



ORIGINAL ARTICLE

What can I do for my low back pain? The Work In Progress questionnaire!

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ABSTRACT

BACKGROUND: There is growing evidence on Commitment Therapy for people with low back pain (LBP). A self-reported questionnaire is lacking which evaluates commitment by relying on the most recommended actions, the most important core outcome domains, and the most evidenced treatment options.

AIM: To describe the development and psychometric validation of the Work In Progress (WIP) questionnaire.

DESIGN: Development and psychometric validation of the WIP questionnaire in the context of people with LBP, as a means to evaluate Commitment.

SETTING: Outpatient facilities.

POPULATION: People with LBP.

METHODS: The new instrument was created by item generation and selection. Face validity, appropriateness, acceptability and feasibility were investigated. Psychometric testing was carried out in a cross-sectional study and included: 1) exploratory factor analysis; 2) reliability by internal consistency (Cronbach's alpha) and test-retest measurement (Intra-class Correlation Coefficient, ICC_{2,1}); and 3) construct validity by hypothesis testing the correlation of the WIP questionnaire with the Pain Catastrophizing Scale (PCS), the Oswestry Disability Index (ODI), and a pain intensity Numerical Rating Scale (NRS) (Pearson's r correlations).

RESULTS: The WIP questionnaire was successfully developed based on international guidelines and the testing of face validity, appropriateness, acceptability and feasibility were satisfactory. The instrument was administered to 102 people with LBP (39 females, mean age of 49.7±14.6 years [range 20-80], pain median duration of 42.1 weeks [range 3-360]). Factor analysis revealed a two-factor 10-item solution (57% of explained variance). The internal consistency was good ($\alpha=0.70-85$) and test-retest assessment was excellent (ICC_{2,1}=0.91-94). Construct validity was good, as $\geq 75\%$ of hypotheses were confirmed.

CONCLUSIONS: The WIP questionnaire is a self-reported tool to evaluate commitment in persons with LBP showing satisfactory psychometric properties. It can be recommended for clinical and research purposes.

CLINICAL REHABILITATION IMPACT: This study adds original new data to the existing knowledge in the field of Commitment within the bio-psychosocial paradigm for disabled people. It is expected to contribute to the evaluative, clinical and rehabilitative approach of individuals with low back pain.

(Cite this article as: Monticone M, Aripa F, Garri R, Pibiri A, Formentelli M, Rocca B. What can I do for my low back pain? The Work In Progress questionnaire! Eur J Phys Rehabil Med 2024;60:1019-26. DOI: 10.23736/S1973-9087.24.08572-1)

KEY WORDS: Pain; Behavioral medicine; Rehabilitation; Self-assessment.

The core outcome domains (COD) for low back pain (LBP) were updated and recommended for clinical trials in 2015.¹ The subsequent step was to point out the core outcome measurement instruments and provide advice on core instruments, such as pain intensity ratings, disability-specific scales, and health-related quality of life (HRQoL) questionnaires.² The 2018 Series on LBP showed how to address the crippling impacts of LBP, by delivering knowledge on LBP to people, consumers, clinicians, researchers, and policy makers through media.³

Nonetheless, LBP remains the first reason for disability, identified in people of all countries, regardless of their ages, physical functioning, thoughts, behaviors, or incomes.⁴ Treatment options include education and self-care, pharmacological and non-pharmacological therapies, interventional therapies and surgery; statements were made for first- and second-line choices.⁵

In 2020, ten actions were advocated to advance attention on LBP, suggesting among others that evidence-based, safe and cost-effective treatments should be endorsed, accurate management of beliefs, leisure and well-being of persons with LBP should be addressed, earlier returns to work and better working conditions should be guaranteed, and ineffective exams and treatments should not be prescribed.³

One of the above proposed actions asserts that people with LBP “should be taught to self-manage and seek care only when really needed,”³ and we think this is noteworthy, because it represents commitment on ourselves.^{6, 7} Individuals struggle against their backache daily, usually neglecting pain, surprisingly laying down physical functioning, emotions, leisure, well-being, and jobs, and disarmingly asking for visits, exams or medications.³ We wonder what persons with LBP would be willing to do to overcome pain, and its disabling consequences. In other terms: what can people do for their low back pain?

