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Original Research

People in Brazil hold unhelpful beliefs about low back pain: An online survey using the back pain attitudes questionnaire

Roberto Costa Krug [a,*], JP. Caneiro [b,c], Daniel Cury Ribeiro [b], Marcelo Faria Silva [a]

[a] Physical Therapy Department, Graduate Program in Rehabilitation Sciences, Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA), Porto Alegre, Rio Grande do Sul, Brazil
[b] Curtin School of Allied health, Curtin University, Perth, Australia
[c] Body Logic Physiotherapy, Shenton Park, Perth, Australia

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ABSTRACT

Background: Beliefs about low back pain (LBP) influence decisions about treatment, healthcare utilisation and engagement in valued activities. Beliefs in middle-income countries remain understudied.
Objectives: To explore beliefs about LBP in people with a history of LBP, no history of LBP, and with current LBP who live in a middle-income country (Brazil).
Methods: This is an online survey. Adults over 18 years of age living in Brazil, who currently experience LBP (current LBP), with a history of LBP, or with no history of LBP, were recruited. The Brazilian-Portuguese version of the Back Pain Attitudes Questionnaire (Back-PAQ-Br) was used to assess participants' beliefs about LBP. Back-PAQ-Br scores between the three groups were comparatively assessed using linear regression models.
Results: 433 participants were analysed in the study (mean age 44.7 ± 12.1 years). People in Brazil hold unhelpful beliefs about LBP (Back-PAQ-Br median score = 112, interquartile range (IQR): 101 to 120). The median and IQR for each group were: no history of LBP 111 (97.5; 119); history of LBP 110 (98; 118); and current LBP 116 (108; 123). People currently experiencing LBP hold more unhelpful beliefs than people with no history of LBP (mean difference = 6.14; 95 CI: 1.63, 10.64) and people with a history of LBP (mean difference = 5.32; 95 CI: 0.81, 9.84).
Conclusion: Participants from a middle-income country (Brazil) population hold unhelpful beliefs about LBP irrespective of their LBP status. However, people currently experiencing LBP hold more unhelpful beliefs.

Introduction

Low back pain (LBP) is the leading cause of disability worldwide.[1] In middle-income countries such as Brazil, the high prevalence of LBP leads to a substantial socio-economic burden, which largely relates to loss in productivity.[2] LBP has a multifactorial nature,[3,4] and psychosocial factors can influence how individuals experience and manage LBP, both through clinical care-seeking behavior and self-management.[4]

Beliefs about LBP influence decisions about treatment, healthcare utilisation and engagement in valued social, work and physical activities; thus affecting the development and persistence of LBP.[5,6] For instance, someone who believes their back is fragile may avoid movement and prioritize rest, potentially worsening their condition.[7,8] Unhelpful beliefs are linked to increased disability and higher rates of care-seeking among individuals with LBP.[9,10] Conversely, positive beliefs about the cause, consequences, and controllability of LBP are associated with better outcomes and a quicker return to meaningful activities.[11,12]

Understanding people's beliefs about LBP, including its causes, management, and prognosis, is crucial for informing the management of patients with LBP and primary care campaigns to prevent it. Studies explored the beliefs of people living with LBP in countries such as Argentina,[13] Australia,[14] Belgium,[15] Denmark,[16] New Zealand[17] and Switzerland.[18] Although extensive research has been conducted in high-income countries, evidence from middle-income settings is limited.[4,19,20] In Brazil, previous studies assessed LBP beliefs among healthcare professionals[21,22] and students[23] as well as among older adults.[24] Those studies did not include individuals who had experienced LBP in the past.[21–24]

Previous LBP experience may influence individuals' beliefs about

* Corresponding author.
E-mail address: rckrug.physio@gmail.com (R.C. Krug).

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1413-3555/© 2026 Associação Brasileira de Pesquisa e Pós-Graduação em Fisioterapia. Published by Elsevier España, S.L.U. All rights are reserved, including those for text and data mining, AI training, and similar technologies.

LBP. For example, individuals who experienced LBP but recovered could have adjusted their beliefs (e.g., that the back is not as vulnerable) and responded differently to it (e.g., engaging in physical activities rather than avoiding them). Improving our understanding of people's perceptions of LBP can inform and potentially improve care for LBP in Brazil. Hence, the primary aim of this study was to explore beliefs about LBP in people with current LBP, in people with a history of LBP, and in people with no history of LBP. The secondary aims were to: (a) compare the beliefs between these three groups; (b) assess specific beliefs about vulnerability and the need to protect the back. Our hypothesis is that in general, participants will hold unhelpful beliefs about the back.

