Impact of Biomedical and Biopsychosocial Training Sessions on the Attitudes, Beliefs and Recommendations of Health Care Providers about Low Back Pain: A Randomised Clinical Trial

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INTRODUCTION

Low back pain (LBP) patients suffer from a wide range of physical limitations, ranging from minimal impairments to severe disability. Several studies have found poor correlations between structural damage to the spine and disability levels. In addition, these studies have found that psychosocial factors can have a greater influence than biomedical or biomechanical factors in the transition from acute to chronic pain. Several factors are predictive of disability in patients with LBP, including the patients' beliefs and attitudes toward pain. Based on these findings, a biopsychosocial model has been proposed to explain the process by which LBP causes disability and which factors may result in the pain becoming chronic.

Over the last few years, more attention has been focused on understanding how the beliefs and attitudes of health care providers may influence their patients. The impact of health care providers on patients can contribute to chronic LBP disability by modifying the patients' perceptions of the consequences of the disease, generating new attitudes by paying excessive attention to the disease or by restricting the patients' daily activities.

In the absence of severe medical pathology or neurological impairment, clinical practice guidelines (CPG) encourage physical activity, despite pain, and recommend that patients continue with normal daily activities and return to work as soon as possible. Nevertheless, evidence shows that doctors and physical therapists have difficulties following these guidelines. Among these difficulties are the beliefs and attitudes about LBP of clinicians, regardless of their knowledge of CPG recommendations.
The health care providers' conceptualisations of LBP and disability may also influence the recommendations they provide to their patients. Rainville developed the HC-PAIRS (Health Care Providers Pain and Impairment Relationship Scale) questionnaire to measure these beliefs. A high score on this scale suggests that the clinician believes that the patients limited activity and disability is totally understandable and justified by the pain suffered by the patient. This author found differences in the scores of the health professionals (doctors, physical therapists, psychologists and nurses) serving the general population of patients and those working in a functional-restoration clinic. These results suggest an influence of education level and workplace on the knowledge of the relationship between LBP and disability. Other studies have confirmed that beliefs about pain and disability among health care professionals and physical therapy students correlate with their recommendations to their patients.

These clinical practice "styles" should be modifiable through a process of continued medical education, although there have been several reports suggesting the opposite. Beliefs and attitudes are not learned intentionally and may be secondarily reinforced or suppressed depending on the style of medical education. An excessively biomedical style of undergraduate training can indirectly increase negative beliefs and attitudes about LBP, whereas instruction following a biopsychosocial model could possibly lessen these negative beliefs in health professionals.

The objectives of this study were to determine the effectiveness of two brief educational modules with different orientations (i.e., biomedical or biopsychosocial) on changing the beliefs and attitudes of students and to verify whether there were also changes in the recommendations given to their patients.

METHODS

Sample

One hundred and seventy second-year physical therapy students participated in the study. Prior to inclusion in the study, all participants received theoretical and practical lessons on managing LBP, following the recommendations of the CPG, as part of their regular curriculum. The students had observed patients with back pain in clinical settings but had not directly managed or treated patients without supervision.

The variables obtained from the HC-PAIRS questionnaire were used as a reference in the sample size calculation. Studies that have used this questionnaire found that the standard deviations of the results obtained from different groups of health care workers (general practitioners, orthopaedic surgeons and physiotherapists) were very uniform, ranging from 8.46 to 10. To calculate the statistical power we used the value of 9 as standard deviation because this value is the median of the range in the aforementioned previous studies. A variation in the score on the HC-PAIRS scale of one-half of a standard deviation was considered clinically relevant (4.5). For a Type I error of 0.05 and a beta power of 90% to reject the null hypothesis, the minimum number of participants was 76 in each group (SISA binomial).

Procedure

Students were randomised into two groups. The experimental group received a specific education module based on the biopsychosocial model of back-pain management, and the control group received lectures on the biomechanics of the spine. To avoid a possible contamination bias, the participants were assigned to each group through a cluster randomization process, so the students in each group were the same students who had attended regular classes and practices together throughout their coursework. The cluster size for randomization was 40 participants since this is the normal group size for attending lectures. These groups are formed at the beginning of each academic course by the administrative staff of the University, without knowledge of academic achievement or other consideration. The investigators had no influence in this group assignment.

