Implementation of recommended non-pharmacotherapy in rheumatology practice: need for improvement

Sirs,

Proper management of rheumatic diseases requires timely and tailored provision of effective non-pharmacologic modalities. This holds in particular for patients having longer duration of rheumatoid arthritis (RA) or ankylosing spondylitis (AS) if the disease has not responded favourably to a variety of anti-rheumatic drugs. Also, in the management of osteoarthritis (OA) non-pharmacotherapy is clearly important for improving patient outcome (1).

In the past, the quality of evidence of studies on the effectiveness of non-pharmacological interventions frequently was disappointing. However, more recently a considerable number of methodological sound high quality trials, systematic reviews (including Cochrane reviews), guidelines and recommendations on non-pharmacological interventions, has been published. Such reviews assess and summarise all available studies on the topic of interest qualitatively following strict inclusion rules. The conclusions can be translated into recommendations for clinical practice. For example, EULAR has been very active in publishing guidelines and recommendations for non-pharmacological interventions for professionals (1-3).

In our view, practitioners' knowledge of relevant reviews and recommendations is rather limited. This might influence their referral behaviour for non-pharmacological interventions to other health professionals such as physiotherapists. Most importantly, it might affect patient outcome. A recent minisymposium enabled us to evaluate our suppositions.

Four case scenarios (Table I) were presented to 13 rheumatologists and 4 trainees. For each case the 17 participants voted electronically on multiple choice questions (Appendix). Participants had to vote which non-pharmacological modalities they considered to be appropriate at that point in time. Scores may range from 0% to 100%. (0% means no participant and 100% indicates all participants answered in accordance with evidences and recommendations in the literature). Scores below 100% indicate imperfect compliance with or unawareness of evidence for a specific non-pharmacological intervention.

Table I. Four case scenarios.

Case 1. *Rheumatoid arthritis (RA):* a 47-year-old female secretary with anti-CCP positive RA since 6 months. She is not obese and smokes heavily. Treatment with a high dose of methotrexate (MTX) orally was insufficiently effective. Recently, she started therapy with a TNF-blocking agent, Currently, the RA is still active with painful and swollen hands, feet and knee joints.

Case 2. *Osteoarthritis (OA) of the hands*: a 55-year-old female patient with OA of both hands including the carpometacarpophalangeal (CMC1) joints of both thumbs and the proximal and distal interphalangeal finger joints.

Case 3. *Osteoarthritis (OA) of the knee*: a 55-year-old male with chronic knee problems due to a meniscal tear and OA. He is unsure about what would be the best therapeutic choice for his problems: surgery or conservative treatment.

Case 4. *Ankylosing spondylitis (AS)*: a 25-year-old student with AS. In spite of a good response to treatment with NSAIDs, he experiences stiffness and limited spinal motion. There are no syndesmophytes. He asks his rheumatologist for advice about what he might expect from regular exercises and what modality of exercises would be most effective.

Participants' votes for evidence-based effective modalities were frequently disappointing.

Case 1. An exercise programme, an evidence-based intervention for RA (4), was voted for in only 77%. Participants' votes for evidence-based effective hand or wrist splints during work, joint protection, and paraffin baths were 24%, 41% and 6% respectively (5-7). Interventions not yet indicated at this stage of disease or of non-proven efficacy received the following inappropriate votes: balneotherapy: 24%; adjustments at work or at home at a (too) early stage of disease (TNF blocking agent just started): 59%; (too) early adjustment of shoes: 24%; hand or wrist splints at rest: 29% (5, 7, 8).

Case 2. Education and exercises, splinting during activities, and adjustment of cutlery are effective for hand OA (2, 9, 10). Altogether 81% of participants voted correctly for education combined with exercises; 69% voted CMC1 splinting during daily activities; only 50% proposed adjustment of cutlery. Participants were also asked to indicate the level of evidence in favour of CMC1 splinting. Altogether 40% thought that recommendation was based on experts' opinion only; 20% indicated non-randomised trials and only 27% correctly pointed to a RCT, whereas 13% overestimated the evidence as being based upon a high quality review (9). Half (50%) of respondents incorrectly thought that proof of short-term effectiveness would already be present after one month. CMC1 splints have demonstrated long-term effectiveness at one year (correctly answered by 80%) (9).

Case 3. Of all responders 47% were not aware of any firm evidence in favour of either surgery or conservative treatment for knee OA. High level evidence in favour of partial meniscectomy through arthroscopy was indicated by 13%, whereas 20% voted for physiotherapy being better than an arthroscopic procedure. Only 20% correctly indicated that there is high quality (RCT) evidence that points to equal results of both strategies (11).