Methods

Study design

This was an online exploratory cross-sectional survey conducted following the CROSS (Checklist for Reporting Of Survey Studies).[25] This study used a convenience sample. Participants were recruited in Brazil from May to December 2023. Recruitment occurred through social media and using contacts from the research group network. This project was approved by the Research Ethics Committee from the Universidade Federal de Ciências da Saúde de Porto Alegre (UFCSPA), Brazil, approval number 5.296.614/CAEE 56258021.7.0000.5345. Participants were asked for their informed consent and were informed that they could withdraw from the study at any time.

Participants

Participants were adults (≥18 years) residing in Brazil. To be eligible, they needed to be able to read, have internet access, and be living in Brazil at the time of participation. Participants were excluded if they had difficulty reading or understanding Brazilian Portuguese or using a computer. Participants' emails were collected to prevent the same user from submitting multiple responses.

Procedures

Participants completed an online demographic questionnaire via Google Forms, which collected data on age, sex (self-reported by participants and recorded as female or male), body measurements (height and body mass), occupation, education level, physical activity, and both the previous and current history of LBP. Body mass index (BMI) was calculated as body mass in kilograms divided by height in meters squared (kg/m^2). Following completion of the demographic questionnaire, participants completed a questionnaire about low back beliefs (i.e., the Back Pain Attitudes Questionnaire).[26]

To determine LBP status, participants were presented with a body diagram highlighting the area between the costal margin and the inferior gluteal folds. They were then asked to answer the following questions: 'Currently, do you have, or have you had, pain in your low back (in the area shown in the diagram)?' Participants who answered "yes" were further asked: 'Is/Was the pain bad enough to limit/modify your activities, or daily routine, for more than one day? (e.g., taking pain medication, seeking healthcare, altering posture, disturbing sleep, or modifying physical activity or work hours).' Based on their responses, participants were categorized into one of three groups. Participants reporting low back pain at the time of the survey and who reported having limited or modified activities for more than one day were classified as people with *current LBP*. Participants who reported previous episodes of LBP that had limited or modified activities for more than one day, but who did not report pain at the time of the survey, were classified as people with a *history of LBP*. Participants who reported never having experienced LBP that limited or modified activities for more than one day were classified as people with *no history of LBP*. This classification was adapted from the definition of LBP by Dionne et al. (2008).[27]

Survey instruments

Back pain attitudes questionnaire

The Back-PAQ was designed to evaluate beliefs about the back among the general public, individuals with LBP, and healthcare professionals.[17] The Back-PAQ was cross-culturally adapted into Brazilian-Portuguese (Back-PAQ-Br) and has excellent internal consistency ($\alpha = 0.92$, confidence interval (CI) 0.91–0.92) as well as good construct validity (supplementary material – Appendix A).[28]

The Back-PAQ-Br is available in both a long version (34 items) and a short version (10 items). In this study, the long version was utilized. Each item is rated on a 5-point Likert scale, ranging from 'False' to 'True' with intermediate options labelled as 'Possibly False,' 'Unsure,' and 'Possibly True.' Responses are scored from 1 (False) to 5 (True), with 11 items being reverse scored (items 1, 2, 3, 15, 16, 17, 27, 28, 29, 30, and 31). The total score ranges from 34 to 170 points, with higher scores suggesting unhelpful beliefs. The questionnaire assesses five dimensions related to the back: (1) vulnerability of the back, (2) the relationship between back pain and injury, (3) activity participation during back pain, (4) psychological influences on back pain, and (5) prognosis of back pain.[26]

A subscale (Back-PAQ-Br_{Danger}) developed by Caneiro et al.[29] was also used in this study. This subscale consists of items 1–12, 14, and 21, which assess individuals' perceptions of "vulnerability" and "protection" of the back. The term 'danger' captures the overarching theme of perceived threat or harm associated with back-related activities, as this subscale assesses beliefs about the back being fragile, easily injured, or in need of safeguarding.[29] Scores range from 14 to 70, with higher scores indicating a perception that the back is vulnerable and requires protection.[29]

Statistical analysis

Data distributions were analysed using histogram charts. Data that were normally distributed are presented as mean and standard deviation, whereas data that were not normally distributed are presented as medians and interquartile ranges (IQRs). For comparisons of demographic and Back-PAQ-Br data between groups, Chi-square tests with adjusted standardized residuals and the Kruskal-Wallis test with Dunn post hoc test were used for multiple comparisons. Those analyses were conducted using the Statistical Package for the Social Sciences (SPSS), version 19.0.

