National survey on the non-pharmacological modalities prescribed by French general practitioners in the treatment of lower limb (knee and hip) osteoarthritis. Adherence to the EULAR recommendations and factors influencing adherence

T. Conrozier[1], J.P. Marre[2], C. Payen-Champenois[3], E. Vignon[1]

[1]Department of Rheumatology, Hôpital Lyon-sud, Pierre-Bénite, France;
[2]Department of Rheumatology, Hôpital de la Pitié-Salpétriere, Paris, France;
[3]Medical Department, Bristol-Myers Squibb, Rueil Malmaison, France.

Abstract

Background

Guidelines for the treatment of lower limb osteoarthritis (LLOA) include non-pharmacological (NPM) and pharmacological modalities (PM). In France, general practitioners (GPs) are the main prescribers of pharmacological treatment for LLOA but little is known about the non-pharmacological modalities they usually prescribe.

Objectives

To determine how French GPs prescribe non-pharmacological modalities of LLOA treatment in daily practice.

Methods

A four-point questionnaire (systematically, frequently, rarely, never) was built to assess the French GPs' opinion regarding the NPM of LLOA treatment (10 questions). The questionnaire was given between April and June 2005 to 3000 GPs, all over the French regions. The percentage reported in this abstract are those of the «systematic and frequent» responses.

Results

59.2% of the questionnaires (n=1775) could be retrieved. Weight reduction recommendations (76%), joint sparing (71.7%), physical activity development (61.7%), rehabilitation (57.8%), self-exercise (46%) were the more frequently prescribed NPM. Sticks (36%), insoles (35.6%), bed relief (25.4%) and knee bracing (10.5%) were far less regularly proposed. However weight reduction and physical activity development appeared to be the patients less-well observed NPM. The main means used to improve the efficacy of the diet were the support of a nutritionist (74.5%) and the support of the GPs (70.7%) far beyond the support group and familial intervention (both 36,6%). The large majority of GPs considered that a good physical activity was essential (51.7%) or useful (43.3%) to the success of the weight reduction programme. The main recommended physical activities were walking (84.3%), swimming (74.3%), cycling (47%) and water-gymnastics (40.4%). To improve the success of the physical activity development, analgesics were recommended by 93% of GPs, settling up through rehabilitation by 57.4%, support through GPs appointments by 50%. Lastly, 68.4% of GPs recommended a systematic analgesic consumption, since a non-steroidal anti-infammatory drug (NSAID) prescription was proposed by only 30.5%, and NSAID treatment before or after physical activities by 19% and 9.3% respectively.

Conclusion

This large survey shows that non-pharmacological modalities are frequently prescribed by French GPs in the treatment of LLOA, in addition to analgesic therapy. However, most GPs consider that some of them are difficult to follow in the long term.

Key words

Hip osteoarthritis, knee osteoarthritis, EULAR recommendations, non-pharmacological treatment, HABITUS.

Thierry Conrozier, MD
Jean Paul Marre, MD
Catherine Payen-Champenois, MD
Eric Vignon, Professor of Rheumatology

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Please address correspondence and reprint requests to:
Thierry Conrozier, MD,
Department of Rheumatology,
Lyon-Sud University Hospital,
F69495 Pierre Bénite Cedex, France.
E-mail: thierry.conrozier@chu-lyon.fr
or: Thierry.conrozier@wanadoo.fr

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Introduction

Osteoarthritis (OA) is the most frequent musculoskeletal condition, with a worldwide distribution. In France, its prevalence is estimated to be around 17%. As a major cause of disability, in the elderly, osteoarthritis is second only to cardiovascular disease. During the last decade, the French OA population increased by 54%, and the expenses by 400% (1). Among the 10 million patients affected by the disease, 4.6 million consult a physician for OA related-symptoms every year, leading to 13 million visits/year. In 2003 the direct cost attributable to OA in France was estimated to 1.6 billion euro, representing 1.7% of the total expenses of the French health insurance system (1). About half of the total amount was related to hospitalisations, the remaining 840 million euro being secondary to out-patient management, 570 million euro were due to prescribed medications. One can estimate than about 91% of the out-patient visits are currently made by general practitioners (GPs) since only 8% are performed by rheumatologists (1).

