

Reliability, Stability and Validity of the Brazilian Adaptation of the Oliveira Questionnaire on Low Back Pain in Young People



Fiabilidade, Estabilidade e Validade da Adaptação Brasileira do Questionário Oliveira para Dor Lombar em Jovens

Debora Soccal SCHWERTNER^{1,2}, Raul OLIVEIRA¹, Ana Paula Ramos MARINHO³, Magnus BENETTI³,
Thais Silva BELTRAME³, Renata CAPISTRANO³
Acta Med Port 2017 Oct;30(10):691-698 • <https://doi.org/10.20344/amp.8270>

ABSTRACT

Introduction: The objective of this study was to adapt the Brazilian version, and verify the validity, reliability and internal consistency of the Oliveira questionnaire on low back pain in young people.

Material and Methods: The questionnaire was translated from European Portuguese into Brazilian Portuguese by means of translation and re-translation. The validity of the contents was determined by experts who analyzed the clarity and pertinence of the questions. Fifteen young people aged 15 to 18 took part in the pre-test step (qualitative analysis), 40 in the test-retest (reliability) and 679 in the evaluation of internal consistency. The intra-class correlation coefficient and Spearman's correlation coefficient were used in the reliability analysis (test-retest), and Cronbach's alpha to determine the internal consistency (stability).

Results: In the translation phase the questionnaire was modified and considered suitable, observing similarity and equivalence of the two versions. After being corrected by the experts in the validation of the contents, the instrument was considered suitable and valid, and in the pre-test, the young people suggested some modifications to make the questionnaire more succinct. With respect to reliability, the values for the intra-class correlation coefficient were between 0.512 – acceptable and 1 – excellent and Spearman's correlation coefficient varied between 0.525 and 1, classifying the instrument as reproducible. The internal consistency was considered acceptable with a 0.757 Cronbach's alpha.

Discussion: The Oliveira questionnaire was chosen since it has been used in several Portuguese studies; moreover, it addresses the need to raise data regarding low back pain and associated risk factors.

Conclusions: The Brazilian version of the Oliveira questionnaire on low back pain in young people showed valid and reliable cultural adaptation, with good reliability and stability.

Keywords: Adolescent; Brazil; Low Back Pain; Pain Measurement; Reproducibility of Results; Surveys and Questionnaires; Validation Studies

RESUMO

Introdução: O objetivo deste estudo foi adaptar a versão brasileira, verificar a validade, a fiabilidade e a consistência interna do questionário de Oliveira para dor lombar em jovens.

Material e Métodos: A tradução do questionário do português de Portugal para o português do Brasil foi realizado através de tradução e re-tradução. A validade de conteúdo foi realizada por *experts* que analisaram a clareza e pertinência das questões. Participaram das etapas de pré-teste 15 jovens (análise qualitativa), teste-reteste 40 jovens (fiabilidade) e avaliação da consistência interna 679 jovens, com idade de 15 a 18 anos. Na análise da fiabilidade (teste-reteste) usou-se o coeficiente de correlação intra-classe e o coeficiente de correlação de Spearman, na consistência interna (estabilidade) o *alpha* de Cronbach.

Resultados: Na fase de tradução o questionário foi modificado e considerado adequado, observando-se similaridade e equivalência nas duas versões. Na validação de conteúdo, após as correções dos peritos, o instrumento foi considerado adequado e válido. Os jovens no pré-teste sugeriram modificações tornando o questionário mais sucinto. Quanto a fiabilidade, os valores para o coeficiente de correlação intra-classe foram de 0,512 - aceitável a 1 - excelente, o coeficiente de correlação de Spearman variou entre 0,525 a 1; estes valores classificam o instrumento como reprodutível. A consistência interna foi considerada aceitável *alpha* de Cronbach de 0,757.

Discussão: O questionário Oliveira foi escolhido por ter sido utilizado em vários estudos em Portugal; além disso, atende a necessidade de levantar dados sobre dor lombar e fatores de risco associados.

Conclusão: A versão brasileira do questionário de Oliveira para dor lombar em jovens tem adaptação cultural válida e fiável, com boa confiabilidade e estabilidade.

