

UNIVERSITI TEKNOLOGI MARA

**THE ASSOCIATION BETWEEN
SOCIODEMOGRAPHIC, CLINICAL FACTORS,
HAND GRIP STRENGTH AND
ERECTILE DYSFUNCTION AMONG MEN WITH
METABOLIC SYNDROME ATTENDING
PRIMARY CARE CLINICS**

**DR. NIK AMINAH BINTI
NIK ABDUL KADIR**

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ABSTRACT

Erectile dysfunction (ED) is a serious health problem and an independent predictor for cardiovascular diseases (CVD). The prevalence increases with age, but little is known about the relationship between physical fitness and ED especially among men with high risk of CVD. Hence, this study aimed to determine the prevalence of ED among men with Metabolic Syndrome (MetS) and its association with hand-grip strength in which is a measurement of physical fitness and muscle strength. A cross-sectional study was conducted among Malaysian men aged ≥ 40 years who had their follow-up between 1st June 2021 and 30th October 2021 at an institutional primary care clinic in Gombak district, Selangor, Malaysia. The participants were recruited via simple random sampling. Data on sociodemographic, comorbidities, anthropometry, clinical examinations including hand-grip strength (HGS) and blood chemical profiles were collected. While a validated English and Malay versions of the 5-item International Index of Erectile Function (IIEF-5) were used to assess presence of ED. Multiple logistic regression analysis were conducted to determine the association between sociodemographic, comorbidities, blood chemical profiles, and HGS with ED. There were 334 participants recruited in the study. The mean age was 58.8 (± 8.84) years old, with majority were Malays (95.2%, n= 318) and married (98.8 %, n=330). The overall prevalence of self-reported ED was 79% (95% confidence interval [CI]: 0.75-0.84). Multivariable analysis showed that ED was associated with elderly aged ≥ 60 years (odds ratio [OR] 3.27, 95% CI: 1.60-6.69), low HGS (OR 15.34, 95% CI: 5.64-41.81) and high total cholesterol (OR 0.36, 95% CI: 0.16-0.78). ED was highly prevalent among Malaysian men aged ≥ 40 years with MetS. Being older than 60 years of age and low HGS are associated with higher risk of ED. Robust screening of ED among men with MetS and intervention to improve muscle strength and physical fitness may be warranted.

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Hand-grip strength, and erectile dysfunction among men with metabolic syndrome attending an institutional primary care clinic in Malaysia: a cross sectional study

Nik Aminah Nik-Abdul-Kadir¹, Suraya Abdul-Razak^{1,2,3*}, Aqil M. Daher⁴, Nafiza Mat-Nasir¹

¹ Department of Primary Care Medicine, Faculty of Medicine, Universiti Teknologi MARA, Selayang Campus, 68100 Batu Caves, Selangor, Malaysia; nikaminahkkm@gmail.com (N-A. N-A-K.); suraya617@uitm.edu.my (S. A-R.); drnafiza220@yahoo.com (N. M-N.)

² Institute of Pathology, Laboratory and Forensic Medicine (I-PPerForM), Universiti Teknologi MARA, 47000 Sungai Buloh, Selangor, Malaysia; suraya617@uitm.edu.my (S. A-R.)

³ Cardiovascular and Lungs Research Institute (CaVaLRI), Pusat Perubatan UiTM, Kampus Sungai Buloh, 47000 Sungai Buloh, Selangor, Malaysia; suraya617@uitm.edu.my (S. A-R.)

⁴ Department of Community Medicine, School of Medicine, International Medical University, Bukit Jalil, 57000 KL, Malaysia; dr.aqil38@gmail.com (A. M-D.)

* Correspondence: suraya617@uitm.edu.my (S. A-R.); Tel.: +603-61264872

Abstract: Erectile dysfunction (ED) is a serious health problem and an independent predictor for cardiovascular diseases (CVD). The prevalence increases with age, but little is known about the relationship between hand-grip strength (HGS) and ED especially among men with high risk of CVD. This study aimed to determine the prevalence of ED among men with Metabolic Syndrome (MetS) and its association with HGS. A cross-sectional study was conducted among men aged ≥ 40 years who had their follow-up at an institutional primary care clinic in Malaysia. HGS and erectile function were assessed using a hand dynamometer and International Index of Erectile Function (IIEF-5) questionnaire, respectively. Multiple logistic regression analysis was performed to determine the association between sociodemographic, clinical characteristics, and HGS with ED. There were 334 participants recruited in the study. The prevalence of ED was 79% (95% confidence interval [CI]: 0.75-0.84). Multivariable analysis showed that ED was associated with elderly aged ≥ 60 years (odds ratio [OR] 3.27, 95% CI: 1.60-6.69), low HGS (OR 15.34, 95% CI: 5.64-41.81) and high total cholesterol (OR 0.36, 95% CI: 0.16-0.78). Being older than 60 years of age and low HGS are associated with higher risk of ED.

Keywords: erectile dysfunction (ED); Metabolic Syndrome (MetS); hand-grip strength (HGS); muscle strength; Malaysia; primary care

1. Introduction

Erectile dysfunction (ED) is a global health problem that affects nearly half of men over the age of 40 years [1-4]. In Malaysia, more than two third of men aged above 40 years have ED [5], while majority of elderly Malaysians aged above 65 years old had ED in 2014 [6]. ED is known to be attributed by various pathological mechanisms such as vascular impairment, neurological, hormonal, and psychological components with the most prevalent cause of ED is vascular ED, for which accounted for up to 70% of all cases [7]. Robust studies had proven that ED has positive association with hypertension, dyslipidemia, diabetes mellitus, heart disease,