A Pragmatic Study On The Incidence Of Total Hip Arthroplasty After Hip Arthroscopy In Osteoarthritic Patients

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Contents

ABSTRACT

Objective: The objectives of this study were to determine the prevalence of total hip replacement (also known as THA) in hip-osteoarthritis patients who had undergone arthroscopic hip debridement, as well as investigate the factors that could potentially affect the duration of time that passed here between initial hip arthroscopy as well as the THA procedure.

Methods: In this research paper the method used is secondary. In this method secondary sources, research papers, kinds of literature, and journals.

Results: The time it took from the first hip arthroscopy to the final complete hip replacement was modelled as a function of the patient's age, the severity of the hips condition, the number of procedures performed, and the number of times that arthroscopies were repeated. Ninety (17%) of the participants needed THAT at some point. Hip replacements were delayed for patients younger than 55 years old and with less severe oa. Investigation revealed this. Recovery time was significantly greater for patients who had many hip scopes before a total hip replacement compared to those who had only one. The time it took to complete both the exfoliation and the lavage was unaffected by the inclusion of any concomitant procedures.

Conclusions: Osteoarthritis (OA) of the hips is regarded as the 11th biggest contributor to world disability. Sufferers of this condition frequently report pain, activity limits, and a deterioration in their overall life quality due to their health. 9,27,35 In more recent diseases of osteoarthritis of the hip, when conservative therapy has less of an effect on overall pain, surgical surgery might well be thought to be an option. Hip replacement arthroscopy , as well as total hip arthroplasty , are both promising therapeutic methods for final arthritis (OA) since they often lead to significant improvement in both pain and ego function. Even though many patients anticipate this to be the case following surgery, objectively measurable improvements in physical activity levels (PA) have not yet been shown to have occurred as a result of surgery arthroplasty.

Keywords: Osteoarthritic, Arthroplasty, THA

DOINumber:10.48047/nq.2022.20.22.NQ10201 **NeuroQuantology2022;20(22):2122-2133**

1. INTRODUCTION

As a form of minimally-invasive surgery, hip arthroscopic now is going through a time of rapid growth in terms of patient demand. In the management of femoroacetabular impingement (FAI), that is a major indication for its implementation, although this has officially started to change in past years as other pathologies have also been accepted as being suitable for operation. On the other extreme, the role it plays in the treatment of arthritis (OA) of the hip is still up for debate.[1] Patients suffering from osteoarthritis in these other joints, thus the hip, who receive arthroscopy have now been proven to be able to get relief from their mechanical problems. The clinical symptoms of osteoarthritis of the thigh would also include symptoms of subluxation, soreness, as well as tightness; these problems might perhaps be addressed via arthroscopic surgery. Past studies of its usage in patients who have osteoarthritis of the hip have shown that an increase in position at the top can be attained, albeit at the cost of a conversion rate varying from 16% to 52% to complete hip replacement (THR).[2] However, a significant proportion of patients, especially young patients, are hesitant to think of hip replacement as a valid option for their condition.

Fig-1 (Arthroscopic Osteoarthritis- the acetabular rim surface)

At this time, there are a multitude of treatments available for osteoarthritis (OA), and some suggestions that are backed by research have now been produced. According to these theories, younger individuals with osteoarthritis symptoms may consider undergoing a major procedure that preserves their joints, whereas replacement surgery is often reserved for significantly older people.[3] Although hip arthroscopy has developed into a frequent operation for osteoarthritis (OA), among other purposes, there is a paucity of research regarding the efficacy of this treatment in treating OA. The effects of arthroscopic lavage or arthroscopic debridement were not significantly different from those of a placebo surgery tested in a clinical study that included persons with osteoarthritis of the hip. However, there are situations in which arthroscopic therapy of an osteoarthritic joint can be beneficial. This is especially the case of patients who have osteoarthritis that is relatively moderate to severe in severity as well as a mechanically significant abnormality. The application of hip arthroscopy in patients who have mild to moderate osteoarthritis is supported by a large number of studies, but extensive osteoarthritis is thought to be a signal that the procedure ought to not be conducted by others. This research examines a group of individuals who, after originally receiving arthroscopic surgery for hip deterioration, ultimately underwent a total hip replacement operation (also known as a THA). The purpose of the study was to determine the prevalence of total hip among the specified patient population and to analyse several potential factors that might affect the amount of time that passed between the initial hip arthroscopy as well as the THA procedure.[4] Our working theory is that hip arthroscopy in certain individuals can briefly forestall the requirement for replacement surgery.