Lower limb (LL) OA (knee and hip OA) is the first cause of consultations for OA related symptoms. LLOA current management requires the combination of pharmaceutical and non-pharmacological strategies. Guidelines (2, 3) have been proposed for the management of LLOA that provide recommendations to control patients' pain, improve function and health-related quality of life, and avoid therapeutic toxicity. The recommended treatment paradigm begins with non-pharmacological modalities (NPM). The EULAR recommendation no° 3 (3) specifies that LLOA must include patients' education, establishment of physical exercise programs, weight excess reduction, rehabilitation and use of walking aid devices (insoles, knee brace, cane). The other recommendations involve the pharmacological and surgical monitoring of the condition. In 2002 (4) a large survey showed the under-utilization of non-pharmacological treatments as a first line approach of knee OA by French GPs. The main concern with non-pharmacological therapeutic strategies is to coordinate the different measures according to the disease status and to convince patients to deeply modify their life habits in the long term. The first aim of the "HABITUS" survey was to investigate how French GPs treat and manage LLOA in 2006, using the NPM recommendations. The second goal was to evaluate their feeling regarding the long term patient adherence to these NPM.

Methods

HABITUS was a national, cross-sectional, observational survey aimed to evaluate the management of knee and hip OA, using non-pharmacological strategies, by French GPs.

The questionnaire included 10 questions and was distributed from 1st April 2005 to 30 June 2005, to 3000 GPs. Neither EULAR recommendations nor any commercial support was advocated with the questionnaire. The GP sample was built from a regional register across every French district. In each region, the first 15 GPs having accepted to participate were recruited. To be eligible to participate in the survey, the GPs should have a sufficient clinical activity (50 to 100 patients per week) and usually treat osteoarthritic patients. The practitioners had to complete and to send back the questionnaire between April 1st 2005 and July 31 2005. The GPs involved did not receive any fees for their participation in the survey.

Results

A total of 1775 fully completed questionnaires were returned (59.2% response rate) and analyzed.

Question (Q) 1: Which NPM do GPs usually prescribe for the treatment of LLOA in their daily practice?

Weight reduction recommendations (76%), joint sparing (71.7%), physical activity development (61.7%), rehabilitation (57.8%), self-exercise (46%) were the most frequently prescribed NPM. Sticks (36%), insoles (35.6%), bed relief (25.4%) and knee bracing (10.5%) were far less regularly proposed (Fig. 1).

Q2: Do GPs think these measures are usually well applied?

Knee bracing, weight reduction and physical activity development appeared

to be less-well followed NPM, while rehabilitation with a physiotherapist, joint sparing and the use of sticks seemed to be the best followed NPM (Fig. 2).

Q3: Are GPs satisfied with the result of rehabilitation by physiotherapist?
More than 2/3 (68%) of GPs declared to be satisfied with the results of rehabilitation. The remaining third considered that rehabilitation is of weak efficacy in LLOA, even if well conducted. About half the latter considered the poor efficacy related to a lack of patient adherence, while 47% attributed the weak efficacy to inappropriate physiotherapist practice. Only 19.8% of GPs attributed the poor efficacy to patient's cognitive deficiency.

Q4: How long after a flare-up do GPs recommend waiting before renewed physical activity?
70.2% of GPs recommended physical activity renewal immediately after the disappearance of pain while 19.8% advised waiting symptom-free weeks.

Q5: When prescribing physical activities, do GPs advise particular ones?
When physical activities are recommended (systematically or often in more than 60% of GPs), 24% of GPs proposed a particular one "systematically" and 50.6% "often" while only 3.1% never did it. The main recommended activities were those at low risk of impact and trauma such as walking (84.3%), swimming (74.3%), cycling (47%) and water-gymnastics (40.4%) (Fig. 3).

Q6: Which procedures do GPs advise to their patients to facilitate the renewed physical activity?
To facilitate physical activity development, analgesics were recommended by 93% of GPs, settling up through rehabilitation by 57.4% (46.8 "often" and 10.6 "systematically") or support through GP appointments by 50% (37.4% often and 12.6% systematically°). Only 23.6% of GPs "often" turned to the help of the family circle. By contrast, very few French GPs "often" advised renewed physical activity through inscription in a fitness centre (16.3%), sporting activities into a group (16.6%) or hydrotherapy centre (10%).