Randomized controlled trials and systematic reviews support Commitment Therapy as a means of facing LBP, especially when chronic symptoms occur.⁸⁻¹¹ However, we are not aware of a questionnaire which evaluates the commitment of people with LBP and relies on the most recommended actions, the most important COD, and the most evidenced treatment options.^{1, 3, 5} A new evaluation tool on commitment suitable for persons with LBP, the Work In Progress (WIP) questionnaire, is hence proposed. The aim of this article is to describe its development and psychometric validation (factor analysis, reliability, and construct validity) in the context of people with LBP.

Materials and methods

Study design and participants

Before starting, this study was approved by the Local Ethical Committee of the International Institute of Behavioral Medicines of Sevilla (Spain, approval number 2023-001, approval date April 3rd, 2023), and was registered on ClinTrials.gov (NCT05932043). The study was conducted in accordance with the principles set forth in the Helsinki Declaration. The Standards for Quality Improvement Reporting Excellence (SQUIRE) guidelines as a means of reporting new knowledge about how to improve healthcare were adopted.¹²

The research involved persons consecutively (*i.e.* by a non-probability sampling technique) admitted to three outpatient rehabilitation facilities from spring to winter 2023. Inclusion criteria were non-specific LBP,¹³ adult age, and reading/speaking Italian. Exclusion criteria were: 1) systemic illness, recent cerebrovascular accidents or myocardial infarctions, chronic lung or renal diseases; 2) mental and psychiatric deficits, including major depression and anxiety; 3) participation to prior treatments, both pharmacological (*e.g.* paracetamol and systemic glucocorticoids) and non-pharmacological (*e.g.* reflexology, iridology) for LBP; and 4) refusal to adhere. Criteria were checked by healthcare personnel; personal staff made a semi-structured interview to exclude mental and psychiatric deficits, including major depression and anxiety. Demographic and clinical characteristics were recorded by research assistants, and participants were asked to update the questionnaires if missing data were found by the staff upon completion. Eligible people gave their consent.

Tool's purpose and development

The WIP questionnaire is self-reported and designed to measure the engagement of persons with LBP on specific issues encountered daily, so that the scale score would generalize to a measure of activity-related commitment.

The WIP questionnaire was created by item generation and selection.^{14, 15} The rationale upon the items that were generated relied on findings from a previous Delphi survey on COD for LBP, which included physical functioning, pain intensity, HRQoL, work ability, psychological functioning, pain interference, health-care services, self-rated health, recreation and leisure, temporal aspects of pain, social functioning, work productivity, and sleep functioning, respectively.¹ The selection of items to be included was made by a multidisciplinary panel of psychologists,

physiotherapists, physiatrists and people with LBP. Three items (*i.e.*, self-rated health, social functioning, and sleep functioning) were excluded because attributable to sub-domains of HRQoL, while ten were retained, as previously recommended in 2018.³

The items were formatted to fit into a two-page questionnaire under the heading: “The following questions aim to understand your commitment on several areas of life affected by low back pain. Please, circle the letter that best represents you to date, trying to be as objective as possible.”

The list of items was re-ordered to address firstly inner levels of pain influence (involving pain-related domains) and then outer levels (related to the domains of recreation and leisure, self-rated health, work and health-care services).¹

Answers to the first five items (domains of pain intensity, pain negative influence, temporal aspects of pain, physical functioning, and psychological functioning) rely on an ascending process of commitment and offer the same options: A) consider taking medications (*i.e.*, think of the most straight-forward option as a means of precontemplation of a future action as described in the subsequent option);¹⁶ B) take medications (*i.e.*, adopt the most straight-forward solution); C) consider non-pharmacological therapies (*i.e.*, think of a more complex alternative as a means of precontemplation of a future action as described in the subsequent option); and D) undergo non-pharmacological therapies (*i.e.*, make a more complex choice). Non-pharmacological therapies refer to treatment options for LBP as outlined in⁵ (see footnotes marked with * on page 1 of the questionnaire).

