

Quality of Life of Patients with Knee Osteoarthritis with Questionnaire OAKHQOL (OsteoArthritis of Knee Hip Quality of Life) in Rheumatology Consultation in Burkina Faso (West Africa)

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Abstract

Objective: To study the quality of life of patients with knee OA with the questionnaire OAKHQOL (OsteoArthritis of Knee Hip Quality Of Life). **Patients and Methods:** This was a cross-sectional study over a period of six months, in patients with symptomatic knee osteoarthritis. All patients met the clinical and radiological criteria of the ACR. The OAKHQOL questionnaire was used to investigate the quality of life of patients. **Results:** One hundred and six patients were included. There were 94 (88.7%) women and 12 (11.3%) men with a sex ratio of 0.12. The average age of patients was 55 ± 10.4 years. The average pain intensity was 55.1 ± 22.4 . The majority of patients (69.8%) had stage 3 of Kellgren and Lawrence classification. The dimension “pain” had the lowest normalized score (60.6). There was a significant correlation between the age range of 30 to 40 years and declining mental health (49.5). The patients with over 60 years of age had a decrease in pain tolerance and reduced social activities. Lequesne score was associated with severe all dimensions except “social support” of the patient. **Conclusion:** The knee has an impact on quality of life of patients followed in rheumatology by OAKHQOL questionnaire.

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Keywords

Quality of Life, Osteoarthritis, Knee, Psychometrics, Africa

1. Introduction

OsteoArthritis of Knee affects 12.1% of the adult population in the United States [1]. This is a common disease with significant functional impairment, impaired quality of life for the patient and a social cost [1] [2]. It is the second reason for consultation in rheumatology in Saharan Africa and the first location of osteoarthritis in the lower limbs [3]-[8]. Its functional impact is important and appreciated by several scores; the most used ones are the Lequesne score and WOMAC [9]-[11]. Thus, a Lequesne index average of 14.5 or a WOMAC index of 51.3 is an indication for knee arthroplasty [12].

Existing instruments focus on symptoms and function without taking into account many other aspects of the impact of the disease perceived by the patient including the quality of life and the psyche of the patient. Several scales have been developed and validated. Among these, only the Arthritis Impact Measurement Scales (AIMS2) and short (AIMS2-SF) [13] [14] and the questionnaire OAKHQOL (OsteoArthritis of Knee Hip Quality of Life) allow the understanding of the social components of the disease [15] [16]; OAKHQOL questionnaire showed that the quality of life of patients with osteoarthritis of the knee or hip was altered in several of its components [17]. Knee osteoarthritis is considered more common in black African woman [18]. However, few studies have been conducted on the quality of life in these patients with OAKHQOL questionnaire. The purpose of this study was to assess the quality of life of patients with knee osteoarthritis in a black African population.

2. Patients and Methods

This was a cross-sectional study from January 2013 to June 2013 who concerned all patients received during the study period for symptomatic knee osteoarthritis in Rheumatology consultation at the University Hospital Yalgado Ouédraogo Ouagadougou, Burkina Faso. All patients included in the study met the clinical and radiological criteria of the ACR [19]. They all received a complete clinical examination by the same rheumatologists (ODD and ZTJ). The blood-cell count, erythrocyte sedimentation rate and C reactive protein (CRP) were systematic. Radiography of both knees was performed, incidence face load, schuss, in profile and axial effects at 30 and 60.

Data were collected on a pre-computerized record containing the socio-demographic and anthropometric parameters, functional signs, physical and radiographic, the algo-functional index (visual analogy scale, Lequesne index) and scale OAKHQOL. The variables were then analyzed using the Epi-info version 7.0. ANOVA and Fisher's exact test were used for statistical analysis. A probability $p < 0.05$ was considered statistically significant.

3. Results

3.1. General Characteristics of Patients

One hundred and six patients were recruited during the study period. There were 94 (88.7%) women and 12 (11.3%) men with a sex ratio of 0.12.

The average age of patients was 55 ± 10.4 with extremes of 31 and 80 years. The average age of women was 54.1 ± 10.0 years; for men it was 61.7 ± 12.2 years ($p < 0.05$). **Figure 1** shows the distribution of patients by age group.

The mean BMI of our patients was 30.9 ± 6.5 kg/m² with a range of 15.8 to 45.4 kg/m². Among the 94 women, 62 (66.0%) were postmenopausal with a mean duration of menopause 10.3 ± 7.9 years. Twenty-five (23.6%) patients had a history of knee trauma, 39 (36.8%), arterial hypertension and 10 (9.4%) diabetes mellitus.

