

MANAGEMENT OF CHRONIC LOW BACK PAIN IN FAMILY PRACTICE

OBRAVNAVA KRONIČNE BOLEČINE V KRIŽU V DRUŽINSKI MEDICINI

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Abstract

Objective: There is a paucity of data about diagnostic and therapeutic interventions used by family practitioners (FPs) in patients with chronic low back pain. The aim of the study was to investigate the decision-making of FPs in the management of these patients in Slovenia.

Methods: The participants were sent a written scenario about a 57-year-old man with chronic low back pain and a questionnaire inquiring about diagnostic and therapeutic procedures used in patients with chronic low back pain. A total of 198 (25.5 %) FPs were surveyed.

Results: The questionnaire was answered by 129 participants (75.4 % response rate), i.e. by 16.6 % of the population of Slovene family physicians. Forty-five (35 %) respondents ordered one or several diagnostic tests to substantiate the diagnosis. Ordering rates were higher for FPs with larger patients lists ($p = 0.02$). All FPs but one prescribed medicines for pain relief. Twenty-one generic types of oral and topical analgesics from eight different groups were prescribed. Twenty-five (19.3 %) FPs added topical ointment to oral medication. Bedrest for a few days was recommended by 31 (24 %) FPs, and maintenance of normal daily activity by only 18 (14 %). Ninety-four (73 %) FPs advised their patients to engage in regular physical exercises. Sick notes were more frequently given by FPs who worked more hours per week ($p = 0.05$).

Conclusions: Our study showed that FPs take a very varied approach to the management of chronic low back pain. The results strongly indicate a need for adopting evidence-based guidelines for low back pain management.

Key words: low back pain, chronic diseases, family practice, patient simulation, diseases management

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Izveleček

Izhodišča: O diagnostičnih in terapevtskih ukrepih zdravnikov družinske medicine pri kronični bolečini v križu je malo znanega. Namen te raziskave je bil preveriti izvajanje diagnostičnih in terapevtskih ukrepov pri bolnikih s kronično bolečino v križu pri slovenskih zdravnikih družinske medicine (ZDM).

Metode: Pisni opis primera 57-letnega bolnika s kronično bolečino v križu z vprašalnikom o diagnostičnih in terapevtskih ukrepih smo poslali 198 (25,5 %) zdravnikom družinske medicine.

Rezultati: Dobili smo 129 (75,4 %) odgovorov, kar predstavlja 16,6 % vseh ZDM. 45 (35 %) zdravnikov družinske medicine je naročilo eno ali več diagnostičnih preiskav za potrditev diagnoze. ZDM z večjim številom registriranih bolnikov so naročili več diagnostičnih preiskav ($p=0,002$). Vsi ZDM razen enega so predpisali zdravila za omilitev bolečin. Predpisali so 21 različnih zdravil iz 8 različnih skupin v oralni ali topični obliki. 25 (19,3 %) zdravnikov je k oralnemu zdravilu dodalo še topično zdravilo. 31 (24 %) zdravnikov je svetovalo počitek v postelji nekaj dni in le 14 % je svetovalo normalne dnevne dejavnosti. 94 (73 %) je svetovalo redno telesno dejavnost. ZDM z večjo tedensko kvoto delovnih ur so pogosteje predpisali zdravniško upravičeno odsotnost z dela ($p=0,05$).

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Sklep: Naša raziskava je pokazala velike razlike pri obravnavni bolnikov s kronično bolečino v križu, kar močno podpira težnjo po smernicah za vodenje kronične bolečine v križu.

Ključne besede: bolečine v križu, kronične bolezni, družinska medicina, simulirani bolniki, odločanje

Introduction

Low back pain is one of the most common health problems encountered in primary care. It causes high level of disability, absenteeism and direct and indirect disease-related costs. Lifetime prevalence of low back pain is 62 %, annual prevalence 48 % and annual incidence approximately 5 % (1, 2). Although only 24 % of patients with low back pain visit their doctor (1), this health problem is the leading reason for consulting family practitioners (FPs) in the Netherlands, and the second most common reason in the United States (3, 4). Van Tulder and co-workers estimated the costs of low back pain management in the Dutch society to be 1.7 % of the gross national product; the direct medical costs constituted only 7 % and the indirect costs 93 % of the total cost (3). Low back pain is often considered as a non-life threatening condition with high recovery rates within six weeks (5), yet with a very high rate of recurrence and chronicity (1). The tendency for low back pain to become chronic is supported by the finding that only 25 % of the patients who consulted their FP for low back pain problems had fully recovered within 12 months (6).

