

The association between sleep quality and quantity and risk factors of cardiovascular disease in women, 5 years after gestational diabetes mellitus, in the Western Cape, South Africa

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Introduction.

South Africa is in the middle of an epidemiological transition, with cardiovascular disease accounting for more morbidity and mortality than other conditions. Although research from the so-called high-income countries were showing that sleep may be an important and independent risk factor for cardiovascular disease, there were no researches that had investigated this association in sub-Saharan populations. Further, women of childbearing age with a history of gestational diabetes may have higher risk for cardiovascular disease, compared to their baseline populations. Our study investigated the association between sleep and the cardiovascular disease risk factors in women managed for gestational diabetes 5 years previously, in the Western Cape.

Methods: This cross-sectional study used data from a larger on-going cross-sectional study investigating the progression to type 2 diabetes in women managed for gestational diabetes 5 years previously in the Western Cape. The women had blood pressure, anthropometry, blood glucose and blood lipids measured as part of the main study. Sleep was measured using

the Pittsburgh questionnaire while other traditional risk factors were measured using standard tools. All the 220 women in the main study were included in this sub-study.

Results: Two-hundred and twenty participants, with mean age of 37.26(5.97) years, were included in the study. The proportion of participants with risk factors of cardiovascular disease were as follows, 70.5% obesity, 58.2% raised blood pressure, 93% high waist circumference, 53.9% dyslipidaemia and lastly 55.3% dysglycemia. After adjusting for age, smoking history and employment status, use of sleep medication was associated with raised blood pressure (OR 2.00 95%CI 1.06 – 3.39, $p = 0.033$). Sleep duration was associated with dysglycemia (OR 0.57 95%CI 0.36-0.88, $p = 0.011$) after adjusting for marital status, smoking history and level of education.

Conclusion: Increased sleep duration may reduce the risk of dysglycaemia while use of sleep medications may be associated with a higher risk of hypertension in women, 5 years post GDM. More robust research with larger sample sizes is required to further investigate these findings.