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THE DEVELOPMENT AND VALIDATION OF A LOW BACK PAIN KNOWLEDGE QUESTIONNAIRE – LKQ

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OBJECTIVE: The objective of this study was to develop and validate a questionnaire on specific knowledge about low back pain entitled "The Low Back Pain Knowledge Questionnaire".
INTRODUCTION: There is a need for instruments to assess patient knowledge regarding chronic illness. Such methods can contribute to the education of patients.
METHODS: The Low Back Pain Knowledge Questionnaire was developed through five focus groups. The questionnaire was distributed to 50 patients to assess their comprehension of the terms. To assess the reproducibility, 20 patients were surveyed by two different interviewers on the same day and twice by a single interviewer with a one-to-two week interval. For the construct validation, the Low Back Pain Knowledge Questionnaire was given to 20 healthcare professionals with knowledge on low back pain and 20 patients to determine whether the questionnaire would discriminate between the two different populations. To assess the sensitivity of the questionnaire to changes in the knowledge level of the patients, it was given to 60 patients who were randomly assigned to the Intervention Group and the Control Group. The Intervention Group answered the questionnaire both before and after attending a chronic back pain educational program (back school), whereas the Control Group answered the questionnaire twice with an interval of one month and no educational intervention.
RESULTS: The focus groups generated a questionnaire with 16 items. The Spearman's correlation coefficient and the intra-class correlation coefficients ranged from 0.61 to 0.95 in the assessments of the intra-observer and inter-observer reproducibility ($p< 0.01$). In the construct validation, the healthcare professionals and patients showed statistically different scores ($p< 0.001$). In the phase regarding the sensitivity to change, the Intervention Group exhibited a significant increase in their specific knowledge over the Control Group ($p< 0.001$).
CONCLUSION: The Low Back Pain Knowledge Questionnaire was validated and proved to be reproducible, valid and sensitive to changes in patient knowledge.

KEYWORDS: Low back pain; Patient's knowledge; Education; Back school, Questionnaire.

INTRODUCTION

Non-specific chronic low back pain is considered a major health problem in industrialized countries. It leads to disability, absenteeism and considerable annual health costs.[1] The most common forms of treatment are medication, physiotherapy, surgery and educational interventions such as "back schools", where patients practice exercises, learn basic information about the vertebral column and low back pain and receive orientations regarding the conservation of energy and joint protection.

In the last ten years, there has been a tendency toward an educational focus associated with intensive functional restructuring programs, with the supervised training of activities that can be harmful if performed incorrectly.[2] Patient education can be improved with the adoption of consistent instruments that assess the disease-specific knowledge of patients. Such instruments can help educators identify individuals with a greater need for educational intervention. Valid, reliable methods can also help assess the

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effectiveness of education and rehabilitation programs such as back schools.

Educators have recognized the need for these tests and have begun to develop instruments to measure disease-specific patient knowledge.[3,4] There are a number of studies that have developed instruments to assess knowledge on chronic illnesses such as rheumatoid arthritis,[5,6] ankylosing spondylitis[7] and fibromyalgia.[8] However, there are no references in the literature on methods that assess patient knowledge regarding low back pain. Thus, the aim of the present study was to develop and validate a questionnaire to assess the disease-specific knowledge among patients with non-specific low back pain.

MATERIAL AND METHODS

Population

All of the patients were recruited from the rheumatology outpatient clinics of the Federal University of São Paulo. The subjects were men and women between 18 and 65 years of age with a diagnosis of non-specific chronic low back pain. The participants in all of the phases read and signed an agreement of informed consent. The study was approved by the Research Ethics Committee of the Federal University of São Paulo.