Palavras-chave: Adolescente; Brasil; Dor Lombar; Estudos de Validação; Inquéritos e Questionários; Medição da Dor; Reprodutibilidade dos Resultados

INTRODUCTION

Low back pain is a complaint that is more and more common amongst young people, and its prevalence tends to increase with age up to 17 years of age, which is when it becomes similar to that of adults.¹ It has personal, social

and economic repercussions,^{2,4} related to absenteeism at classes/work, decrease in physical activity, disabilities and health costs.^{1,2,5}

Early detection of these complaints is very important,⁶

1. Laboratory of Motor Behavior. Faculdade de Motricidade Humana. Universidade de Lisboa. Lisboa. Portugal.

2. Department of Physiotherapy. Universidade do Estado de Santa Catarina. Florianópolis. Brasil.

3. Postgraduate Program in Human Science Movement. Center of Health Sciences and Sport. Universidade do Estado de Santa Catarina. Florianópolis. Brasil.

✉ Autor correspondente: Debora Soccal Schwertner. debora.soccal@udesc.br

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since not only is low back pain in adolescence being an important predictor of the same complaint in adulthood,⁷ but also the approach to chronic low back pain is more complex and has a greater number of associated co-morbidities.⁶ Thus many studies have been carried out in order to analyze the prevalence/ incidence of low back pain in young people and the different associated risk factors,^{4,8} but there is still no consensus concerning the elements that contribute to the appearance of the complaint and how they interact.^{9,10} In order to decrease divergences between the results of different studies, in first place the instruments used must be reliable and internationally standardized,^{11,12} in order to be possible to discuss the differences that occur, for example, in terms of cultural behavior rather than methodologies.^{12,13} The questionnaire is the most used instrument for this type of survey, since the evaluation of pain is based on individual subjective perception.^{14,15} This evaluation instrument allows one to raise various dimensions of the problem, is of low cost, can be applied to large populations¹⁶ and allows one to accompany the evolution of the pain both in individuals and in groups.¹⁷ Although widely used, questionnaires are developed for specific studies, and there are only a few instruments internationally validated and applied to evaluate the prevalence of back pain and its associated risk factors.¹⁸ Considering the advantages associated with the translation and cultural adaptation of instruments developed and already validated in other countries, such as universalization of the measurements,^{11,19} the present authors searched the literature for an instrument with these characteristics. The Oliveira low back pain in young people questionnaire (OLBPYQ) was developed, validated and applied in various studies in Portugal²⁰⁻²² and was shown to be a valid and trustworthy instrument (ICC = 0.89 – 0.97). Thus the objective of this study was to translate the Oliveira questionnaire on low back pain in young people (OLBPYQ) into Brazilian Portuguese, make any necessary cultural adaptations, validate it, and evaluate its reproducibility (reliability) and internal consistency (stability).

MATERIAL AND METHODS

The following steps were carried out in this study: a) translation / cultural adaptation, b) validation of the contents, c) pre-test, d) evaluation of the reproducibility (test-retest), and e) evaluation of the internal consistency.

The instrument

The instrument was a self-reporting questionnaire with language accessible to the age-group to whom it was applied (10 – 18 years old), clear and objective, relying essentially on closed replies and quick to fill in (10 to 15 minutes). It concerned lumbago, a term including all complaints of low back pain (acute or chronic), which can irradiate to the backside and legs, lasting a minimum of 24 hours.^{12,21}

It intended to answer the following questions: socio-demographic variables (age, gender) and psychosocial variables as related to certain living habits, such as level of physical activity and smoking habits. With respect to

lumbago, the questions were: occurrence of low back pain; age when first felt low back pain (years); frequency of pain episodes in last three months; time since the start of the complaints; intensity of the low back pain (measured using the visual analogical pain scale); location of the lumbago (body discomfort map); activities which aggravate the low back pain; need to have a consultation or follow treatment with a healthcare professional; and evolution of the lumbago since the worst moment in terms of pain, up to the moment of filling in the questionnaire.

Participants and expert committee

This study involved three steps with 15 to 18 year old young people from three schools in Florianópolis/ Brazil, none of them presented cognitive, physical and/or psychiatric problems that could prevent them from filling in the questionnaire, they were appointed by the directive teams of the schools and they all accepted to take part in the study.

Fifteen young people from school 1 took part in the pre-test of the instrument (step 1), 40 from school 2 carried out the test-retest (step 2) and 679 from school 3 who indicated the internal consistency on filling in the OLBPYQ (step 3).

