Association between Type 2 Diabetes Mellitus and Knee Osteoarthritis Among Patients Attending the Rheumatology and Rehabilitation Clinic of the University Hospital Kotelawala Defence University

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Type 2 Diabetes Mellitus (T2DM) and Knee Osteoarthritis (KOA) are chronic diseases that frequently co-exist. This cross-sectional study was conducted to find out the association between T2DM and KOA among patients attending the Rheumatology and Rehabilitation Clinic, University Hospital, Kotelawala Defence University. KOA patients (n=106) were evaluated using an interviewer administered questionnaire. Fasting Blood Sugar (FBS), Glycosylated Haemoglobin (HbA1c) and Erythrocyte Sedimentation Rate (ESR) were measured. Symptoms for T2DM were identified. Patients were categorized in to three groups with regards to diabetes status: normal, prediabetes and diabetes. Body Mass Index values were also categorized in to three categories as Underweight and Normal (Group 1), Overweight (Group 2), Obese 1 and Obese 2 (Group 3). Mean age of KOA patients was 61.6±9.2 years (40 to 86 years). Majority were females (77.3%). Among the KOA patients 27.4% were non-diabetes, 40.6% were prediabetes and 32.1% were diabetes. High frequency reported among Group 3 BMI (68.8%) category. Among KOA patients 48.1% with hypertension, 49.6% with family history of T2DM were reported. The mean of HbA1c (%), FBS (mg/dL) and ESR (mm/hr.) for the population were 5.91 ±0.68, 25.06±27.94, 26.98 ±14.17 respectively. Having a family history of T2DM, overweight and obese categories showed a significant association ($p < 0.05$) between T2DM and KOA. In conclusion, increased age, female gender, BMI (Overweight and obese) and a family history of T2DM are the contributory factors for developing T2DM among KOA patients in study. Further, Overweight, and obese BMI and having a family history of T2DM can use to monitor the KOA patients for developing of T2DM for the population in this present study.

Keywords: *type 2 diabetes mellitus, knee osteoarthritis, age, female gender, body mass index, family history*