2. LITERATURE REVIEWS

According to Allahabadi*et al.* (2020), when compared with traditional open surgery for the hip, laparoscopic hip surgery is considered to be a secure as well as a more intrusive alternative treatment that may manage a variety of hip ailments. In recent days, it has been brought to fruition that such a major surgery possesses a high level of applicability in addressing joint issues and that as a result, it has developed into a viable option for treatment (Allahabadi*et al.* 2020). Nevertheless, it has recently been observed that hip dysplasia & significant dial damage are indications that indicate poor medical outcomes during hip arthroscopy [5].

As per Vesey, (2021) on the contrary extreme, total hip arthroplasty, commonly known as THA, is now universally recognized to be an effective treatment solution for a variety of hip problems. There is still some debate about whether total hip replacement is the most beneficial treatment option for older people who have hip disorders. Even though THAT offers a substantial benefit in terms of early recovery, the operation is not without its drawbacks, including concerns with displacement as well as endurance. In addition, individuals who get a THA are obligated to restrict their involvement in athletic activities.

According to Cevallos, (2021), Humans have tried unsuccessfully to demonstrate hip arthroscopy as a joint protectant surgery after personal impression made aware express permission for general practitioners who already have joint damage mentioned to be from a ligament tear pretty much exclusively (i.eThose with symptoms in patients capturing and favourable anterolateral frictional pressure test) and athletic performance complexity, even though people with the disease were elderly as well as low-grade hip osteoarthritis has been noted. Patients who complained largely of hip discomfort due to a labral tear and who struggled to take part in activities benefited from this. The purpose of this research was to examine the clinical manifestations and risk factors for poor outcomes after hip labrum surgery in the elderly. Each participant in this research was at least 65 years old.

According to Lindman et al. (2021), among the 2,617 patients who underwent hip arthroscopy for OA, the results reveal a conversion rate of 68.4% to THA after 2 years. This info comes from thpatient'ss' medical records. Their researchers found that patients waited an average of 1.12 years from the time of their hip arthroscopy to THAT. Based on the findings, individuals who received hip arthroscopy before THA had a 3.7 times higher risk of requiring revision hip surgery in contrast to those who did not have hip arthroscopy previous to THAT. Patients who had hip arthroscopy for total hip replacement had a higher risk of implant slippage by 2.8 times as well as an increased risk of hip infection by 1.9 times after THA, according to the findings of the researchers. [6] According to the findings, 3.4% of patients in the arthroscopy group had revision surgery within 2 years of their THA, whereas only 2.1% of patients in the quasi group required surgical repair. Researchers observed that patients who s underwent arthroscopic had a greater risk of dislocation (3.2% v / s 2.3%), joint infections (2.9% vs. 1.6%), and hip loosening (2.3% vs. 1%) when compared to people who did not have an arthroscopy.

2.1 Research Gap

Research is a method that can be used to find a new concept, uncover new ways to convey something that already exists, or recreate something that already exists in novel methods. The quality of one's research is what sets a scholar apart from the rest. As a result of this, the gap in the literature acts as a conduit for the creation of hitherto unknown ideas and principles. The researcher has thus looked at a variety of other papers to determine the gaps that exist between them. These studies include:

- The absence or lack of adequate data
- Because there is not enough primary data.
- No real literature review is available.
- No comprehensive paper was provided.

2.2 Research Question

Q.1.What is the impact of hip arthroscopy among osteoarthritis patients?

Q.2. What is the impact of jiggling exercise for treatment purposes among osteoarthritis patients?

2.3 Importance of the Study

In patients who had osteoarthritis and had been diagnosed by arthroscopic debridement, the significance of the study lies in its evaluation of

the variables that may impact the time gap between their initial hip arthroscopy and hip replacement arthroplasty. This was done in patients who had undergone arthroscopic debridement.

