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A Simple Descriptive Study of Osteoarthritis among Libyan Patients who were Examined at the Jordanian Field Hospital in Benghazi City/ Libya

Kareem Al Rashdan*, Zaid Al Dahamsheh, Mohammad AlBakheet, Khaled Bani Hani and Emad Al Soub

Royal Medical Services, Jordan

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***Corresponding author:** Kareem Al Rashdan, Royal Medical Services, Jordan

Abstract

Introduction: Osteoarthritis (OA) is the most common chronic arthritis impacts health parameters and quality of life. It affects old age, but it can occur in adults of any age.

Objectives: To study and describe OA cases among Libyan patients examined and treated in Jordanian field hospital in Benghazi City.

Study Design: A retrospective study was conducted to study the frequency and to describe the clinical patterns of OA cases among Libyan patients examined and treated in Jordanian field hospital in Benghazi City.

Methods and Subjects: A total of 1267 patients who visited the Jordanian field hospital in Benghazi and diagnosed to have OA between January 2012 and November 2012 were involved in this study. The patient's files were retrospectively reviewed and analyzed by the researchers at Royal medical services regarding gender, age, involved knee, BMI, social status and chronic diseases.

Statistical Analysis: The data was analyzed using SPSS version 21. Data was presented as means and standard deviation for continuous variable, and as frequencies and percentages for categorized variables. The relationships between study variables were examined based on Chi-square, and /or T test. Significance was considered at P value < 0.05.

Result: The mean age was 59.31 ± 8.2 (35-80). The male to female ratio was 1:3. The mean BMI was 28.3± 4.3. The right knee was more involved than the left knee, 75.3% and 24.7% respectively. A significant positive correlation was found between BMI and pain severity (0.351, p <. 05). Also, significant positive correlation was found between age and radiographic severity (0.470, p<0.01). The Females showed a higher incidence than males. A 65% of patients with chronic diseases had severe OA changes.

Conclusion: Our study showed that OA is highly prevalent among the Libyan population, and the risk factors (age, obesity, injury, sedentary work) are well identified. This can help to address a useful prevention program of the modifiable risk factors.

Introduction

Osteoarthritis (OA) is a disease that has various characteristics such as chronic nature, various etiologies, developmentally degenerative of joint in association with sclerosis of subchondral bone, that is possible to end with bone cysts and marginal osteophytes [1,2]. Associated signs of OA include partial loss of knee flexibility, pain, lack of function and deformities [3]. From epidemiological point of view, osteoarthritis affects about 10% of males and 18% of females over 60 years [4,5]. The cost of treating of osteoarthritis is high and estimated to be in the range of 1·0% and 2·5% of gross domestic product in developing countries [6]. The prevalence of osteoarthritis has been reported to increase with age and with gender females [7]. Although no exact etiology has been responsible for osteoarthritis, several risk factors have been associated with it such as the occurrence of microtraumas, knee surgery, metabolic factors, inheritance, obesity and joint overload [8-10].

The occurrence of osteoarthritis is initiated through the activation of innate immune system [5]. It has been found that chondrocytes express toll-like receptors that are activated by molecular products of tissue damage [11]. Osteoarthritis involves the existence of extracellular substances in the matrix such as the glycosaminoglycan hyaluronan [12]. Other players in the etiology

of osteoarthritis include the binding of calcium pyrophosphate and sodium urate crystals to chondrocyte toll-like receptors [13]. Another immune mechanism involved in the etiology of osteoarthritis included the activation of complement system species [14].

Study Objectives

To study and describe OA cases among Libyan patients examined and treated in Jordanian field hospital in Benghazi City.

Methods and Subjects

A retrospective study was conducted. A total of 1267 patients who visited the Jordanian field hospital in Benghazi and diagnosed to have OA between January 2012 and November 2012 were involved in this study. The patient's files were retrospectively reviewed and analyzed by the researchers at Royal medical services regarding gender, age, involved knee, BMI, social status and chronic diseases. All data were entered to excel sheet for all patients prior to their analysis.

Statistical Analysis

The data was analyzed using SPSS version 21. Data was presented as means and standard deviation for continuous variable, and as frequencies and percentages for categorized variables. The relationships between study variables were examined based on T test. Significance was considered at P value < 0.05.

Results

As shown in (Table 1), the mean age of patients was 59.3159.31± 8.2 years. One quarter of study sample was males. BMI was 28.3± 4.3.

Table 1: General characteristics of participants.

Variable	Description
Age (M±SD) years	59.31± 8.2
Gender (N, %)	
Males	317 (25%)
Females	950 (75%)
Body mass index (BMI) (M±SD)	28.3± 4.3

Percentage of OA according to Knee Involvement

As seen in (Figure 1), the majority of OA influenced right knee (about 75%), and one quarter of cases was observed in left knee.

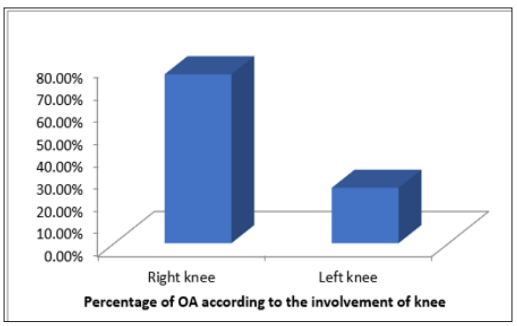

Figure 1: percentage of OA according to the knee involved.

The Correlation between Study Variables: As demonstrated in (Table 2), data showed a positive and significant correlation between BMI and pain severity (0.35, p<0.05), as well as between age and radiographic features (0.47, p<0.01).

Table 2: The correlation between study variables.

Variables	Pearson	Significance
BMI-pain severity	0.35	<0.05
Age - radiographic severity	0.47	<0.01

Discussion

The data of the present study showed that Libyan patients with OA are like other populations worldwide regarding variables associated with OA. The mean age of patients in this study was about 60 years, the age in average for being diagnosed with OA. However, these findings are in line with previous studies including Woolf and Pfleger, and Glyn-Jones. Ageing may be predisposing factors for developing OA attributed to accumulative effects of inflammatory and immunological reactions [11]. The data of the present study showed that positive and significant correlations exist between BMI and pain severity, and age and radiographic features. BMI was reported as a predisposing factor for OA and its increased intensity is influenced by BMI [15]. The impact of age in increasing the clinical picture of OA as reflected by radiographic features has been reported through other studies [16].

Conclusion

Our study showed that OA is highly prevalent among the Libyan population, and the risk factors (age, obesity, injury, sedentary work) are well identified. This can help to address a useful prevention program of the modifiable risk factors.

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