Barriers Impeding the Use of Non-pharmacological, Non-surgical Care in Hip and Knee Osteoarthritis

The Views of General Practitioners, Physical Therapists, and Medical Specialists

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Background: Non-pharmacological, non-surgical treatment modalities are underused in the management of knee and hip osteoarthritis (OA). One possible explanation for this could be healthcare providers' opinions about these treatment modalities. The objective of this qualitative study was to identify healthcare providers' views on non-pharmacological, non-surgical care for OA.

Methods: Semi-structured in-depth interviews with 24 healthcare providers (rheumatologists, orthopedic surgeons, physical therapists and general practitioners) were held. Interviews were transcribed verbatim and analyzed using a three-step thematic approach. Two independent researchers continuously reflected upon, compared, discussed, and adjusted the codings.

Results: Eight themes were identified reflecting three main barriers to the provision of non-pharmacological, non-surgical care: perceived lack of expertise of the healthcare provider (including a lack of knowledge and skills that are required to support patients), perceived lack of evidence-based treatment (regarding weight management, and the intensity and dosage of physical exercise), and suboptimal organization of care (including hampered dialogue between disciplines and lack of clarity about the roles and responsibilities of disciplines).

Conclusions: Healthcare providers report multiple barriers impeding non-pharmacological, non-surgical care for patients with knee and hip OA. To overcome these barriers, education focused on initiating and supporting lifestyle changes, promotion of interventions according to evidence-based recommendations, and improved organization of care are proposed.

Key Words: qualitative research, osteoarthritis, healthcare providers, non-pharmacological, non-surgical

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BACKGROUND

Osteoarthritis (OA) of the knee and hip is a degenerative joint disease causing pain and functional impairment.[1] Because no cure is available, treatment tends to focus on the reduction of symptoms and risk factors for progression and teaching patients how to deal with limitations in daily life. Non-pharmacological, non-surgical treatments include education about lifestyle, physical exercise, pacing of activities, weight reduction and other means of unloading the damaged joint(s).[2,3] Despite the availability of (inter)national recommendations which acknowledge the importance of non-pharmacological, non-surgical management,[2–4] non-pharmacological, non-surgical treatment options are underused in the management of knee and hip OA.[5–7] One possible explanation for this is that health care providers' views[8–10] and lack of knowledge[11] act as barriers to the advocation of non-pharmacological, non-surgical treatment modalities.

Various healthcare providers are involved in OA care, such as general practitioners (GPs), dieticians, physical therapists, orthopedic surgeons, and rheumatologists. Previous research indicates that healthcare providers are reluctant to advise patients to use non-pharmacological, non-surgical treatment modalities.[12] For instance, physical therapists are uncertain about the effectiveness of exercise for knee OA.[10] GPs hold diverse attitudes and views toward exercise for knee OA and chronic knee pain, which might explain the low provision of exercise advice and physical therapy referrals.[8] GPs do provide recommendations for weight loss and muscle strengthening exercises, but do not focus on increasing patients' motivation for these behavioral changes because they believe that lifestyle changes are impossible for most OA patients.[13] Previous research has predominantly focused on the views of GPs and physical therapists on non-pharmacological, non-surgical treatment, but the views of medical specialists on non-pharmacological, non-surgical care are also important.[12]

Examining the views of multiple healthcare providers could clarify why non-pharmacological, non-surgical treatment modalities are underused in the management of knee and hip OA. Barriers observed by healthcare providers will provide information on how to improve OA care.[4] Therefore, the aim of this study was to identify the views of GPs, physical therapists and medical specialists with respect to the non-pharmacological, non-surgical management of knee and hip OA.

METHODS

Semi-structured interviews were conducted to examine healthcare providers' views on non-pharmacological care in patients with knee and hip OA that might act as barriers to the prescription of non-pharmacological, non-surgical care. Thematic analysis was used to identify themes.[14] The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was used

to ensure complete and transparent reporting.[15] The Institutional Review Board of the Radboud University Medical Center, Nijmegen concluded that the Medical Research Involving Human Subjects Act did not apply to this study (protocol number: 2013/482).