We assessed differences in Back-PAQ-Br and Back-PAQ-Br_{danger} between the three groups (people with current LBP, people with a history of LBP, and people with no history of LBP) using linear regression models. We implemented separate linear regression models for each outcome. In each model, all covariates (age, sex, BMI, profession, education, and physical activity) were included simultaneously. Model assumptions, including the normality of residuals and homoscedasticity, were visually inspected for each outcome using Q-Q plots and histograms. Alpha was set at 0.05. We conducted one separate linear regression model for each outcome measure (i.e., Back-PAQ-Br and Back-PAQ-Br_{danger}). We implemented those analyses using R.[30]

To identify the most strongly endorsed unhelpful beliefs, we first adjusted the scores for the 11 reverse-scored items (1, 2, 3, 15, 16, 17, 27, 28, 29, 30, and 31) so that a higher score consistently represented a more unhelpful belief.[28] Only after this adjustment were item-level means calculated to identify the top five unhelpful beliefs.

Sample size estimation

Given that no minimal clinically important difference is available for Back-PAQ-Br, we adopted an effect size of $f = 0.20$, as suggested by Brysbaert.[31] When estimating the sample size, we assumed an effect size measure of $f = 0.20$, which corresponds to Cohen's $d = 0.4$, a significance level of 0.05, a power of 90%, and 3 groups analysed. This effect size was chosen as a conservative estimate for detecting

small-to-moderate between-group differences, ensuring the study was sufficiently powered to identify meaningful associations within the sampled population.[31] We estimated the sample size using the G*Power 3.1.9.7 software. As a result, a minimum of 321 participants (107 per group) was needed.

Results

Demographics

There were 435 participants included in the study. Two participants were excluded because they were under 18 years old. Therefore, data from 433 participants were analysed in the study (mean age 44.7 ± 12.1 years; range: 18–82). Participants' sociodemographic data are provided in Table 1.

There were no differences between groups for age ($p = 0.086$), sex ($p = 0.182$), and education level ($p = 0.128$). People with no history of LBP had a lower body mass index than those with current LBP ($p < 0.001$); however, the effect size was small ($\eta^2 = 0.031$) and not clinically meaningful (Table 2). Participants with current LBP had a mean pain intensity of 6.8 (±1.7) on a scale from 0 to 10; 10 (8%) participants had pain for <3 months, and 115 (92%) had pain for longer than 3 months (Table 1).

Table 1
Descriptive characteristics of participants (n = 433).

Demographic characteristic	All participants 433 (100%)	No history of LBP 153 (35.3%)	History of LBP 155 (35.8%)	Current LBP 125 (28.9%)
Female n (%)	283 (65.3%)	100 (65.4%)	94 (60.6%)	89 (71.2%)
BMI *(kg/m2)*, (IQR)	25.2 (23.1; 28.7)	24.7 (22.2; 27.4)	25.4 (23.5; 28.7)	27.0 (24.2; 30.2)
Occupation				
– Healthcare professional	122 (28.2%)	42 (27.5%)	58 (37.4%)	22 (17.6%)
– Manual labour	13 (3.0%)	4 (2.6%)	3 (1.9%)	6 (4.8%)
– Student	16 (3.7%)	7 (4.6%)	8 (5.2%)	1 (0.8%)
– Office worker	243 (56.1%)	87 (56.9%)	78 (50.3%)	78 (62.4%)
– retired	24 (5.5%)	10 (6.5%)	6 (3.9%)	8 (6.4%)
– others	15 (3.5%)	3 (2.0%)	2 (1.3%)	10 (8.0%)
Education level				
– Elementary school/ High school/ College	60 (13.9%)	17 (11.1%)	17 (11.0%)	26 (20.8%)
– Undergraduate degree	108 (24.9%)	39 (25.5%)	41 (26.5%)	28 (22.4%)
– Post-graduate degree	265 (61.2%)	97 (63.4%)	97 (62.6%)	71 (56.8%)
Place of residence in Brazil				
– Northern	6 (1.4%)	4 (2.6%)	2 (1.3%)	0 (0%)
– North-eastern	15 (3.5%)	9 (5.9%)	2 (1.3%)	4 (3.2%)
– middle-western	30 (6.9%)	17 (11.1%)	5 (3.2%)	8 (6.4%)
– South-eastern	48 (11.1%)	18 (11.8%)	11 (7.1%)	19 (15.2%)
– Southern	334 (77.1%)	105 (68.8%)	135 (87.1%)	94 (75.2%)
Physically active[1]				
No	144 (33.3%)	52 (34.0%)	39 (25.3%)	53 (42.4%)
Yes	289 (66.7%)	101 (66.0%)	116 (74.8%)	72 (57.6%)
Mean (SD) Pain scores (NPRS = 0 to 10)	N.A.	N.A.	N.A.	6.8 (SD = 1.7)
Pain <3 months n (%)	N.A.	N.A.	N.A.	10 (8%)
Pain longer than 3 months n (%)	N.A.	N.A.	N.A.	115 (92%)