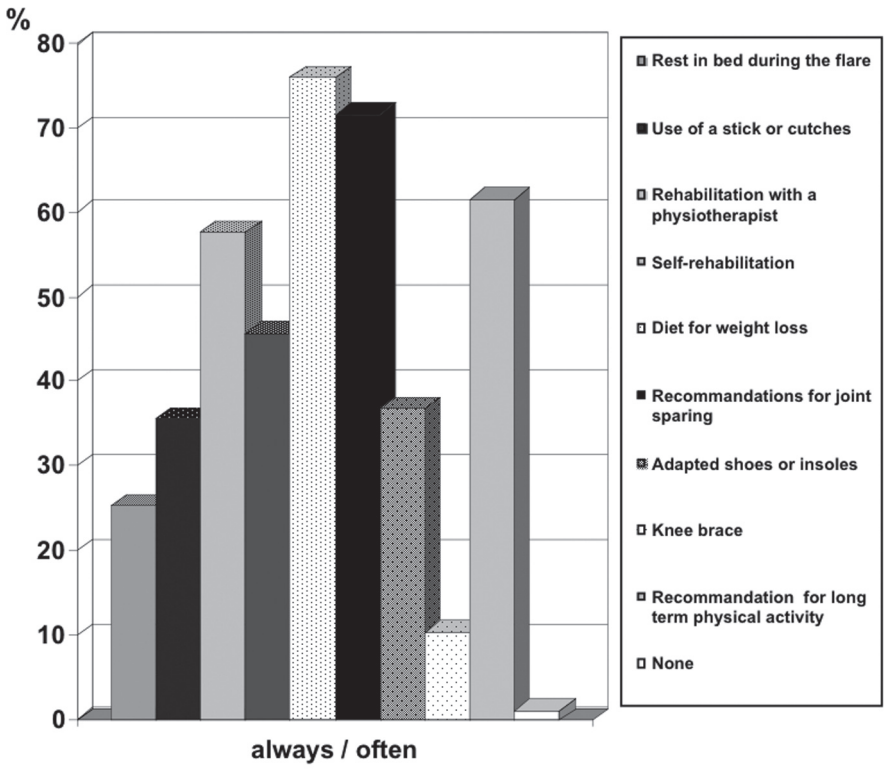

Fig. 1. Percentage of French general practitioners who responded "always" or "often" to each item of the question: non-pharmacological means for the treatment of lower limb OA do you commonly use in general practice?