Three people with knowledge of the languages and cultures of the two countries (two Portuguese and one Brazilian) took part in the translation process, and 10 experts validated the contents (nine physical therapists and one special educator) with a mean of 22 years of professional experience (related to the application and validation of instruments, and who also had knowledge of low back pain).

Ethical aspects

The study was approved by the Ethics in Research Committee of the State University of Santa Catarina, Brazil, with the Certificate for the Presentation of Appreciation of Ethics (CAAE) nº 35004014.4.0000.0118/2014. All the participants signed a term of consent as did those responsible for them. The author of the original version of the questionnaire authorized the validation and use of the instrument.

Translation, cultural adaptation, validation and pre-test

The questionnaire was translated according to Hill & Hill,²³ where two people, one Brazilian and one Portuguese, with knowledge of both languages, translated the original version from European Portuguese into Brazilian Portuguese. Subsequently they evaluated the two translations and prepared a single version, keeping the fundamental characteristics of the concepts found in the original questionnaire. A third person, in this case Portuguese (with knowledge of Brazilian Portuguese) then retranslated the single version back to Portuguese from Portugal. The version adapted by the two translators was then compared to the retranslated version by the three evaluators.

For the cultural adaptation of the questionnaire from

European Portuguese to the Brazilian idiom, in addition to evaluating the conceptual equivalence and understandability (elaborated during the translation), the validation and pre-test contents of the new version were also carried out.

After translating the questionnaire, the contents were validated in order to verify the clarity, consistency and pertinence of the questions.²³ The questionnaire was presented to 10 experts by a researcher in the form of a spreadsheet, with scores on an interval scale for each question and spaces for suggestions; each evaluator attributed a score from 1 to 5 (score 1 representing agreement without reserve, 2 agreement with the generality but with some suggestions for alterations, 3 not agreeing with the form with which the item was formulated and proposing substantial alterations so as to maintain the item in the questionnaire, 4 disagreeing completely with the inclusion of the item in the questionnaire, and 5 no opinion), and proposed suggestions or changes whenever relevant. The evaluators were blinded with respect to the other experts to avoid influencing the replies.

Based on the evaluations provided, the initial version of the questionnaire was altered to a certain extent to provide a second version, which was submitted to the same experts.

The final version of the questionnaire as approved by the experts was submitted to a pre-test with 15 young people from school 1 to detect any difficulties and provide opinions about the instrument (step 1). The young people were divided into three groups and received explanations about the objectives of the study and guidance about how to fill in the questionnaire (with spaces between the questions for suggestions). After filling it in, the groups were interviewed by a researcher other than the one who handed out the questionnaires (to avoid influencing the replies) and the qualitative impressions of the young people were noted down.

Reproducibility and internal consistency

In order to estimate its reproducibility, the questionnaire was applied twice to 40 young people (school 2, step 2), who filled in the form with questions related to identification (date of birth, gender and profession) and received information about filling in the questionnaire and the objectives of the survey. The retest procedure was explained after concluding the initial test, minimizing the opportunity to memorize the replies. The retest was applied 7 days after the first test by one researcher and analyzed by another, to prevent

