



ORIGINAL RESEARCH PAPER

Orthopaedics

A STUDY OF FUNCTIONAL OUTCOME IN TOTAL KNEE REPLACEMENT

KEY WORDS:

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Introduction:

Knee replacements are one of the most successful orthopaedic surgeries with immense patient satisfaction. In the past several techniques were used for the management of an arthritic knee with unsatisfactory results. The methods consisted of analgesics, heat, physiotherapy, osteotomies, arthrodesis which all produce suboptimal results. Of all the methods, replacements give the best results with pain relief and improved functional outcome. Osteoarthritis is a chronic joint disorder in which there is progressive softening and disintegration of articular cartilage accompanied by new growth of cartilage and bone at the joint margins (Osteophytes) and capsular fibrosis. OA is the commonest of all joint diseases. Men and women are equally prone for the disease, but more joints are affected in women than in men.^{1,2} Radiographic surveys suggest prevalence rises from 1% below the age of 30 years to over 50% of the people above the age of 60 years. Knee replacement provides a way to overcome all afflictions of arthritis.³ Our group of patients from Mangalore present to us with certain unique problems and limitations with regard to Total Knee Arthroplasty. They belong to the high-risk category as far as arthroplasty is concerned due the greater amount of physical exertion in their occupation, means of transport in their daily lives, late presentation to the hospital, belief in native treatment methods and loss of follow up in the post-operative period.

Aims and Objectives:

To study the functional outcome in total knee replacement

MATERIALS AND METHODS

This is a e study of patients from in and around Mangalore diagnosed with Osteoarthritis of the knee joint and treated with Total knee arthroplasty during the period from April 2016 to March 2018 at Kanachur Institute of Medical Sciences, Mangalore.

The individuals who were posted for total knee arthroplasty for osteoarthritis of knees and satisfied the following inclusion criteria were approached about the study participation. Informed consent was taken & the subjects were then included in the study. Patients undergoing revision knee replacements, with inflammatory arthritis and those who refuse to sign the consent forms are excluded. Socio demographic details & clinical details will be collected using a profoma. All patients underwent operative treatment with Total knee replacement. The preoperative functional status was assessed using Knee Society scoring system.

Results:

Table 1: Age Distribution

Number	Mean age	Std Deviation
30	65.27 years	5.48 years

Table 2: Sex Distribution

Number	Male	Female
30	09	21

Table 3: Co-Morbidities:

Co-Morbidities:	Frequency
HTN	13
DM	09
DM and HTN	07

Range of Movement

Out of the 30 knees operated, three knee had a range of movement greater than 125 degrees, 09 cases had between 101 and 125 degrees, 09 had between 76 and 100 degrees, 5 cases had between 51 to 75 degrees and 04 had range of movement below 50 degrees.

Functional Outcome

19 patients had excellent results, 08 had good results and seven patients 3 had fair results. None had poor results.

Knee Society Scoring

The patients were thoroughly questioned regarding their pain relief, level of activity, mobility and functional scoring was done.

Table 6: Complications

Number	Complications
01	Serous discharge
01	Infection
03	Stiffness

DISCUSSION

The good results in majority of our cases reinforces the fact that total knee replacement is the gold standard for end stage arthritis of the knee joint as had been proved in the meta-analysis by the U.S. Department of Health And Human Services on 3519 references on total knee arthroplasty. The good to excellent outcomes in both males and females of our study group correlates with the results of various studies done on the effect of gender on total knee arthroplasty outcomes. The field of adult joint reconstruction has been at the forefront of changing concepts and evolving trends in Orthopaedics. Our study population was from in and around Kottayam town. We aimed to analyze the functional outcome in these patients diagnosed with Osteoarthritis of the knees who were treated with Total knee arthroplasty. The objectives of our study were to assess the outcome of patients undergoing total knee replacement for osteoarthritis at 1 month, 3 months and 6 months post operatively with appropriate scoring system. During the course of our study we understood that our study population was motivated towards arthroplasty by the severity of pain more than the restriction of movements. D.W. Murray et al had found that the level of pain correlates with patient satisfaction and predicts the need for subsequent revision. 4 The expectations of our patients were complete pain relief, independent ambulance and use of toilet, ability to climb stairs, use of public transportation and early return to their daily activities. The patients in our study were evaluated for their pain relief and functional outcome using knee society scoring system^{5,6,7} respectively following total knee replacement. It was observed that nine patients had excellent outcome and were satisfied with the results, seventeen had good outcome, satisfaction level was moderate, and seven patients had fair outcomes. The grading of the functional outcome scores was based on the scales of excellent (≥80), good (70–79), fair (60–69), and poor (60) as defined in the review article on 'the Utility of Outcome Measures in Total Knee Replacement. The results in our study are comparable to that of Vince et al on 'long term result of cemented total knee arthroplasty'.³

Conclusion:

Total Knee Arthroplasty remains the 'gold standard' treatment for end stage Osteoarthritis of the knee joint with respect to pain relief and activities of daily living.

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