

Utilizing the Framingham risk score (body mass index model) as a community screening tool for cardiovascular risk assessment in rural areas of Kelantan

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ABSTRACT

Introduction: Cardiovascular diseases (CVDs) cause a significant health burden in Malaysia. In Kelantan, approximately 22.3% of individuals who were screened in the general population had at least one risk factor for CVD, necessitating effective community screening tools for early identification of high-risk individuals. The Framingham Risk Score (FRS)-BMI Model is a validated tool for estimating the 10-year CVD risk in a community setting. **Objectives:** This study aims to assess the usability of Framingham General CV Risk Score in rural areas of Kelantan, Malaysia. **Materials and Methods:** A cross-sectional study was conducted in a rural community of Kg. Peralla, Tanah Merah, Kelantan. A convenient sample of 140 individuals aged 18 years old and above were recruited. Data on demographic characteristics, medical history, and CVD risk factors were collected. FRS calculations were based on age, systolic blood pressure, smoking status, diabetes status and body mass index (BMI). Participants were categorized into low, moderate, or high-risk CVD risk groups using predefined levels of the FRS. **Results:** The study population had a mean age of 54.5 years, with 50.7% were males. Approximately 42.1% of participants were classified as high risk, 16.4% as moderate risk, and 40% as low risk based on FRS-BMI Model assessment. Smoking (27.9%) and hypertension (27.1%) were the most predominant risk factors. The FRS-BMI Model usability score was 83% suggestive of an excellent usability of global-CV risk tool for community screening. **Conclusion:** This study demonstrates the excellent usability of FRS-BMI Model as a community screening tool in rural areas of Kelantan, providing valuable insights into the cardiovascular risk profile of the population although in the absence of laboratory investigations. The prevalence of high and moderate risk categories emphasizes the urgent need for targeted interventions to prevent CVDs in the community. Further research is warranted to refine the usage of FRS for rural communities and assess its impact on reducing CVD-related morbidity and mortality in Kelantan.