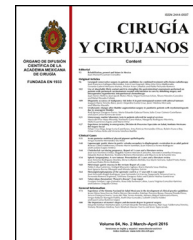




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ORIGINAL ARTICLE

Knee dysfunction in the general population and associated factors[☆]



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KEYWORDS

Knee joint;
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Abstract

Background: Knee joint dysfunction is present in 80% of people over 50 years of age, and in women there is a 1.5 times higher risk compared to men. Another important risk factor is obesity, which leads to a 3 times increase in the risk of suffering functional limitations in the joint.

The aim of this study was to determine knee joint dysfunction and the associated factors.

Material and methods: An analytical and descriptive study was conducted on 218 individuals older than 50 years of age in a primary care centre. A physical examination was performed on each patient, and the Western Ontario and McMaster Universities Osteoarthritis Index questionnaire was applied to them all. Logistic regression analysis was used to determine the association between age, gender, body mass index, and knee function. ANOVA was used to compare the means of the Western Ontario and McMaster Universities Osteoarthritis Index scores and body mass index measurements. A $p < 0.05$ was considered statistically significant.

Results: The mean age was 64.27 years (SD 10.43). An OR of 4.50 was obtained for having a disability in people over 65 years of age, 2.90 in obese people, and 2.02 in women. The mean scores in the 3 domains of Western Ontario and McMaster Universities Osteoarthritis Index were higher as the body mass index increased.

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PALABRAS CLAVE

Articulación de la rodilla;
Índice de masa corporal;
Género;
Western Ontario and McMaster Universities Osteoarthritis Index

Conclusions: Women have greater disability than men, becoming more evident in older ages, and other risk of joint dysfunction increases up 3 times in obese patients.

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Disfuncionalidad de rodilla en la población general y factores asociados**Resumen**

Antecedentes: La disfunción articular de rodilla se presenta hasta en el 80% de las personas mayores de 50 años, y en mujeres el riesgo aumenta 1.5 veces más en comparación con los hombres; otro factor de riesgo importante es la obesidad, que aumenta hasta 3 veces más el riesgo de presentar limitación funcional.

El objetivo de este estudio fue: determinar la disfuncionalidad articular de rodilla y los factores asociados.

Material y métodos: Estudio descriptivo analítico que incluyó 218 personas mayores de 50 años, llevado a cabo en un centro de atención primaria. A los participantes se les realizó una exploración física y se les aplicó el cuestionario Western Ontario and McMaster Universities Osteoarthritis Index. Para determinar la asociación entre edad, género, índice de masa corporal y funcionalidad de la rodilla se aplicó un análisis de regresión logística, y para comparar las medias de las dimensiones del Western Ontario and McMaster Universities Osteoarthritis Index y el índice de masa corporal se utilizó el ANOVA. Se consideró un valor de $p < 0.05$ como estadísticamente significativo.

Resultados: La edad media fue de 64.27 años (DE 10.43). Se obtuvo una OR para presentar discapacidad de 4.50 en personas mayores de 65 años, 2.90 en obesos y 2.02 en mujeres, y las puntuaciones medias en los 3 dominios del Western Ontario and McMaster Universities Osteoarthritis Index fueron más altas conforme se incrementaba el índice de masa corporal.

Conclusiones: Las mujeres presentan mayor discapacidad que los hombres, haciéndose más evidente en edades avanzadas, y el riesgo de disfunción articular aumenta hasta 3 veces más en sujetos con obesidad.

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Background

Functional limitations of the knee are consequential to a series of events (progressive deterioration of the articular cartilage, alteration in the subchondral bone, changes in soft tissues and progressive deformity of articulation) which condition pain and reduce quality of life.¹⁻⁵ It has been estimated that around 10–25% of people over 55 have incapacitating symptoms and of these a quarter are severely incapacitated.⁶⁻⁹

Among the main associated factors are: gender, age and body mass index (BMI). The National Health and Nutrition Examination Survey reported that chronic pain and articular limitation presented in up to 80% of people over 55,¹⁰ compared with 0.1% in people aged between 25 and 34.¹¹ Other studies have demonstrated that obesity increases the risk of developing degenerative processes in the knee threefold,^{12,13} and it has been observed that a 5 kg weight increase increases the risk of degenerative processes in the knee by 35%, leading to functional limitations in the joint¹⁴; furthermore, a cohort study demonstrated that a BMI over

30 kg/m² is a determining factor in knee pain, regardless of radiologic severity. Obesity is now considered as a public health issue in both Mexico and worldwide.¹⁵ Another factor associated with functional limitation of the knee is being a female,¹⁰ since it has been shown that a 1.57 risk presents in women aged 45–54, compared with men of the same age and in women aged between 65 and 74 this risk increases to 2.14.¹⁶

At present, in Mexico, there are no studies which measure the articular dysfunction in the general population and its associated factors, specifically obesity, which is a modifiable risk factor. Considering that in Mexico, abdominal obesity presents in 74% of people over 30,¹⁷ it is of the utmost importance that a study be conducted to determine the impact of BMI on knee function in order that in the future prevention strategies may be established to reduce the articular incapacity risk secondary to obesity.

The aim of our study was to determine knee joint dysfunction and the associated factors in a primary care centre (Unidad de Medicina Familiar N° 2 del Instituto Mexicano del Seguro Social).

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