still questions related to the treatment options offered by the physiotherapist as well as misconceptions related to the vulnerability of the spine. The first example is the use of outdated treatments such as TENS or a spine brace to treat LBP in both the short and long term (4.9, SD = 0.9). Several publications, such as the latest clinical practice guide for the treatment of LBP, reject the use of these tools as the standard of high-quality care for this patient profile [17].

Another question that persists is the idea about the need to maintain an adequate posture to avoid or reduce the duration of the course of LBP symptoms. By the way, we think that professional education programs should be integrated to instruct them in the case of the impact that "good" posture has on the future of most mechanical LBP disorders whose origin is idiopathic [18, 19].

Only a few existing studies have dealt with or have asked such questions. There are no studies conducted in Spain to date that address this problem in a rational and comprehensive manner, trying to identify possible preferences for the biomedical model of care or for new biopsychosocial horizons. In fact, according to our work, we currently identify only a few studies, such as the Swiss group Christe et al. (2021) who indicated that physiotherapists had helpful beliefs and decisions consistent with the guidelines for LBP treatment, but unhelpful beliefs

Table 2 Pain Attitudes and Beliefs Scale for Physiotherapist (PABS-PT) scores

No.	Item	Mean (SD)
1	<i>Back pain sufferers should refrain from all physical activity in order to avoid injury</i>	4.4 (0.6)
2	<i>Good posture prevents back pain</i>	4.9 (0.9)
3	<i>Knowledge of the tissue damage is not necessary for effective therapy</i>	4.1 (1.1)
4	<i>Reduction of daily physical exertion is a significant factor in treating back pain</i>	2.5 (0.7)
5	<i>Not enough effort is made to find the underlying organic causes of back pain</i>	4.9 (0.5)
6	<i>Mental stress can cause back pain even in the absence of tissue damage</i>	5.1 (0.7)
7	<i>The cause of back pain is unknown</i>	2.8 (1.1)
8	<i>Unilateral physical stress is not a cause of back pain</i>	4.7 (0.3)
9	<i>Patients who have suffered back pain should avoid activities that stress the back</i>	5.1 (0.5)
10	<i>Pain is a nociceptive stimulus, indicating tissue damage</i>	3.1 (1.5)
11	<i>A patient suffering from severe back pain will benefit from physical exercise</i>	1.9 (2.1)
12	<i>Functional limitations associated with back pain are the result of psychosocial factors</i>	1.5 (0.7)
13	<i>The best advice for back pain is: "Take care" and "Make no unnecessary movements"</i>	3.9 (1.1)
14	<i>Patients with back pain should preferably practice only pain-free movements</i>	4.9 (0.9)
15	<i>Back pain indicates that there is something dangerously wrong with the back</i>	4.7 (1.0)
16	<i>The way patients view their pain influences the progress of the symptoms</i>	4.1 (0.7)
17	<i>Therapy may have been successful even if pain remains</i>	1.0 (1.9)
18	<i>Therapy can completely alleviate the functional symptoms caused by back pain</i>	3.0 (0.9)
19	<i>If ADL activities cause more back pain, this is not dangerous</i>	2.8 (1.5)
20	<i>Back pain indicates the presence of organic injury</i>	2.1 (0.7)
21	<i>Sport should not be recommended for patients with back pain</i>	3.1 (0.5)
22	<i>If back pain increases in severity, I immediately adjust the intensity of my treatment accordingly</i>	5.1 (0.9)
23	<i>If therapy does not result in a reduction in back pain, there is a high risk of severe restrictions in the long term</i>	2.1 (1.9)
24	<i>Pain reduction is a precondition for the restoration of normal functioning</i>	1.8 (1.9)
25	<i>Increased pain indicates new tissue damage or the spread of existing damage</i>	4.1 (1.1)
26	<i>It is the task of the physiotherapist to remove the cause of back pain</i>	2.9 (0.4)
27	<i>There is no effective treatment to eliminate back pain</i>	1.2 (0.5)
28	<i>TENS and/or back braces support functional recovery</i>	4.9 (0.9)
29	<i>Even if the pain has worsened, the intensity of the next treatment can be increased</i>	1.2 (1.1)
30	<i>If patients complain of pain during exercise, I worry that damage is being caused</i>	3.5 (0.6)
31	<i>The severity of tissue damage determines the level of pain</i>	4.1 (1.3)
32	<i>A rapid resumption of daily activities is an important goal of the treatment</i>	2.3 (0.9)
33	<i>Learning to cope with stress promotes recovery from back pain</i>	4.8 (0.5)
34	<i>Exercises that may be back straining should not be avoided during the treatment</i>	1.5 (0.9)
35	<i>In the long run, patients with back pain have a higher risk of developing spinal impairments</i>	4.0 (1.7)
36	<i>In back pain, imaging tests are unnecessary</i>	5.1 (0.8)