The intervention in the experimental group consisted of two three-hour sessions, one week apart. The intervention sessions explained the general biopsychosocial model, the psychological and social factors that influence low back pain and the recommendations of the CPG, with a particular emphasis on the yellow flags. The biopsychosocial model ideas were based on the book by Waddell "The back pain revolution" and included the concepts and the relation between pain, structural damage and disability in LBP patients (Waddell 2004). A brief explanation of the fear avoidance model was also included (Leew 2007). The participants reviewed some studies that demonstrate the weak association between spinal structural damage with pain and disability and others that emphasize the role of psychosocial factors (Carragee 2005, Picavet 2002, Grotle 2004, Jarvik 2005). The concept of yellow flags and the recommendations to assess psychosocial factor in LBP followed the contents of the New Zealand and COST B-13 CPG (Kendall 1999, Airaksinen 2006). The learning methodology involved the discussion of clinical cases with the assistance of patients, where the students were invited to participate actively in the discussions. The educational sessions in the control group also consisted of two three-hour sessions one week apart. However, in these sessions the basics of the anatomy, biomechanics and pathophysiology of back pain were taught, mainly following the contents of the book "Clinical Anatomy of the Lumbar Spine and Sacrum". Students were given no instructions with respect to advising patients to rest or limit activities to treat their back pain.

The participants completed the following questionnaires both before and after the intervention:

FABQ

The Fear-Avoidance Beliefs Questionnaire (FABQ) was developed to measure the attitudes and beliefs about fear of movement and avoidance responses in general and during physical and occupational activities in LBP patients. It consists of 16 independent sentences that are rated by the subject using a seven-point Likert scale, ranging from 0 ("completely disagree") to 6 ("completely agree"). The questionnaire is divided in two subscales. The FABQ-Work is composed of seven sentences, which assess the patient's attitudes and beliefs about how occupational activities may influence his or her low back pain. The FABQ-Physical Activity is composed of four sentences, which measure attitudes and beliefs about general physical activities. For both subscales, a high score indicates strong fear-avoidance beliefs. This questionnaire has been validated in the Spanish language. Although the FABQ was originally designed for patients, it has also been used to measure the beliefs and attitudes of family physicians and rheumatologists.

HC-PAIRS

The HC-PAIRS is a questionnaire for assessing the attitudes and beliefs of health care providers about chronic LBP. It consists of 15 statements suggesting that pain justifies impairment and disability. Each statement is followed by a seven-point Likert scale where the subject rates his agreement from 1 (completely disagree) to 7 (completely agree). Higher scores suggest greater agreement with the notion that back pain requires the avoidance of activities and justifies disability.

Rainville Clinical Cases Questionnaire

Rainville assembled a questionnaire based on three clinical case scenarios to explore physicians' perceptions of the severity of symptoms, the severity of pathology and their recommendations for work and activity levels. All the scenarios describe the symptoms, relevant physical findings, diagnostic test results and previous treatments of patients who are out of work because of their back pain. The three scenarios represent different degrees of spinal pathology, symptoms and work requirements, but none gives any evidence of structural damage or neurological compression which would require surgery. For each scenario, the participants are asked to give their opinions about the severity of the symptoms and the severity of the spinal pathology by selecting a response from five graded options ranging from 1 (very mild) to 5 (extremely severe). For each scenario, the participants are also asked to assess the patient's ability to work, graded from 1 (full-time, full-duty), to 5 (remain out of work). Finally, the participants are asked to recommend what they think is the appropriate level of activity for each patient, with choices ranging from 1 (no limitations on activity) to 5 (limit all physical activity).

The physical therapy students were told that the procedure was not an exam and there were no correct responses, so that they would feel free to express their actual thoughts and beliefs when choosing their responses to the questionnaires. Two of the authors were present during each session. The procedure for this project was approved by the local institutional review board.

Analysis

Demographic data

For each group (control and experimental), descriptive statistics were calculated for age, academic competence and gender. The frequencies of participants with previous LBP, participants with either a long duration (more than a week) or a short duration (less than a week) of back pain, and participants with present LBP were also calculated.

Changes in attitudes

To evaluate any changes in attitudes, a total of seven dependent variables were considered: FABQ-W scores, FABQ-Phys scores, HC-PAIRS scores, the perceived severity of symptoms and pathology and recommendations for work and activity levels.