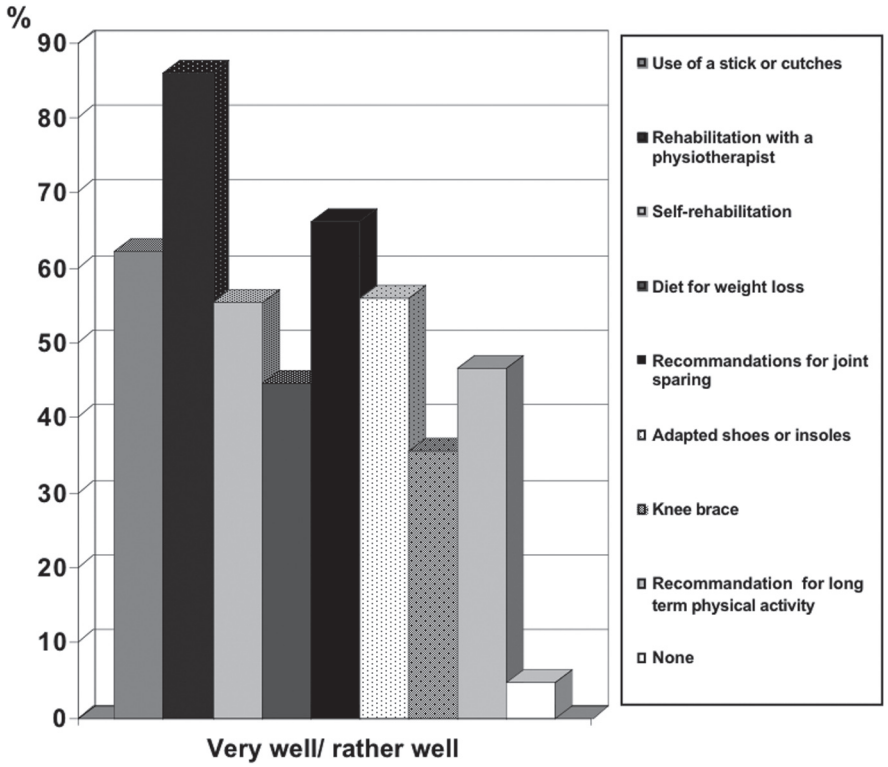

Fig. 2. Percentage of French general practitioners who responded "very well" or "rather well" to each item of the question: Do you think these means are usually well applied?

Q7: Do GPs prescribe analgesic/ NSAIDs treatment before and/or after physical activities?

When LLOA patients start sports or physical activities again, 92% of GPs recommended systematic protocol for analgesic consumption. More than two-thirds of GPs (68.4%) gave preference for a systematic intake of analgesics every 4-6 hours. Analgesic treatment intake, only on patient's request, was prescribed "systematically" and "often" by 24.4% and 38.5% of GPs respectively. NSAIDs prescription was "systematically" or "often" proposed by only 30.5% of GPs, while NSAIDs treatment was prescribed before or after physical activities by 19% and 9.3% respectively (Fig. 4).

Q8: After a flare-up, do GPs initiate a diet for weight loss before or after renewed physical activity?

Most GPs (68.8%) recommended starting diet for weight loss at the time the physical activity restarts, whereas 23.1% of GPs recommend to start it before physical activity restarts.

Q9: With regard to the weight loss diet efficacy, do GPs consider the renewed physical activity as "essential", "useful", "optional" or "pointless"?

The large majority of GPs considered that a good physical activity was essential (51.7%) or useful (43.3%) to the success of the weight reduction program.

Q10: Which means do GPs advise to improve the effectiveness of the diet?

The main measures used to improve the efficacy of the diet were the support of a nutritionist (74.5%) and the support of the GPs (70.7%), far beyond the support group and family intervention (both 36.6%).

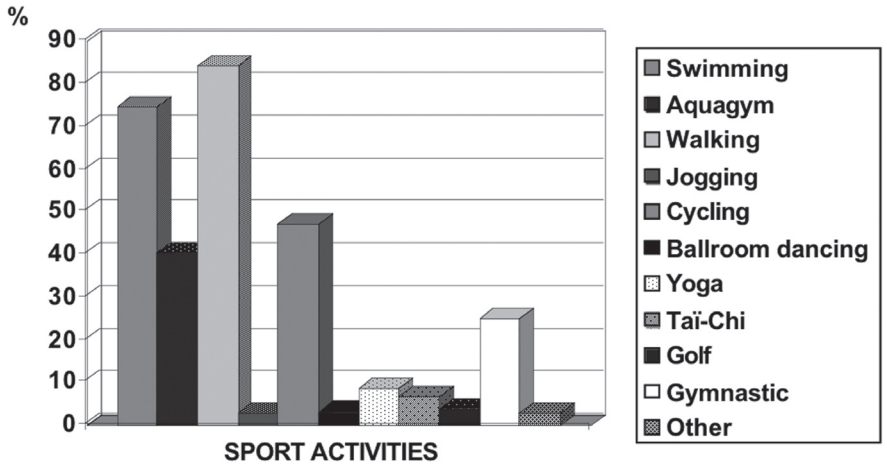

Fig. 3. Percentage, for each item, of French general practitioners who proposed "one or several sport activities" to the question: What sporting activity do you recommend to your patients suffering from hip or knee OA?

