Professional practices and recommendations

Establishing recommendations for physical medicine and rehabilitation: the SOFMER methodology

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Abstract

Objective. – The development of a rigorous methodology based on published results of clinical trials, evaluation of daily practice in France and multidisciplinary expert opinion to elaborate recommendations for rehabilitation interventions.

Methods and results. – The following describes the methodology of SOFMER (Société Française de Médecine Physique et de Réadaptation [French Society of Physical Medicine and Rehabilitation]) for developing recommendations for rehabilitation interventions. The test case was developing recommendations for rehabilitation in hip or knee osteoarthritis (OA) and hip or knee arthroplasty. Physicians in rehabilitation, orthopaedic surgery and rheumatology identified, synthesized, and analyzed data from the literature by use of the usual French system of grading trials (the French Agency for Accreditation and Evaluation in Healthcare [ANAES] scale). The data were published results of comparative controlled studies such as randomized controlled trials, controlled clinical trials, cohort studies, case control studies, reviews of clinical trials, and case series, as well as uncontrolled cohort studies. The resulting recommendations were presented to the three annual French national congresses of rehabilitation, rheumatology, and orthopaedic surgery for comment and for adapting to French professional practice. Finally, a panel of multidisciplinary experts (physicians in physical medicine and rehabilitation, rheumatologists, orthopedic surgeons, general practitioners, physical therapists, social workers, podologists, occupational therapists, nurses, and patients) validated the recommendations.

Conclusion. – The SOFMER methodology could be an interesting tool for use in developing recommendations elaborated by all the concerned medical and surgical specialists in the wide domain of rehabilitation.

Keywords: Clinical practice guidelines; Evidence based practice; Practitioner feed back survey; Rehabilitation; Systematic review; Methodology

1. Introduction

In 1990 and 1995, the US Institute of Medicine described clinical practice guidelines as ‘systematically defined statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances’ [4,5]. In musculoskeletal diseases, clinical practice guidelines have been published for osteoarthritis (OA), rheumatoid arthritis, ankylosing spondilitis, and gout. Precise recommendations for pharmacological treatment can be easily described with the drug name and exact dosage, as in the European League Against Rheumatism (EULAR) recommendations to use paracetamol (up to 4 g/day) to manage hip OA [9].

Besides pharmacological recommendations, nonpharmacological recommendations, mainly rehabilitation, are increasingly being indicated as routine treatment. For example, the first EULAR recommendations for optimal management of hip or knee OA suggest a combination of nonpharmacological and pharmacological treatment [6,9]. Unfortunately, for daily practice, only one item of the recommendations describes nonpharmacological treatment—education, exercise, use of appliances, and weight reduction—thus leading to under-utilization of nonpharmacological treatments [2,6,9]. Nonpharmacological recommendations are less precise than pharmacological recommendations to ‘assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.’
In France, in a large prospective, observational, multicenter survey conducted among 1030 general practitioners (GPs), only 48.7% of the GPs prescribed physical activity and less than 6% the use of insoles for knee OA as compared with 95.8% of GPs prescribing paracetamol [3]. However, 99% of the GPs agreed with the nonpharmacological recommendation, thus showing a great discrepancy between following a recommendation for rehabilitation in daily practice (48.7%) and agreement about this recommendation (99%). This phenomenon was not observed for the pharmacological recommendation, as demonstrated by the very similar percentages for following the recommendation (95.8%) and agreement about the recommendation (97%).

Our aim was to develop a specific methodology to elaborate recommendations for rehabilitation interventions, which should therefore be adapted more to the daily practice of GPs to facilitate the correct prescription of a clear intervention and thus a better clinical improvement for the patient. We devised a methodology that combines analysis of published results of clinical trials by all the medical and surgical specialists involved in the area of interest, evaluation of daily practice in France and multidisciplinary expert opinion. This methodology was used for the first time in France in year 2006 to establish recommendations for rehabilitation in knee or hip OA and hip or knee arthroplasty.

2. Formation of the steering committee

The following methodology was developed and financed by SOFMER (Société Française de Médecine Physique et de Réadaptation [French Society of Physical Medicine and Rehabilitation]). SOFMER defined the clinical area for the recommendations—rehabilitation in knee or hip OA and knee or hip arthroplasty—and assigned three of its members (FR, MR, and PR) to create a steering committee representing all the practices (academic, public or private) of physical medicine and rehabilitation in France (Table 1).