Development of the items and questions

The initial questionnaire was developed through the focus group (FG) process, consisting of a small discussion group coordinated by a facilitator. The make-up of the FGs followed the recommendations used in the construction of other questionnaires addressing disease-specific knowledge.[4,9]

The groups were interviewed by a rheumatologist with expertise in patient education who guided the discussions. For the size of the focus groups, the literature recommends a small number of informants (around five to twelve).[9] The aim of the FG was to suggest important items for the formation of the questions. These discussions were recorded and the researcher/observer took notes. Five FGs were formed by the following: I) four physicians; II) three physiotherapists and one physical educator; III) two occupational therapists and one nurse; IV and V) five patients each. These patients had to have at least four years of schooling and had to have previously participated in some type of educational intervention. We selected professionals who are specialized in spine disorders from different clinics (rheumatology, neurosurgery, orthopedic surgery, physical therapy, occupational therapy and nursing) working in university hospitals.

The developed questionnaire contained partially closed items considered important to the focus groups: general aspects (the anatomy of the spinal column, causes of low back pain, symptoms, diagnosis and prognosis), concepts and treatment. We used international guidelines[1,10,11,12,13,14] to define the topics and the correct answers.

The closure of questions

Based on the items and questions generated by the focus groups, the researcher and two rheumatologists formulated closed multiple-choice questions, some of which had more than one correct response. The number of correct alternatives was stated in the question itself so as not to confuse the interviewees. In order to avoid the possibility of patients responding without knowing the answer, the final response to all questions was "I don't know".

Question reduction

The items were analyzed by the same focus groups. In this stage, each question and alternative received a score from zero to five with regard to its importance, clarity, objectivity and the ease of comprehension of the terms employed. Only questions that had received scores of four and above were included in the questionnaire.

The pretest: the assessment of comprehension

Another 50 patients with low back pain participated in this phase. The inclusion criteria were any level of schooling and not having previously participated in any patient education or rehabilitation program. The patients were asked whether they understood each question and response option. Any question, option or word that was not understood by 20 percent or more of interviewees was reworded until reaching a comprehension level of over 80 percent.

Reproducibility

Twenty patients with any level of schooling and who had never participated in any education or rehabilitation program regarding the illness answered the LKQ three times. For the inter-observer evaluation, the interviews were conducted by two examiners on the same day with a one-hour interval. For the intra-observer evaluation, the interviews were conducted by a single examiner on two occasions with a six-to-fourteen-day interval.

Validity

The face and content validities were determined through

the judgment of the focus groups to assess whether the LKQ encompassed all of the relevant low back pain items and whether the questions adequately addressed each item. The construct validity assessed whether the LKQ discriminated between the two different populations. In this phase, the questionnaire was given to 20 healthcare professionals with knowledge of the illness and 20 patients without the specific knowledge. The scores from the 20 patients who participated in the reproducibility phase were used.

Sensitivity to change

Sixty patients with low back pain, any level of schooling and who had never participated in any patient education or rehabilitation program were assessed. Patients were randomized by lots into two groups: the Intervention Group (IG) underwent an education program (back school) and the Control Group (CG) was placed on a waiting list. The IG answered the questionnaire both before and after the back school, whereas the GC answered the questionnaire on two separate occasions with a one-month interval. The questionnaire was always applied by the same "blind" interviewer. The back school was conducted by a physician and a physiotherapist who provided information on the items addressed in the LQK. The classes had both theoretical and practical content, lasted an average of one hour and were held once a week for four weeks. Groups of between five and ten patients participated.

The major literature describing this type of questionnaire used sample sizes from 20-40 patients to test the reliability and validity of self-assessment instruments.[4,9]

Statistical analysis

The clinical-demographic characteristics of all of the patients in all phases were assessed using a descriptive analysis (the average and standard deviation).[15] Spearman's correlation coefficient (SCC) and the intra-class correlation coefficient (ICC) were used for the assessment of inter-observer and intra-observer reproducibility.[15] The internal consistency of the questions was assessed using the Cronbach's alpha coefficient.[16] The Mann-Whitney test was used in the construct validation of the LKQ to compare the average scores between the healthcare professionals and patients because the data were not normally distributed.[16] The Student t-, Mann-Whitney and Chi-square tests were used to address the sensitivity of the LKQ to change in order to determine the homogeneity of the groups in relation to their age, schooling and gender. A repeated measures ANOVA was used for comparison of the average LKQ scores in all of the topics as well as in the two groups and on the two separate occasions.[17] The significance level for the statistical tests was set at 5 percent or $p< 0.05$.