2.4 Research Objectives

- To signify the issues of osteoarthritic patients
- To identify the traumatic situation after hip arthroplasty
- To signify the impact of jiggling exercise as a conservative treatment for osteoarthritis

2.5 Scope and Limitation

Ethical guidelines are followed in the study article to prevent any wrongdoing. The researcher has ensured that the thoughts and ideas presented in the discussion adhere to the requirements. Participants' privacy has been protected thanks to the information gathered using the primary research approach. All data collected was utilised only for the study's stated purpose; the investigator had no other intention for its usage. The evidence was saved in the researcher's private database and therefore would remain in place until the review procedure was finished.

3. RESEARCH METHODOLOGY

3.1 Research Method & Design

This part of the study will detail the techniques that were employed to finish the research. The author's primary emphasis here will be focused on detailing the methodology's basic guidelines, approach, and other such facets. The research methodology chosen to complete the report can be found in this section, making it a crucial element of the overall research. Here, we'll have to get into detail about the investigation tactics utilised, as well as the research design used to get those findings. The ethical considerations raised by the research are going to be addressed.

3.2 Research Approach

The research methodology is a procedure that includes both the overarching theories and the detailed methods for collecting, analysing, and presenting study results. Therefore, it depends on the degree of difficulty of the study topic at hand. In the field of methodology, there seem to be two broad camps:

- the procedure for collecting information and
- the approach of examining data or drawing conclusions conclusions

4. ANALYSIS OF THE STUDY

Question 1. What is the impact of hip arthroscopy among osteoarthritis patients?

There are currently solid results and follow-up statistics for hip arthroscopy, which has been shown to enhance outcomes and ease symptoms of FAI across many trials. Many patients with hip OA have sought out our specialty clinic in hopes that researchers might provide them with an arthroscopic remedy to their pain. Patients in this category tend to be active people who would rather avoid having a hip replacement if they can help it, but who understand the possibility that it may become needed on the road.[7] Other investigations, however, have demonstrated that the results of hip arthroscopy are significantly worse because OA is prevalent, causing the conclusion that OA is not a viable rationale for the operation. This view is further bolstered by data made with various kinds of joints. However, in light of recent advancements in hip arthroscopy techniques including instrumentation, researchers felt it must have been appropriate to evaluate this perspective within our personal profession. Researchers also take into consideration the fact that in a busy outpatient department, there isn't a lot of room for, or desire for, taking accurate readings of every imaging to evaluate the extent to which surgery might be beneficial. While making therapeutic decisions, it is important to consider both the clinician's points of view on their experience,

along with the patient's desires and goals. It's better than some earlier studies, but even worse than others since researchers found 34 individuals (44%) required a complete hip replacement after 18 months (6 to 48) following the surgery. Still, a success rate of 56% comes from a failure rate of 44%. In addition, researchers did not detect any issues in these patients, and it found no evidence suggesting age had a role in the results, which has been documented previously.[8]

Fig-2

Source:https://www.orthomedctr.com/total-hip-arthroplasty.php

Results from this study reveal that people with oa who had arthroscopic debridement and washing had such a reduced risk of developing total hip arthroplasty . As half of their projected protracted follow-up, Byrd and Jones published on 14 (27%) patients diagnosed had hip arthroscopies who were switched to THA. Out of 112 patients observed for an average of 16 months, 10 (9%) underwent a conversion to THA according to the results of Philippon et al. There has been no compelling proof of arthroscopic debridement's efficacy in the treatment of arthritis as well as its usage is still disputed.[9]

In many situations of mechanically challenged hips, the extent of cartilage loss before surgery is the limiting factor in treatment success. Although MRI and CT scans seem to be more sensitive than standard radiographs, the diagnosis may ultimately be based on clinical evidence if early degenerative changes identified at arthroscopy are not evident on the scans. In these circumstances, hip arthroscopy can be employed for both diagnosis and treatment.[10] Patients who exhibited any radiographic indications of osteoarthritis (OA) were excluded throughout the study. After debridement and microfracture, certain minor or partial width cartilaginous lesions, which were not included in the research, resolve, while others may reflect a relatively benign or pre-arthritic condition. This may be the cause of the rather high number of individuals who

needed surgical intervention, which was 24% (less than 30% of the articular surface occipital wall involvement). Following debridement and a scaphoid fracture, several calcareous lesions that were either partly or completely narrowed healed.

The lack of a stable and accurate grading system for arthroscopic hip degeneration hinders the ability to undertake comparative studies of the results. Radiographic alterations are reflected by the Tönnis System, and the Outerbridge grading classification for chondral lesions is commonly quoted in the literature. Researchers have established three stages of chondral injury depending on the degree of contracture, based on our results with surgical therapy for hip osteoarthritis.

