

# Can a structured program of patient education and follow up with case managers prevent osteoporotic fractures in post menopausal women?

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## ABSTRACT

We aim to describe the 2-year outcome of patients enrolled in the OPTIMAL program. This is a fracture prevention program that utilizes education and case managers to improve compliance and prevent falls and fractures in women over 50 who were at risk for fragility fractures. **Methods:** Patients were interviewed by an investigator (not the assigned case manager) and falls, fracture and compliance to medication and exercise was evaluated. Compliance to medication was assessed by medication possession ratio and verified via patient interview. **Results:** 1093 patients were screened. 755 patients fit the criteria for the program. 459 patients consented and were enrolled into the OPTIMAL program at our hospital. 299 are on active follow up. 101 patients were recruited based on WHO Fracture Risk Assessment Tool (FRAX) for primary fracture prevention and 99 patients are currently on active follow-up. 97 patients had completed a 2-year follow-up. 97 patients had completed a 2-year follow-up and were evaluated as part of this study. 77.89% of the patients reported compliance with an exercise program over the 2-year follow-up. 5 patients (5%) reported falls with 1 patient (1%) reporting a fracture in 2 years. Good compliance to osteoporosis medications (MPR >80%) was achieved in 77.89% after 2 years. The commonest reasons for non-adherence to treatment are not seeing the importance of medication and fear of side effects. **Conclusion:** Our report suggests that a fracture prevention program with structured education and case management can be effective in improving treatment rates. However, the ultimate success of this program will be determined by 10-year fracture outcomes and cost effectiveness.

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# Cardiovascular disease (CVD) risk and its distribution by Body Mass Index (BMI) in Malaysia using WHO/ISH risk prediction chart

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## ABSTRACT

**Introduction:** Data on mortality or prevalence of Cardiovascular Disease (CVD) among Malaysian population were published in many reports, fact sheets and journals, but there are no data on estimation of CVD risk. Therefore, this study aimed to determine the prevalence of CVD risk by using World Health Organization/International Society of Hypertension (WHO/ISH) risk prediction chart [Risk level; risk 1 (<10%), risk 2 (10% to 20%), risk 3 (20% to <30%), risk 4 (30% to <40%) and risk 5 (>40%)] among Malaysian adult 40 to 79 years old in the year 2006, 2011 and 2015. **Methods:** Data on age, gender, smoking status, diabetes mellitus, blood pressure, cholesterol level and anthropometry were obtained from three cycle of National Health and Morbidity Survey (NHMS) 2006, 2011 and 2015. The data was analysed and applied to WHO/ISH risk prediction chart to indicate 10-years risk of fatal or non-fatal major cardiovascular event such as stroke, coronary heart disease and other atherosclerotic diseases. **Results:** CVD risk 1 was decreased among male aged 40-49 years old but increased in the other age group from 2006 until 2015. Meanwhile, among female, CVD risk 1 was increased in 70-79 years old but decreased in the other age group. Dramatic increment in the proportion of CVD risk 5 among female aged 70 to 79 years old from 11.1% in 2006 to 15.3% in 2015, whereas male in the same age group showed reduced trend from 23.3% in 2006 to 18.4% in 2015. Based on BMI category, the highest proportion of CVD risk 5 was found among pre-obese male (19.0%) and obese female (21.7%) in the oldest age group. **Discussion:** The CVD risk of Malaysian population keep rising especially among female. Increasing trend of pre-obese and obese may contribute to development of CVD risk. Therefore, effective preventive strategies focusing on individuals with high risk of CVD particularly overweight are warranted.