Answering alternatives: 1=totally disagree; 2=largely disagree; 3=disagree to some extent; 4=agree to some extent; 5=largely agree; 6=totally agree

about back protection and the special nature of LBP were present. Unfortunately, the use of a different measuring instrument (Back-PAQ result) and the fact that the obtained results belong to the Francophone area in Switzerland do not allow for an effective comparison of the obtained results [20]. Another study conducted among physiotherapists in Saudi Arabia related the survival of some passive and traditional treatments that are not recommended in clinical practice guidelines, suggesting the need for an educational program for professionals [21].

As previously indicated, professional education behaves as a key element in introducing new biopsychosocial paradigms of LBP care paradigms into clinical practice. Currently, new works such as Leysen et al. (2021) and Christe et al. (2021) found useless beliefs about back sensitivity and the need for protection among physiotherapy students and developed cross-sectional studies to evaluate changes in attitudes and beliefs during their training [22, 23].

Limitations

In our work, we have a representative sample of the population of physiotherapy specialists in Spain, but we believe it is necessary to increase the sample size to ensure the credibility of our claims. Moreover, almost half of our sample was made up of young physical therapists with little professional experience. In this sense, we believe that the results obtained may be altered by the last tendency of an important part of university physiotherapy study programs to include updated learning of pain biopsychosocial approach. Therefore, we have not made it clear enough about the attitudes and beliefs of the most experienced professionals who have left their studies the longest.

Finally, we must not forget about the great variability of the location of establishments and the socioeconomic working conditions of each professional. In this sense, we think that the abundance of academic training in LBP approaches in urban areas can create an updated professional profile, while in rural areas, partly due to the unavailability of university education, it can act as a key element in the survival of knowledge, attitudes, and beliefs which may not necessarily correspond to what is established in clinical practice guidelines. Moreover, patient preferences and the possibility of bearing the costs of long-term treatment may prevent a physiotherapist from implementing a low-cost therapeutic approach, even though it deviates from the scientific standards of health care.

Conclusions

Most physiotherapists in Spain have up-to-date knowledge of the biopsychosocial model of pain care. However, regarding attitudes and beliefs towards LBP, there are still contents and behaviors based on spine protective paradigms that are not conducive to active pain management.

Abbreviations

ADL: Activities of daily living; LBP: Low back pain; PABS-PT: Pain Attitudes and Beliefs Scale for Physiotherapists; TENS: Transcutaneous electrical nerve stimulation.

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Authors' contributions

Theoretical conceptualization, S.M.P. and E.A.S.R.; literature searching, L.L.G, I.A.A., and R.B.B; survey design, L.L.G, I.A.A., and R.B.B; conducted data collection, E.A.S.R and M.D.S.R.; statistical analysis, I.M.P., E.A.S.R., and J.L.A.P.; elaboration of the draft, S.M.P, L.L.G, I.A.A., and R.B.B; review, E.A.S.R., S.M.P., J.L.A.P., J.H.V. The authors read and approved the final manuscript.

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Availability of data and materials

Please contact the authors for data requests.

Declarations

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Competing interests

The authors declare that they have no competing interests.

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