Case 4. Only 21% of participants voted for home exercises for AS; they choose in 43% for weekly supervised exercises in groups and in 36% for a 3-week course of spa-exercises treatment. A Cochrane review indicates that spa-exercise treatment would be most effective; weekly supervised exercises being next best (12). The level of pain is not affected by exercises. Nonetheless, 80% of participants expected pain reduction. Only 53% voted correctly for improvement of spinal mobility, 80% for better physical functioning and 87% for improved global health. Just 53% of the participants knew that exercises decrease medical costs (12-15).

On average the proportion correct answers for all RA-related questions was 37%, for OA 54% and for AS 62%. Participant (n=9) aged >60 scored marginally higher (mean percentage correct answers for all cases 54.5%) compared to participants (n=8) below age 60 (mean percentage correct answers for all cases 49.4%).

Our descriptive study, although limited because it was based on clinicians' opinion rather than on performance in daily practice, suggest both restricted awareness and insufficient implementation in practice of high-quality evidence in the literature. One could speak of a sizable gap between easily accessible knowledge and the achievement thereof in daily clinical practice. The study only indicates the presence of such a gap. Exploring factors that could contribute to this gap would require properly designed studies. Although the number of participants is rather small, involving more rheumatologists would probably not provide better results. Stronger (preferably performance based) studies are needed to come to conclusive results (and solutions).

Appendix

Case 1. Which of the following non-pharmacologic modalities are now indicated for the patient with rheumatoid arthritis? (More than one correct answer may be possible).

- Balneotherapy
- Exercises
- Paraffin baths for the hands
- TENS
- Joint protection
- Individual adjustments of shoes
- Adjustments at the workplace or at home
- Hand/wrist braces during work
- Resting hand/wrist braces

Case 2. Which of the following modalities are useful for a patient with osteoarthritis of the hands? (More than one correct answer may be possible)

- Advice to limit using the hands
- Education about the disorder and advice to exercise actively
- CMC1 brace during daytime
- Cold packs
- Parffin baths
- Adjustment of cutlerly

Case 2. Do you think that for patients with osteoarthritis of the CMC1 joint a thumb brace is effective in the short term (after one month?) Yes / No

Do you think that for patients with osteoarthritis of the CMC1 joint a thumb brace is effective in the long term (after one year?) Yes / No

Case 2. What kind of evidence supports the efficacy of CMC1 braces for patients with osteoarthritis of that joint?

- Experts' opinion and/or case series
- Non-randomised follow-up study
- Randomised controlled trial (RCT)
- Meta-analysis

Case 3. What evidence is available in the literature for patients with osteoarthritis of the knee joint with meniscal tear?

- High level evidence:
  arthroscopic partial meniscectomy
  better than standard physiotherapy
- High level evidence:
  arthroscopic partial meniscectomy
  as good as standard physiotherapy
- High level evidence:
  standard physiotherapy better than
  arthroscopic partial meniscectomy
- No high level evidence available
  Only some case studies

Case 4. What would be your best advice for a 25-year-old patient with ankylosing spondylitis (AS) who already performs daily exercises at home? (Only one answer)

- Individual exercises supervised by a physiotherapist
- Weekly exercises in a group of AS patients supervised by a physiotherapist
- A 3-week spa-exercise course

Case 4. What kind of effects might be expected from exercise therapy in patients with ankylosing spondylitis? (More than one answer might be correct)

- Reduced pain
- Increased spinal mobility
- Increased physical functioning
- Higher global assessment by patient
- Reduced medical costs

One can only speculate on how to explain these findings. Unawareness of evidence might be due to perceived absence of relevant studies. Factors supporting such views may include the following. Evaluation of non-pharmacological interventions is often methodologically challenging; well-designed studies may not be easy to perform or too costly. Proper funding of non-pharmacological studies might be a limiting factor. Furthermore, transfer of knowledge of effectiveness of non-pharmaceutical interventions is scarce, also at rheumatologic congresses. Attendees of these meetings may give higher priority to more 'sexy' pharmacological or aetiopathological oriented sessions. However, from the patients' perspective it is also essential how best to improve or maintain physical function by non-pharmaceutical interventions. Lacking communication between producers of new knowledge and (potential) consumers might contribute to the gap.

Appropriate utilisation of non-pharmacological treatments positively affects patient outcome. However, the knowledge gap should also be reduced for other reasons. Ineffective treatment reduces scarce resources. Furthermore, third parties such as governments or health insurance companies may cut interventions that mistakenly are deemed as ineffective by professionals unaware of evidence favouring non-pharmacological modalities.

If new studies would strengthen our findings, then barriers and facilitators of implementation of knowledge into daily practice should be assessed. The final aim of increasing and implementing knowledge about effective non-pharmaceutical interventions – usually summarised in guidelines and recommendations – is improving patient outcome.

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