Translation into English

The questionnaire was translated into English by two translators with experience in medical text translation. The two versions were revised, compared and fused into a single version by three physicians (Appendix I). This new version was then back-translated into Portuguese and compared to the original version.[18]

RESULTS

Construction of the LKQ and the assessment of comprehension

Among the ten patients who participated in the focus group, the average age was 46.0 years, ranging from 26 to 65; four of the patients were female and six were male, with an average of eight years of schooling. The questionnaire initially had 26 questions, but was reduced to 16 questions. Two questions were eliminated for receiving less than four points when analyzed by the focus group with regard to the importance, clarity, objectivity and ease of comprehension. The other eight were considered redundant. In the pretest phase, Questions 1 (option a), 9 (options b and c), 11 (option d), 12 (option c) and 16 (options b and d) failed to reach the pre-established standard of comprehension by at least 80 percent of the interviewees. These questions were then modified and achieved the comprehension standard when the LKQ was given to another 20 patients. The final version of the questionnaire was made up of 16 multiple-choice questions divided into three topics: general aspects (Questions 1, 6, 7, 8, 15), with a maximum score of nine; concepts (Questions 2, 3, 4, 5), with a maximum score of four; and treatment (Question 9, 10, 11, 12, 13, 14, 16), with a maximum score of 11. The overall maximum score of the questionnaire was 24 (Appendix I).

Assessment of the measurement properties

Reproducibility

Regarding the clinical and demographic characteristics of the 20 patients with low back pain included in the reproducibility assessment of the LKQ, 13 were women and 7 were men, with an average age of 44.3 years and 9.4 years of schooling. Spearman's correlation coefficient in the inter-observer assessment obtained statistically significant values ($p< 0.01$) ranging from 0.69 to 0.86, revealing a high level of reproducibility. The

intra-class correlation coefficients were also statistically significant (p< 0.01), ranging from 0.80 to 0.94 and also demonstrating the high reproducibility (Table 1). The internal consistency was measured using Cronbach's α, which was 0.71 for Observer 1 and 0.77 for Observer 2.

Table 1 - The inter-observer reproducibility according to the Spearman's correlation coefficient (SCC) and the intra-class correlation coefficient (ICC). The averages (standard deviation) of the two observers for each topic and the overall LKQ score are listed

LKQ Domains	**Average (SD)**		**Coefficient**	
	Obs A1	**Obs B**	**SCC**	**ICC**
General Aspects	4.50(1.96)	4.65(2.32)	0.70*	0.84*
Concepts	0.50 (0.69)	1.00 (0.97)	0.69*	0.80*
Treatment	4.80 (2.22)	5.00(2.22)	0.85*	0.92*
Overall score	9.80 (4.19)	10.65(4.82)	0.86*	0.94*
Internal consistency (a Cronbach)	0.71	0.77		

SD- standard deviation; SCC- Spearman's correlation coefficient; ICC- Intra-class correlation coefficient; Obs A1- First observer; Obs B- Second observer; * p<0.01

In the assessment of intra-observer reproducibility, the Spearman's correlation coefficient and the intra-class correlation coefficient were statistically significant (p< 0.01), varying from 0.61 to 0.86 and from 0.75 to 0.95, respectively and revealing a high level of reproducibility. Cronbach's α was 0.71 in the first evaluation and 0.74 in the second (Table 2).