Recruitment

To be eligible for inclusion in the study, healthcare providers had to be involved in the care for OA, had to speak fluent Dutch, and had to provide informed consent. All eligible healthcare providers were sent an invitation letter and information regarding the study. Healthcare providers were recruited in two ways:

1. Orthopedic surgeons and rheumatologists were recruited through members of the project group (WN, MN) via snowball-sampling.[16] Rheumatologists (N=8) and orthopedic surgeons (N=12) working in different hospitals, located in various regions in the Netherlands were invited to participate.
2. GPs (N=46, spread over 21 GP practices) and physical therapists (N=27) affiliated with an osteoarthritis network[17] in the Nijmegen region of the Netherlands were invited to participate.

Data Collection

Interviews were held in the office of the participant or, when preferred, in the office of the researcher. Only the interviewee and interviewer were present during the interview. Written informed consent to record the interview was obtained prior to the start of the interview. The use of a pilot-tested interview guide with open-ended questions ensured that the main issues were discussed (Supplemental Digital Content 1, http://links.lww.com/RHU/A74). The contents of the interview guide were based on evidence-based knowledge and clinical practice. The interview guide consisted of open-ended leading questions; probing questions were used in case the open-ended questions did not yield information. No changes were made to the interview guide after the pilot test, and data obtained in the pilot test were taken into account for the data analysis. All interviews were conducted by one (female) PhD student (ES) who had received interview training. Participants received a member check (summary of each interview) and were asked for comments and corrections on this member check to ensure that their views had been interpreted correctly by the researcher. No relationship existed between the interviewer and participants prior to the interviews. Data collection was stopped when data-saturation was reached, i.e. no new information was obtained from the last two interviews.

Data Analysis

Interviews were transcribed verbatim and analyzed using the qualitative data analysis software MAXQDA.[18] Coding was independently performed by JV (psychologist/senior researcher) and ES (health scientist/PhD student) in three steps.[16] First, meaningful text fragments were selected and given a name (open coding). Second, the open codes were categorized (axial coding). Third, main themes and subthemes and their interrelatedness were identified from these axial codes (selective coding). Data collection and analysis were continuously alternated in an iterative manner, in which two researchers (JV, ES) continuously reflected on, compared, discussed, and adjusted the codes and themes in a cyclical process. This iterative design provided the opportunity to verify the new codes with the codes identified in previous interviews. After the identification of themes, the research group pinpointed the main barriers that could influence the provision of non-pharmacological, non-surgical care as reflected in the themes, and discussed the implications of these barriers in terms of the goal of improving the provision of non-pharmacological, non-surgical care.

RESULTS

Twenty-four healthcare providers were interviewed: seven physical therapists, five GPs, seven orthopedic surgeons, and five rheumatologists (50% female, age range 24–64 years, working experience with OA patients of 1–35 years). The reasons for non-participation were unknown since most invited participants did not respond at all. Non-participants who did respond indicated a lack of time or interest. The duration of the interviews was 25–59 min (mean = 44.7 min, SD = 8.7). The process of analysis and repeated comparison yielded eight themes representing views regarding non-pharmacological, non-surgical care that could be barriers to the use of these treatment modalities. Weight reduction and physical therapy were the treatment modalities that were most frequently mentioned by the respondents.

Theme 1: Patient's Difficulties With Weight Reduction

This theme indicated healthcare providers' awareness of patients' difficulties with weight reduction to reduce their OA symptoms. All healthcare providers acknowledged the benefits of weight reduction for relieving the symptoms of knee and hip OA; however, they were ambivalent about patients' ability to lose weight. A rheumatologist stated that he did not believe in the ability of patients to succeed in making lifestyle changes: *"The problem is that people are always thinking of all kinds of ways out: I really don't eat that much, and you should know what I eat. Many people then start enthusiastically lose weight, and gain it again. That's a never-ending battle […] You get to the point where everyone's so fed up of that subject. Then, you too just drop it. So with osteoarthritis, I don't push this." [Rheumatologist—23]*.

Theme 2: (Mis)trust for Dietician Management for Inducing Weight Reduction

Most healthcare providers expressed their mistrust in the interventions dieticians use to help patients' with their weight reduction attempts. A GP said that he did not refer patients to dieticians: *"Do you know what I think a dietician is? A dietician keeps a check on what someone eats: what does that person eat? She then says: 'You're not getting enough calcium. You should actually drink more milk and you're actually doing the rest okay.' How can you lose weight then? […] To lose weight, this doesn't help much. No." [GP—7]*. However, some healthcare providers thought that dieticians were helpful for patients trying to lose weight, particularly if patients were motivated.

