MEASURES FOR LOW BACK PAIN: A PROPOSAL FOR CLINICAL USE

Margareta Nordin¹ Neusa Maria Costa Alexandre² Marco Campello³

Nordin M, Alexandre NMC, Campello M. Measures for low back pain: a proposal for clinical use. Rev Latino-am Enfermagem 2003 março-abril; 11(2):152-5.

Low back pain represents a serious public health problem. Therefore, great efforts have been made in order to improve and assess the efficacy of its treatment. Reports in international literature have presented important studies concerning instruments to assess pain and functional incapacity in patients with low back pain. This study presents a clinical protocol which was developed by a multidisciplinary team. This protocol consists of the evaluation and distribution of pain, The Spitzer Quality of Life, The Oswestry Low Back Pain Disability Questionnaire, and The Center for Epidemiological Studies Depression Scale. Instruments must be urgently developed or adapted in order to be used according to the Brazilian reality.

DESCRIPTORS: low back pain, pain measurement, treatment

INSTRUMENTOS PARA AVALIAR A DOR LOMBAR: UMA PROPOSTA Para utilização clínica

As dores nas costas, particularmente as lombalgias representam um grande problema em termos de saúde pública. Dessa forma, grandes esforços têm sido dirigidos para melhorar e avaliar a eficácia de seu tratamento. A literatura internacional tem apresentado importantes estudos sobre instrumentos para avaliar a dor e a incapacidade funcional em pacientes com dor lombar. O presente estudo apresenta um protocolo clínico desenvolvido por uma equipe multidisciplinar. Este protocolo é composto pela avaliação e distribuição da dor, The Spitzer Quality of Life, The Oswestry Low Back Pain Disability Questionnaire, and The Center for Epidemiologic Studies Depression Scale. Precisamos com urgência desenvolver ou realizar instrumentos para serem utilizados na realidade brasileira.

DESCRITORES: dor lombar, medição da dor, tratamento

INSTRUMENTOS PARA EVALUAR EL DOLOR LUMBAR: UNA PROPUESTA Para utilizar en la clínica

Los dolores de espalda, en particular las lumbalgias, representan un gran problema en términos de salud pública. Así, grandes esfuerzos han sido hacia la evaluación y el mejoramiento de la eficacia de su tratamiento. La literatura internacional ha presentado importantes estudios sobre instrumentos para evaluar el dolor y la incapacidad funcional en pacientes con dolor lumbar. El presente estudio presenta un protocolo clínico desarrollado por un equipo multidisciplinario. Este protocolo es compuesto por la evaluación y distribución del dolor, The Spitzer Quality of Life, The Oswestry Questionnaire, y The Center for Epemidiologic Studies Depression Scale. Necesitamos con urgencia desarrollar o realizar adaptaciones de instrumentos para ser utilizados en la realidad brasileña.

DESCRIPTORES: dolor lumbar, medición del dolor, tratamiento

¹ Research Professor, School of Medicine and School of Arts and Sciences, New York University, and Director, Occupational and Industrial Orthopaedic Center (OIOC), Hospital for Joint Disease Institute, Mt Sinai NYU Health New York, NY; ² Professor Assistente da Faculdade de Ciências Médicas da Universidade Estadual de Campinas, e-mail: neusalex@fcm.unicamp.br; ³ Clinical Associate Director, Occupational and Industrial Orthopaedic Center (OIOC), Hospital for Joint Disease Institute, Mt Sinai NYU Health New York, NY;

INTRODUCTION

Musculoskeletal disorders, especially back pain, are an important public health problem with a substantial effect on health care utilization and costs, and are the most frequent cause of activity limitation in people below age 45⁽¹⁻⁷⁾. Therefore, general aspects of the back pain treatment such as treatment response, rehabilitation, outcome, disability and compliance have been studied for several researches⁽⁸⁻¹⁴⁾.

Great efforts have been made to improve and evaluate the treatment of low back pain. Because the low back pain assessment is complex, the effectiveness of treatment may be evaluated by measures of disability, severity, and frequency of symptoms⁽¹⁵⁾. Reports in the literature has presented relevant studies and measurements in low back pain related with pain assessment, functional status, work disability and quality of life⁽¹⁶⁻²⁶⁾.

The current study presents the data routinely collected as part of the Model Clinic for Occupational Musculoskeletal Disorders^(6,27). A standard clinical protocol was developed by clinicians and researchers from the Occupational and Industrial Orthopaedics Center (OIOC), Hospital for Joint Disease, Mt Sinai NYU Health, in New York City. The OIOC Model Clinic Team is an interdisciplinary group that established a Model Clinic for the treatment of low back pain and the prevention of chronic disability. The theory underlying the model is that standard practice guidelines for evaluation and treatment of low back pain can reduce morbidity, suffering and cost⁽⁶⁾.

The purpose of the present study is to presents a standardized set of instruments that is part of a Model Clinic.

