

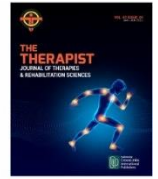


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Original Article

Effects Of Functional Ability In Patients With Knee Osteoarthritis After Taking Corticosteroid Injection And Routine Physical Therapy

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ABSTRACT

Osteoarthritis (OA) is the most well-known type of joint inflammation. It is degenerative joint disease or "extent" joint pain. OA can cause irritation, stiffness, and swelling. **Objective:** To determine the functional ability of knee OA patients after intra-articular corticosteroid injection and routine physical therapy. **Methods:** A cross-sectional study was conducted with over 150 participants and the data was collected from Haq hospital and the University of Lahore teaching hospital for 6 months. The data was collected using the nonprobability purposive sampling technique. The knee injury and OA outcome score questionnaire were utilized as the outcome measure (KOOS). SPSS V.25 was used for statistical analysis. **Results:** The mean age for the subjects was 55.08±11.88. The statistically significant results were found with pain, symptoms, improved activities of daily living, sports and recreation, and quality of life in the group of patients who have received physical therapy. **Conclusions:** It is concluded that physical therapy shows better functional ability as compared to corticosteroid injection. But the corticosteroid injections are useful in short-term treatment and exercise therapy can be recommended for patients with severe arthritis as an effective method for long-term improvement.

INTRODUCTION

Osteoarthritis (OA) is the most widely recognized joint disease, afflicting more than 7 million people in various parts of the world. Knee OA is seen to be a critical treatment concern [1]. OA is a prevalent kind of arthritis that affects not just the joint lining but also the cartilage, ligaments, and bone. The bulk of published review studies for the previous 10 years have not been specialized in OA of the knee, and the strength of evidence and clinical guidelines have not been adequately presented [2]. Exposed clinically as a moved growing of a joint's hyaline tendon, OA prompts the tendon, to wear, or obscure completely. Bradley et al note that OA is a degenerative issue, which is the most broadly perceived issue of joints. 80% of individuals 45 years of age and increasingly prepared have OA on any occasion 1 joint. The joints most regularly affected by OA are usually weight-bearing joints, for instance, the spine, hips, knees, and lower legs. These joints expect commanding activity to a person's ability to perform step-by-step works. Treatment generally included drugs to control the pain and some kind of movement [3]. OA is a horrifying disease with a joint illness described by assistant changes to the whole joint, including loss of tendon, improvement of osteophytes, synovial troubling, subchondral bone changes, meniscal hurt, muscle deficiency, and ligament at the knee [4]. In spite of the fact that intra-articular treatment is broadly utilized in the treatment of OA, sticky supplementation may offer a little longer advantage. Intra-articular radiotherapy probably presents no advantage. Antagonistic impacts are uncommon yet nearby impacts may happen in up to 10% of patients [5]. For the treatment of knee OA, the American College of Rheumatology advises against using intra-articular corticosteroid implantations. The length of modification from burden is one to around fourteen days in various essentials, with a few exhibiting updates enduring three to four weeks. Research also supports the safety of intra-articular corticosteroid blends



for the treatment of knee OA; however, these assessments are limited by a lack of histologic data and a lack of overall improvement [6].

People with unending states of maturing, for example, OA involve a huge and developing measure of the population. Even however standard exercise has demonstrated well-being and useful advantages. Dormancy increments as the patient ages. Surely, in patients with OA, ordinary exercise can improve agony control, proprioception, power, weakness, and toughness. All of which improve practical opportunity Treatment methodologies for OA of the knee have cautious exercise as a significant non-pharmacological methodology. What's more, it practically diminishes insufficiency and adjusts walking [7]. Physiotherapy intercessions for patients with OA of the knee demonstrate that activity can diminish agony and improve work in patients with knee OA. Physiotherapy can improve pain and capacity and assume a significant job in overseeing patients with knee OA. Estimating introduction means contrasting genuine clinical practice with pick clinical practice [8].

METHODS

A cross-sectional study was conducted with over one hundred and fifty participants. A nonprobability purposive sampling technique was used. The data was collected from Haq hospital and the University of Lahore teaching hospital for 6 months, the data was collected using the non-probability purposive sampling technique. The outcome measure used was the knee injury and OA outcome score questionnaire (KOOS). Verbal consent was taken from the subjects before their recruitment to the study. An ethical letter was taken before the data collection procedure. The inclusion criteria were both male and female gender, knee OA diagnosed for more than 6 months, and patients with sub-acute and chronic stages. The exclusion criteria were any neurological involvement, stroke at the affected side, or any recall problem due to nervous disorder. SPSS version 25.0 was used for data analysis.

RESULTS

A total of 150 patients were recruited for the study and were equally divided into two groups i.e. corticosteroid injection group and the physical therapy group. The mean age for the subjects was 55.08 ± 11.88 . A total of 53 (33%) were males and 98 (66%) were females in the study. Table 1 shows the functional ability in knee OA patients after corticosteroid injection and routine physical therapy in subscales of the five scoring questionnaire (KOOS). Table 2 shows the individual characteristics of each group along with their statistical significance. Figure 1 shows the histogram of age distribution.