Theme 3: Healthcare Providers' Involvement in Weight Reduction

Healthcare providers expressed different views about their involvement in advising and supporting patients to lose weight. Many healthcare providers said that they mention the benefits of weight reduction, but do not actively coach patients in weight reduction or refer them to a dietician: *"If people have knee problems, I say: 'Weight is also an issue. You need to try to lose weight.' I do say it, but I don't make a big thing of it." [GP—10]*. Some healthcare providers do not advise patients to reduce their weight at all because they believe that patients are not capable of losing weight, because it takes too much time in a consultation, or because they did not perceive it as their responsibility. Physical therapists and GPs mentioned their difficulties in communicating with patients about being overweight: "*It's easier to mention*

exercise than losing weight, especially when there are fat people in front of you. I always feel that they're probably hearing that from lots of other people and then the GP also starts harping about it." [GP—18]. However, some healthcare providers argued that having a relationship with the patient built on mutual trust and respect would ease the way to discussions about weight reduction.

Theme 4: Advice About Physical Activity

The value of lifestyle advice related to knee and hip OA was acknowledged by healthcare providers. The most common lifestyle advice was about being physically active and weight reduction. However, uncertainties about the dosage, frequency, and type of physical activity were observed in several healthcare providers. A rheumatologist expressed his doubts about the relationship between the dosage of physical activity and biomechanical progression of OA: *"People often ask: 'Will I then be able to go jogging?' I don't really know. I find that one of the most difficult things. […] I am not sure to what extent that affects the progression of the osteoarthritis. I actually skate round the issue a bit, or say: you need to go to this or that physical therapist to discuss what's a good sport or exercise for you." [Rheumatologist—14]*. A physical therapist and rheumatologist described that patients should be physically active "within their pain limits", which meant that they should stop when they experience pain. Two GPs and an orthopedic surgeon talked about the importance of being physically active without overexerting or extremely exerting the joint. According to these healthcare providers, what was considered "overexertion" or "extreme" was ambiguous.

Theme 5: (Mis)trust of Physical Therapy Modalities

Levels of trust in the effectiveness of physical therapy varied among healthcare providers. Besides the beneficial effect of physical therapy in reducing weight, pain, and stiffness, physical therapy was considered to be effective for increasing mobility, posture, and coordination. Furthermore, healthcare providers thought that physical therapy was useful in increasing patient's self-management in coping with and acceptance of symptoms. One physical therapist believed that physical therapy could restore or even regenerate cartilage—that weight-bearing exercises can stimulate mitosis in cartilage cells. Several physical therapists emphasized the importance of muscle strengthening training for OA patients. In contrast, an orthopedic surgeon mentioned that supervised training was unnecessary in OA patients: *"With osteoarthritis in the knee, some quadriceps training can be important. However, I think if you just make sure that people have normal walking habits and a normal stance, they can train muscle strength during walking." [Orthopedic surgeon, 23]*. Other healthcare providers were less certain about the effectiveness of physical therapy, finding the benefits variable or difficult to prove: *"No, I don't know. I wonder if there's any proof for that. Some people say that they experience less pain. I think their osteoarthritis is unchanged, but perhaps circulation is improved strength increased leading to decreased pain as a result. It's difficult to say." [Physical therapist, 5]*.

Rheumatologists, orthopedic surgeons, and a GP emphasized the need for physical therapists to provide evidence-based exercises instead of non-evidence-based modalities such as massage, heat therapy, or electric therapy. They expressed negative views about physical therapists who provided non-evidence-based treatments: *"I underwent dry needling, and some of this and some of that. My SI joint has been massaged loose'. 'That's fantastic, but you do have arthritis in your hip. What kind of exercises have you done? 'None'. There you have it. There are many who do do it correctly, let's not forget that, but there are maybe a few who don't provide the right treatment" [Orthopedic surgeon—17]*.

Several healthcare providers showed mistrust because they observed huge differences in the quality of care delivered by physical therapists. Therefore, it was sometimes difficult to refer patients to a qualified physical therapist: *"Well, yes, what's tricky is that I see lots of people from all over the country and I have no idea which physical therapist does what. I tell the patient what they can ask their physical therapist. So, no massages, heat, electrotherapy, that sort of rubbish, you know. I ask them to ensure that it's all about training posture, how they walk, and coordination. That's actually what I tell them. I am not sure whether physical therapists follow this." [Orthopedic surgeon—23]*.