Answers to items 6 and 7 (domains of leisure and HRQoL) show a similar process of commitment. When looking at the answer options of item 6, the words “sedentary lifestyles” and “active lifestyles” replaced the expressions “medication” and “non-pharmacological therapies” used in items 1 to 5; the same occurs in item 7 with the expressions “usual behaviors” and “healthy behaviors”, respectively.

Answers to items 8 and 9 (domains of work-related activities and productivity) again feature an identical process of commitment; the second option offers employees the opportunity to give advice to their employer (or to the occupational physician), while the third option asserts the relevance of following the indication received in the workplace. Additionally, specifications were given to retired people and students by means of a footnote, thus widening the scope of the instrument (see footnote 2 on page 2 of the questionnaire).

Answers to item 10 (domain of health-care services) initially commit respondents to knowing LBP features and then progressively to following the indications provided by healthcare professionals (see footnote 3 on page 2 of the questionnaire).

To avoid confounding the informants, the response options of each item consist of four statements which cover main levels of commitment ranging from minimum to maximum degrees. Each answer is rated on a 4-point scale ranging from 0 to 3 to allow computation; the total score is calculated by adding up the scores of each single item (0-30) with higher scores implying higher degrees of commitment.

The WIP questionnaire underwent several steps of text structure and wording refinements, and benefitted from contributions by two physiatrists, a psychiatrist, a general practitioner, a psychologist, two physiotherapists, three teenagers attending high-school, and two retired people.

As part of pilot testing, the WIP questionnaire was administered to 20 people with LBP to verify its face validity, appropriateness, acceptability and feasibility.¹⁷ Face validity was evaluated by means of two questions addressing clarity and specificity: “What do you think this questionnaire deals with?” and “Do any of the items overlap in any way?”. Appropriateness was assessed through the following question: “Do you think what is described here may be related to your problems?”. Acceptability was investigated by asking participants about any problems encountered during the compilation task, and the evaluators examined the data by looking for any missing or multiple answers. Feasibility explored the ease of using the scale in terms of time of completion and scoring.

Generalizability was assessed by collecting information on the participants’ age, gender, education background, marital and employment status, and disease characteristics.¹⁷

Descriptive statistics and psychometric analysis

Mean values and standard deviations were calculated to determine distribution and floor/ceiling effects, which can be observed when >15% of compilers had either the lowest or highest possible scores.¹⁸

The Kaiser-Meyer-Olkin (KMO) test and Bartlett’s test for sphericity were calculated to determine the adequacy for factorization ($P < 0.05$ on Bartlett’s test; $KMO > 0.70$). The dimensional structure of the instrument was investigated through exploratory factor analysis (EFA), and Cattell’s Scree Test was used to determine the number of extracted factors (eigenvalues of > 1). Varimax rotation

was applied and the items with loadings of >0.40 were included in the factor; the expected explained variance was of $>50\%$.¹⁸

Reliability was investigated by internal consistency and test-retest reliability. The former is usually considered good if the value of Cronbach's alpha is ≥ 0.70 .¹⁸ The latter rates reliability over time by re-administering the questionnaire after a certain interval, which in this study was 7-10 days, to side-step variations in symptoms associated with possible memory effects.¹⁸ The intra-class correlation coefficient (ICC_{2,1}) tested the agreement of results, with good and excellent reliability being 0.60-0.80 and >0.80 , respectively.¹⁸

The smallest change in score was valued by the minimum detectable change (MDC). This is calculated by multiplying the standard error of measurement (SEM) by the z-score associated with the desired level of confidence (*i.e.*, 95% in this study) and the square root of 2, which reflects the additional uncertainty introduced by using difference scores based on measurements made at two time-points (*i.e.*, days 1 and 7-10). The SEM is derived from the formula: $SEM = SD[(1-R)^{1/2}]$, where SD is the baseline standard deviation of the measurements, and R the test-retest reliability coefficient.¹⁷

Construct validity was based on hypotheses testing.¹⁷ It was postulated *a priori* that the correlation between the WIP questionnaire and:

- the Pain Catastrophizing Scale (PCS) is negative and moderate to low;
- the Oswestry Disability Index (ODI) is negative and moderate to low;
- a 0-10 pain intensity numerical rating scale (NRS) is negative and moderate to low.