The research sought to discover determinant factors of how long patients with osteoarthritis in different stages wait before actually having arthroplasty post-arthroscopic therapy.[11] Researchers monitored 564 patients with osteoarthritis who underwent arthroscopic surgery for 7 years, concentrating on the 90 people (16%) who ultimately required a hip replacement. Surgical procedures included synovectomy, debridement, and on occasional ablation of wants to add (FAI) lesions. People with early OA benefit from the therapy for FAI problems. They concluded that if femoral-acetabular friction could've been felt, laparoscopic treatment of hip osteoarthritis would indeed be futile. While The Researcher found no correlation between the number of concurrent surgeries and the length of time between the first hip arthroscopic and total arthroplasty,the Researcher did find that people who did not worsen to the point that they required THA had a greater proportion of simultaneous femur osteoplasty.[12]

It was discovered that the amount of time that had elapsed had a negative association with the severity of arthritis that was noticed during the first arthroscopic examination. The average time between diagnosis and therapy for mild OA was 2.3 years (range: 0.2-5 years), while the average time for assessment and treatment for serious OA remained 1.2 years (range, 0.1-5.1 years). Previous research has shown that these findings are in line with the findings of the present investigation. In a result that is comparable to the one we made, which indicated that patients younger than 55 seemed to have a long duration of time to THA, other researchers discovered that youth patients with early OA were related with a larger percentage of positive achievement during the operation.[13]

Question 2. What is the impact of jiggling exercise for treatment purposes among osteoarthritis patients?

Daily tasks are impacted severely by hip conditions like hip osteoarthritis (OA) (ADLs). Hip ROM is severely restricted, and hip pain is excruciating, in late-stage and end-stage hip OA. It is now widely accepted that total hip arthroplasty is a viable therapeutic option for hip OA, particularly in the later, more removal of MB. The onboarding process as well as recovery of ADL, as well as good lifespan, are significant benefits of THA. Yet, issues including dislocation and poor durability have already been linked to THA. Additionally, it is still unclear if THA is the optimal therapeutic option for younger patients, patients with comorbidities, and/or doctors who are reluctant to adhere to medical treatment.[14] Patients with severe and terminal forms of hip OA have been found to benefit the most from jiggling exercise, which consists of continuous shaking of the foot and leg in short increments.

Hip OA patients in the advanced stages of the disease, as well as those who have OA development subsequent joint preserving operations, have very few non-surgical choices. Exercises that are gentle on the joints, like the range of motion as well as mobility work, quad building, and aerobics, are often suggested for OA treatment (landwater-basedased). Patients

with hip OA who had therapy significantly improved in function at the three-month follow-up of a huge, comprehensive, randomised clinical study, but this improvement faded off by the 12-month follow-up. Further, sufferers in the last stages of hip OA may experience an increase in discomfort if they take part in physical activity.[15]

Fig-3 (Jiggling exercise)
Source: https://www.hindawi.com/journals/crior/2020/2804193/

In terms of drug therapy, ibuprofen is widely recommended as the first pharmacologic treatment of OA by various committees. However, acetaminophen medication may not alter the fundamental pathogenic process of OA. Thus, its benefits may be narrow for individuals with end-stage hip OA. Medroxyprogesterone acetate pro government drugs are also frequently used to treat OA. Following a meta-analysis conducted by the Coxib and Traditional NSAID Trialists' Collaborative, all NSAID regimens increase higher digestive issues relative to placebo. This includes both selective COX-2 inhibitors and traditional NSAIDs. Fda approval of tramadol/acetaminophen in conjunction with a COX-2 inhibitor saw considerably less pain alleviation than any of those given a placebo plus a COX-2 NSAID.[8] However, in this worldwide, double-blind, non-randomized trial, tramadol users reported experiencing more central nervous adverse events than sham users. Because hip OA is a progressive condition, using medication for an extended time may raise the chance of negative consequences. Researchers think it's best to avoid making it too simple to give the medicine or to raise the dosage.