Theme 6: The Endorsement of Non-pharmacological, Non-surgical Treatment to Delay Surgery

Non-pharmacological, non-surgical treatment was considered useful to delay surgery. Healthcare providers reported that they adhered to stepped-care recommendations. Despite these recommendations, an orthopedic surgeon indicated that patients were referred for surgery when medication or physical therapy was not tried before. Several healthcare providers mentioned that physical therapy and good communication may help in delaying surgery in knee and hip OA patients: *"I think I avoid lots of referrals, but I think that has to do with communication. People come here and say: 'I'd like to go to the orthopedic specialist.' […] I sometimes say: 'As far as I'm concerned, you can go to the orthopedic specialist, but I think it's not that relevant now because he probably can't make much of a contribution. Go and try this or that, maybe you should do that first and then you can always go to the orthopedic specialist later'. Then people often say: 'Okay." [GP, 18]*.

Theme 7: Dialogue Between Disciplines

Several healthcare providers expressed that they valued straightforward, easy, and quick lines of communication among different disciplines working in the healthcare center. Doubts about patients' treatment were discussed quickly and easily, referring to other disciplines was easier, and it was possible to address physical therapists who practiced non-evidence-based treatment modalities. A physical therapist indicated that occupational therapists, podiatrists and physical therapists do not work together optimally in OA care. Another physical therapist mentioned that collaboration among multiple disciplines could be facilitated by working in a health center: *"We share premises with a dietician. We work closely with the GP's practice support team and try to collaborate to support patients and organize the odd case meeting, if necessary. Those lines of communication are really short." [Physical therapist, 6]*.

Most healthcare providers argued that non-pharmacological, non-surgical OA care can and should be provided in a primary care setting instead of a secondary care setting. GPs are able to provide lifestyle education and medication to OA patients, and should only refer a patient to secondary care when conservative treatment does not work adequately. *"You need to watch that you're not a kind of GP. We are medical specialists. We shouldn't become a kind of half-way house, where we're dabbling in this and that." [Rheumatologist—14]*.

Theme 8: Perceptions of Healthcare Providers' Roles

The roles of different disciplines in knee and hip OA care were described by healthcare providers: the coordinating role

of the GP, the ambiguities regarding the role of the rheumatologist in knee and hip OA care, and the negative image of orthopedic surgeons.

According to most healthcare providers, GPs had a coordinating role. This meant that they should diagnose and monitor the disease, coordinate the use of medication, and refer to other disciplines when necessary. The GP was also considered to be a long-term coach, provider of lifestyle education and supporter of treatment decision-making. One GP mentioned the importance of trust: *"I think it's important that you realize that we, as GPs, have often known patients for a really long time. This means we've often built up considerable mutual trust. That trust is often a basis to also give advice and therapy. The advice to wait and see what happens from a GP is, I think, advice that is much more quickly accepted by the patient." [GP—18].*

It was perceived that compared with GPs, physical therapists did have more time for their patients. Physical therapists were seen as coaches who need to guide patients in doing their exercises and following a healthy lifestyle, but also to help with physical activities in general (e.g. walking, cycling or sports activities). Furthermore, physical therapists have a role in providing lifestyle advice to OA patients.

The role of the rheumatologist in knee and hip OA care was perceived as unclear and limited by some healthcare providers: *"What I find a bit unclear is the role of the rheumatologist. Occasionally in this organization and in my previous hospital, I notice that there are osteoarthritis outpatients [educational] sessions. So this is completely unclear for us. What happens there and which patient needs to go where." [Orthopedic surgeon, 19].* According to a physical therapist, compared with education in primary care, education provided by rheumatologists offers no added value compared to education in primary care. A rheumatologist doubted if rheumatologists should have a role in OA care, because rheumatologists see patients once. However, other rheumatologists expressed that they perceived their role as valuable in giving injections, providing lifestyle and medication advice, and referring patients for the appropriate treatment.

Healthcare providers agreed that the orthopedic surgeon's primary task is to assess whether the patient is eligible for surgery. Orthopedic surgeons should inform patients about surgery and manage their expectations about surgery. In line with this, one orthopedic surgeon thought that he should not advocate the conservative management of OA. However, when patients were not eligible for surgery, he could advise the patient about the possibilities within the context of conservative OA care. Orthopedic surgeons were perceived negatively by several healthcare providers for a number of reasons: their willingness to perform (unnecessary) replacement surgery, their brief contact with the patient and resultant inability to take long-term problems into account, and their insufficient provision of information regarding the disadvantages of surgery.

