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 59.31±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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