In patients suffering from severe as well as end-stage hip OA, THA has advantages in terms of early postoperative pain management as well as rehabilitation. In patients who already are younger, better physically active, and less likely to comply with treatments, nevertheless, complications including aseptic slippage and/or displacement are much more probable to occur. In addition, researchers need to look at how to manage individuals who refuse or are unable to have THA due to physical or social factors. After hip osteotomy, Hiromatsu and Inoue were the first to report wobbling exercises as a conservative treatment for people experiencing By such. The activity is based on the idea of

CPM exercise, or continuous passive motion [11]. CPM's biological impact on the repair of filled articular cartilage in a rabbit model. As opposed to joint immobilisation and intermittent active motion, CPM has been shown to promote joint health by reducing joint stiffness, maintaining normal articular tissue with improved histologic and biologic features, and increasing the range of motion. Patients may find it much easier to practise and maintain jiggling exercises as a home exercise because of their focus on simplicity rather than complexity.[15] Researchers did not assess the effectiveness of joint remodelling, but researchers believe that pain medication should indeed be combined to enable movement.

5. RESULTS

Question-1:

However, essential prerequisite factors such as client experience, risk perception, as well as practical results were not contained in the dataset that Researcher utilised to our understanding, this investigation represents the largest series of hip arthroscopies on or that has been reported until this point. One restriction is that each of the surgeries was carried out by the same surgeon, which means that now the outcomes may not be representative of those acquired by other people. Future researchers should consider doing clinical evaluations utilising comparable scoring systems to examine the clinical result of osteoarthritis patients who have been treated by arthroscopic exfoliation.Psychological aspects are most likely to influence outcome from FAI surgery, such as has been found for hip arthroplasty. Patients' anticipation did not appear to alter treatment effect in just this trial, but also more study into the influence of starting depression and anxiety levels on outcome may be useful given recent prospective study previously indicated that they impact result. The most common reason for declining part was desire for treatment. Four individuals allocated towards the PT treatment received operations before collection of the primary measure of outcome. Our findings it may in partly explain a nocebo influence of rehabilitation as well as placebo influence of surgery

Question-2

Jiggling is a practice that is advocated by our team particularly for patients who exhibit a very advanced or ultimate stage of knee osteoarthritis & who are unable to receive THA for some explanation. Even now, researchers have only effectively treated a very small number of cases with jiggling techniques. In addition, the somewhat longer treatment compared to that of other therapy may be necessitated in order to prove the clinical value of jiggling activity.

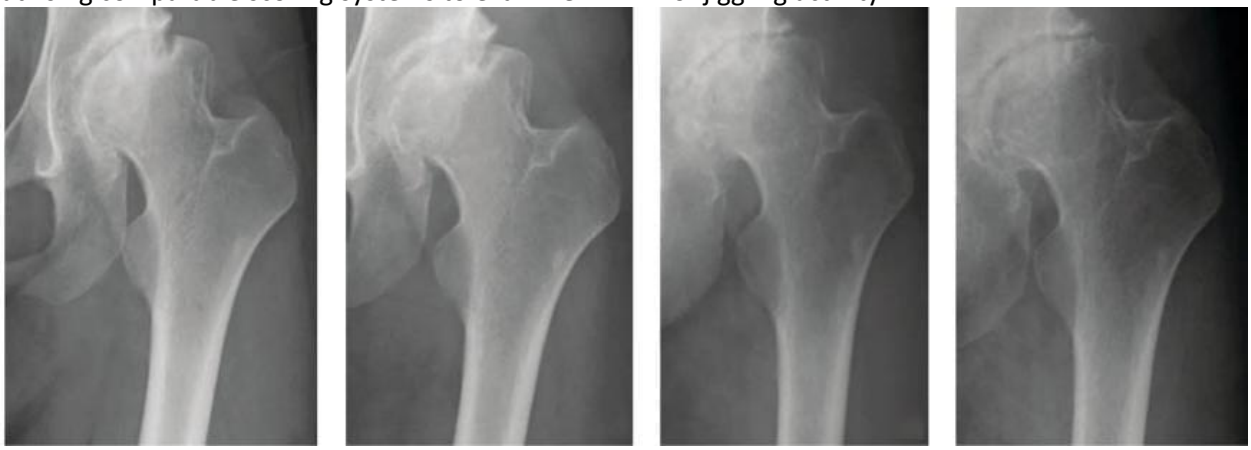

Fig-4 (Stage 1 - 4 after the initiation of jiggling exercise)

(PDF) Impact of Jiggling Exercise as Conservative Treatment for Hip Osteoarthritis: A Report of Two Cases (researchgate.net)

It is currently not known how effective jigging is a beneficial form of exercise for individuals suffering from early-stage osteoarthritis (OA) and some other hip pain, such as labral tear, femoroacetabular irritation (FAI), & osteonecrosis of the femoral head (ONFH). It is necessary to conduct additional case-control and prospective randomised control research with a significant number of patients in order to gain a greater understanding of the benefits as well as bailiwick with jigging exercise.