In order to identify any differences between the control and experimental groups, seven analyses of covariance (ANCOVAs) were conducted, one on each dependent variable. In all the tests, the independent variable was the group (Control or Experimental), while the covariate variable was the baseline level of each of the dependent variables. It was necessary to have comparable levels in both groups, so as to interpret correctly the ANCOVA results. Therefore, we performed seven t-tests, one for each dependent variable, considering the group as an independent variable in each case.

Furthermore, to test whether or not the changes in the control and experimental groups were produced differentially, seven variance analyses were performed, one on each dependent variable. In all cases, the independent variables were the group and the time of data collection (either before or after the sessions). In this analysis, we only studied the possible presence of an interaction effect, because it was the only result of relevance.

The recommendations given in the three different clinical scenarios were classified as adequate according to the CPG when participants chose either of the first two items in the activity category (no physical activity limitation or avoid painful activities) and in the work activity (work full time at full duty or work full time at moderate duty). We considered the medium-level recommendations for activity (limit activities to moderate exertion) and work (work light duty, full time) as neutral, and we considered recommendations for activity in the last two categories (4 and 5) (limit activities to light exertion or limit all physical activities, respectively) and for work (work part time with light duty or remain out of work, respectively) as inadequate.

A chi-squared test was used to determine whether or not there was a change in the recommendations. Pearson correlations were also calculated for the FABQ-W scores, the FABQ-Phys scores, the HC-PAIRS scores, the symptoms and perception of disease severity and the recommendations for work and activity levels after the interventions.

RESULTS

Eighty-two participants were randomly assigned to the control group and eighty-eight to the experimental group. Four participants had more than two blank fields in several of their questionnaires, so they were excluded from the analysis. Three participants had more than two blank fields in a single questionnaire, so only the incomplete questionnaire was excluded in these cases. Six participants submitted questionnaires with only one empty item. These questionnaires were not removed, and the blank item was completed with the average value of the scale. The final sample size was 79 students in the control group and 87 in the experimental group. Three of the physical therapy students in the experimental group and one in the control group had prior degrees in nursing. The demographic characteristics are shown in Table 1.
The results from the t-tests performed to check differences between the groups in pre-intervention measurements are shown in Table 2. There were no statistically significant differences between the groups, indicating that the participants had similar fear and avoidance beliefs, as well as similar beliefs about the relationship between pain and disability.
Prior to the education sessions, there were also no differences between the two groups in their perceptions of both the symptoms and severity of the pathology or in their average treatment recommendations. Additionally, no differences were observed in the scores of the participants with or without a history of current or previous LBP on the total FABQ, FABQ-Phys, FABQ-Q and HC-PAIRS or in their recommendations for work and activity levels.

The results from the ANCOVAs (Table 3) indicate that all the dependent variables were significantly different after the educational sessions. The participants assigned to the experimental group had significantly reduced scores on the FABQ-W, HC-PAIRS and FABQ-Phys, and their perceptions of the severity of symptoms and pathology were also reduced. The recommendations for work and activity levels given in the clinical scenarios test also varied significantly in the experimental group, and more closely followed the recommendations of the CPG.
The ANOVAs used to verify the existence of interactions between the timing of the data collection and the groups showed significant interactions between the variables ($p<0.001$ in all cases). The simple effects tests showed that there was a significant increase in the scores on the FABQ-W subscale in the control group receiving

educational sessions on biomechanics ($p<0.01$ in all cases). The perceived severity of symptoms remained unchanged, and although the perception of the severity of the disease did increase, it was not quite statistically significant ($p = 0.053$). The recommendations for activity levels significantly changed ($p = 0.001$), with more subjects restricting activity, although the work recommendations remained unchanged.

The correlations are presented in Table 4. Following the educational sessions, the scores on the FABQ-W, FABQ-Phys and HC-PAIRS were well correlated with the recommendations for work and activity levels and with the perceptions of symptoms and perceived severity of the disease. The increased perception of severity of symptoms and pathology were also positively correlated with greater restrictions on work and activity levels.

The adherence of the recommendations of the subjects to the CPG guidelines is shown in Table 5. The results indicate that most participants did not follow the guidelines before the interventions. Previously to the teaching sessions there were no differences between the groups, except for the work recommendations in Clinical Scenario 2, and these differences were probably random. After the sessions, the recommendations of the experimental group improved significantly compared to the control group. Moreover, contrary to our expectations, the response rate was significantly less consistent with the CPG for recommendations for both work and activity levels in the control group after the biomechanical sessions.

