



Original Article

Quality-of-life assessment among patients undergoing total knee arthroplasty in Manaus[☆]

Marcos George de Souza Leão^{a,*}, Erika Santos Santoro^a, Rafael Lima Avelino^a, Lucas Inoue Coutinho^a, Ronan Campos Granjeiro^b, Nilton Orlando Junior^a

^a Orthopedics and Traumatology Service, Fundação Hospital Adriano Jorge, Manaus, AM, Brazil

^b Universidade do Estado do Amazonas, Manaus, AM, Brazil

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ABSTRACT

Objective: this study had the aim of assessing the quality of life among patients undergoing total knee arthroplasty (TKA). For this, the SF-36 and WOMAC questionnaires respectively were used to make comparisons with preoperative values.

Methods: a prospective observational cohort study was conducted, with blinded analysis on the results from 107 TKAs in 99 patients, between June 2010 and October 2011. The present study included 55 knees/patients, among whom 73% were female and 27% were male. The patients' mean age was 68 years. The SF-36 and WOMAC questionnaires (which have been validated for the Portuguese language) were applied immediately before and six months after the surgical procedure.

Results: the statistical and graphical analyses indicated that the variables presented normal distribution. From the data, it was seen that all the indices underwent positive changes after the surgery.

Conclusions: despite the initial morbidity, TKA is a very successful form of treatment for severe osteoarthritis of the knee (i.e. more than two joint compartments affected and/or Ahlback classification greater than 3), from a functional point of view, with improvement of the patients' quality of life, as confirmed in the present study. This study presented evidence level IV (description of case series), with analysis on the results, without a comparative study.

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Avaliação da qualidade de vida em pacientes submetidos à artroplastia total do joelho em Manaus

RESUMO

Objetivo: avaliar a qualidade de vida em pacientes submetidos à artroplastia total do joelho (ATJ) com o uso dos questionários SF-36 (Medical Outcomes Study 36 – Item Short Form Health Survey) e WOMAC (Western Ontario and McMaster Universities Osteoarthritis Index) e compará-los com os valores pré-operatórios.

Palavras-chave:

Joelho/cirurgia

Artroplastia

Qualidade de vida

Avaliação

[☆] Work conducted at the Orthopedics and Traumatology Service, Fundação Hospital Adriano Jorge, Manaus, AM, Brazil.

* Corresponding author.

E-mail: mgsleao@uol.com.br (M.G. de Souza Leão).

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Métodos: foi feito um estudo prospectivo, observacional, coorte com análise cega dos resultados, com 107 ATJ em 99 pacientes, de junho de 2010 a outubro de 2011. Incluídos no estudo 55 joelhos/pacientes: 73% eram do sexo feminino e 27% do masculino. A média de idade foi de 68 anos. Foram aplicados os questionários SF-36 e WOMAC, validados para língua portuguesa, imediatamente antes e seis meses após o procedimento cirúrgico.

Resultados: a análise estatística e gráfica indica que as variáveis tiveram distribuição normal. Observando os dados, verifica-se que todos os índices sofreram alterações positivas depois da cirurgia.

Conclusões: a artroplastia total do joelho, apesar da morbidade inicial, é uma modalidade bem-sucedida de tratamento para osteoartrite grave (mais de dois compartimentos articulares acometidos e/ou classificação de Ahlback maior do que 3) do joelho do ponto de vista funcional, com melhoria da qualidade de vida dos pacientes, dados esses confirmados nesta pesquisa. Nível de evidência IV, descrição de série de casos, com análise de resultados, sem estudo comparativo.

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Introduction

According to the World Health Organization (WHO), quality of life (QoL) refers to individuals' perception of their position in life, within the cultural context and value system in which they live and in relation to their aims, expectations and social standards. QoL is a subjective construct that involves self-perception and is composed of multiple positive, negative and bidirectional dimensions, such as physical function and emotional and social wellbeing.¹

In developed countries, osteoarthritis (OA) is the most frequent cause of incapacity among musculoskeletal diseases, and the knee is most frequent site of involvement, with considerably decreased QoL among the individuals affected. It has been estimated that 4% of the Brazilian population suffer from OA. The knee is the joint that is second most affected by the disease, with 37% of the cases.²

One of the ways of evaluating the functional losses and treatments associated with knee OA consists of questionnaires in which individuals report their difficulties. Because of the specificity of the WOMAC questionnaire, it is widely recommended for this purpose. In 2002, the version for the Portuguese language was presented, with adaptation for Brazilian culture in order to ease comprehension among readers. The measurement, reproducibility and validity properties were well demonstrated and the original parameters were maintained. Hence, it became a useful instrument for evaluating the quality of life of individuals with OA.³

Total knee arthroplasty (TKA) has been recognized as one of the most successful orthopedic procedures, with one of the best cost/benefit ratios within the field of orthopedics. It provides significant QoL improvements and more than 95% implant survival after 15 years.⁴ TKA is a reliable procedure for reducing the pain and incapacity associated with many pathological conditions of the knee, particularly OA. In conjunction with improvement of pain, gains in knee flexion are an important factor in relation to the result and functional success after TKA, given that through achieving greater flexion, it seems that patients are even benefited in relation to going up and down stairs adequately. The overall results and findings relating to satisfaction and

improvement of QoL among patients undergoing TKA need to be considered.⁵

Patients undergoing TKA expect the best result possible. Their expectations and satisfaction vary greatly, as do the instruments to measure these factors. Unsurprisingly, the reports relating to patient satisfaction show large variations. The role of expectations relating to obtaining satisfactory surgery still requires clarification in the literature. Surgeons take the view that expectations regarding the results need to be worked on, even before the surgery.⁶

SF-36, an easily administered and understood generic instrument, can be used to assess QoL. This is a multidimensional questionnaire comprising 36 items within eight scales or components, and it is not specific for any given age, disease or treatment group. It therefore allows comparisons between different pathological conditions or different treatments.⁷

This study had the main aim of evaluating QoL and knee function among patients undergoing TKA, using the SF-36 and WOMAC questionnaires, applied before the operation and six months afterwards, and to compare the latter with the preoperative values.

Materials and methods

This was a prospective observational cohort study with blinded analysis on the results, in relation to 107 TKA procedures that were performed on 99 patients between June 2010 and October 2011, with a minimum follow-up of six months.

From the estimated overall population, the sample size was calculated by means of a formula for estimating proportions for a finite N.

The sample size was estimated in relation to the total number of patients hospitalized at the orthopedics clinic of our institution and was calculated using the mathematical expression shown in Fig. 1, in which:

$$n = \frac{Z^2 \cdot \hat{p} \cdot \hat{q} \cdot N}{d^2 (N-1) + Z^2 \cdot \hat{p} \cdot \hat{q} \cdot N}$$

Fig. 1 – Mathematical expression for calculating the sample size.

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