3. Choice of questions relevant to rehabilitation in knee or hip OA and knee or hip arthroplasty

Each steering committee member was asked to prepare several questions related to rehabilitation in hip or knee OA and hip or knee arthroplasty. These questions had to relate to high-volume activities of rehabilitation in France that currently had no recommendations. The questions were collected and presented at a national meeting of the steering committee funded by SOFMER in Paris at Cochin Hospital. At the meeting, the questions were discussed, and if two-thirds of the committee members agreed on the question, it was retained. Finally, five questions were selected: two related to rehabilitation in knee or hip OA and three to rehabilitation in hip or knee arthroplasty. For each question, subquestions were added to elaborate the recommendations, for a final total of 19 subquestions.

| Table 1
<table>
<thead>
<tr>
<th>Members of the steering committee</th>
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<tr>
<td>Calmels Paul, MD, Ph.D., service de MPR, hôpital Bellevue, 42055 Saint-Étienne, France</td>
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<td>Lecocq Jehan, MD, Ph.D., service de MPR, hôpitaux universitaires–hôpital de Hautepierre, 67098 Strasbourg, France</td>
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<td>Rannou François, MD, Ph.D., service de MPR, hôpital Cochin, université Paris-V, 75014 Paris, France</td>
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<td>Revel Michel, MD, service de MPR, hôpital Cochin, université Paris-V, 75014 Paris, France</td>
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<td>Thevenon André, MD, service de MPR, CHRU, 59037 Lille, France</td>
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<td>Thoumie Philippe, MD, Ph.D., service de MPR, hôpital Rothschild, 75012 Paris, France</td>
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<td>Tiffreau Vincent, MD, service de MPR, CHRU, 59037 Lille, France</td>
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<td>Vautravers Philippe, MD, service de MPR, hôpitaux universitaires–hôpital de Hautepierre, 67098 Strasbourg, France</td>
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MPR: médecine physique et de réadaptation (Physical Medicine and Rehabilitation).

4. Agreement from the French societies of rehabilitation, orthopedic surgery, rheumatology, and the bone and joint decade

Agreement and support for the study were obtained from the presidents of SOFMER, the French Society of Rheumatology (SFR), and the French Society of Traumatic and Orthopedic Surgery (SOFCOT). Agreement from the Bone and Joint Decade was obtained from its French representative Pr Liana Euler–Ziegler.

5. Choice of the scientific committee and experts

The scientific committee members who directed the analysis of publications and development of recommendations were nominated by the SOFMER, SFR, and SOFCOT and represented the different modalities (academic, public or private) of medical and surgical expertise in France (Table 2).

All experts who analyzed the publication results were nominated by SOFMER, SFR, and SOFCOT and were practitioners with academic, public or private professional positions. Two experts each (one each from SFR and SOFMER) were assigned to the medical questions—questions 1 and 2—and two each (one each from SOFCOT and SOFMER) to the questions related to surgery—questions 3–5 and all the subquestions. During all procedures, each expert was blinded to the identity of the other expert for a given question or subquestion for internal control. A total of 32 experts were selected, 26 in charge of 1 question or subquestion and 6 in charge of 2 questions or subquestions.

6. Literature search strategy

Literature search professionals systematically searched the PubMed, Pascal Biomed, and Cochrane databases for articles...
8. Analysis of manuscripts by experts, categories of evidence and strength of recommendation

Two experts from two different medical specialties were assigned to each question as described previously. They were blinded from each other during the analysis stage, for internal control. Experts received electronic or paper versions of each manuscript. Using the full-length versions, they identified all comparative controlled studies such as randomized controlled trials, controlled clinical trials, cohort studies, case control studies, reviews of clinical trials, and case series and all uncontrolled cohort studies related to their question. Studies were selected if they measured concordant outcomes related to the question. For each question, the scientific committee and experts selected outcomes of interest. The main outcomes used were impairment, disability, and quality of life.

The quality of each manuscript was assessed according to the grading scale of the French Agency for Accreditation and Evaluation in Healthcare (ANAES) (Table 3). The quality of results could be analyzed according to three levels of recommendation: A, established scientific evidence; B, scientific presumption; and C, low level of evidence. At the end of the analysis, each expert had to write a manuscript on the model of scientific publication.