There is no gold standard procedure for the diagnosing of chronic low back pain (CLBP), which often leads to excessive use of various diagnostic tools regardless of their actual effectiveness. Lumbar spine radiography in family practice patients has not given proof of benefit in terms of improved functioning, reduced pain or improved overall health status (7, 8). Evidence-based guidelines for the management of acute low back pain in primary care patients were formulated in the past years in many European countries and in the United States with the aim to prevent CLBP (7, 8, 9). The uptake of the guidelines is low and varies considerably (10). The aims of this study were to assess the strategies for CLBP management in everyday family practice in Slovenia, and to identify factors that might influence decision making.

1 Methods

1.1 Sample

A cross sectional study was conducted on 198 (25.5 %) FPs, randomly selected from a national list of 778 FPs. They were sent a letter inviting them to participate in the study, explaining the purpose of the study and providing a brief description of the study protocol. Sixteen FPs from the original sample were ineligible to participate in the study because of career change; six had retired and three were on maternity leave. The remaining 173 participants were approached either by telephone by one of the researchers (JC) (100 participants), or personally by tutors affiliated to the Department of Family Medicine, University of Ljubljana (73 participants) in order to enhance the participation. The participants were informed about the aims and design of the study, as well as about their right to refuse to participate in the study. After the introductory contact, two FPs refused to take part in the study and so the final sample comprised 171 FPs. A self-addressed and pre-paid envelope was enclosed with the questionnaire sent to the FPs who had agreed to participate. Age, gender, status of practice (public service employee versus private contractor), and regional distribution of the practice were matched to the national data.

1.2 Questionnaire

The questionnaire had two separate parts. The first part inquired about the physician and his/her practice, i.e. about demographic characteristics, working hours per week, hours of CME yearly, number of inhabitants in the area where the practice is located, qualifications, years in practice, type of practice (solo or group practice), number of patients on the list, number of patients seen daily, number of home visits weekly, number of phone calls daily, use of appointment system, and the availability of laboratory tests, X-ray of the spine and orthopaedic services.

The second part included a case vignette of a 57-year-old man with a sedentary life style and history of chronic low back pain for five months. The pain started without obvious cause and gradually became

worse. It was present nearly all the time with occasional episodes of more severe pain. The pain was partly relieved by medication and rest in the decumbent position. The patient attended to get a prescription for a drug to relieve pain when it becomes more severe. He gave a history of hypertension, which was well controlled by medication. He reported no chronic or acute health problems. Neurological examination revealed no abnormalities. The patient's paravertebral muscles were tense, and the spine was painful with some movements. No other signs were present. The participants were asked to respond to the following yes/no questions and consecutive open-ended questions about the management of the disease: Would you order any diagnostic/laboratory tests? (Y/N) If yes, which? Would you refer the patient to a specialist? (Y/N) If yes, to whom? Would you prescribe a medicine(s)? If yes, which one(s)? Would you give the patient a sick leave? If yes, for how long? Would you give the patient any counselling/advice? If yes, what advice? Would you make an appointment arrangement for a control visit in your office? If yes, in how many days? The questionnaire was pre-tested in a pilot study.

1.3 Statistics

For the purpose of the analysis FPs were arbitrarily divided into two groups according to the patient list size. The cut point was at 1,500 patients, which is considered a manageable number of patients per physician in this country. Full-time work in family practice was defined as the sum of regular and out-of-hours services exceeding 42 hours per week. Statistical analysis was done using the 8.0 version of the SPSS for Windows software (SPSS Inc.). Descriptive statistics were calculated. The Student t-test and chi-square test were used, depending on the type of the variables analysed (the Fisher exact test was used when needed). Responses were dichotomised into two groups as recommended in the literature (11, 12), and on the basis of consultation with the group of 16 tutors in general practice. History and clinical examination indicated that our standardised patient suffered from chronic non-specific CLBP (7, 8), requiring no additional diagnostic tests. In the literature, there is no firm evidence of a causal relationship between radiographic findings and non-specific CLBP (11, 12, 13). Radiographs and laboratory tests are useful in those patients, in whom a serious condition (infection, malignancy, rheumatologic diseases and neurological disorders) is suspected on the grounds of compre-