Table 1 - Characteristics of the young people

Dimension – Question	Majority reply	Young people School 1 ^a	Majority reply	Young people School 2 ^b	Majority reply	Young people School 3 ^c
Age – Average ± SD	16 years	16.13 ± 0.64	17 years	16.45 ± 0.93	16 years	16.23 ± 0.9
Girls - n (%)	-	9 (60%)	-	24 (60%)	-	426 (62.7%)
Boys - n (%)	-	6 (40%)	-	16 (40%)	-	253 (37.3%)
Menarche - n (%)	Age 13 years	4 (26.67%)	Age 12 years	10 (25%)	Age 12 years	116 (17.1%)
Cigarette - n (%)	No	13 (86.67%)	No	40 (100%)	No	620 (91.3%)
Profession - n (%)	No	12 (80%)	No	31 (77.5%)	No	550 (81%)
1. Physical activity at school n (%)	Yes	13 (86.67%)	Yes	36 (90%)	Yes	562 (82.8%)
2. Other activities (last 3 months)						
TV time per day - Average ± SD	Minutes	144 ± 84.24	Minutes	195.75 ± 121.71	Minutes	193.04 ± 154.87
Computer/similar time - Average ± SD	Minutes	696 ± 458.52	Minutes	378.75 ± 265.97	Minutes	628.02 ± 391.48
Weekdays						
– sleeping time / night - Average ± SD	Minutes	446 ± 86.26	Minutes	446.25 ± 84.36	Minutes	434.04 ± 100.18
Weekends						
– sleeping time / night - Average ± SD	Minutes	576 ± 147.93	Minutes	594.75 ± 105.22	Minutes	556.61 ± 140.51
Do you go to school on foot - n (%)	Yes	8 (53.33%)	Yes	21 (52.5%)	No	422 (62.2%)
Physical activity out of school - n (%)	Yes	8 (53.33%)	Yes	22 (55%)	Yes	405 (59.6%)
3. Lumbago						
Low back pain at the moment - n (%)	No	11 (73.33%)	No	30 (75%)	No	494 (72.8%)
Low back pain at some time - n (%)	Yes	10 (66.67%)	Yes	35 (87.5%)	Yes	502 (73.9%)
4. Pain in last 3 months - n (%)	Yes	8 (53.33%)	Yes	28 (70%)	Yes	392 (57.7%)
*Pain intensity (0-10) - n (%)	Level 5	4 (40%)	Level 4	7 (20%)	Level 4	86 (17.13%)
*Pain in other area whilst suffering from lumbago?	Yes	6 (60%)	Yes	16 (45.71%)	Yes	266 (52.99%)
*Did you consult a professional - n (%)	No	7 (70%)	No	24 (68.57%)	No	337 (67.13%)
*Did you treat low back pain - n (%)	No	7 (70%)	No	24 (68.57%)	No	317 (63.15%)

^a 15 young people (questionnaire testing); ^b 40 young people (questionnaire test-retest); ^c 679 young people (evaluation of the internal consistency of the questionnaire)

* considering only young people who had suffered from low back pain at some point

influencing the results.

The internal consistency of the questionnaire was verified from the replies of 679 young people (school 3, step 3).

Statistical analysis

The descriptive analysis was carried out through the mean, standard deviation and frequency distribution of the data. The semantic analysis of the contents was carried out according to the content validity coefficient as proposed by Hernandez-Nieto.²⁴

The reproducibility was evaluated using the test-retest with an interval of seven days, to observe agreement between the measurements, being estimated using the intra-class correlation coefficient and by Spearman's correlation coefficient (for the variables with some difference between the test and retest). The internal consistency was analyzed by means of Cronbach's alpha.

A definition of consistency was used to analyze the type C intra-class correlation coefficient, adopting the mixed bidirectional effects model in which the effects of the people are randomized and those of the measurements are fixed. For single measurements the estimator was the same, whether the effect of interaction was present or not, whereas for mean measurements, the estimate was calculated considering that the effect of interaction was absent.

Intra-class correlation (ICC) indexes below 0.50 are considered unacceptable by the literature, values between 0.50 and 0.69 are acceptable, 0.70 to 0.79 are considered good, 0.80 to 0.89 are very good and above 0.90 excellent.²⁵ Values for Spearman's correlation coefficient (SCC) between -1 and 1 classify the instrument as reproducible. George and Mallery²⁶ classified the Cronbach's alpha as follows: above 0.9 excellent, 0.8 to 0.9 good, 0.7 to 0.8 acceptable, 0.6 to 0.7 questionable, 0.5 to 0.6 poor and below 0.5 unacceptable. The analyses were carried out using the Statistical Package for Social Sciences (SPSS) software, version 20.0, adopting a 5% level of significance.

RESULTS

The majority of young people who took part in the test were female, non-smokers and with no profession and they were all students. The other characteristics were described in Table 1.

Cross-cultural adaptation

The process of cultural adaptation produced the Brazilian version of the OLBPYQ [Appendix 1: original and Brazilian version (<http://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/8270/5201>)]. In the translation phase the original version was modified by the translators, and after re-translation to the language of origin, great similarity and equivalence with the original version was observed, and the questionnaire was considered suitable. Terms and expressions having greater familiarity for young Brazilians were used in the final version of the translation (Table 2).

The translated version of the questionnaire was sent to the experts with five dimensions – dimension 1: personal data (5 questions), dimension 2: physical activity at school (1 question), dimension 3: physical activity out of school (6 questions), dimension 4: occurrence of low back pain (2 questions) and dimension 5: low back pain in the last 3 months (11 questions). Table 3 shows the evaluations and the means of the scores attributed by the experts with respect to the construct contents. The experts evaluated the clarity and pertinence of the questions and, after a few corrections and suggestions, the modified instrument was again sent for analysis and considered suitable and valid, with a mean of 1.3 (agree without reserve) and coefficient of validity of 94%.