The clinical rationale relies on the fact that commitment is a different construct from catastrophizing, disability and pain. Construct validity was considered good if $\geq 75\%$ hypotheses were confirmed. Correlations were measured using Pearson's coefficient: $r < 0.30$ equals to low; $0.30 \leq r \leq 0.60$ to moderate; and $r > 0.60$ to close correlation.¹⁹

A sample of 100 people with LBP was taken into account, as recommended for studies including EFA.¹⁷ Analyses were made by using the software SPSS 29.0.

Outcome measures

The PCS is a 13-item self-reported questionnaire which assesses catastrophizing in people with LBP. Each item is scored using a five-point scale, ranging from 0 (never) to 4 (always), and the total score is calculated by adding up the scores of each single item (range: 0-52), with higher esti-

mates corresponding to higher catastrophizing. The PCS has three subscales, namely Helplessness, Rumination, and Magnification. The Italian version was used.²⁰

The ODI is a 10-item self-administered scale which allows a comprehensive evaluation of disability due to LBP. Each question is scored on a 6-point scale, ranging from 0 (no disability) to 5 (full disability), and these are added together, with higher scores representing greater restriction to activities. The Italian version was used.²¹

The NRS is a self-reported 11-point scale which evaluates pain intensity, varying from 0 (no pain at all) to 10 (the worst imaginable pain).²²

In order to avoid influencing the compilation of the questionnaires, healthcare professionals were requested to pay careful attention to the medical information provided to participants by limiting care mainly to physical treatments. Further, the WIP questionnaire was systematically distributed first, then the PCS, the ODI, and the NRS during the first assessment, respectively; only the WIP questionnaire was delivered during the second assessment.

Data availability

The data associated with the paper are not publicly available but are available from the corresponding author on reasonable request.

Results

Participants

Of the 135 persons invited to participate in the study, 102 (75%) satisfied the inclusion criteria: 39 females (38%) and 63 males (62%) with a mean age of 49.7 ± 14.6 years (range 20-80). The median duration of LBP was 49.7 weeks (range 3-360). Table I shows additional characteristics of the study population.

Development

Findings from interviews in the piloting phase were examined, and changes to the questionnaire were not required. No difficulties were encountered during compilation, and pilot testing confirmed face validity, appropriateness, acceptability and feasibility. There were no missing responses/multiple answers, as sought in the organization of the study. Ease of use was satisfactory in terms of following the instructions for scoring and time of completion.

Supplementary Digital Material 1 (Supplementary Text File 1) presents the WIP questionnaire in its Italian version. Supplementary Digital Material 2 (Supplementary

TABLE I.—Additional characteristics of the study population (N.=102).

Parameter	N.	%
Marital status		
Married	66	65
Unmarried	33	32
Widowed	4	3
Education level		
Primary School	8	8
Middle School	11	11
High School	45	44
University	38	37
Employment status		
Student	6	6
Employed	41	40
Self-employed	29	28
Housewife	3	3
Retired	20	28
Unemployed	3	3

Text File 2) includes a translation into English for evaluation purposes.

Descriptive statistics and psychometric findings

Table II shows the distribution of the WIP questionnaire in comparison with other outcome measures. There were no floor/ceiling effects.

Bartlett’s test was significant (P<0.01) and KMO was of 0.82, indicating the factorability of the matrix. Hence, an EFA was made which revealed a two-factor structure on the basis of eigenvalues >1, and this solution explained 56.73% of variance (Figure 1). Table III shows the item-factor loadings after Varimax rotation. The two factors are called “Self-drivenness to return to normal personal life with pain” (items from 1 to 7) and “Self-drivenness to return to work and reduce the dependence of health services” (items from 8 to 10), respectively. The between-factor correlation was of 0.46.