Conceptual Model

Weight reduction and improvement of physical activity were the two core non-pharmacological, non-surgical treatment modalities in knee and hip OA care that were mentioned consistently by healthcare providers in this study. Eight themes were identified, reflecting healthcare providers' views on weight reduction and physical activity interventions (Fig). The research group concluded that the eight themes reflected three main barriers that could influence the provision of non-pharmacological, non-surgical care.

DISCUSSION

The eight themes that were identified in the data provided by GPs, physical therapists, rheumatologists, and orthopedic surgeons reflected three general barriers to providing non-pharmacological, non-surgical treatment modalities in knee and hip OA: perceived lack of expertise of the healthcare provider to support patients in behavioral change, perceived lack of evidence-based treatment, and suboptimal organization. In this discussion, based on these themes and barriers, considerations for improving the use of non-pharmacological, non-surgical care in knee and hip OA are proposed.

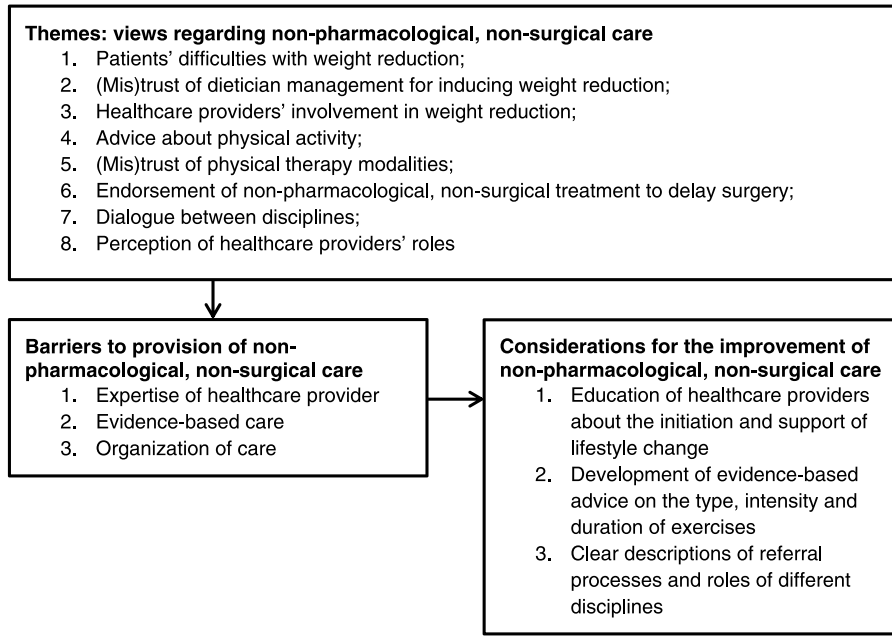

FIGURE. Identified themes, barriers, and considerations for the improvement of the use of non-pharmacological, non-surgical care in knee and hip osteoarthritis.

Perceived Lack of Expertise of Healthcare Providers

Our results show that applying OA management recommendations in clinical practice is challenging. In line with recommendations and standards of care for the management of knee and hip OA, providing lifestyle advice is one of the core non-pharmacological, non-surgical treatment option expressed by the healthcare providers interviewed in this study. Other options incorporated in OA management recommendations,[3,4,19] such as occupational therapeutic modalities (braces, canes, rollators), adaptations in home or work, and appropriate footwear, were sporadically mentioned. Moreover, management recommendations included advice to customize treatment to individual wishes and expectations. The healthcare providers interviewed in this study demonstrated a lack of knowledge, (communication) skills, and time to support patients' lifestyle changes,[12] and they perceived a lack of motivation on the side of patients to make lifestyle changes, consistent with findings of previous studies.[9,12] Previous studies also indicated that healthcare providers need more education regarding the incorporation of physical exercise and weight loss programs into the management of OA.[10,20] Competencies that could help healthcare providers support patients with their diet and physical activity are motivational interviewing,[21–23] and knowledge about methods of enhancing self-regulation skills so that they are maintained in the long term.[24] It is likely that referral to dietary care and physical exercise interventions would be more integrated into OA management if healthcare providers have a more positive attitude towards these disciplines.