The average intensity of knee pain according to VAS was $55.5/100 \pm 22.4$ with extremes of 10 and 100. Sixty-seven patients (63.2%) had joint stiffness. The average duration of joint stiffness was 2.8 ± 7.6 minutes with a range of 1 to 60 minutes. Architectural defects were observed in 39.6% of patients. **Table 1** shows the distribu-

tion of patients according to clinical data.

Radiographically, 74 patients (69.8%) had stage 3 of Kellgren and Lawrence. **Table 2** shows the distribution of patients according to radiographic data.

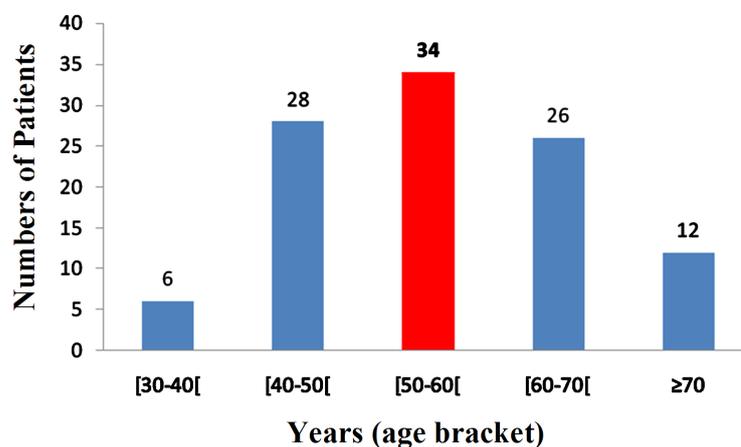


Figure 1. Distribution of patients by age group.

Table 1. Distribution of patients according to clinical data.

	Frequency	Percentage
Knee Pain (n = 106)		
Bilateral	67	63.2
Left	20	18.9
Right	19	17.9
Joint Stiffness (n = 106)		
Yes	67	63.2
No	39	36.8
Architectural Defects (n = 106)		
Absence of Static Disorder	64	60.4
Genu Valgum Unilateral	12	11.3
Genu Valgum Bilateral	10	9.4
Genu Varum Bilateral	8	7.5
Genu Varum Unilateral	6	5.7
Genu Flexum Unilateral	4	3.8
Genu Flexum Bilateral	1	0.9
Genu Recurvatum Unilateral	1	0.9
Crunch (n = 106)		
Yes	59	55.7
No	47	44.3
Joint Limitation (n = 106)		
Yes	24	22.6
No	82	77.4

3.2. Description of the Impact of Knee Osteoarthritis

3.2.1. Impact on Function by the Lequesne Index

Lequesne average score was 9.1 ± 3.6 with a range of 0 to 18. Sixty-seven patients (63.2%) had a score of Lequesne than or equal to 8. **Figure 2** shows the distribution of patients according to the Lequesne score.

3.2.2. Sounding Psycho-Social Scale by OAKHQOL

The “pain” dimension had the lowest normalized score (60.6). **Table 3** shows the standardized scores of OAKHQOL means and standard deviation. They ranged from 9.4 to 99.4 for physical activity, 4.6 to 98.5 for mental health varies from 0 to 100 for pain and 20.0 to 100 social support.

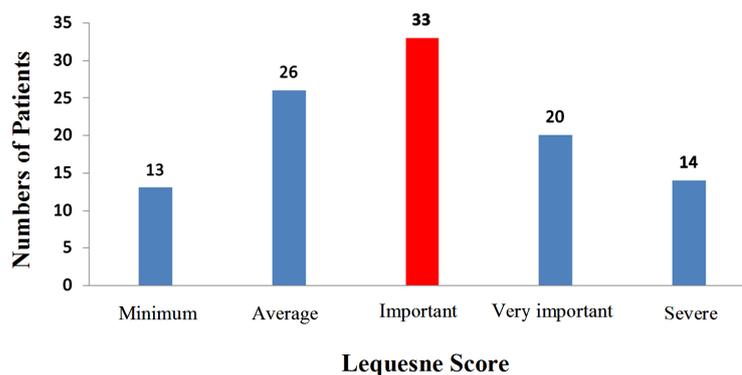


Figure 2. Distribution of patients according to the Lequesne score.

Table 2. Distribution of patients according to radiographic data.

	Frequency	Percentage
Kellgren and Lawrence Classification (n = 106)		
Stage 0	2	1.9
Stage 1	0	0
Stage 2	0	0
Stage 3	74	69.8
Stage 4	30	28.3
Osteoarthritis of Knee (n = 106)		
Unicompartmental	20	18.9
Bicompartmental	54	50.9
Tricompartmental	32	30.2

Table 3. Means and standard deviations of the standardized questionnaire scores OAKHQOL.