The instrument was then tested with young people, who suggested some modifications, improving the understanding and making it more succinct, consisting of 5 dimensions and 19 questions. All the modifications were approved by the author of the original version.

Table 2 - Modifications carried out during the translation process

Original (item or word Portuguese from Portugal)	Modification, final translation version (Brazilian Portuguese)	Modification, final translation version
5 dimensions and 25 questions	5 dimensions and 25 questions	5 dimensions and 25 questions
Q 1.1 Se és rapariga: Idade do 1º Período Menstrual	Q 1.1 Se és do sexo feminino qual a idade da primeira menstruação?	Q 1.1 If you are a female, how old were you when you had your first menstrual period?
Q 3.4 Nos últimos 3 meses, tuas deslocações de casa para a escola e de escola para casa, foram a andar a pé:	Q 3.4 Nos últimos 3 meses, teus deslocamentos de casa para a escola e da escola para casa, foram caminhando?	Q 3.4 In the last 3 months did you go from home to school and from school to home on foot?
Q 3.6... saltar à corda com os amigos	Q 3.6... pular corda com os amigos	Q 3.6... skipping rope with your friends
Q 5.11 Por vezes senti dores nas costas, mas mais ligeiras.	Q 5.11 Por vezes senti dores nas costas, mas passageiras.	Q 5.11 Sometimes I've had backache, but it did not last long.
Use of words: atividade física jogos electrónicos directo	Substitutions: atividade física jogos eletrónicos direto	Words / Substitutions physical activity electronic games direct

Table 3 - Analysis by the experts (suggestions and coefficient of validity) and pre-test with young people (qualitative evaluation)

Final translated version		Evaluation by the experts	Evaluation by the Young people
Dimension	Score/Mean (SD)	Corrections/Suggestions	
1 – Personal data Questions 1 to 5	2.3 (0.48)	- Change the pronoun in Portuguese. - Q3 include the alternatives: don't want to reply/don't know. - Leave the nr. of cigarettes as an open answer. - Q4 remove the alternative of student since it is obligatory. - Q5 remove the question about race/ ethnic group.	No suggestions.
2 – Physical activity at school Question 1	1.2 (0.4)	Suitable – no suggestions.	No suggestions.
3 – Physical activities out of school Questions 1 to 6	2.54 (0.52)	- Change the dimension to "Other activities". - Use hours per day instead of hours per week, since it is easier to remember. - Q2 change to: did you use a computer, tablet (or apparatus with similar functions)? - Q3 change whole hours to: how long on average. Separate weekdays from weekends since the sleeping times are different. - Q4 Change to: do you go from home to school and from school to home on foot? - Q5 and Q6 turn them into one question.	No suggestions.
4 – Occurrence of backache Questions 1 and 2	1.18 (0.4)	Suitable – no suggestions.	No suggestions.
5 – Low back pain in the last 3 months Questions 1 to 11	2.0 (0.63)	- Many questions seem to be repetitive. - Recommendation to make the questionnaire as short as possible.	- Transform the closed alternatives with numbers of times into open questions – makes it easier to reply. - Q5 remove this question since it is very difficult to give a reply to. - Q6 suggestion to put the figure with the names on the locations of each region. - Q8 remove this question since it appears to repeat an earlier one. - Q11 remove this question since it is very difficult to give a reply to.
Total: 5 dimensions and 25 questions	1.97 (0.51)	5 dimensions and 22 questions	5 dimensions 19 questions

Internal consistency and reproducibility

Table 4 shows the results obtained in the analysis of reproducibility and internal consistency.

With respect to reproducibility, the values for ICC went from 0.512 = acceptable to 1 = excellent, and for Spearman's correlation coefficient they went from 0.525 to 1 (Table 5), classifying the instrument as reproducible. As a measure of the internal consistency for the variables that measure pain, the instrument had a Cronbach's alpha = 0.757, which is considered acceptable.

According to the measurements calculated, the instrument is considered consistent and reproducible.