Subsequent analyses were made by taking into account the whole scale and the factors derived from EFA.

Cronbach’s α of the whole scale was good ($\alpha=0.82$), the

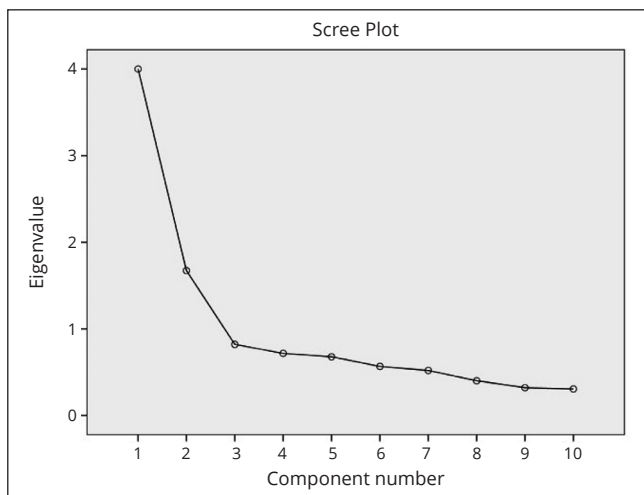


Figure 1.—Cattel Scree Test.

first factor showed an α of 0.85, and the second of 0.70. Test-retest reliability was measured in all subjects and was excellent (ICC=0.93; 95% CI: 0.83-0.96); Table IV contains the estimates of all items of the questionnaire along with the factors.

TABLE III.—Factor loadings analysis of the WIP questionnaire items after Varimax rotation.

Item	Factor	
	1	2
Item 1	0.83	
Item 3	0.83	
Item 2	0.74	
Item 4	0.69	
Item 5	0.67	
Item 7	0.57	
Item 6	0.55	
Item 8		0.84
Item 9		0.79
Item 10		0.68

WIP: Work in Progress; Factor 1: Self-drivenness to return to normal personal life with pain; Factor 2: Self-drivenness to return to work and reduce the dependence of health services.

TABLE II.—Distribution of WIP questionnaire, PCS, ODI and pain intensity NRS scores.

Parameter	Mean	SD	25 th %	50 th %	75 th %	Floor effect	Ceiling effect
WIP (0-30)	21.96	4.99	18	23	26	0%	0%
Factor 1 (0-21)	15.81	3.94	13	16	19	0%	0%
Factor 2 (0-9)	6.15	2.04	5	6	8	0%	0%
PCS (13-52)	19.27	9.82	12.25	19	28	0%	0%
ODI (0-50)	11.62	6.19	7	11	16	0%	0%
NRS (0-10)	4.32	2.06	3	4	6	0%	0%

WIP: Work in Progress; Factor 1: Self-drivenness to return to normal personal life with pain; Factor 2: Self-drivenness to return to work and reduce the dependence of health services; PCS: Pain Catastrophising Scale; ODI: Oswestry Disability Index; NRS: Numerical Rating Scale.

TABLE IV.—Day 1-7/10 test-retest reliability of the WIP questionnaire.

Item	ICC	95% CI
Item 1 – Pain intensity	0.93	0.90-0.96
Item 2 – Pain interference	0.88	0.82-0.92
Item 3 – Temporal aspects of pain	0.89	0.82-0.92
Item 4 – Physical functioning	0.92	0.88-0.95
Item 5 – Psychological functioning	0.93	0.90-0.96
Item 6 – Leisure	0.93	0.89-0.95
Item 7 – Well-being	0.91	0.86-0.93
Item 8 – Work ability	0.89	0.83-0.93
Item 9 – Work productivity	0.89	0.83-0.93
Item 10 – Health-care services	0.86	0.76-0.92
Whole scale	0.93	0.83-0.96
Factor 1	0.94	0.89-0.97
Factor 2	0.91	0.82-0.95

WIP: Work in Progress; Factor 1: Self-drivenness to return to normal personal life with pain; Factor 2: Self-drivenness to return to work and reduce the dependence of health services; ICC: intraclass correlation coefficient; CI: confidence interval.