PROPOSED INSTRUMENTS

Patients visiting the OIOC for low back pain are requested to complete self-administered questionnaires at the time of their initial and final evaluation. These questionnaires describe intensity and distribution of pain, quality of life, functional disabilities and depression. Instruments were chosen for their face validity, reliability, and for their time consuming. They also sampled all aspects of low back pain. The low back pain is understood from a biopsychosocial perspective. One study⁽²⁸⁾ has described that psychosocial factors are at least as important and often more important than physical factors in determining pain and disability.

Intensity and Distribution of Pain: Pain intensity is measured by a numerical rating scale (0 - 100) with 0 indicating no pain and 100 indicating worst pain imaginable⁽²⁹⁾. The spatial distribution of the pain is demonstrated by drawings of the body⁽³⁰⁻³¹⁾.

Quality of Life: The Spitzer Quality of Life Index is used to measure the patient's perception of their quality of life. It was intended as a brief instrument for evaluating the effects of treatment and programs⁽³²⁾. In the index, quality of life was conceptualized as a construct with several difficult dimensions: day-to-day activity patterns, self care capabilities, general health, outlook on life and support of family and friends⁽³³⁾. The index is comprised of five items with three point responses, each scored on a 0, 1, and 2 point scale giving a summated maximum possible score of 10. The index has been used successfully to measure the general well-being of patients with cancer and other diseases, and has been well validated⁽³²⁻³³⁾.

Perceived Functional Disability: The patient's perceived functional limitation is measured by the Oswestry scale⁽³⁴⁾. This guestionnaire includes ten six-point scales. The first scale evaluates the intensity of pain and the remaining nine cover the disabling effect of pain on typical daily activities: personal care, lifting, walking, sitting, standing, sleeping, sex life, social life, and travelling⁽³²⁾. All items of the Oswestry, excluding questions about sexual activity, are used in calculating a total score. The overall Oswestry score is obtained by scaling the sum of the component scores on an ordinal scale from 0 to 100, with the results interpreted as follows: scores from 0 to 20 represents minimal disability, 20 to 40 represent moderate disability, 40 to 60 represents severe disability, and scores of 60 and above indicates that the patient is severely disabled by pain in several areas of life. The Oswestry scale has been validated for use with patients with low back pain and has high reliability $(R=0.99)^{(6,34)}$.

Depression: Depression is assessed by using the Center for Epidemiologic Studies Depression Scale – (CES-D)⁽³⁵⁾. The CES-D scale is a 20-item measure that was developed by the Center for Epidemiologic Studies of the National Institute of Mental Health and tested as a measure of depressive symptomatology for use in studies of the general population. Each response is scored from 0 to 3 on a scale of the frequency of the occurrence of the symptom. For four questions (4, 8, 12, and 16), the scores are reversed. The possible range of scores is 0 to 60, with the higher scores indicating more symptoms, weigthed by the frequency of occurrence during the past week. A CES-D score of 16 or higher is used as a screening criterion for depressive symptoms. Studies indicated that the scales is internally consistent, has an acceptable test-retest reliability, and has high construct validity⁽³⁶⁻³⁸⁾.

REFERENCES

1. Andersson GB. Epidemiology of low back pain. Acta Orthop Scand 1998; 69(Suppl 281):28-31.

2. Courtney TK, Webster BS. Disabling occupational morbidity in the United States. J Occup Environ Med 1999; 41(1):60-9.

3. Guo H, Shiro T, William H, Lorraine C. Back pain prevalence in US industry and estimates of lost workdays. Am J Public Health 1999; 89(7):1029-35.

4. Hagen KB, Thune O. Work incapacity from low back pain in the general population. Spine 1998; 23(19):2091-5.

5. Lidgren B. The economic impact of musculoskeletal disorders. Acta Orthop Scand 1998; 69(Suppl 281):58-60.

6. Nordin M, Skovron ML, Hiebert R, Wieser S, Brisson PM, Campello M, et al. Early predictors of delayed return to work in patients with low back pain. J Musculoskel Pain 1997; 5(2):5-27.

7. Yelin E, Calahan LF. The economic cost and social and psychological impact of musculoskeletal conditions. Arthr Reum 1995; 38:1351-62.

 Barnes D, Smith D, Gatchel RJ, Mayer TG. Psychosocioeconomic predictors of treatment success/failure in chronic low back pain patients. Spine 1989; 14(4):427-30.
DiFabio RP, Mackey G, Holte JB. Disability and functional status in patients with low back pain receiving workers' compensation: a descriptive study with implications for the efficacy of physical therapy. Phys Ther 1995; 75(3):180-93.

10. Gatchel J, Gardea MA. Psychosocial issues-their importance in predicting disability, response to treatment, and search for compensation. Neur Clin North Am 1999; 17(1):149-66.

11. Harkapaa K, Jarvikoski A, Mellin G, Hurri H. A controlled study on the outcome of inpatient and outpatient treatment of low back pain. Part I. Pain, disability, compliance, and reported treatment benefits three months after treatment. Scand J Rehabil Med 1989; 21:81-9.