Table 2 - The intra-observer reproducibility according to the Spearman's correlation coefficient (SCC) and the intra-class correlation coefficient (ICC). The averages (standard deviation) of the two observations for each topic as well as the overall LKQ are listed

LKQ domains	Average (SD)		Coefficient	
	Obs A1	Obs A2	SCC	ICC
General Aspects	4.50(1.96)	4.70 (2.13)	0.74*	0.87*
Concepts	0.50(0.69)	0.75 (0.91)	0.61*	0.75*
Treatment	4.80(2.22)	4.90 (2.22)	0.79*	0.90*
Overall score	9.80(4.19)	10.35 (1.01)	0.86*	0.95*
Internal consistency (Cronbach's a)	0.71	0.74		

SD- standard deviation; SCC- Spearman's correlation coefficient ICC- Intra-class correlation coefficient; Obs A1- Initial observation; Obs A2- Observation by same observer seven to 14 days following the initial observation; * p< 0.01

Construct validity

The 20 patients who participated in this step were the same patients who participated in the reproducibility phase and therefore, their clinical-demographic variables were described above. The group of healthcare professionals was made up of 13 physicians, five physiotherapists and two occupational therapists specialized in spinal column diseases. Table 3 shows the averages (standard deviation) of the domains and the overall LKQ score. The scores were statistically different between the groups for all of the topics. The overall score was 23.55 for the healthcare professionals and 9.80 for the patients (p< 0.001).

Table 3 - The construct validity of the LKQ, comparing the scores between the healthcare professionals and the patients using the Mann-Whitney test

LKQ domains	Score (average – SD)		P*
	Patient	Professional	
General Aspects	4.50(1.96)	8.85(0.36)	<0.001
Concepts	0.50(0.68)	3.90(0.30)	<0.001
Treatment	4.80(2.21)	10.80(0.41)	<0.001
Overall score	9.80(4.18)	23.55(0.60)	<0.001

SD= standard deviation *p<0.001

Sensitivity to change

The clinical-demographic characteristics of the 60 patients who participated in this step reveal the homogeneity of the groups (Table 4).

Table 4 - The clinical-demographic characteristics of the patients included in the assessment of the sensitivity to change

Variable	CG	IG	p
Age – average (SD)	52.47 (8.99)	50.07 (10.58)	0.35*
Schooling (Complete years)	5.60(3.5)	6.80(4.3)	0.26**
Gender - female: male	19:11	19:11	1.00***

SD = standard deviation; CG = Control group; IG = Intervention group; *t-student; ** Mann Whitney; ***Chi-Square

Table 5 displays the sensitivity to change as assessed by an ANOVA for the repeated measures. In the initial evaluation (TO), the groups were homogeneous regarding their knowledge. There was a significant increase in knowledge among the members of the IG over those of the CG following the intervention. The average overall LKQ score at T0 was 9.4 for the CG and 9.1 for the IG. In the second evaluation (T1), the overall score was 9.1 for the CG and 16.0 for the IG (p< 0.001). The variation in the scores between the groups over time was significant (p< 0.001). In this phase, we had a loss of one patient from the IG. In

Table 5 - The assessment of the sensitivity to change for all LKQ topics

LKQ Domains	Scores (SD)				P*
	Control Group (CG)		Intervention Group (IG)		
	T0	T1	T0	T1	
General Aspects	4.2 (1.82)	3.7 (2.01)	3.8 (2.05)	5.9 (2.49)	<0.001
Concepts	0.9 (0.81)	0.9 (0.77)	1.0 (1.21)	2.3 (1.51)	<0.001
Treatment	4.4 (2.09)	4.0 (1.99)	4.3 (2.11)	7.8 (2.95)	<0.001
Overall score	9.4 (3.57)	8.6 (3.82)	9.1 (4.74)	16.0 (6.08)	<0.001

SD: standard deviation; T0: initial evaluation; T1: final evaluation

the evaluation of this individual's data, we considered the possibility of no improvement and simply repeated the same scores from the initial evaluation.

