

Waist circumference and hypertension in Palestinian women: a population-based cross-sectional survey

Najwa Odeh Rizkallah, Niveen M E Abu-Rmeileh, Donna Kritz-Silverstein, Amer Khader

Published Online
December 5, 2013

For all Palestine Abstracts and accompanying Comments see <http://www.thelancet.com/health-in-the-occupied-palestinian-territory-2013>

UNICEF, East Jerusalem, West Bank, occupied Palestinian territory (N O Rizkallah PhD); Institute of Community and Public Health, Birzeit University, Ramallah, West Bank, occupied Palestinian territory (N M E Abu-Rmeileh PhD); Department of Family and Preventive Medicine, University of California San Diego, San Diego, CA, USA (Prof D Kritz-Silverstein PhD); and Diabetes Care Centre, Augusta Victoria Hospital, East Jerusalem, occupied Palestinian territory (A Khader BSc)

Correspondence to:
Dr Najwa Odeh Rizkallah,
UNICEF, PO Box 20179, East
Jerusalem, West Bank, occupied
Palestinian territory
nrizkallah@unicef.org

Background Waist circumference and risk of morbidity have been reported to be related in some populations. However, the generalisability of the findings to populations in developing countries is not clear. Cultural and ethnic differences might affect not only waist size, but also its association with risk of morbidity. We assessed the association of waist circumference with hypertension in women from two refugee camps in the West Bank, occupied Palestinian territory (oPt).

Methods We used data from a 2001 survey about parity and risk factors for coronary heart disease in a sample of 515 Palestinian women (aged 40–65 years) from two refugee camps in the West Bank. These women were selected from the UN Relief and Works Agency for Palestine Refugees in the Near East's registration records by use of random numbers assigned to the names of all women. Trained staff did face-to-face interviews and obtained information about demographics, socioeconomic, behavioural, and reproductive health, and took measurements of weight, height, waist, and hip circumferences, and blood pressure (while seated). Fasting blood samples were taken by a laboratory technician. We used multiple logistic regression analysis to assess the association between hypertension as an outcome and behavioural and biological risk factors. We used SPSS (version 17.0) for the data analysis. The London School of Hygiene and Tropical Medicine, London, UK, provided ethics approval for this study. All women provided written informed consent.

Findings The mean age of the women was 49.4 years (SD 6.4) and their body-mass index (BMI) was 33.3 kg/m² (6.0). 355 (69%) women were obese (BMI \geq 30 kg/m²); their waist circumference was 98 cm (12.0), and 432 (84%) women had central obesity (waist circumference \geq 88 cm). 220 (43%) women had hypertension and 115 (22%) diabetes including those on medication. After adjustment for age, factors associated with hypertension were younger age at menarche, which had a protective effect (odds ratio 0.8, 95% CI 0.7–0.9; $p=0.006$), waist circumference of at least 88 cm (3.0, 1.6–5.8; $p=0.001$), and diabetes (1.9, 1.2–3.0; $p=0.009$). Married women were less likely to have hypertension than were those who were not married (0.6, 0.4–0.9; $p=0.017$). Household amenities, education, parity, BMI, and concentrations of cholesterol and triglycerides were not associated with hypertension (data not shown).

Interpretation Central obesity (waist circumference \geq 88 cm) was a stronger predictor of hypertension than was BMI in this study. Waist circumference should be part of the routine physical examinations for all women, especially those older than 40 years in the oPt.

Funding Population Council, Cairo, Egypt, and British Council, London, UK.

Contributors

NOR was responsible for the study design and data gathering. NOR, NMEA-R, DK-S, and AK were responsible for data analysis and interpretation of the results. NOR and DK-S were responsible for writing and editing the Abstract. All authors have read and approved the final version of the Abstract for publication.

Conflicts of interest

We declare that we have no conflicts of interest.

Acknowledgments

This study was supported by funds from the Population Council Research Grant, and the British Council. We thank Salwa Massad for her help in data analysis and interpretation of the results and Harry Shannon for his thorough review of the Abstract and valuable comments.