Perceived Lack of Evidence-Based Treatment

(Mis)trust in weight reduction and physiotherapeutic modalities was a second barrier to the provision of non-pharmacological, non-surgical treatment identified in this study. Although physical therapy (strengthening exercises) is advocated in the management of OA, healthcare providers in the present study (and other studies) questioned the effectiveness of physiotherapeutic exercises in OA care,[10,12,25,26] and the relationship between the dosage of exercises and the progression of OA. A recent commentary[27] and systematic review[28] suggested that randomized controlled trials are needed to better inform healthcare providers about the type, intensity, and duration of exercises and their relationships with harmful effects on the structures of the joint. Until now, a clear "exercise prescription" that is customized to the patient is lacking. Current research into the (clinical) phenotypes of OA[29] and the development of adapted exercise protocols in OA[30] may help to inform healthcare providers and policy makers regarding the tailoring of recommendations for OA management. Some healthcare providers disapproved of physical therapists using non-evidence-based intervention modalities, such as massage, instead of evidence-based treatment modalities, such as exercise therapy. This mistrust in physical therapists might be a barrier to referring patients for physical therapy. A review showed that GP's actual incidence of advising or referring to a physical therapist (6–63%) was lower than they reported themselves.[8] A network of physical therapists working according to evidence-based recommendations could motivate GPs to refer their patients to physical therapists who provide evidence-based treatment.

Suboptimal Organization of Care

The suboptimal organization of knee and hip OA care was another identified barrier impeding the use of non-pharmacological, non-surgical treatment. First, there is a lack of clarity about the organization of non-pharmacological, non-surgical OA care in primary or secondary care settings. International recommendations do not provide recommendations regarding the provision of non-pharmacological, non-surgical OA care in primary or secondary care settings.[2,4,19,27] The interviews indicated a need for incorporating recommendations about whether and when OA care should be given in either primary or secondary care settings, and the roles of different healthcare providers in specific care modalities. Second, there is a lack of clarity about the roles of different disciplines, for instance about the role of the rheumatologist. In this study, doubts were raised about the value added by the rheumatologist to other disciplines providing OA care. It is a challenge to organize healthcare systems in such a way that the roles of all professionals in diagnosis and treatment are clear. Multidisciplinary, multifaceted approaches[31] are needed to implement a uniform approach to the management of knee and hip OA.[32] In order to align the organization of care and the prescription of non-surgical treatments, there should be agreement on the referral process and roles of different disciplines.

In line with a multidisciplinary approach to OA care,[4] a strength of our study is that healthcare providers from different disciplines were interviewed. It should, however, be examined to what extent the results of this study generalize beyond the clinical setting of the Netherlands, where the GP is a gatekeeper to secondary care. Orthopedic surgeons and rheumatologists in the Netherlands will typically be consulted only after referral by a GP. A limitation of the study might be that GPs and physical therapists were recruited via a regional OA network related to the Sint Maartenskliniek. Most interviewees adhered to a stepped-care strategy in relation to knee and hip OA,[31] which may have biased the opinions somewhat. Rheumatologists and orthopedic surgeons were recruited via snowball sampling. This may have limited the collection of a full diversity in perspectives, e.g., because healthcare providers may have recruited others with comparable views on non-pharmacological, non-surgical care. Several steps were taken to minimize bias and increase the validity and reliability of the results. First, the interviewer was independent; no relationship between the interviewer and the respondent existed prior to the interview. This minimized the possibility of obtaining socially desirable answers. Second, data were collected until data saturation was achieved (no new information was obtained from the interviews). Third, respondents reflected upon their own treatment provision and about those of other disciplines in the field. The barriers identified in this study could be a starting point for a more in-depth qualitative or quantitative study of differences in perceived barriers between disciplines in future studies, for instance with focus groups or surveys.

CONCLUSIONS

Healthcare providers feel that they lack the knowledge required to support patients in adopting lifestyle changes. Furthermore, there is a lack of dialogue among healthcare providers, which can be a barrier to referring a patient to non-pharmacological, non-surgical treatment. The findings of this study can give guidance for improvements in non-pharmacological, non-surgical care in the context of knee and hip OA. Our results suggest that the management of OA could be improved by educating health care providers regarding the initiation and support of lifestyle changes in their patients, by developing evidence-based advice on the type, intensity, and duration of exercises and by improving the organization of care with clear descriptions of the referral process and the roles of different disciplines.

KEY POINTS

- Healthcare providers report multiple barriers impeding the use of non-pharmacological, non-surgical care.

- The identified themes reflect three main barriers: perceived lack of expertise of the healthcare provider, perceived lack of evidence-based treatment, and suboptimal organization of care.
- To overcome these barriers, education focused on initiating and supporting lifestyle changes, the promotion of interventions according to evidence-based recommendations, and improved organization of care are proposed.

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