DISCUSSION

Education programs benefit patients with chronic conditions mainly through improvements in self-efficacy, which is defined as the expectation an individual has in their ability to successfully achieve a beneficial change. These programs also determine the acquisition of disease-specific knowledge, which allows patients to participate in their own care.[19] Patient education is accepted as an important part of the therapeutic arsenal in the treatment of chronic diseases. However, the best manner of carrying out the education process has not yet been well defined. Regarding low back pain, there are a number of ways to achieve patient education. Back school is the most well-known and most commonly used method. Whatever the method employed, it is important to assess whether the patient has indeed acquired the knowledge. For some diseases, this assessment is accomplished by means of questionnaires on the specific knowledge related to diseases such as rheumatoid arthritis and fibromyalgia.[8,20]

The aim of the present study was to develop a questionnaire to assess the disease-specific knowledge among patients with non-specific low back pain. The recommendations in the literature were followed in order to develop a method that is valid, reproducible and capable of detecting changes.[4] The questionnaire was created through focus groups, with the participation of both healthcare professionals and patients alike so that the instrument would encompass the areas considered important for both the treatment of the condition as well as for the patients themselves. This minimized the possibility of developing a questionnaire that only assessed the issues considered important to just one of the groups involved.[9] We used the international guidelines[1,10] to define the topics and the correct answers. The Low Back Pain Knowledge Questionnaire (LQK) was applied through interviews due to the low level of schooling and unfamiliarity with self-applicable questionnaires among the sample of patients, which could hinder the adherence or even the performance.

The average age in the different steps of the questionnaire development process ranged from 44.3 to 52.5 years. Similar results are found in the literature.[21,22] There was a predominance of women, probably due to the fact that women are generally more interested in participating in clinical studies of this nature. Other studies assessing low back pain interventions also observed a predominance of women.[23,24]

The level of schooling is one of the social development indicators assessed in a number of studies because there is a close relation between level of schooling and social development.[25] In the present study, the average schooling, as measured in the completed years of study, ranged from 5.6 to 9.4. This factor may have negatively influenced the study, as the patients with lower levels of schooling may have had greater difficulties in understanding the questions as well as greater difficulties during the learning phase in the step regarding the sensitivity to change. On the other hand, our sample accurately reflects patients in the Brazilian population, who have low levels of schooling. In the last census held, just 6.8% of individuals 25 years of age or older had concluded higher education courses in the country.[26] The average number of years of study also coincides with that used for the development of other questionnaires employed to assess knowledge in our general health field.[8,20]

The low level of schooling probably also played a role in the difficulty patients experienced in the comprehension phase, which led to the replacement of a number of terms for more common words. No technical or medication names were changed because we did not consider this factor to be a lack of comprehension, but rather a lack of familiarity with the terms. Following these modifications, the questionnaire was understood by over 90 percent of the respondents.

In the intra-observer and inter-observer reproducibility assessment, the Spearman's correlation coefficient and the intra-class coefficient demonstrated satisfactory correlations

in all of the LKQ topics. The lowest coefficients were related to the concepts. This is perhaps due to the considerable difficulty patients experience in discerning their individual clinical condition from among the various medical definitions healthcare professionals use. This difficulty, together with a low level of disease-specific knowledge, may have caused the variability in the responses. The inter-observer evaluations generally presented higher coefficients than the intra-observer evaluations. Although the interviews were conducted by different observers, they were held on the same day. This short interval between the interviews may explain the higher correlation between the scores.

In the construct validity phase for the LKQ, the average scores of the healthcare professionals were higher than those of the patients. This demonstrates that the questionnaire was capable of discriminating between two populations with different levels of knowledge. No comparison was carried out between this questionnaire and any other instrument because there is no valid questionnaire in the literature that assesses knowledge on low back pain.

There was a low level of knowledge among the patients in the present study regarding their illness. Cedraschi et al. (1996) found a similar result in a study assessing the difference in the knowledge between patients with chronic low back pain and healthcare professionals who administered a back school. This assessment was carried out with the spontaneous definitions given by the patients and healthcare professionals regarding 11 terms: arthrosis, disk, herniated disk, sciatica, curvature of the spine, musculature, psychological, change of habit, prevention, joint protection and conservation of energy. An interviewer posed questions such as "What does arthrosis mean to you?" before a back school intervention as well as one month and one year following it. A large difference in knowledge was found between the patients and healthcare professionals before the back school, with a reduction in this difference after the intervention. However, the assessment of knowledge in the study was not performed with the use of a valid questionnaire.[27]