	Number of Items	Average Standardized Score	Standard Deviation
Physical Activity	16	62.6	17.3
Mental Health	13	66.8	18.7
Pain	4	60.6	20.0
Social Support	4	75.6	20.1
Social Activities	3	75.6	22.7

3.3. Influence of Different Variables on the Quality of Life

The young age (30 - 40 years) was statistically associated with the “Mental Health” (49.5) while the dimension above 60 years of age alters the quality of life in the dimensions of pain and social activities. Static disorders including genu-flessum affect the quality of life in all dimensions of the questionnaire OAKHQOL while a severe Lequesne score was associated with all dimensions except the dimension of social support to the patient. **Table 4** shows the distribution of standardized questionnaire OAKHQOL according to patient characteristics scores.

4. Discussion

This is to our knowledge the first sub-Saharan study of the quality of life with OAKHQOL Questionnaire in patients with knee osteoarthritis. The general characteristics of patients were similar to those of previous studies and other African studies [3] [6] [7] [20]. However, the average age (55 years) of our patients was lower than that of the cohort KHOALA in France (62 years); the body mass index was similar but with an average intensity of the largest pain in our series (55.5/100) than in the cohort KHOALA [21].

Static disorders of the knees (genu-flessum) and a high score Lequesne seem to be associated with significant impairment of the quality of life of patients. Similarly, it appears that the over 70 years of age has a significant impact on the “social activities” questionnaire OAKHQOL component. The social activity plays an important role in patients of this age group because of their status as resource persons in the African culture.

Table 4. Distribution of standardized questionnaire OAKHQOL according to patient characteristics scores.

	Physical Activity (p [*])	Mental Health (p)	Pain (p)	Social Support (p)	Social Activities (p)
Age	(0.0619)	(0.0234)	(0.0263)	(0.3390)	(0.0006)
30 - 40	54.5	49.5	58.7	61.3	59.7
40 - 50	70.3	69.4	70.9	76.5	87.3
50 - 60	62.1	63.8	58.5	78.6	78.3
60 - 70	58.5	66.7	54.3	76.2	70.7
≥70	59.0	78.3	57.2	70.8	59.2
Sex	(0.6942)	(0.6402)	(0.5679)	(0.9960)	(0.4675)
Male	64.5	69.2	63.8	75.6	71.1
Female	62.4	66.5	60.2	75.6	76.2
BMI	0.8939	(0.1438)	(0.9439)	(0.7046)	(0.0277)
<18	64.7	80.8	62.5	80.0	31.7
18 - 25	65.6	74.5	64.3	70.2	80.9
25 - 30	61.7	67.2	62.2	77.6	72.0
≥30	61.5	62.2	60.5	76.0	78.7
Menopause	(0.0114)	(0.8958)	(0.0096)	(0.0314)	(0.1221)
Static Disorders	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Genu Flessum	50.7	45.2	20.0	73.1	50.0
Genu Varum	54.2	61.5	46.7	75.0	68.3
Joint Limitation	(0.0750)	(0.0105)	(0.0017)	(0.3115)	(0.0010)
Kellgren Classification (Stage 3)	(0.3284)	(0.5526)	(0.6620)	(0.2051)	(0.3440)
Lequesne Score (Severe)	(0.000)	(0.0086)	(0.000)	(0.7825)	(0.0001)

p* probabilité.

The normalized values of the different components were higher in our comparison to those of the French series [16], Spain [22] and Morocco [23] series. The quality of life of patients although reduced, seems better in our series than in those just mentioned. This could be different socio-cultural (greater acceptance of illness) or due to methodological biases. Business data, settings of origin, urban or rural, and living conditions are useful for the interpretation of quality of life scales. The recruitment of our patients was only done in consultation Rheumatology, thus excluding serious surgical consequent having a greater impairment of quality of life. In addition, the psychometric properties and the relevance of the questionnaire OAKHQOL in black African culture are not known. Indeed, we used the French version and it is obvious that some items do not match the black African cultural elements. It is therefore important that we develop a black African version. In addition, OAKHQOL questionnaire is a self-administered [17]. In our study, due to a significant rate of illiteracy, the questionnaire was administered to the patient; this could influence the answers. Further studies are needed with a questionnaire OAKHQOL “tropicalised” and self-administered.

5. Conclusion

Osteoarthritis of knee has an impact on the quality of life of patients treated in rheumatology consultation in Burkina Faso by OAKHQOL questionnaire. However, this questionnaire should be adapted to the cultural aspects of this part of the world to minimize the methodological biases that may have influenced our results and to understand the real impact of the disease. This would allow a more effective management.

Conflict of Interest

The authors declare no conflict of interest related to this work.

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