BMI (body mass index), NPRS (Numeric pain rating scale). Categorical data is expressed as numbers (percentages).
[1]Are you physically active (i.e., 30 min of moderate intensity, 3 times a week)?.
*BMI data is expressed as median (interquartile range).

Table 2
Median (interquartile ranges) for belief measures scores for all participants and for each group (no history of LBP, history of LBP, and current LBP).

	All participants	No history of LBP	History of LBP	Current LBP
Back-PAQ-Br (scores: 34 to 170)	112 (101; 120)	111 (97.5; 119)	110 (98; 118)	116 (108; 123)
Back-PAQ-Br_{danger} (scores: 14 to 70)	51 (45; 55)	50 (43; 54.5)	50 (44; 55)	53 (48; 57)

Back-PAQ-Br, Back Pain Attitudes Questionnaire – Brazilian version; Back-PAQ-Br_{Danger}, Subscale of Back-PAQ-Br.

Beliefs and attitudes about low back pain (LBP)

The median score for all participants on the Back-PAQ-Br was 112 (IQR: 101; 120), and on the Back-PAQ-Br Danger subscale was 51 (IQR: 45; 55), indicating that people hold unhelpful beliefs about LBP and perceive the back as vulnerable and in need of protection. The results of the Back-PAQ-Br and Back-PAQ-Br_{Danger} for each group are detailed in Table 2.

The group of people with current LBP had significantly higher scores for the Back-PAQ-Br questionnaire than both groups of people with no history of LBP (mean difference: 6.1) and people with a history of LBP (mean difference: 5.3). The group of people with current LBP also had significant higher scores for the sub-scale Back-PAQ-Br_{Danger} than the other two groups (mean difference between the group of people with current LBP and people with no history of LBP = 3.4; mean difference between the group of people with current LBP and people with a history of LBP = 2.8). The results of the group comparison for the Back-PAQ-Br and Back-PAQ-Br_{Danger} are detailed in Table 3.

Among all participants, the five most strongly endorsed unhelpful beliefs were, in decreasing order: item 7 – "It is important to have strong muscles to support your back"; item 23 – "It is important to see a health professional when you have back pain"; item 8 – "Good posture is important to protect your back"; item 24 – "To effectively treat back pain, you need to know exactly what is wrong"; and item 22 – "If you ignore back pain, you may cause damage to your back." Response means for each individual item are detailed in Table 4.

Discussion

The aim of this study was to assess the beliefs about LBP in people living in a middle-income country (Brazil). We included people with three different LBP statuses: i) people with current LBP, ii) people with no history of LBP, and iii) people with a history of LBP (i.e., people who have experienced LBP in the past but were not experiencing LBP at the time of the survey). Our results showed that participants, irrespective of their LBP status, hold unhelpful beliefs about LBP, perceiving the back as

Table 3
Comparison between groups for Back-PAQ-Br and Back-PAQ-Br_{danger} (mean difference* and 95%CI).