The results of both interventions were not affected by the existence of current or previous LBP.

DISCUSSION

The main finding of this study is that there was a divergent change in the students' beliefs and attitudes about LBP after completing educational sessions based on different viewpoints. The participants attending the biopsychosocial session displayed an improvement in the beliefs and attitudes discussed in this study. These results are in agreement with the results of other studies that reported changes in attitudes and beliefs after either a public campaign or university classes -. In a clinical trial involving physical therapists, Overmeer proved that an educational program with a biopsychosocial emphasis, including eight full-day sessions over eight weeks, significantly improved their HC PAIRS scores and the work and activity recommendations shown in the Rainville scenario, although the patients did not perceive this improvement.

However, in our study, the educational module was shorter than that used by the previous authors, suggesting that the study participants needed only the small amount of conceptual support included in the biopsychosocial model, along with the explicit presentation of cases, to change their beliefs and attitudes.

The educational sessions were designed as extra seminars, and previously to the interventions the students in both groups had already received instruction in the pathophysiology and management of LBP according to the CPG throughout the course. They also had interacted with patients with LBP during clinical rotations and assisted their professors with therapeutic management. However, in many cases their recommendations for work and activity levels given at the beginning of the study did not agree with the CPG recommendations. Some studies have suggested that the acquisition of medical knowledge alone is insufficient for the improvement of skills, attitudes or behaviours. Beliefs and attitudes also have to be changed so that this knowledge can be applied in clinical practice. For example, Linton noted that physicians and physical therapists with high levels of fear avoidance tended to limit the activity of patients with LBP and recommend more time off from work. Rainville found that HC-PAIRS scores were a powerful predictor of work recommendations in orthopaedic surgeons and family physicians. Sieben examined the beliefs and behaviours of general practitioners and observed that the HC-PAIRS score correlated with work recommendations and that the Tampa scale of kinesiophobia correlated with activity recommendations. Several studies in different countries have reported similar results.

The strong correlation found in our study between both fear-avoidance and pain-impairement beliefs with the clinicians' activity and work recommendations strongly supports the hypothesis that beliefs and attitudes are potent modulators of clinical behaviour and may limit the adherence to the CPG.

Interestingly, the results observed in the control group (receiving the biomechanics module) were unexpectedly significant. In the beginning, the educational module control was conceived as a neutral intervention focused on the concepts of anatomy and the biomechanics of the spine, trying to specifically avoid providing guidance on treatment. However, the students randomly assigned to the biomechanics sessions increased their scores on the total FABQ questionnaire and on the work FABQ subscale, and their recommendations for activity levels worsened significantly compared to the previously taught CPG recommendations. ~~There was also an increase in the perception of disease severity in the three clinical settings that almost reached on statistical significance ($p = 0.053$).~~ However, the relationship between pain beliefs and disability, as measured by the HC-PAIRS, did not change. It has previously been suspected that instruction based on biomedical parameters can exacerbate the maladaptive beliefs of clinicians and limit adherence to the CPG for back pain, but our study was the first to explore specific relationship. This may explain the paradoxical findings of Buchbinder, who noted that physicians with a greater interest in LBP were more likely to believe that LBP patients should not return to work until they were almost free of pain and showed a greater tendency to recommend bed rest until the pain subsided. These beliefs were evident even after the physicians completed continuing medical-education classes. It is possible that an overly biomedical focus during educational sessions exacerbates these maladaptive beliefs and, consequently, results in clinicians making recommendations to patients that are inconsistent with the recommendations of the CPG, as was observed in our study. This finding is reminiscent to the reported worsening in pain beliefs observed in LBP patients after receiving information about anatomy and biomechanics of the spine.

One of the strengths of this study is that the sample of participants was fairly homogeneous in age and in the type and quality of education received. All the students were exposed to the same content throughout their undergraduate educations, so the results of the two educational interventions were not biased or influenced by different educational backgrounds and thus more accurately reflected the effects of the educational modules alone. Rainville observed that beliefs about the relationships between pain and disability differed between health professionals depending on their occupations and training. Other studies have also observed differences in ideas and guidance related to LBP depending on the age of the professional and the training received. The score in HC-PAIRS questionnaire hold by our sample is within the range reported in other international studies for students and active clinicians although higher than those reported for orthopaedics spine surgeons and pain clinicians.

