

## Prevalence and risk factors for proteinuria: The National Kidney Foundation of Malaysia Lifecheck Health Screening programme.

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### Source

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[Nephrology \(Carlton\)](#). 2013 Aug;18(8):569-75. doi: 10.1111/nep.12112.

### Abstract

#### AIM:

Treatment of chronic kidney disease (CKD) poses a huge burden to the healthcare system. To address the problem, the National Kidney Foundation of Malaysia embarked on a programme to screen for proteinuria and educate the public on CKD.

#### METHODS:

The public was invited for health screening and the data collected over a 21 month period was analyzed.

#### RESULTS:

In total, 40 400 adults from all the states in Malaysia were screened. The screening population had a mean age of 41 years, 30.1% had hypertension and 10.6% had diabetes. Proteinuria was detected in 1.4% and haematuria in 8.9% of the participants. Factors associated with the highest risk for proteinuria were the presence of diabetes (adjusted odds ratio (OR) 2.63 (95% confidence interval (CI) 2.16-3.21)), hypertension (OR 2.49 (95% CI 2.03-3.07)) and cardiac disease (OR 2.05 (95% CI 1.50-2.81)). Other risk factors identified were lower educational level, family history of kidney disease, hypercholesterolaemia, obesity and lack of regular exercise. Chinese had the lowest risk for proteinuria among the races (OR 0.71 (95% CI 0.57-0.87) compared with Malays). The combination of high blood glucose and high blood pressure (BP) substantially increased the risk for proteinuria (OR 38.1 for glucose  $\geq$  10 mmol/L and systolic BP  $\geq$  180 mmHg and OR 47.9 for glucose  $\geq$  10 mmol/L and diastolic BP  $\geq$  110 mmHg).

#### CONCLUSION:

The prevalence of proteinuria in Malaysia is similar to other countries. The major risk factors for proteinuria were diabetes, hypertension and cardiac disease. The presence of both high blood pressure and high blood glucose exert a synergistic effect in substantially increasing the risk for proteinuria.

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#### KEYWORDS:

epidemiology, population studies, proteinuria

PMID: 23782264 [PubMed - in process]