9. Meeting of experts to compare categories of evidence and strength of conclusions from literature analysis

A 2-day meeting organized in Paris at Cochin Hospital and financed by SOFMER was devoted to the experts’ results for the five questions and subquestions. The first day was devoted to the medical questions 1 and 2. A discussion of the findings of the two experts for each question was moderated by a member of the scientific committee (FR or PR). Each expert’s manuscript was collected by the scientific committee. Differences in assessment of a report’s evidence and final recommendations were presented in the meeting and a final vote was taken to reach a consensus.

Table 3
Grading system for evidence from published trials of the French Agency for Accreditation and Evaluation in Healthcare (ANAES)

Grading of Published Trial Results
1 Randomized controlled trials of high power
1 Meta-analysis of randomized controlled trials
1 Decision based on well designed trials
2 Randomized controlled trials of low power
2 Comparative non randomized trials well designed
2 Cohort studies
3 Case control studies
4 Comparative studies with major bias
4 Retrospective studies
4 Cases series

Grading of Recommendations
A Established scientific evidence (level 1 of evidence)
B Scientific presumption (level 2 of evidence)
C Low level of evidence (levels 3 and 4 of evidence)
dations for each question were resolved by the representative member of the scientific committee. At the end of the meeting, conclusions from the literature analysis were obtained for each question by consensus of the two experts. The same validation process was used the second day for questions 3, 4, and 5.

10. Elaboration of questions to evaluate French physicians’ prescription and daily practice for rehabilitation in knee or hip OA and knee or hip arthroplasty

A 2-day meeting of the scientific committee organized in Paris at Cochin Hospital and financed by SOFMER aimed to elaborate questions related to each of the 19 questions that could be used to evaluate French physicians’ prescription for rehabilitation in knee or hip OA and knee or hip arthroplasty. FR asked each committee member to elaborate questions on the area related to their competence (rehabilitation, rheumatology, and orthopedic surgery). During the meeting, all questions were collected. When two-thirds of the scientific committee members agreed on a question, it was accepted. A list of 37 questions was defined.

11. Presentation of conclusions from experts’ analysis of the literature to the 2006 national congresses of rehabilitation, orthopedic surgery, and rheumatology and evaluation of prescription and daily practice for rehabilitation

The conclusions from the experts’ analysis of the literature were presented at the national congresses of rehabilitation (SOFMER Congress, Rouen, France, October 18, 2006), orthopedic surgery (SOFCOT National Congress, Paris, November 7, 2006), and rheumatology (SFR National Congress, Paris, December 4–5, 2006). Before the presentation of the conclusions of each literature review, FR asked the physicians attending the meetings the 37 questions evaluating their prescription and daily practice for rehabilitation. Electronic vote was used for an exact recording of responses. One hundred and twenty (120) physical medicine and rehabilitation physicians were present for the recommendation session at the SOFMER congress, 120 orthopedic surgeons at the SOFCOT congress, and 100 rheumatologists at the SFR congress. After the literature review presented by the experts responsible for each question, the session was open for questions and comments. A medical secretary took notes during the question-and-comment period.

12. Elaboration of recommendations in terms of literature, transdisciplinary French prescription and daily practice and external review by a reading committee

Experts added comments and notes gained from the three national congresses to their own literature review and opinion to propose recommendations concerning French prescription and daily practice for rehabilitation. These recommendations were reviewed by the scientific committee before validation by a reading committee.