Ostelo noted that older physical therapists were more likely to use a biomedical approach, suggesting that because the biopsychosocial approach is relatively new they have had less opportunity to be trained in this area. Similar results have been observed in other studies. Older doctors were more cautious about recommending activity and tended to recommend bed rest for LBP more often; they were also more influenced by their personal beliefs about LBP fear avoidance. Sieben observed that general practitioners with a more biomedical orientation tended to judge lumbar pathology more severely and were more restrictive with their activity recommendations. Thus, it seems that attempts to change beliefs and attitudes must occur within the early years of education.

Our study had several limitations. The recommendations were evaluated using the responses to the three clinical case scenarios. Because the participants were students, it was not possible to assess whether or not the change in beliefs and attitudes had an impact on the clinical outcomes of patients. The responses given to virtual clinical scenarios could have been biased, as the students may have felt compelled to give responses that were in line with the recommendations of the CPG. Therefore, the responses may not reflect the way the subjects would behave in a real clinical setting, which is often influenced by other factors such as the requirements of the patients or others. However, some studies have indicated that the quality of health care can be evaluated in an environment without patients using clinical scenarios in a manner equivalent to the assessments used in clinical practice. Veloski et al. indicated that surveys based on clinical scenarios are better indicators of the quality of care than the review of medical records when assessing differential diagnoses, test selections and treatment decisions. Therefore, clinical scenarios appear to be a valid, comprehensive and inexpensive method which directly focuses on the process of care provided in clinical practice.

A further limitation was the hypothetical pollution of the participants. This possibility was minimised by randomly assigning the participants from within the same groups with whom they ordinarily attended classes and practices, rather than assigning them individually. However, it is unlikely that this contamination would have occurred because, although knowledge is easily transferable, beliefs and attitudes are not usually spread in the same manner. Another limitation that affects the external validity of this study relies on the fact that the observed changes are immediate, and because of the lack of follow-up it is unknown if the observed changes remain over time.

The present study is, to our knowledge, the first to examine the effects of two different educational approaches on the beliefs, attitudes and recommendations of health care providers about LBP. Our results confirm the possibility of modifying the behaviour of students through the modification of their beliefs and attitudes, regardless of their prior knowledge, in the same manner as described for active professionals. Our results also confirm the previous suspicion that a strictly biomedical education exacerbates maladaptive beliefs and consequently results in recommendations for work and activity levels that differ from those indicated by the evidence. The implications of this study may might? be important for both the development of continuing education classes and the design of the training curriculum for undergraduate students.

The high number of physical therapy students with inappropriate beliefs, despite the instruction they have received, has forced us to rethink the methods of training students to treat lumbar pathology and examine its biopsychosocial aspects. It is possible that changing the beliefs and attitudes about back pain in the early stages of training could lead to changes in the most enduring beliefs that could then be applied when the students start their professional practice. Further studies are needed to verify the permanence of the changes in beliefs, attitudes and behaviours and to determine whether these changes affect the management of the patients' clinical courses.

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	Control (n=79)	Intervention (n=87)
Age (y)	22.3 (SD 5.3)	21.5 (SD 3.5)
Sex (n)		
- male	38 (48%)	34 (39%)
- female	41 (52%)	53 (61%)
Previous LBP (n)	69 (87%)	71 (82%)
- duration > 1 week	25 (32%)	17 (20%)
- duration < 1 week	44 (56%)	54 (62%)
Current LBP (n)	15 (19%)	12 (14%)

Table 1. Demographic data.

	Group	Mean (SD)	*P*
FABQ-W	Control	18.1 (7.1)	ns
	Intervention	20.2 (7.7)	
FABQ-Phys	Control	14.2 (4.4)	ns
	Intervention	14.3 (5.1)	
HC-PAIRS	Control	61.2 (8.8)	ns
	Intervention	62.0 (11.1)	
Perception severity of symptoms	Control	3.5 (0.4)	ns
	Intervention	3.4 (0.4)	
Perception severity of pathology	Control	3.0 (0.6)	ns
	Intervention	2.9 (0.6)	
Recommendations for activity	Control	2.6 (0.7)	ns
	Intervention	2.6 (0.7)	
Recommendations for work	Control	3.2 (0.7)	ns

	Intervention	3.4 (0.7)		

Table 2. Mean values (and standard deviations) of pre-test ratings, with t-test results (ns: non significant)