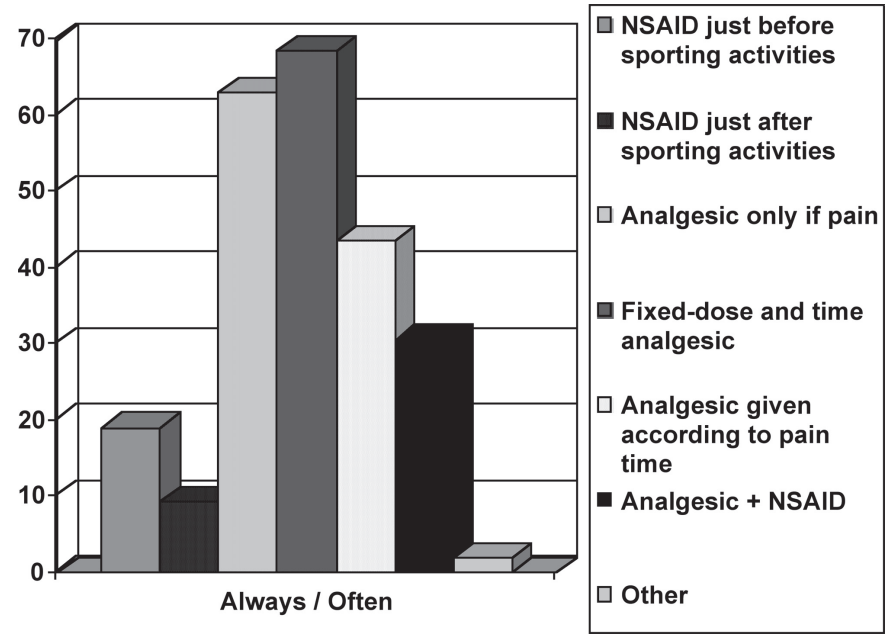

Fig. 4. Percentage of French general practitioners who responded "always" or "often" to each item of the question: Which analgesic protocol do you regularly use at time of sport renewal?

Discussion

An increasing number of clinical practice guidelines (CPGs) have been developed to assist practitioners and patients on healthcare decisions. Lopez-Olivo and Suarez-Almazor (5) have recently conducted a systematic review of the literature and websites and identified 276 CPGs for the diagnosis and/or treatment of musculoskeletal disorders. The authors concluded that while many CPGs exist, the consensus processes followed in their development was not always explicit, leading to limitations in their interpretations that can hamper broader acceptance and adoption. This seems to be particularly true in OA which is a very chronic disease, affecting especially elderly people with frequent multiple co-morbidities. In our knowledge this large scale cross sectional survey is the first one showing that most French GPs are sensitive to the fact that NPM are of importance, in addition to pharmacological treatment, in the therapeutic management of patients with lower limb OA. This confirms the results obtained in a previous French survey (6) which showed that EULAR 2000 recommendations were familiar to 79% of the GPs; 99% agreed with the non-pharmacological part and 97% with the pharmacological part. Adherence to each of these two parts was respectively 74.8% and 73.6%, but 54.2% for both together.

Despite the fact that during these last 20 years, most research on OA has been focused on the development of

structure-modifying agents, it appears now clearly that OA must be considered as a "whole joint disease" and not only as a "cartilage disease"(7). This is why guidelines proposed by the principal expert groups set a high value on orthopaedics treatment (2, 3) despite high variations of proof levels from one recommendation to another.

Our results showed that fighting against overweight was a major concern for about two thirds of the GPs. In France, as in the majority of European countries, overweight is an increasing concern. Recent surveys suggested that thirteen million French people suffer from weight excess and that obesity could affect about 7 to 9% of French adults. Now it is well known that obesity increases both the incidence and the progression of LLOA, as well as reducing physical activities. In comparison with patients having a BMI<25, the relative risk for knee OA was shown to be 13.6 fold-higher in obese subjects older than 45, having a BMI>36. In patients with more moderate overweight (25<BMI<30), the relative risk to develop knee OA was also shown to be very high (5.4 and 8.1 respectively) (8). If all overweight patients reduced their weight by 5 kg or reached a BMI within the normal range, 24% of surgical procedures for knee OA could be avoided (9).