Table 4

Members of the reading committee

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<th>Name</th>
<th>Position</th>
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<tr>
<td>Kemoun Gilles</td>
<td>PMR</td>
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<td>Dauty Marc</td>
<td>PMR</td>
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<td>Nys Alain</td>
<td>PMR</td>
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<td>Tavernier Christian</td>
<td>Rheumatologist</td>
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<td>Forestier Romain</td>
<td>Rheumatologist</td>
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<td>Reboux Jean François</td>
<td>Rheumatologist</td>
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<tr>
<td>Hamadouche Moussa</td>
<td>Orthopedic surgeon</td>
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<td>Cottias Pascal</td>
<td>Orthopedic surgeon</td>
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<td>Caton Jacques</td>
<td>Orthopedic surgeon</td>
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<tr>
<td>Lorenzo Alain</td>
<td>General practitioner</td>
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<td>Favre Madeleine</td>
<td>General practitioner</td>
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<tr>
<td>Fabry Stephane</td>
<td>Physical therapist</td>
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<tr>
<td>Marc Thierry</td>
<td>Physical therapist</td>
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<td>Pillu Michel</td>
<td>Physical therapist</td>
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<td>Jouhanneau Sylvie</td>
<td>Social worker</td>
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<tr>
<td>Massaro Raymond</td>
<td>Podologist</td>
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<tr>
<td>Hynaux Isabelle</td>
<td>Occupational therapist</td>
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<tr>
<td>Matter Claire</td>
<td>Nurse</td>
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<tr>
<td>Guillemin Dominique</td>
<td>Patient</td>
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The scientific committee formed a multidisciplinary reading committee (Table 4) to comment on the recommendations developed from analysis of published clinical trials and evaluation of daily practice in France. This multidisciplinary committee consisted of physicians in physical medicine and rehabilitation, orthopedic surgery, rheumatology, and family practice; physical therapists; occupational therapists; podologists; social workers; nurses; and patients. Members were nominated to this reading committee by their representative national organizations. Each member received a recommendation one at a time and had 1 week to comment. In the absence of a response, the scientific committee considered that the reading committee member accepted the recommendation. Feedback by these practitioners and patients was discussed by the scientific committee, and the final recommendations were revised accordingly.

13. Final publication of recommendations

The final recommendations will be published in referenced medical journals in French and English and will be available to the public on the web sites of SOFMER, SFR and SOFCOT.

14. Discussion

Even if rehabilitation for several diseases is widely accepted in general practice, the actuality of prescription and application are still debated. Perhaps the process of developing recommendations has an influence.

The SOFMER methodology has been developed from a combination of analysis of results of published clinical trials, evaluation of prescription and daily practice in France, and multidisciplinary expert opinion to define recommendations for rehabilitation, in this case rehabilitation in knee or hip OA and knee or hip arthroplasty. To date, the development of recommendations has resulted from the opinion of experts, literature search, or both. EULAR used this hybrid method to
develop recommendations for musculoskeletal diseases [9].

The SOFMER methodology involves a modified hybrid method of literature search and expert opinion added to adaptation to French prescription and daily practice. In contrast to the EULAR use of expert opinion, the SOFMER methodology requires a multidisciplinary final reading committee of not only physicians but also health practitioners and patients. As seen in Table 4, the reading committee represented 10 different domains of health care. The EULAR methodology involves a predominance of rheumatologists (18/23) and orthopedic surgeons (4/23) involved in secondary or tertiary care of OA patients [9]. The SOFMER multidisciplinary method for developing recommendations might help increase the acceptability of the recommendations in real-life daily activity in primary care.

To our knowledge, the SOFMER methodology is the first to take into account patient opinion, which could be a first step in reaching high acceptance of a nonpharmacological treatment by patients. Even if recommendations are scientifically pertinent, if they are not used by GPs and accepted by patients, their usefulness is questionable. In addition, the financial independence of the SOFMER methodology could help with acceptance of recommendations. For the EULAR recommendations, the pharmaceutical industry was involved in their development. However, all the costs for the development of SOMER recommendations were absorbed by SOFMER, a nonprofit professional organization.

Roddy et al. [8], for the MOVE consensus, were the first to try to describe precisely the practical delivery of exercise therapy in OA. The authors first used a round of expert opinion based on the Delphi method and then conducted a literature search. In our methodology, expert opinion follows the literature search, for an unbiased search of the literature. As well, the MOVE authors did not collect the daily practice of physicians implicated in rehabilitation nor patient opinion. Lastly, the Philadelphia panel developed a methodology of expert opinion, literature search and external practitioner review for rehabilitation interventions [7]. In this study, the final evaluation involving the AGREE scale gave too much importance to expert opinion and thus to subjective opinion [10]. Zhang and Doherty, in a recent study critiquing the EULAR methodology, point out the subjectivity of the AGREE scale [1] leading to an emphasis on subjective opinion of experts and largely neglecting research evidence [9]. In the field of rehabilitation, we need scientific objectivity, not subjective opinion based on non-scientific and medical evidence, in the development of recommendations.

By studying and learning from the EULAR methodology, the MOVE consensus, and the Philadelphia panel, we have elaborated a new method to develop recommendations for rehabilitation, one that is based on literature search, multidisciplinary expert opinion and application to daily primary health care. By its very nature, this method may help physicians and patients accept recommendations for a wide variety of areas of rehabilitation, including neurological rehabilitation.

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References


