Original Article

Quality of life before and after total knee replacement

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Objective: To assess the improvement in quality of life after Total knee replacement (TKR) at one, three and six months after surgery.

Methodology: In this observational study, all the patients who were on the waiting list for TKR at Shaukat Khanum Hospital, Lahore, were contacted for information about the issues and problems in their quality of life (Qol). Change in Qol was assessed after 1, 3 & 6 months after TKR. SF-36 questionnaire was used to evaluate Qol. A Rand criterion was used to recode the responses of patients and eight main domains were calculated according to Psychometric properties of the questionnaire used. Data were analyzed using SPSS.

Results: Mean age of male and female patients was 63.66±6.56 and 64.75±6.60 years, respectively. Both mental health & physical component scores increased with the progression of time. Mean score for Physical health component at 6 months increased from 20.18 to 91.12±6.27 and mental health component score increased from 28.25 to 81.21±7.48, respectively.

Conclusion: For the first 6 months post operatively, TKR resulted in a continuous improvement of quality of life of the patients. (Rawal Med J 2014;39:289-291).

Key words: Knee osteoarthritis, quality of life, SF- 36 Questionnaire, total knee replacement.

INTRODUCTION

Osteoarthritis of knee is a chronic degenerative joint disease characterized by physical disability and pain.[1] Patients in whom conservative treatments is not effective, Total Knee Replacement (TKR) involves replacement of the destructed joint with synthetic parts.[2] Quality of life (Qol) is defined as the sense of complete well being which includes two components; physical and psychosocial aspects of the patient's life. Common measure which are used to determine the success of knee replacements are improvement in joint range, pain reduction, strength of knee musculature and patient's abilities to carry out routine functional activities with simplicity and comfort.

In developing countries, osteoarthritis is the most common degenerative joint disease.[3,4] In vast majority of the studies, advancing age is common for the presenting with and without symptoms radiologically.[5] The health related Qol data is particularly lacking for Asian countries, especially Pakistan.[6] The objective of this study was to assess the Health related Qol in patients with osteoarthritis undergone TKR.

METHODOLOGY

This was a time-based study in which longitudinal comparative study design was used. Study was conducted at patient home by direct interview, on phone call or by sending questionnaire by mail or e-mail to patients who had TKR at Shaukat Khanum Hospital, Lahore, Pakistan. All the patients who were on waiting list for TKR for the next 3-6 months were selected. Patients with osteoarthritis, aged ?45 year and those who could walk before surgery with or without helping aid were included in the study. Patients with age <40 years or had other advance medical problems e.g. Parkinson's disease and stroke or other arthritis like rheumatoid arthritis or septic arthritis were excluded from the study.

All patients were contacted and were asked about theirs issues and problems in their before surgery. Change in Qol was assessed after 1, 3 & 6 months after TKR using the questionnaire SF-36. Data analysis was done by using SPSS v. 16. $P<0.05$ was considered as significant.

RESULTS

A total of 30 patients including 24 females and 6 males participated in the study. Mean age of male

and female patients was 63.66±6.56 (range 55-75) and 64.75±6.60 years (range 55-71), respectively

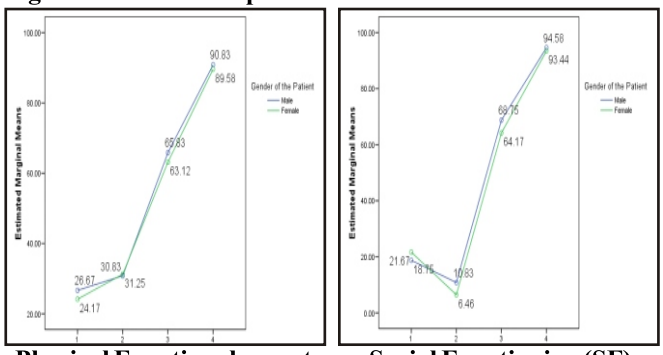
Table 1. Summary of physical and mental health component scores.

	Physical Health Score (PHS)				Mental Health Score (MHS)			
	Before Surgery	1 Month	3 Months	6 Months	Before Surgery	1 Month	3 Months	6 Months
Mean	20.18	21.75	70.97	91.12	28.25	30.53	72.53	81.21
SD	6.65	2.96	13.26	6.72	8.60	2.81	13.09	7.48
p-value	0.000				0.000			

Both mental and physical health component score increased across the time period with p=0.000 for both components (Table 1).

According to individual factor analysis, there was improvement in body pain, physical functioning, physical & emotional well being, general & mental health condition, vitality and social functioning. There was similarity in relation to gender in all aspects excluding role emotional and mental health (Fig. 1)..

Fig. 1. Individual component scores at different intervals.



Physical Functional aspect **Social Functioning (SF)**

DISCUSSION

The quality of life is a multidimensional aspect of a person's life and various instruments have been designed for its evaluation and establishment of relationship between the efficacies of interventions given. In the preoperative phase, the total score achieved through SF-36 questionnaire was low, indicating poor Qol. Similar findings have been reported by other researchers.[7,8] Strong correlations was found between TKR and enhancement of Qol which was evident as the total score almost doubled at 6 months from preoperative score. Several studies confirm the salient features of the patients suffering from osteoarthritis as compared to systematic disease free population.[9-11] Same findings were reported for the general population category in some studies, but they were high age related (>75 years).[12] In current study, the physical components level indicated poor scores before surgery, which continued to increase steadily from 3rd to 6th months post surgically. Regarding total score of pain, physical function and physical and emotional component it was in accordance with other studies.[12] Lowest pain score was recorded in our study, as compared to other studies.[13]

Post-surgically, agreement was found with other studies when looking at pain, social behavior and physical function.[13-16] All subjects pointed out reduced pain intensity.

Mental health was only component which exhibited lower score between 1st and 3rd month, in spite of significant improvement after operation. This finding was consistent with the results of previous studies, where there was no reduction at post-surgical evaluation time frame.[13]

CONCLUSION

Total knee joint replacement resulted in considerable improvement of knee related physical functioning status and other domains post operatively. It resulted in healthy improvement in quality of life of patients over the first 6 months post surgically.

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