

# TYPE II DIABETES MELLITUS, PHYSICAL ACTIVITY, INJURY, AND THE RISK OF OSTEOARTHRITIS

Mei Kusumaningtyas<sup>1)</sup>, Didik Tamtomo<sup>2)</sup>, Bhisma Murti<sup>1)</sup>

<sup>1)</sup>Masters Program in Public Health, Universitas Sebelas Maret

<sup>2)</sup>Faculty of Medicine, Universitas Sebelas Maret

## ABSTRACT

**Background:** Osteoarthritis (OA) is a major public health problem. It is a source of pain and functional disability, therefore has a very important social and professional impact. This study aimed to analyze the associations of type 2 diabetes mellitus (DM), physical activity, and history of knee injury, with the risk of OA.

**Subjects and Method:** A cross-sectional study was conducted at Dr. Moewardi Hospital, Surakarta, Central Java, in June 2018. A sample of 200 patients was selected by fixed disease sampling, comprising 50 patients with knee OA and 150 patients without knee OA. The dependent variable was knee OA. The independent variables were type 2 DM, history of injury, and physical activity. Data on knee OA were obtained from medical record. The other variables were measured by questionnaire. The data were analyzed by a multiple logistic regression.

**Results:** Knee OA was associated with high physical activity (OR= 2.18; 95% CI= 1.06 to 4.48; p= 0.03), DM (OR= 3.76; 95% CI= 1.83 to 7.74; p<0.001), and history of knee injury (OR= 3.35; 95% CI= 1.63 to 6.90; p=0.001).

**Conclusion:** Knee OA is associated with high physical activity, DM, and history of knee injury.

**Keywords:** knee osteoarthritis, physical activity, diabetes mellitus, history of knee injury

### Correspondence:

Mei Kusumaningtyas. Masters Program in Public Health, Universitas Sebelas Maret, Jl. Ir. Sutami 36 A, Surakarta 57126, Central Java.

Email: meikusumaningtyas@gmail.com. Mobile: +6285725646444