Huang MH *et al*. (10) showed a significant correlation between weight reduction and knee functional improvement. Furthermore a weight loss of 10% was suggested to improve function by 28% (11). The mechanism by which overweight induces and worsens OA is probably complex. The overload effect on cartilage may be mediated through mechanoreceptors present at the surface of chondrocytes. Then mechanoreceptors activation may lead to cytokines, growth factors, metalloproteinases and nitric oxide production (12). Obesity may also act through systemic factors, such as adipokines. Indeed fat tissue could act as an endocrine tissue, able to release cytokines and number of adipokines (*i.e*., leptin, adiponectin, resistin). Among those, leptin was thought to play a key role in cartilage metabolism, and to be involved in the OA process in obese patients (13). Whatever the real mechanism of action of overweight is, it is evident that fighting against weight excess is of major importance in the therapeutic management of osteoarthritic patients, especially in those with knee OA. Nevertheless, despite the fact that weight reduction appeared to French GPs as an essential goal, most considered it is a very difficult challenge, frequently needing outside help, particularly from a nutritionist, and possibly from the familial or group intervention.

Muscle is also a key element of OA symptoms and evolution (7). It is now clearly demonstrated that quadriceps insufficiency is associated with both pain and anatomical worsening of knee OA (14). Quadriceps muscle is of importance in joint postero-anterior stability. It has been considered for a long time that quadriceps insufficiency was only the consequence of OA, through a decrease of mobility. In fact, it may represent one of its causes. The role of muscle function in shock absorption is well known for a long time (15). It has been demonstrated that muscle is able to absorb high amounts of energy leading to compressive stress reduction on the articular cartilage. The time needed for the muscle to prepare joint to impact is about 75 ms. This may explain that a stumble could sometimes be more traumatizing than a fall from higher distance (16). In OA, proprioceptive abnormalities increase the time of neuro-muscular response and reduce the muscle abilities to absorb shocks. Hence this leads to an increase of compressive stress on cartilage (17).

For these reasons, the large majority of GPs considered that a good physical activity was essential for decreasing pain and improving function in LLOA but also to the success of the weight reduction programme. A recent exhaustive review of the literature (18) concluded that OA is not a contra-indication to sport practice, even at a high level, provided sport activities do not induce joint pain and do not predispose to injury or trauma. Hence, clinical or radiological OA is not a contra-indication to fighting against sedentary lifestyle. The OASIS group also recommends the practice of static as well as dynamic exercises for the sedentary patient with knee OA, preference and tolerance being the criteria for the choice of exercises (18). In the present survey, the most frequently proposed sport activities were those that did not expose to trauma and that could be easily accepted by aged and overweight patients such as walking, cycling and swimming. Despite no scientific argument to support halting exercise in case of an OA flare-up (18) most GPs advise a resting till the end of the flare-up. On the other hand, in accordance with the expert opinion, most French GPs consider professional assistance as being useful in improving initial compliance and perseverance (57.8%). They also frequently propose daily self-exercises (46%). Rehabilitation and self-rehabilitation are usually to improve or maintain ranges of joint motion and to grow muscle in strength (19). However, it has been suggested that an excess of quadriceps strength could be harmful, particularly in knee OA patients with varus/valgus deformities (20).

In accordance with the EULAR recommendation n°8 (3), a large majority of GPs used paracetamol as the first-line analgesic therapy and recommended systematic intakes for analgesic consumption. More than two thirds of GPs gave preference for a systematic intake of analgesics every 4-6 hours while analgesic treatment, only on request, was prescribed "systematically" and "often" by 1/4 to 1/3 of GPs respectively. NSAIDs prescription was proposed by less than 1/3 of GPs, while NSAIDs treatment before or after physical activities were much less frequently prescribed (about 1/5 and 1/10 respectively)

This large survey shows that French GPs have a good knowledge of the NPM as additional means for the lower limb OA treatment and that French GPs adherence to EULAR recommendations was much improved in 2005 compared with 2002 (4). Recommendations for weight loss and joint sparing were the most used NPM followed by physical activity development, rehabilitation with physiotherapist and self-exercise. Sports that do not imply joint overwork (*i.e*., swimming, cycling, and walking) were the most frequently recommended

activities. Analgesics were widely prescribed by GPs with the aim of helping patients for physical activity renewal, but the modalities of prescription varied according to patients and physicians.

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