Groups	Back-PAQ-Br (score range 34–170)	Back-PAQ-Br_{danger} (score range 14–70)
Current LBP – No history of LBP	6.1 (95% CI: 1.6, 10.6)	3.4 (95% CI: 0.9, 5.9)
Current LBP – History of LBP	5.3 (95% CI: 0.8, 9.8)	2.8 (95% CI: 0.3, 5.3)
No history of LBP – History of LBP	−0.8 (95% CI: −4.9, 3.3)	−0.6 (95% CI: −2.9, 1.70)

Back-PAQ-Br, Back Pain Attitudes Questionnaire – Brazilian version; Back-PAQ-Br_{Danger}, Subscale of Back-PAQ-Br. CI: Confidence Interval.
* Mean difference adjusted for covariates: age, sex, weight, height, profession, education, and physical activity.

Table 4
Response means* for each individual item of the back pain attitudes questionnaires (n = 433).

Question:	No history of LBP	History of LBP	Current LBP	All participants
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Q1. Your back is one of the strongest parts of your body	2.6 (1.2)	2.5 (1.20)	2.9 (1.2)	2.7 (1.2)
Q2. Your back is well designed for the way you use it in daily life	2.0 (1.1)	2.0 (1.1)	2.5 (1.3)	2.1 (1.2)
Q3. Bending your back is good for it	3.0 (1.5)	2.7 (1.4)	2.9 (1.4)	2.9 (1.5)
Q4. Sitting is bad for your back	2.3 (1.4)	2.5 (1.5)	2.8 (1.5)	2.5 (1.5)
Q5. Lifting without bending your knees is not safe for your back	4.0 (1.4)	4.0 (1.5)	4.2 (1.4)	4.0 (1.4)
Q6. It is easy to injure your back	3.1 (1.4)	3.3 (1.4)	3.9 (1.2)	3.4 (1.4)
Q7. It is important to have strong muscles to support your back	4.7 (0.6)	4.8 (0.5)	4.9 (0.5)	4.8 (0.6)
Q8. Good posture is important to protect your back	4.6 (0.9)	4.6 (1.0)	4.9 (0.3)	4.7 (0.8)
Q9. If you overuse your back, it will wear out	3.1 (1.5)	2.8 (1.5)	3.5 (1.4)	3.1 (1.5)
Q10. If an activity or movement causes back pain, you should avoid it in the future	2.9 (1.4)	2.8 (1.4)	3.4 (1.2)	3.0 (1.4)
Q11. You could injure your back if you are not careful	4.1 (1.3)	4.2 (1.2)	4.5 (0.8)	4.3 (1.1)
Q12. You can injure your back and only become aware of the injury some time later	4.1 (1.1)	4.1 (1.2)	4.0 (1.2)	4.1 (1.2)
Q13. Back pain means that you have injured your back	2.6 (1.2)	2.5 (1.2)	3.0 (1.2)	2.7 (1.2)
Q14. A twinge in your back can be the first sign of a serious injury	3.5 (1.1)	3.4 (1.3)	3.7 (1.0)	3.5 (1.1)
Q15. Thoughts and feelings can influence the intensity of back pain	1.9 (1.0)	1.9 (1.1)	2.2 (1.2)	2.0 (1.1)
Q16. Stress in your life (financial, work, relationship) can make back pain worse	1.7 (0.9)	1.5 (0.8)	1.9 (1.1)	1.7 (0.9)
Q17. When you have back pain, you can do things which increase your pain without harming the back	3.2 (1.4)	3.1 (1.4)	3.3 (1.4)	3.2 (1.4)
Q18. Having back pain makes it difficult to enjoy life	4.1 (1.2)	4.5 (0.9)	4.4 (0.9)	4.3 (1.0)
Q19. It is worse to have pain in your back than your arms or legs	3.5 (1.2)	3.7 (1.2)	3.7 (1.2)	3.6 (1.2)
Q20. It is hard to understand what back pain is like if you have never had it	3.6 (1.3)	3.7 (1.4)	3.6 (1.5)	3.6 (1.4)
Q21. If your back hurts, you should take it easy until the pain goes away	3.7 (1.2)	3.7 (1.2)	4.0 (1.1)	3.7 (1.2)
Q22. If you ignore back pain, you may cause damage to your back	4.3 (1.0)	4.3 (1.0)	4.5 (0.7)	4.3 (0.9)
Q23. It is important to see a health professional when you have back pain	4.6 (0.7)	4.8 (0.5)	4.9 (0.4)	4.7 (0.6)
Q24. To effectively treat back pain, you need to know exactly what is wrong	4.3 (1.2)	4.3 (1.1)	4.5 (1.0)	4.3 (1.1)
Q25. If you have back pain, you should avoid exercise	2.0 (1.1)	1.8 (1.1)	2.1 (1.1)	1.9 (1.1)
Q26. When you have back pain the risks of vigorous exercise outweigh the benefits	3.2 (1.3)	3.1 (1.4)	3.5 (1.3)	3.2 (1.3)
Q27. If you have back pain, you should try to stay active	1.7 (0.8)	1.5 (0.8)	1.6 (0.8)	1.6 (0.8)
Q28. Most back pain settles quickly, at least enough to get on with normal activities	2.4 (1.2)	2.3 (1.1)	2.8 (1.1)	2.5 (1.2)
Q29. Worrying about your back can delay recovery from back pain	3.4 (1.3)	3.5 (1.4)	3.4 (1.3)	3.4 (1.3)
Q30. Focusing on things other than the back helps you to recover from back pain	3.3 (1.3)	3.3 (1.4)	3.5 (1.4)	3.3 (1.4)
Q31. Expecting your back pain to get better helps you to recover from back pain	2.8 (1.4)	2.5 (1.4)	2.8 (1.4)	2.7 (1.4)
Q32. Once you have had back pain there is always a weakness	2.0 (1.1)	2.0 (1.1)	2.7 (1.2)	2.2 (1.1)
Q33. There is a high chance that an episode of back pain will not resolve	2.2 (1.1)	2.0 (1.1)	2.7 (1.2)	2.3 (1.2)
Q34. Once you have a back problem, there is not a lot you can do about it	1.3 (0.6)	1.2 (0.6)	1.6 (1.0)	1.4 (0.7)