DISCUSSION

The results of this study indicated that the Brazilian version of the OLBPYQ questionnaire showed valid and reliable cultural adaptation. Although the instrument was subjected to some modifications during the translation, validation and testing steps, no difficulties were encountered in this process. The modifications carried out served to adequate the expressions and reach equivalence, while at the same time maintaining the attributes and precision of the original instrument. The adaptation of the questionnaire is an important step, since some of the original questions are not always applicable in other cultures.^{3,13}

The Oliveira questionnaire was chosen due to the fact

that it had been used in various studies in Portugal,²⁰⁻²² and attended to the need to raise data concerning symptoms of low back pain and associated risk factors, and it also presented a clear definition of lumbago. In a survey carried out to identify other studies about low back pain, only 81 out of 1200 documents were identified which provided a clear definition of the symptom, and the lack of such standardization makes it difficult to confront the present data with data from other studies.¹² The majority of the questionnaires used in standardized (validated and applied in different countries) studies on low back pain were those evaluating disability, fear or the catastrophizing of patients

already diagnosed with low back pain,^{27,28} since identifying the patient's behaviors and limitations helps in the choice of treatment²⁹ aimed at reducing the chronicity, reestablishing the health and returning to normal activities.^{5,6,27} However another approach reinforces the importance of identifying the risk factors in young people and adopting primary care, instead of only focusing on policies and treatments during adulthood and in already triggered cases.^{6,13,27,30} The OLBPYQ is thus aimed at detecting the problem as soon as the patient mentions low back pain, approaching questions such as occurrence, frequency, intensity and the risk factors which, according to the literature, point in the direction of

Table 4 - Reliability (Test – Retest) and internal consistency of the Oliveira Questionnaire on Low Back Pain in Young people

Dimension - Question	Type of scale	Reliability			Internal consistency
		Interclass correlation coefficient (ICC)			Cronbach's α
		ICC	IC (95%)	Classification	
1. Menarche, cigarette and profession					
Q1.1 – Menarche (age)	QTD	1	---	EXC	1
Q1.2 – Cigarette (smoke)	QLN		---		
Q1.2.1 – Age when started	QTD		---		
Q1.2.2 – Number per week			---		
Q1.3 – Profession	QLN	1	---	EXC	1
Q1.3.1 – Which?	QLN		---		
2. Physical activity at school					
Q2.1 – Physical activity in the physical education class?	QLN	1	---	EXC	1
Q2.1.1 – Time per week	QTD	1	---	EXC	1
If not, why not			---		
3. Other activities (cons. 3 months)					
Q3.1 – Time (hs/day) TV	QTD	0.974	(0.951 ; 0.986)	EXC	0.987
Q3.2 – Time (hs/day) comp./similar	QTD	0.984	(0.970 ; 0.991)	EXC	0.992
Q3.3.1 – Time sleeping (hs/night weekdays)	QTD	0.840	(0.718 ; 0.912)	EXC	0.913
Q3.3.2 – Time sleeping (hs/night weekends)	QTD	0.915	(0.846 ; 0.954)	EXC	0.956
Q3.4 – Go from home to school on foot	QLN	0.964	(0.932 ; 0.981)	EXC	0.981
Q3.4.1 – Time (hs/week)	QTD	0.959	(0.925 ; 0.978)	EXC	0.979
Q3.5 – Physical activity out of school	QLN	1	---	EXC	1
4. Lumbago					
Q4.1 – Low back pain at the moment	QLN	0.512	(0.243 ; 0.709)	ACE	0.678
Q4.2 – Low back pain at any time	QLN	1	---	EXC	1
Q4.2.1 – Age	QTD	1	---	EXC	1
5. Lumbago in the last 3 months					
Q5.1 – Pain in the last 3 months	QLN	1	---	EXC	1
Q5.2 – How many times/ don't know	QTD	0.978	(0.959 ; 0.988)	EXC	0.989
Q5.3 – Pain intensity	QLO	0.990	(0.981 ; 0.995)	EXC	0.995
Q5.4 – Duration of worst episode/ don't know	QTD	0.952	(0.912 ; 0.974)	EXC	0.976
Q5.5 – Pain in other region during lumbago	QLN	1	---	EXC	1
Q5.6 – Pain: ativity	QLN	1	---	EXC	1
Q5.7 – Did you consult with a professional	QLN	1	---	EXC	1
Q5.8 – Treatment of low back pain	QLN	1	---	EXC	1

Scale - QLN: qualitative nominal; QLO: qualitative ordinal; QTD: quantitative discreet. ICC classification - NA: not acceptable; ACE: acceptable; VG: very good; EXC: excellent; --- : information could not be calculated