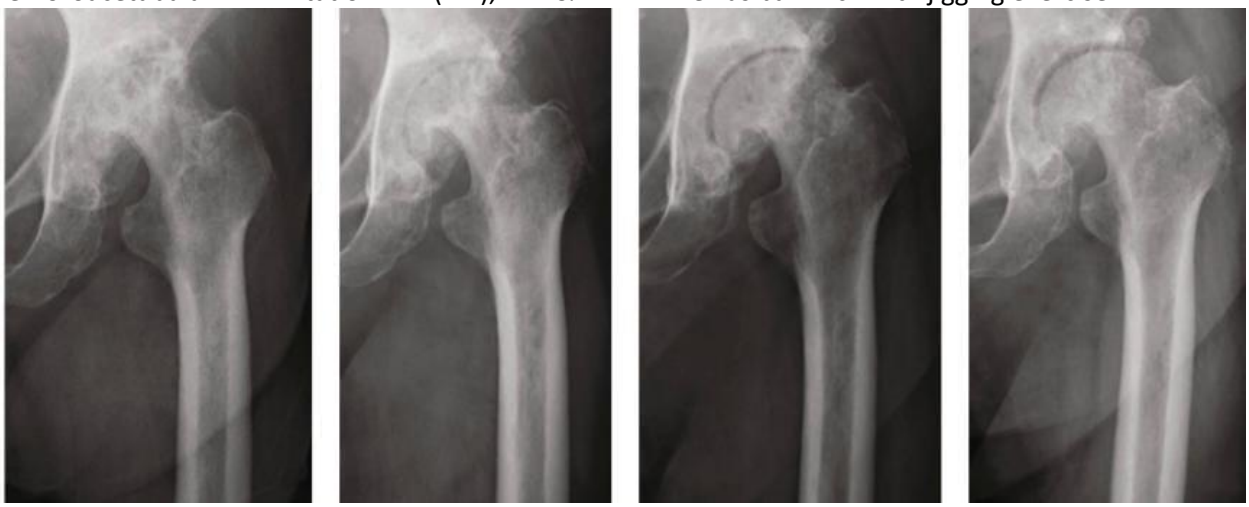

Fig-5 (Stage 1 - 4 after the initiation of jiggling exercise)

Source: [(PDF) Impact of Jiggling Exercise as Conservative Treatment for Hip Osteoarthritis: A Report of Two Cases (researchgate.net)]

6. CONCLUSION

Osteoarthritis (OA) of the hips is regarded as the 11th biggest contributor to world disability. Sufferers of this condition frequently report pain, activity limits, and a deterioration in their overall life quality due to their health. 9,27,35 In more late diseases of osteoarthritis of the hip, when conservative therapy has less of an effect on overall pain, surgical surgery might well be thought to be an option. Hip replacement arthroscopy , as well as total hip arthroplasty, are both promising therapeutic methods for final arthritis (OA) since they often lead to significant improvement in both pain and ego function. Even though many patients anticipate this to be the case following surgery, objectively measurable improvements in physical activity levels (PA) have not yet been shown to have occurred as a result of surgery arthroplasty. According to the World Health Organization, physical activity may be described as any movement in the body that is produced by the muscle tissue resulting in the expenditure of energy. A substantial portion of PA has several beneficial effects, including an improvement in cognitive function, a reduction in the risk of falling, a lower risk of going away, and a lower risk of falling. People who suffer from osteoarthritis of a hip are substantially less likely to satisfy PA requirements Onlyly 48% and 60% of these individuals, respectively, take more than 7000 steps each day. Achieving optimal levels of PA can aid with the treatment of OA symptoms and address activity-modifiable comorbid disorders like obesity, heart disease, or diabetes. This is because PA is a type of activity that may be changed.

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eISSN1303-5150

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