Simple diagnostic tool predicts Type 2 diabetes in Southeast Asians

July 8 2010

Australian and Vietnamese researchers have estimated the current prevalence of Type 2 diabetes in Vietnam, and have developed a simple tool for identifying individuals at high risk.

Often triggered by sedentary lifestyles and high-fat or high-sugar diets, diabetes is a condition where the body becomes less able to make and use insulin, a hormone that reduces sugar in the blood by moving it into cells for energy use.

The new study found that the prevalence in Vietnamese of undiagnosed diabetes is about 11% for men and 12% for women - in addition to roughly 4% of the population already diagnosed with diabetes.

Using the electoral roll, the study was based on 721 men and 1,421 women, aged between 30 and 72, not known to have diabetes, randomly sampled from 30 suburbs throughout Ho Chi Minh City.

In the city of 6.4 million residents, the findings suggest that around 350,000 have Type 2 diabetes, many of whom are unaware of the fact.

With the data they gathered, researchers set out to create the simplest and most effective tool to predict risk, narrowing all potential risk factors down to two: high systolic blood pressure and high waist-to-hip ratio.

When levels of central obesity and hypertension were high, the odds of

developing diabetes increased by over sixfold in men and fourfold in women.

Professors Tuan Nguyen and Lesley Campbell from Sydney's Garvan Institute of Medical Research, in collaboration with Dr Mai Ta from Nhan dan Gia Dinh hospital in Ho Chi Minh City, have published their findings in the journal *Diabetologia*, now online.

"Dietary patterns have been changing dramatically in Vietnam in recent years, particularly in the cities as they become more westernised," said leading author Professor Nguyen.

"There are fast food outlets everywhere. In Asia, diabetes is commonly found among well off people, who can afford western-style fast food, whereas in Australia it's commonly found in socio-economically disadvantaged groups."

"While everyone is aware that diabetes is reaching epidemic proportions around the world, this study tells us the magnitude of the problem in one Vietnamese city."

"It's not mentioned in our paper, but a similar undiagnosed prevalence of diabetes was also found in Thailand. Because of that, we feel very confident that we can extrapolate our findings to other parts of South East Asia including Malaysia, Singapore, Cambodia and Laos. We also believe they are applicable to Southeast Asian communities in Australia and around the world."

"Our diagnostic tool will allow doctors and health workers to determine an individual's risk quickly, easily and cheaply. If the risk is high, the individual should have specific glucose testing."

The tool is a 'nomogram' that shows three different measurements,

represented as three parallel lines on paper. The line to the left shows [systolic blood pressure](link), the one to the right shows waist-to-hip ratio, the one in the middle shows risk of diabetes. A line is drawn between an individual's scores on the outer lines. The point at which it intersects the central line indicates risk.

Lesley Campbell, Director of St. Vincent's Diabetes Centre, Professor of Medicine at the University of NSW and senior clinical researcher at Garvan, believes the tool will be very useful in developing countries generally.

"In Australia, we have the finances to use many subtle and sophisticated tests, but in developing countries, it's critical that you have screening tests that can be used by workers with only basic training - and that's what this is," she said.

"No-one in any country recommends universal screening because it's too expensive and the yield is too low. So you have to have risk predictors to separate who is worth screening."

"Waist-to-hip ratio is the best predictor of diabetes, mortality and heart disease, no matter where you live. It's the best simple clinical measure that you can ever do. It's been proven since the 1980s in huge population studies; it's been proven in the INTERHEART study as the best indication of cardiovascular risk, better than cholesterol."

"Unfortunately, because it's so straightforward - you just use a tape measure -people don't seem to respect it enough."

"In Australia, the best predictor of diabetes is a strong family history of the disease. In developing countries, most people don't know whether or not there's [diabetes](link) in the family."

"The measuring tool that comes out of this study is really simple and cheap - I love it because of that."

Provided by Research Australia

Citation: Simple diagnostic tool predicts Type 2 diabetes in Southeast Asians (2010, July 8) retrieved 1 May 2024 from
https://medicalxpress.com/news/2010-07-simple-diagnostic-tool-diabetes-southeast.html