* 1.0 = 'False', 2.0 = 'possibly false', 3.0 = 'Unsure', 4.0 = 'possibly true, 5.0 = 'True'; item scores are presented as means adjusted for item direction, such that higher scores indicate greater endorsement of unhelpful beliefs.

vulnerable and in need of protection.

Overall, our results are similar to those reported by previous studies conducted in Argentina, Australia, Switzerland, and New Zealand.[13,17,18,29] The median Back-PAQ-Br score among all our participants was 112 (IQR: 101; 120). This was slightly different from the mean score of participants from other countries, which ranged from 105.5 (SD = 13.8) (Australia) to 115.3 (95% CI 114.2 to 116.3) (New Zealand).[13,17,18,29] Our sample was comparable to those of the other studies with respect to low back pain status, except for the Australian study, which included only participants without low back pain.[13,17,18,29] Currently, we do not know what the minimum clinically important difference is for the Back-PAQ-Br tool. For that reason, it is difficult to comment on whether the differences between studies described above are clinically relevant.

When comparing the three groups in our study, people with current LBP reported more unhelpful beliefs than people with no history of LBP and people with a history of LBP. Interestingly, there were no differences found between people with no history of LBP and people with a history of LBP.[32] Our findings are consistent with the notion that the experience of a pain episode may shape cognitive responses, triggering unhelpful beliefs about the vulnerability of the back.[17] These beliefs may be pre-existing; however, due to the cross-sectional nature of this study, it is not possible to determine whether these unhelpful beliefs preceded the pain episode or if the pain experience itself shaped these perceptions. Unhelpful beliefs may be dynamically shaped by an individual's pain experience, which in turn may influence their behaviour.[33,34] Although we observed statistically significant differences in Back-PAQ-Br scores

between groups (e.g., a mean difference of 6.1 between current LBP and no history of LBP), these findings should be interpreted with caution, as no minimal clinically important difference (MCID) has been established, and the clinical relevance of a 6-point difference remains uncertain.[35]

The analysis of the danger subscale indicates that people perceive their back to be vulnerable and in need of protection, despite their LBP status.[28,29,32] These results are aligned with previous studies using this subscale, adding to the growing evidence that, in many settings, people tend to perceive the back as vulnerable.[7,34,36,37] Previous studies have proposed that such an understanding of the back's vulnerability may lead to a common-sense response of protection and avoidance of activities they believe are affecting their pain.[33,34] These findings are consistent with the network analysis by Liew and Darlow (2024), which highlighted beliefs regarding back damage, exercise, and activity avoidance as central constructs underpinning the broader belief system.[38] This belief of vulnerability of the back may influence people's clinical care-seeking behaviour, including services that offer low-value care interventions (e.g., passive interventions such as electrotherapy and interventions based on biomedical principles).[39–41] A point to consider is that participants' beliefs might have been influenced by previous interactions with healthcare professionals.[42]