TABLE V.—Construct validity (Pearson’s correlations) between the WIP questionnaire and outcome measures of catastrophizing, back disability and pain intensity.

Outcome Measures	Whole scale	Factor 1	Factor 2
PCS	-0.39**	-0.39**	-0.21*
Helplessness	-0.49**	-0.46**	-0.33**
Rumination	-0.28**	-0.30**	-0.11
Magnification	-0.25*	-0.27**	-0.09
ODI	-0.47**	-0.48**	-0.23*
NRS	-0.35**	-0.35**	-0.19

WIP: Work in Progress; Factor 1: Self-drivenness to return to normal personal life with pain; Factor 2: Self-drivenness to return to work and reduce the dependence of health services; PCS: Pain Catastrophizing Scale; ODI: Oswestry Disability Index; NRS: Numerical Rating Scale. *P<0.05; **P<0.01.

The SEM of the whole scale was of 0.26 and its MDC was of 0.72 points out of 30. The MDC of the first factor was 0.66, and that of the second factor 0.50.

Construct validity was good because all the hypotheses were confirmed. Table V reports all the correlations by also including the two factors of WIP questionnaire and the subscales of the PCS.

Discussion

This study describes the development of the WIP questionnaire, a self-reported outcome measure which evaluates the level of commitment of persons with LBP. The tool showed satisfactory psychometric properties. The sample was representative of the general population undergoing rehabilitation for LBP in Italy.²³

As for the development of the instrument, the hardest

task was to define the answers for each question-item by proposing increasing levels of commitment. We believe that answers to questions 1 to 5 may help understand that a step-through level of commitment is needed to follow-up what the Literature recommends.⁵ Responses to items 6 and 7 ask for persons’ lifestyles and behaviors, implicitly making individuals reflect on what they are currently doing, what healthcare professionals advise, or what society in general think is appropriate or not. Answers to questions 8 and 9 provide persons the prospect to advise what they would like as concerns their workplace, with respect to employer, occupational physician and health-care systems regulations. Responses to item 10 make people aware of the importance of understanding LBP by increasingly relying upon progressive awareness of the problem and trusting healthcare professionals.

Pilot testing confirmed that the WIP questionnaire is an acceptable measure to evaluate commitment. Face validity, appropriateness, acceptability and feasibility were satisfactory. The tool has proven simple to use by persons of both genders, of different levels of education, marital and employment status. There were neither floor nor ceiling effects, which demonstrates the ability to address different degrees of engagement.

The use of EFA revealed the instrument’s bi-dimensional structure by suggesting that items distribute themselves on two factors linked to commitment with LBP. The first component incorporates the items related to pain experience, leisure and well-being, while the second includes the items dealing with work-related activities and health-care services. A larger sample is advised to conduct a confirmatory factor analysis by also including other indices, such as measurement precision, item functioning, and invariance across population groups.^{24, 25}

As for psychometric testing of internal consistency, the whole scale achieved a satisfactory degree of inter-relatedness among items. Satisfactory estimates were also reached by both factors.

As for test-retest reliability, the whole scale showed good results, and this was mainly due to its relatively reduced variability (CI at upper bound – CI at lower bound = 0.13).²⁶ Satisfactory estimates were also reached by both factors.