12. Keel PJ, Witting R, Deutschmann R, Diethelm U, Knusel O, Loschman C, et al. Effectiveness of in-patient rehabilitation for sub-chronic and chronic low back pain by an integrative group treatment program. J Scand Rehabil Med 1998; 30(4):211-9.

13. Linton SJ, Hellsing A, Larsson I. Bridging the gap: support do not enhance long-term outcome in chronic back pain. Clin J Pain 1997; 13(3):221-8.

14. Lowdermilk A, Panus PC, Kalbfleisch JH. Correlates of low back pain outcomes in a community clinic. Tenn Med 1999; 92:301-5.

CONCLUSION

There are several advantages to the use of a standardized clinical protocol for low back pain treatment. In order to have a valid assessment of treatment impact, it is relevant to use instruments with adequate measurements characteristics. They need evaluate all dimensions of the low back pain treatment. The adoption of these measures will help in the exchange of information among the scientific community. Standardized measurements of outcomes would also facilitate scientific advances in clinical and research practice.

15. Deyo RA, Battie M, Beurskens AJM, Bombardier C, Croft P, Koes B, et al. Outcome measures for low back pain research. A proposal for standardized use. Spine 1998; 23(18):2003-13.

16. Delitto A. Are measures of function and disability important in low back care? Phys Ther 1994; 74(5):452-62.

17. Deyo RA. Measuring the functional status of patients with low back pain. Arch Phys Med Rehabil 1988; 69(12):1044-53. 18. Deyo RA, Andersson G, Bombardier C, Cherkin DC, Keller RB, Lee CK, et al. Outcome measures for studying patients with low back pain. Spine 1994; 19(18S):2032-6.

19. Frymoyer JW, Nelson R, Spangfort E, Waddell G. Clinical tests applicable to the study of chronic low back disability. Spine 1991; 16(6):681-2.

20. Gallon RL. Perception of disability in chronic back pain patients: a long-term follow-up. Pain 1989; 37(1):67-75.

21. Jensen IB, Bradley LA, Linton SJ. Validation of an observation method of pain assessment in non-chronic back pain. Pain 1989; 39(3):267-74.

22. Lankhorst GL, van de Stadt RJ, Vogelaar TW, van der Korst JK, Prevo AJH. Objectivity and reatability of measurements in low back pain. Scand J Rehabil Med 1982; 14(1):21-6.

23. Manniche C, Asmussen K, Lauritsen B, Vinterberg H, Kreiner S, Jordan A. Low back pain rating scale: validation of a tool for assessment of low back pain. Pain 1994; 57(3):317-26.

24. Million R, Hall W, Nilsen K, Baker RD, Jayson MIV. Assessment of the progress of the back pain patient. Spine 1982; 7(3):204-11.

25. Roland M, Morris M. Development of a reliable and sensitive measure of disability in low back pain. Spine 1983; 8(2):141-4.

26. Waddell G, Main CJ. Assessment of severity in low back pain disorders. Spine 1984; 9(2):204-8.

27. Campello M, Weiser S, van Door JW, Nordin M. Approaches to improve the outcome of patients with delayed recovery. Baillieres Clin Rheumatol 1998; 12(1): 93-113.

28. Weiser S: Psychosocial Aspects of Occupational Musculoskeletal Disorders. In: Nordin M, Andersson GBJ, Pope MH, editors. Musculoskeletal Disorders in the Workplace: Principles and Practice. St Louis: Mosby; 1997. p.51-61.

29. Jensen MP, Karoly P, Braver S. The measurement of clinical pain intensity: a comparison of six methods. Pain 1986; 27:117-26.

30. Melzak R. The McGill Questionnaire: Major properties and scoring methods. Pain 1975; 1:277-99.

31. Melzac R. The McGill Pain Questionnaire. In: Melzac R, editor. Pain Measurement and Assessment. New York: Raven Press; 1983. p.41-6.

32. MacDowell I, Newell C. Measuring Health: a guide to rating scales and questionnaires. 2 ed. N York: Oxford University Press; 1996.

33. Wood-Dauphine S, Williams JI. The Spitzer Quality of Life Index: its performance as a measure. In: Osaba D, editor. The Effect of Cancer on Quality of Life. Montreal: CRS Press; 1991. p.169-84.

34. Fairbank JCT, Davies JB, Couper J, O'Brien JP. The Oswestry low back pain disability questionnaire. Physiotherapy 1980; 66(8):271-3.

35. Radloff LS. The CES-D Scale: a self-report depression scale for research in the general population. Appl Psychol Meas 1977; 1(3):385-401.

36. Hutchinson A, Bentzen N, Konig-Zahn C. Cross Cultural Health Outcome Assessment; a user's guide. The Netherlands: ERGHO; 1996.

37. Radloff LS, Locke BZ. The community mental health assessment survey and the CES-D scale. In: Weisman MM, Myers JK, Ross CE, editors. Community surveys of psychiatric disorders. New Brunswick: Rutgers University Press;1986. p.177-89.

38. Roberts RE, Vernon SW. The CES-D: Its use in a community sample. Am J Psychiatry 1983; 140(1):41-6.