Subscale of KOOS	Corticosteroid injection group	Physical therapy group
	Mean \pm SD	Mean \pm SD
PAIN SCORES	53.31 \pm 15.36	44.21 \pm 10.29
SYMPTOMS SCORE	54.68 \pm 12.87	43.25 \pm 9.45
ADLs	55.31 \pm 12.92	34.71 \pm 11.23
SPORTS SCORE	49.65 \pm 15.17	41.23 \pm 14.31
QOL	51.51 \pm 13.744	45.07 \pm 12.48

Table 1: Functional ability in patients after corticosteroid injection and routine physical therapy
ADLs: activities of daily living, QoL: quality of life, KOOS: Knee injury and OA outcome score.

Group	Mean \pm SD	P-value
Pain		
Physical therapy	14.72 \pm 4.00	0.001
Corticosteroid injection	21.23 \pm 4.59	0.11
Symptoms		
Physical therapy	8.25 \pm 3.51	0.01
Corticosteroid injection	16.12 \pm 3.23	0.12
Activity of daily livings		
Physical therapy	28.9 \pm 7.19	0.03
Corticosteroid injection	37.48 \pm 5.07	0.01
Sports and recreation function		
Physical therapy	6.66 \pm 2.7	0.01
Corticosteroid injection	11.25 \pm 3.14	0.05
Quality of life		
Physical therapy	3.73 \pm 1.91	0.01
Corticosteroid injection	11.52 \pm 1.48	0.06

Table 2: Individual Characteristics of Each Group

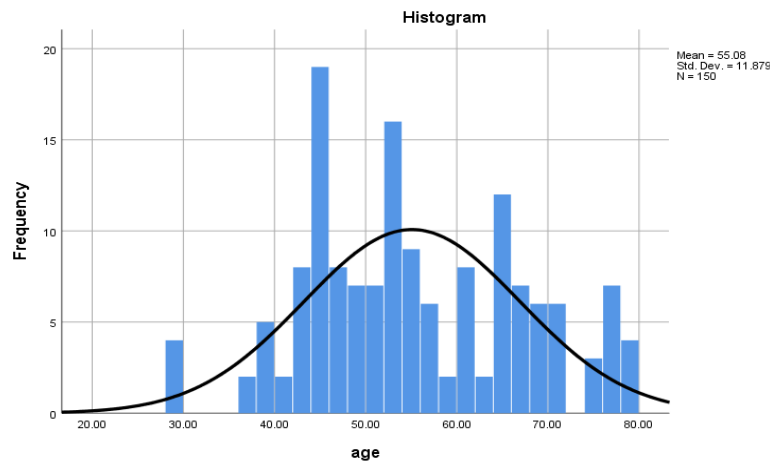


Figure 1: Histogram for age distribution

DISCUSSION

In this study of effects of corticosteroid injections versus routine physical therapy were measured on the functional ability of patients with knee OA. The results showed that functional ability with knee OA showed better results for those who had physical therapy as their treatment rather than those who had intraarticular corticosteroid injections. Although corticosteroids had an earlier response on treatment. The American College of Rheumatology recommended intraarticular corticosteroids injections for knee pain in OA and improves functional ability in patients with inflammation. They also recommended that intraarticular corticosteroid injections are used for short-term pain management [9]. Our study was an observational study; no treatments were given only data was collected through questionnaires and interviews in which subjects had the treatments in the past. And according to the data collected the functional ability was increased in those who were undergone physical therapy treatment. Hence, they had physical therapy sessions for six months and on the other hand, corticosteroids were a short-term treatment and given results earlier but after 3-4 months no functional rehabilitation was attained.

In a study in 2017, it was stated that physical therapy had more effects on functional rehabilitation although it takes time. Even after 2-3 physical therapy sessions, however, everyday activities and quality of life improved. Recently, the American Academy of Orthopedic Surgeons (AAOS) 2013 intraarticular injections are more used in pain relief and improve the functional ability and quality of life.¹⁰ Functional ability and quality of life were reported in 2013. Moderate pain was reported 45% by OA patients, 55% improvement in ADLs [11]. Pain, stiffness, and functional ability improved after two steroid injections spaced four weeks apart. Following injections, there were significant improvements in QOL. In physical domains, the changes were more pronounced [12]. Intra-articular corticosteroid injections may provide short-term symptomatic relief in patients with knee OA, with less risk of adverse effects. There are good results after using steroid injection in a review of physical therapy interventions for patients with knee corticosteroid injection is commonly used to relieve symptoms of knee OA [13]. However, making it difficult to select patients who are most likely to be successfully treated using this approach [14]. The frequency of crepitus decreased on the least affected side ($p < .01$). But contrary to these results, the study was non-significant as the p-value is less after physical therapy as compared to steroid injection [15]. Other researchers have also discussed and observed similar findings [16-20]. Although the duration of this study was relatively short and led to a lack of time for more patients to participate. It was an observational study, on the basis of which just a questionnaire survey was conducted which resulted in small-scaled and limited findings.

CONCLUSIONS

It is concluded that the physical therapy shows better functional ability as compared to corticosteroid injection. But the corticosteroid injections are useful in short-term treatment and exercise therapy can be recommended for patients with severe arthritis as an effective method for long-term improvement.

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