	Group	Mean (SD)	F	*P*
FABQ-W	Control	20.5 (6.0)	66.526	<0.001
	Intervention	11.7 (7.6)		
FABQ-Phys	Control	13.8 (5.1)	78.380	<0.001
	Intervention	6.9 (5.3)		
HC-PAIRS	Control	59.6 (9,8)	111.658	<0.001
	Intervention	44.5 (12.1)		
Perception severity of symptoms	Control	3.4 (0.5)	34.524	<0.001
	Intervention	3.0 (0.5)		
Perception severity of pathology	Control	3.2 (0.6)	25.230	<0.001
	Intervention	2.6 (0.7)		
Recommendations for activity	Control	3.1 (0.7)	175.992	<0.001
	Intervention	1.6 (0.7)		
Recommendations for work	Control	3.3 (0.6)	121.502	<0.001
	Intervention	2.0 (0.9)		

Table 3. ANCOVA adjusted mean values (and standard deviations) of post-test ratings

	Perception severity of symptoms	Perception severity of pathology	Recommendations for activity	Recommendations for work

FABQ-W	.386**	.300**	.512**	.524**
FABQ-FIS	.396**	.397**	.580**	.577**
HC-PAIRS-	.497**	.410**	.630**	.598**
Perception severity of symptoms	1	.666**	.486**	.476**
Perception severity of pathology	.666**	1	.490**	.398**
Recommendations for activity	.486**	.490**	1	.726**
Recommendations for work	.476**	.398**	.726**	1

**P<0.001

Table 4. Correlations between subscales, perception of symptoms/pathology and recommendations after the interventions.

Recommendations for activity

		Clinical Vignette 1			Clinical Vignette 2			Clinical Vignette 3		
		Adequate	Not adequate	Neutral	Adequate	Not adequate	Neutral	Adequate	Not adequate	Neutral
Before	Control	46 (58.2%)	19 (24.1%)	14 (17.7%)	60 (75.9%)	6 (7.6%)	13 (16.5%)	33 (41.8%)	28 (35.4%)	18 (22.8%)
	Intervention	52 (59.8%)	17 (19.5%)	18 (20.7%)	57 (65.5%)	7 (8.0%)	23 (26.4%)	43 (49.4%)	32 (36.8%)	12 (13.8%)
		Chi=0.6; P<0.74			Chi=2.6; P<0.28			Chi=2.5; P<0.29		
After	Control	15 (19.0%)	33 (41.8%)	31 (39.2%)	30 (38.0%)	20 (25.3%)	29 (36.7%)	16 (20.3%)	38 (48.1%)	25 (31.6%)
	Intervention	71 (81.6%)	9 (10.3%)	7 (8.0%)	79 (90.8%)	2 (2.3%)	6 (6.9%)	65 (74.7%)	5 (5.7%)	17 (19.5%)
		Chi=67.8, P<0.001			Chi=54.5, P<0.001			Chi=56.8, P<0.001		

Recommendations for work

		Clinical Vignette 1			Clinical Vignette 2			Clinical Vignette 3		
		Adequate	Not adequate	Neutral	Adequate	Not adequate	Neutral	Adequate	Not adequate	Neutral

Before	Control	6 (7.6%)	57 (72.2%)	16 (20.3%)	45 (57.0%)	13 (16.5%)	21 (26.6%)	11 (13.9%)	45 (57.0%)	23 (29.1%)
	Intervention	9 (10.3%)	65 (74.7%)	13 (14.9%)	33 (37.9%)	24 (27.6%)	30 (34.5%)	16 (18.4%)	54 (62.1%)	17 (19.5%)
		Chi=1.1; *P*<0.59			Chi=6.3; *P*<0.042			Chi=2.4; *P*<0.31		
After	Control	15 (19.0%)	47 (59.5%)	17 (21.5%)	30 (38.0%)	23 (29.1%)	26 (32.9%)	16 (20.3%)	45 (57.0%)	18 (22.8%)
	Intervention	50 (57.5%)	25 (28.7%)	12 (13.8%)	76 (87.4%)	5 (5.7%)	6 (6.9%)	62 (71.3%)	14 (16.1%)	11 (12.6%)
		Chi=26.2, *P*<0.001			Chi=46.5, *P*<0.001			Chi=45.6, *P*<0.001		

Table 5. Adequacy of recommendations for activity and work to clinical practice guidelines, before and after the control and Intervention interventions, for each one of the clinical scenarios.

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