The average number of correct responses from patients in all phases of the present study was below 50 percent (9 correct answers), with a broad range from 0 to 23 in a total of 24 responses. Considerable variability in the level of disease-specific knowledge has also been observed in other studies on chronic diseases such as fibromyalgia,[8] rheumatoid arthritis[4,20] and psoriatic arthritis.[7] It is important to stress that our patients exhibited relatively good knowledge with regard to treatment when compared to the other domains (the general aspects and concepts). The considerable amount of available information in the media on new medications and therapies for low back pain may have partially contributed to the knowledge the patients had acquired. In the phase assessing the sensitivity to change, there was a relative improvement of the patients who attended the back school. The average number of correct responses before the school was 9.1 from a total of 24. After the intervention, this average rose to 16 correct responses. Patients exhibited a lower level of knowledge acquisition in the concepts topic, perhaps due to the difficulty in discerning their own diagnosis from among the various medical definitions.

Although back schools have been well known and used as one of the treatment options for non-specific chronic low back pain, controversy remains regarding their actual effectiveness.[1] Increased knowledge probably does not imply a direct clinical improvement, but rather an indirect improvement in managing the condition and pain triggering factors, and an increase in joint protection measures. The true impact of education programs is difficult to quantify. In chronic diseases, the development of questionnaires to assess the initial knowledge of patients with regard to the disease could help identify patients that may benefit from the intervention. A second application can assess the effectiveness of back schools with regard to the acquisition of disease-specific knowledge among the participants.

Patients with chronic low back pain require a multidisciplinary approach aimed at treating the condition, which is the principal goal of back schools. Ribeiro (2007) assessed a back school held at our institution and found an improvement in general health among patients with chronic low back pain, as well as a reduction in the consumption of acetaminophen and anti-inflammatory medications.[28] However, there was no assessment of whether the clinical improvement was related to the knowledge acquired. This was due to the lack of an assessment tool on low back pain knowledge. Our study offers an instrument that is capable of assessing the specific knowledge of this condition in our population, thereby enabling the detection of possible flaws in the education programs. Further studies are needed to determine whether a lack of knowledge is related to a worsening of the condition and whether a gain in specific knowledge benefits the patient in both psychological and clinical terms.

The choices of the items used in the development of the questions reflected the opinions of local healthcare professionals and patients, which are not always applicable to every population or lifestyle. Cultural adaptation and validation in the population to be studied is important. The following steps are required for the present questionnaire to be used in other cultures: translation into the language of the study population, verification and adjustment of the terminology to the local culture, and the application of the changes necessary for its use in the target population.[19,29]

CONCLUSIONS

The LKQ was validated and proved to be reproducible, valid and sensitive to change.

Supported by the ethical comitee of Federal University of Sao Paulo, SP, Brazil

APPENDIX 1 - Low Back Knowledge Questionnaire - LKQ

The purpose of this questionnaire is to evaluate your knowledge of low-back pain. Mark the correct or incorrect alternative according to each question, if you don't know the answer, mark the option "I don't know".

1) In regards to the general anatomy of the spinal column, mark ONE incorrect alternative:
a) It has the cervical, thoracic and lumbar vertebrae and the sacrum.
b) Between each vertebra, there is an intervertebral disc that acts as a "shock absorber".
c) The vertebrae form a canal through which the spinal cord passes.
d) The back and abdominal muscles have no function in supporting the spinal column.
e) I don't know.

2) What is low back pain? Mark ONE correct alternative:
a) pain located between the lowest ribs and the pelvis
b) pain between the lowest ribs and the pelvis that radiates down the leg to the foot
c) pain in any region of the back, from the neck to the hip
d) pain in the abdomen, lower part of the pelvis or kidneys
e) I don't know.

3) What is acute low back pain? Mark ONE correct alternative:
a) pain in the lumbar region that usually improves in three weeks, with or without treatment
b) untreatable pain in the lumbar region
c) pain in the lumbar region requiring surgery
d) pain in the lumbar region lasting more than 3 months
e) I don't know.