Clinical implications

Our findings suggest that participants agree with long-held myths about the back, such as that LBP is caused by poor posture (item 5 – "*Lifting without bending your knees is not safe for your back*", and item 8 - "*Good posture is important to protect your back*"), reinforcing a biomedical view about LBP and its management.[43] Considering the importance of adopting a biopsychosocial view for the management of LBP, the Back-PAQ-Br can thus assist physiotherapists to assess and understand the beliefs of their patients, and inform the delivery of person-centred care in clinical practice in Brazil.[8,34,44]

People who are not currently experiencing pain (i.e., no history of LBP or with a history of LBP) are unlikely to seek guidance from healthcare professionals, unless they experience a new episode of LBP. To address unhelpful beliefs held by these groups, mass media campaigns could be implemented.[37,45] Those strategies were successfully implemented in countries such as Canada and Australia.[45,46]

Future studies

Future studies could focus on interventions to test whether unhelpful beliefs about LBP are amenable to change, as well as their impact at the personal (e.g., disability levels, quality of life) and societal levels (e.g., sick leave, cost savings with low-value care interventions). Studies could also investigate cost-effective strategies, such as social media campaigns and online educational programs, including the e-health education tool "*Communicating with people seeking help for lower back pain*" (https://lowbackpaincommunication.com/),[47] targeting both the general public and healthcare professionals.

Strength and limitations

The strengths of our study are: (1) this is the first large-scale study using a Brazilian sample that report on the beliefs about LBP; (2) we performed a robust statistical analysis, adjusting for covariates and controlling for confounders and; (3) unlike many previous studies that only compared people with current LBP and people with no history LBP (or people that were not experiencing LBP at the time of the study), this study also assessed beliefs of people with a history of LBP, presenting a clear group comparison. This study provides valuable information for future studies exploring a larger and more varied sample in Brazil.

Our study has some limitations. First, our sample was predominantly composed of highly educated individuals (86.1% with at least a bachelor's degree), and most participants resided in the southern region of Brazil (77.1%). Although results were similar across regions, the uneven distribution may limit generalizability to the broader Brazilian population. According to the last national census (conducted in 2023), approximately 15% of the Brazilian population has a higher education degree.[48] Individuals with lower education levels and limited access to healthcare information may hold different beliefs about LBP, which could result in higher Back-PAQ-Br scores. Third, the voluntary participation method through social media recruitment may have introduced self-selection bias, potentially overrepresenting individuals with personal experiences of LBP. Fourth, recall bias may have affected responses as participants self-reported their LBP history, current symptoms, and beliefs. Fifth, there is currently no established minimum clinically important difference for the Back-PAQ-Br and the Back-PAQ-Br$_{danger}$ in the existing literature. Consequently, the statistical differences observed between groups in our study may not be clinically relevant. Sixth, the number of previous low back pain episodes in participants with current LBP was not recorded. This factor could potentially influence their beliefs about LBP. However, repeated experiences of LBP, followed by recovery, may mitigate the intensity of these beliefs. Lastly, we did not investigate whether the participants had seen a healthcare professional for their LBP in the past. It is possible that participants' beliefs were influenced by previous interactions with healthcare professionals.

Conclusions

Participants from a middle-income country (Brazil) hold unhelpful beliefs about LBP irrespective of their low back status (i.e., people with current LBP, people with no history of LBP, or people with a history of LBP). Participants reported believing that their backs are vulnerable and need protection. People with current LBP hold more unhelpful beliefs than people with no history of LBP or people with a history of LBP. Our findings suggest that participants endorse long-standing biomedical beliefs about the back.

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Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used ChatGPT (OpenAI, San Francisco, CA, USA) in order to support language editing and improve readability. The content was subsequently reviewed, revised, and approved by the authors, who take full responsibility for the final manuscript.

Declaration of competing interest

The author(s) declared no potential conflicts of interest.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.bjpt.2026.101651.

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