hensive history and clinical data. (8) The guidelines recommend simple analgesics, NSAIDs and acetaminophen for symptomatic relief of pain in CLBP (7, 8, 9). Muscular relaxants and short course opioids are not recommended because of concerns regarding their potential side effects, and because there is little evidence that they are superior to non-narcotic analgesics and NSAIDs (7). The efficacy of drug treatment for chronic low back pain is less clear, partly because of the complexity of the mechanisms causing chronic pain, and partly because of the role of social, psychological and economic factors (7). There is little evidence of the effectiveness of NSAIDs, muscle relaxants and narcotic analgesics in CLBP (7, 14). Strict bedrest is no longer prescribed. At present, early return to normal activities is recommended, and greater emphasis is placed on exercise to treat chronic pain and prevent recurrence (13, 14, 15, 16, 17). The new guidelines from the Agency for Health Care Policy and Research (7) and other clinical guidelines (8, 9) recommend nearly immediate resumption of physical activity (even if there is some discomfort) for patients with non-neurogenic pain. Our hypothesized expectations were met if the respondents

- ordered no additional diagnostic tests;
- prescribed no medication, or prescribed simple analgesics or a NSAID to be taken on a regular basis rather than on an on-demand basis, i.e. only occasionally ;
- gave no sick leave, or granted a sick leave of less than seven days (a week),
- did not refer the patient to the orthopaedist.

2 Results

The questionnaire was completed by 129 (75.4 %) FPs, i.e. by 16.6 % of the FP population in Slovenia. The analysis of non-respondents revealed no differences in the available data, including age, gender, regional distribution and training; 46.6 % of the respondents were men; mean age was 44.9 years (SD = 12.3 years); 55 (42.6 %) respondents had completed their GP training, on the average 11 years before the study. The participants claimed they provided CMR services eight days per year. The average time in practice was 16 years. The majority (63.8 %) worked in groups and shared premises. The average working time was 39 hours per week and the average number of patients seen per day was 45. The FPs reported they made on average nine patient-related phone calls per day, and five home visits per week.

The average size of patient list was 1,866 patients; 72.1 % of respondents provided out-of-hours services, including on-call services, for an average of 15 hours a week; 46.5 % had an appointment system. Availability of laboratory findings within 24 hours was reported by 78.0 % of FPs, and of spinal radiographs by 47.0 %. More than 95.0 % of the respondents said they had to wait for the results of orthopaedic examinations for one week or longer.

FPs ordered from zero to seven diagnostic tests; 45 (34.9 %) ordered at least one diagnostic test. Twenty-five (19.4 %) FPs ordered one diagnostic test, ten (7.8 %) FPs ordered two, and ten (7.8 %) FPs ordered three or more diagnostic tests. Altogether, 94 diagnostic procedures were ordered. Laboratory tests, including SR, haemogram, urea, creatinine, PSA and urinalysis, were ordered by 22 (17.0 %) FPs, and X-ray of the spine by 20 (15.5 %). Three (2.3%) FPs referred their patients for prostate examination, one for ultrasound of the abdomen, and one for EMG. Six (4.7 %) doctors would have referred their patients to the orthopaedist. All FPs but one would have prescribed pharmacological treatment. Twenty-one different oral and topical generic drugs from eight drug classes would have been prescribed: 110 (85.3 %) FPs would have prescribed NSAID, 15 (11.2 %) muscular relaxants, three (2.1 %) opioid analgesics (tramadol) and only one (0.7 %) would have prescribed paracetamol; 18 (15.3 %) FPs would have prescribed a combination of two to several oral drugs – NSAID + muscular relaxants would have been prescribed by 16 (12.4 %) FPs, NSAID + opioid analgesics by two (1.5 %), simple analgesics + muscular relaxants by one (0.7 %), and a combination of two NSAIDs by one (0.7 %) FP. Twenty-five (19.3 %) FPs responded they would have added an oral drug to a topical cream, and two (1.5 %) would have prescribed only topical treatment. The percentage distribution of the prescribed medication is shown in Table 1.

