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UCT PhD thesis establishes simple test for heart and kidney disease risk in women

University of Cape Town PhD graduand Juliet Evans demonstrates that a simple measure of waist circumference can identify women's risk for cardiovascular disease and type two diabetes just as effectively as the higher-risk and more costly computerised tomography-derived measure.

Evans' PhD thesis, *The impact of obesity and inflammation on metabolic risk factors for cardiovascular disease and type two diabetes in South African women*, examines the ethnic-specific role of obesity and inflammation in identifying South African women at increased risk for cardiovascular disease and type two diabetes. By comparing methods for measuring central obesity, she found that a simple waist circumference measurement could identify an equivalent amount of disease risk, compared to a more high-risk and costly computerised tomography-derived measure. Furthermore, it was shown that circulating and adipose tissue levels of inflammatory proteins, and a polymorphism within the pro-inflammatory *interleukin-18* gene, were associated with metabolic risk factors in both black and white women.

However, Evans showed that black women had a higher inflammatory burden than white women at a circulating, genetic, and adipose tissue level, but this did not explain ethnic differences in disease risk. In contrast, a simple measure of waist circumference explained the greatest proportion of variance in metabolic risk factors in both ethnicities. Several modifiable risk factors, namely socioeconomic and lifestyle factors, such as contraceptive use and smoking, were shown to influence both inflammation and cardiovascular disease risk, and should be considered as targets for future disease prevention.

Evans obtained her BSc (Med) (Hons) in Exercise Science at UCT. For her PhD in Exercise Science, she was awarded a fellowship from the Novo Nordisk Foundation, which enabled her to undertake part of her studies at Umeå University in Sweden, under the co-supervision

of Professor Tommy Olsson. Her UCT supervisor is Dr Julia Goedecke in the Human Biology Department. Evans will receive her PhD on Thursday, 9 June 2011, at 15h00.

ENDS

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