4) What is chronic low back pain? Mark ONE correct alternative:
a) pain in the lumbar region that usually improves in three weeks, with or without treatment
b) untreatable pain in the lumbar region
c) pain in the lumbar region requiring surgery
d) pain in the lumbar region lasting more than 3 months
e) I don't know.

5) What is sciatica pain? Mark ONE correct alternative:
a) pain located between the lowest ribs and the pelvis
b) pain between the lowest ribs and the pelvis that radiates to the leg down to the foot
c) pain in any region of the back, from the neck to the hip
d) pain in the abdomen, lower part of the pelvis or kidneys
e) I don't know.

6) These can cause low back pain. Mark TWO correct alternatives:
a) cold and aging
b) postural problems, arthrosis and a herniated disc
c) tumors, infections and fractures
d) diabetes
e) I don't know.

7) These are symptoms of low back pain. Mark TWO correct alternatives:
a) a cough, sluggishness and loss of energy
b) tiredness and pain throughout the body
c) pain in the lumbar region that worsens when carrying weight
d) difficulty in picking up objects from the floor
e) I don't know.

8) What is needed for the diagnosis of low back pain? Mark TWO correct alternatives:
a) Magnetic resonance imaging (MRI) and computerized tomography (CT scan) are always needed.
b) An x-ray is not always needed.
c) The diagnosis is often possible through the medical history and physical exam of the patient without the need of supplementary exams.
d) laboratory tests such as glycemia, cholesterol and urine are always needed.
e) I don't know.

9) In regards to drug treatment for low back pain, mark ONE incorrect alternative:
a) Anti-inflammatory medicines and analgesics may be used during acute crises.
b) Corticosteroids may be necessary during an acute crisis.
c) Antidepressants and anticonvulsants may be used for chronic low back pain.
d) Topical medications such as gel, plasters or ointments are always indicated.
e) I don't know.

10) In regards to the treatment for acute low back pain. Mark TWO correct alternatives:
a) One week of absolute bed rest is indicated.
b) Definitive sick leave from work is indicated.
c) Low back pain may improve even without treatment.
d) The least possible rest is indicated.
e) I don't know.

11) What can be used to treat chronic low back pain? Mark TWO correct alternatives:
a) the long-term use of anti-inflammatory medicines
b) instructions on spine protection and exercises
c) abdominal supportive belt when performing heavy-duty activities
d) Physical means such as short waves, ultra-sound, and Bier's oven which are more important than oriented physical exercises.
e) I don't know.

12) In regards to physical activity and low back pain, mark ONE incorrect alternative:
a) Walking three times a week for an hour can improve chronic low back pain.
b) Intensive exercises are indicated for acute low back pain.
c) Aquatic activities may be beneficial to the patient with chronic low back pain.
d) The most highly recommended exercises are strengthening of the abdomen and the back muscles, stretching and physical conditioning.
e) I don't know.

13) To protect the spine, mark TWO correct alternatives:
a) The best way to sleep is on your stomach.
b) Sit down to put on your socks and shoes.
c) Pick up objects from the floor without bending your knees.
d) Wash the dishes with your stomach leaning against the sink.
e) I don't know.

14) Again, in relation to spinal protection, mark ONE incorrect alternative:
a) You should get out of bed carefully, turning sideways with the help of our hands.
b) Avoid carrying too much weight on one side of the body (divide the load between both arms).
c) Avoid twisting of the spine.
d) Wear high heels all day.
e) I don't know.

15) In regards to acute low back pain, mark TWO correct alternatives:
a) The great majority of patients recover in three weeks.
b) After recovery and improvement of the pain, the patient is cured and there is no risk of further crises.
c) Instructions on how to protect the spine are only important during the crisis.
d) The orientations for spine protection and energy conservation should be routine in patients with a history of low back pain because relapses are frequent.
e) I don't know.

16) In regards to surgical treatment for low back pain, mark TWO correct alternatives:
a) It is indicated in few cases.
b) It may be important in cases with nerve root compression and spinal column instability that do not improve with clinical treatment.
c) Surgery guarantees the cure of low back pain.
d) It is the best treatment for any type of low back pain
e) I don't know.

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