The MDCs of the instrument were of 0.50-0.71, which means that at least 1 point in the individual score is necessary to reflect true changes in engagements with LBP when measured by the WIP questionnaire.¹⁷

There were moderate to low correlations with the PCS: if people commit themselves on solving their problems,

the level of catastrophizing should decrease, and vice versa. The Literature considers catastrophizing as the priming of maladaptive thoughts and as such should be targeted by psychological therapies.²⁷ When the single subscales of the PCS are considered, higher correlations were found with Helplessness: this condition enmeshes people in the so-called “cycle of suffering,” characterized by embittered pain, loss of resilience, “can’t do” actions, and loss of interest in life.²⁸ Lesser correlations were with Rumination and Magnification: these states trap persons within the so-called “cycle of fighting,” constituted by avoidance behaviors, thoughts fusion, brooding, experienced pain, and inflexibility: persons see their thoughts as the real world and cannot solve their problems.²⁸ Helplessness should be faced first, as it appears the most natural to confront with when more engagement takes place, while the other two states should be addressed only subsequently, as they are probably the toughest to modify despite commitment.

There were moderate to low correlations also with the ODI: if people engage in increasing the level of physical ability, the level of limitation in activities reduces, and vice versa. Lower correlations than with the ODI were found with the NRS: the experience of pain obviously impacts, but probably at a lower degree than disability.¹³ Hence, the treatment of disability should be seen as the first aim to target, as the improvement is of help to re-act and commit.^{6, 7}

Healthcare professionals should be also aware that: 1) people who complete the WIP questionnaire must factually commit along the course of the care to implementing the answers they have circled; and 2) the WIP questionnaire has fewer temporal and emotional constraints than other outcome measures which for instance assess disability or pain, and this issue may hamper evaluations.²⁹ In other terms, the *commitment to do* represents present (and hopefully future) moments, by overshadowing other outcome measures like the PCS, the ODI or the NRS, which hook the mind to past situations.

Limitations of the study

A number of limitations of this study should be acknowledged. Firstly, the relationships between the WIP questionnaire and physical tests are not considered. Secondly, the study did not include outcome measures that evaluated other psychological factors (*e.g.*, hypervigilance and acceptance beliefs, coping strategies). Thirdly, the study included people with non-specific LBP. Fourthly, low-education categories were underrepresented. Finally, the tool was tested on Italian people.

Conclusions

In conclusion, the WIP questionnaire was successfully developed as a means of commitment in persons with LBP. The assessment of psychometric properties is satisfactory. This instrument can be recommended for clinical and research purposes.

Research agenda:

- perform a confirmatory factor analysis of the WIP questionnaire;
- deepen the psychometric properties of the WIP questionnaire, also through prospective interventional studies, to evaluate the minimal important change and predictive proficiency;
- evaluate the instrument in other clinical settings and cultures;
- evaluate the WIP questionnaire relationships with other measures assessing different cognitive and behavioral constructs;
- perform a longitudinal study adequately sized in order to calculate responsiveness and minimal important change (MIC) of the WIP questionnaire.

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Conflicts of interest

The authors certify that there is no conflict of interest with any financial organization regarding the material discussed in the manuscript.

Authors' contributions

Marco Monticone and Barbara Rocca made substantial contributions to conception and design. Roberto Garri, Andrea Pibiri and Barbara Rocca performed data acquisition. Marco Monticone, Federico Arippa, Roberto Garri, Maicol Formentelli, and Andrea Pibiri performed data analysis and interpretation. Marco Monticone, Federico Arippa, Roberto Garri, Andrea Pibiri, Maicol Formentelli, Barbara Rocca drafted and revised the article critically for important intellectual content. Marco Monticone, Federico Arippa, Roberto Garri, Andrea Pibiri, Maicol Formentelli, Barbara Rocca gave final approval of the version to be published. All authors read and approved the final version of the manuscript.

Acknowledgements

The participants in the study, who committed themselves to the compilation of the questionnaires, and Dr. Aldo Barbarino, Mrs. Lilia Margherita Barbero, Dr. Ezio Ferro, Mrs. Maria Ferro, Dr. David Fletzer, Dr. Carlo Milordini, Mr. Lorenzo Monticone, Ms. Martina Monticone, and Ms. Caterina Turino who committed themselves in giving a critical contribution to the development of the WIP questionnaire.

History

Article first published online: October 1, 2024. - Manuscript accepted: September 10, 2024. - Manuscript revised: July 11, 2024. - Manuscript received: April 30, 2024.

Supplementary data

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