Patient health education was provided by all FPs: 31 (24.0 %) FPs would have prescribed bedrest for a few days, and only 18 (13.9 %) would have recommended maintenance of normal daily activity. More than two-thirds, i.e. 94 (72.8 %) respondents, would have advised regular muscle-strengthening exercises to relieve low back pain. Some would have given written instructions and some would have referred the patient to the physiotherapist to learn to perform exercises correctly; 54 (41.8 %) FPs advised their patients to stay away from work for 3 to 30 days (median- 7 days). All FPs but two scheduled a follow up visit in 1 to 30 days (median – 7days).

Table 1. *Drugs prescribed for chronic low back pain.*

Tabela 1. *Zdravila, predpisana pri kronični bolečini v križu.*

DRUG – Oral	No.	%
NSAID – <i>Ibuprofen, Diclofenac</i>	66	51.2
NSAID – <i>Other</i>	56	43.4
Muscular relaxants	16	12.4
Opioid analgesics	3	2.3
Simple analgesics	1	0.8
Spasmoanalgesics	1	0.8
DRUG – Topical (<i>ointment</i>)		
NSAID	29	22.5
Other	2	1.6

3 Discussion

The aim of this study was to assess decision making of FPs in the management of patients with CLBP. Data on the process of care in outpatient treatment are difficult to gather. Direct methods aimed at recording performance are assumed to hold the highest validity, but practical, economic and logistic factors may favour indirect quality assessment methods (18, 19). Case vignettes are a well-established instrument in clinical decision-making research. A recent review of the available literature showed that written simulations are an effective research instrument for electing attitudes and beliefs, evaluating the recall and application of knowledge and for elucidating the decision-making processes (18). Even though case vignettes are primarily considered as a tool for the assessment of the doctors's competence (20), research has confirmed that performance in real practice is consistent with the written case scenarios (18, 21). A comparison of videotaped consultations and written scenarios by Braspenning and Sergeant (22) demonstrated the validity of the method chosen for the performance assessment.

The site of the sample and high response rate were representative of the whole FP population in Slovenia. In our study, more than one third of FPs decided to order one to several additional tests to make the diagnosis. This is in line with the results from other studies (1, 11, 23, 24). The highest rate of radiographic examination ordering was reported in the United States (23). The study conducted in the Netherlands showed a considerably lower use of

radiographic examinations in CLBP patients (25). These discrepancies may indicate that taking part in the guidelines development process plays an important role in the changing of FPs practices. This is clearly seen when comparing the Netherlands to other countries, where the guidelines are imposed to the FPs, and lack a structural process of guidelines development. The differences in ordering diagnostic tests are also attributable to the differences in medical culture of the practising physicians (12, 26). Also, better availability of diagnostic tests may explain higher ordering rates. In Slovenia, 78 % of physicians get laboratory tests and X-ray films of the spine in 24 hours. An American study confirmed a 4.5-times higher usage of picture diagnostics by doctors with the X-ray equipment on premises as compared to those who had to wait for the results one day or more (27).

Large variations in the choice of drugs in our study are consistent with the results of studies of the CLBP management in other primary care populations (25, 26, 28, 29, 30, 31). The differences are partly attributable to the lack of clear evidence that any drug is superior to others in the treatment of CLBP. A surprisingly high percentage (99.2 %) of the FPs surveyed used medication as a treatment option in CLBP, and many of them treated their patients with topical ointment, used either alone or in combination with other drugs. In the available literature we found no evidence of the effectiveness of topical therapy, nor is this treatment modality used by physicians in other countries (7, 14). The impact of personal detailing by the pharmaceutical industry might be the reason for such doctors' behaviour.

A small proportion of Slovene physicians would have recommended their patients with CLBP to maintain normal activity levels, and nearly one quarter would have prescribed strict bed rest for a few days. Our findings do not accord with the published guidelines (7, 8, 9), but they replicate findings from some other studies on doctors' behaviours (10, 16, 30, 31). These results may be due to the fact that Slovenia has not yet adopted evidence-based guidelines on the management of CLBP, and that Slovene FPs do not take advantage of obtaining this information on the Internet and from other sources. They might also be reluctant to accept guidelines from other countries.

4 Conclusions

Our study confirmed a very varied approach to the management of chronic low back pain taken by FPs, which strongly indicates a need for formulating evidence-based guidelines for the management of low back pain. Further research in the effectiveness of different diagnostic procedures and treatment options will be needed.

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