The prevalence of frailty and its associated factors among older adults in Klinik Kesihatan Bandar Sungai Petani, Kedah

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ABSTRACT

Introduction: Frailty is a common geriatric syndrome characterized by decreased physiological reserves and increased vulnerability to adverse health outcomes. Understanding its prevalence and associated factors is essential for early identification and targeted interventions, particularly in primary care and community settings. This study aimed to determine the prevalence of frailty and its predictive factors among older patients attending a public primary care clinic. **Materials and Methods:** A cross-sectional study was conducted among patients aged 60 years and above, attending Klinik Kesihatan Bandar Sungai Petani, Kedah, from October 2024 until December 2024. Participants were selected using systematic random sampling from a non-communicable disease (NCD) clinic registry. Data were collected using a structured questionnaire consist of three components assessing sociodemographic characteristics, nutritional status and frailty status in Malay and English version. Mini Nutritional Assessment Short Form (MNA®-SF) was used to assess nutritional status, while frailty was assessed using the Pictorial Fit-Frail Scale (PFFS). The Pictorial Fit-Frail Scale (PFFS) is a multidimensional, image-based tool used to assess frailty across 14 domains. Each domain has three to six pictorial levels for the participant to choose the best image to represent their current situation. A total score of all 14 domains ranges from zero to 43, with higher scores indicate greater frailty. The cut offs for frailty was categorized into 0-3, no frailty; 4-5, at risk of frailty; 6-8, mild frailty; 9-12, moderate frailty; and >13, severe frailty. Descriptive statistics were used for demographic data, prevalence and severity of frailty. Multiple logistic regression was performed to identify associated factors of frailty. **Results:** Out of 272 participants, 121 (44.5%) were identified as frail. More than half were mildly frail (56.0%), while equal value of 22% were moderately and severely frail. Multivariate analysis revealed that primary-level education and below (OR = 2.65, [95% CI 1.49, 4.70], p = 0.001), unemployment (OR = 2.88, 95% [CI 1.20, 6.90], p = 0.018), diabetes mellitus (OR = 2.03, 95% [CI 1.14, 3.61], p = 0.016), heart disease (OR = 2.50, 95% [CI 1.12, 5.59], p = 0.025), fair or poor self-rated health (OR = 3.09, 95% CI [1.78, 5.36], p = 0.001) and those at risk or malnourished (OR = 2.79, 95% CI [1.70, 4.57], p = 0.004) were risk factors significantly associated with frailty. Meanwhile, living alone was a protective factor significantly associated with frailty (OR = 0.35, 95% [CI 0.13, 0.99], p = 0.048). **Conclusion:** Frailty is prevalent among the older patients in this primary care clinic. Key associated factors include education level, unemployment, living arrangement, diabetes mellitus, heart disease, fair or poor self-rated health, and nutritional status. These findings underscore the need for early frailty detection and further research on effective clinical interventions to improve outcomes in older adults.

Keywords: Frailty, older adults, primary care, Malaysia