Table 5 - Spearman's correlation coefficient

Variable	Sperman's correlation
TV time	0.974
Computer/ similar time	0.954
Sleeping time on weekdays	0.803
Sleeping time at weekends	0.933
Displacement on foot	0.964
Displacement time	0.969
Low back pain now	0.525
How many times low back pain in the last three months	1
Low back pain intensity	0.987

the outcome. As in other studies, the pain intensity in young people was detected through a visual analogical scale which has been considered valid and reliable.^{31,32} Low pain intensity and frequency should receive attention, since lack of care in these cases has shown a tendency to chronicity.^{7,9} It is known that the majority of people with lumbago deal with it themselves,²⁹ whereas the main preventative measures reside in the approach of seeking professional help and treatment as soon as the first symptoms appear.⁷

The OLBPYQ is also aimed at generating data capable of fostering greater discussion concerning the associated risk factors, and thus, as suggested by other studies, questions concerning physical activity,^{21,33,34} time spent playing computer games/ watching videos and TV,^{21,32,34} gender,^{21,34} sleeping time³¹ and others, were included.

The Oliveira questionnaire on low back pain in young people showed adequate reliability. The 1-week interval between the test and retest contributed to this result, since this period is considered suitable to prevent the students from remembering the replies they gave in the previous week, and at the same time not presenting changes in their habits or behaviors that could interfere with their replies.^{18,35} Decreased reliability has been reported with an increase in the number of days between the tests.¹⁷ The question with the least reliability in the Oliveira questionnaire referred to low back pain during the moment of filling it in. Although a 1-week period was considered adequate for the retest, it was sufficient time for the pain complaints of young people to undergo modifications, since the majority of young people reported more passing complaints.²¹ Contrarily to the others,^{18,35,36} the questions for this instrument involving the temporal perception of an activity presented excellent reliability. This difference between the studies could be related to the motivation of young people to fill in the questionnaire, since an individual's subjective perception as related to time, depends on factors such as interest and satisfaction.³⁶ According to those evaluated, the application of questionnaires during more theoretical classes, as in this study, tends to motivate students. The excellent value for reliability attributed to the questions involving temporal recall by the young people could also be related to the fact that the period was restricted to the last three months,

conferring less memory bias.

With respect to internal consistency, the Oliveira questionnaire obtained a 0.75 Cronbach's Alpha for the questionnaire itself and 0.68 to 1 for the questions, which show the questionnaire has stability, that is, there is variation in the replies of young people but not inconsistency in the questions used in the instrument.

The OLBPYQ can serve as an instrument to evaluate low back pain in young people, to be applied in schools, clinics and in surveys, since the language is accessible, it is easy to fill in and helps raise the factors associated with the symptom. Some methodological care involves a prior explanation of the instrument to young people. Maintenance of the 3-month period for questions involving the recall of events is recommended, thus decreasing errors due to memory bias over longer periods. It is recommended to check the period of data gathering (school term or school holidays) for a better contextualization of the symptom.

This study had some limitations: the size of our sample for the test-retest stage was suitable for statistical analysis, but we are not sure if a larger sample could give us better results; the values of the repeatability and reliability of the questionnaire depended on the memory and motivation of young people to answer it; the difficulty in finding validated instruments with the same definition of low back pain made the comparison of this questionnaire with others harder. Moreover, verification of convergent validity can be hampered when there are no validated questionnaires in the same language or even when the other existing instruments refer to different concepts or have a different focus.

CONCLUSIONS

The cultural adaptation of the Brazilian version of the OLBPYQ questionnaire was valid and reliable, with good repeatability and stability. Its use can be recommended in studies with young people to evaluate questions related to lumbago and associated risk factors. The standardization of this questionnaire is recommended by adapting it to other languages/cultures, standardizing the data and providing support for prevention and treatment.

ACKNOWLEDGMENTS

The author of the original version of the questionnaire authorized the validation and use of the instrument.

PROTECTION OF HUMANS AND ANIMALS

The study was approved by the Ethics in Research Committee of the State University of Santa Catarina, Brazil, with the Certificate for the Presentation of Appreciation of Ethics (CAAE) nº 35004014.4.0000.0118/2014.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication. All the participants signed a term of consent as did those responsible for them.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest. No funding was obtained for this study.

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FUNDING SOURCES

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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