

Multiple cardiovascular disease risk factors in rural Kenya: evidence from a health and demographic surveillance system using the WHO STEP-wise approach to chronic disease risk factor surveillance

PM Chege^{a*}

^aDepartment of Family Medicine, Moi University School of Medicine, Eldoret, Kenya

*Emails: pcmasemiano@mu.ac.ke, chege200851@yahoo.com

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Background: To describe the distribution of obesity, hypertension, dysglycaemia and dyslipidaemia (which are risk factors for cardiovascular disease) using a Health and Demographic Surveillance System (HDSS) site in western Kenya.

Design: Descriptive cross-sectional population survey.

Setting: Webuye Health and Demographic Surveillance System (HDSS) site in western Kenya.

Participants: Persons aged 18 years and above.

Interventions: Body mass index (BMI), blood pressure levels, fasting blood sugar and fasting lipid profile.

Main outcome measures: Cardiovascular disease risk factors in a rural Kenyan population.

Results: The mean age was 44 years and 57% were female. The distribution of BMI was: mean = 20 kg/m² (range 24–36); 18.5–25 kg/m² = 57%; < 18.5 kg/m² = 35%.

Distribution of blood pressure levels: Normal in 40%; pre-hypertensive 40%; hypertension stages 1 and 2 was 13% and 8% respectively. Nearly all affected were unaware of their elevated blood pressure.

Impaired fasting glucose was found in 4.5% while 6.5% were diabetic.

Fasting serum lipid profile was normal in over 85% of the population.

Conclusions: This rural population had low BMI with 92% having a BMI below 25 kg/m² and about 20% of them being in hypertension stage 1 and 2 and nearly all unaware of it. Despite the majority having below normal BMI, it was noted that rates of hypertension increased with increasing BMI. There was significant presence of dysglycaemia but not dyslipidaemia.

Keywords: cardiovascular disease, dysglycaemia, dyslipidaemia, rural adult population, Webuye Health and Demographic Surveillance Systems site

Snakebite in north-eastern South Africa: clinical characteristics and risks for severity

Darryl Wood^{ab*}, Benjamin Sartorius^c  and Richard Hift^a

^aNelson Mandela School of Clinical Medicine, University of KwaZulu Natal, Durban, South Africa

^bNgwelezane Hospital, KwaZulu Natal, Durban, South Africa

^cSchool of Public Health, University of KwaZulu Natal, Durban, South Africa

*Corresponding author, email: darrylwood@yahoo.co.uk

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Objectives: To identify the toxicity profile of snakebites and to assess clinical severity.

Methods: An analysis of all patients admitted to Ngwelezane Hospital's Emergency Department with a diagnosis of snakebite over five years was done. All patients were admitted, assessed and standard haematological and biochemical tests were done. Patients were observed for a minimum of 12 hours' observation.

Results: In total, 879 cases were analysed. Envenomation was identified in over two-thirds of admissions. Cytotoxic snakebites accounted for 98% of envenomations. Only four cases of haemotoxic bleeding and five cases of neurotoxicity were admitted. Abnormal laboratory indices correlated with severity: INR > 1.5 (odds ratio 2.25, CI 1.12–4.53; $p = 0.023$), platelets < 100x10⁹/L (OR 2.35, CI 1.01– 5.49; $p = 0.048$), haemoglobin concentration < 8.0 g/dL (OR 5.68, CI 2.15–15.00; $p < 0.001$) and leucocyte count > 10x10⁹ (OR 3.15, CI 1.89– 5.26, $p < 0.001$). Children and delays to admission correlated to and were predictors of severity.

Conclusion: Two-thirds of patients who present to hospital with snakebite will have symptoms of envenomation, with the overwhelming majority having been bitten by cytotoxic species. Some factors correlate to severity and may be useful for anticipating the patient's clinical course.

Keywords: Snakebite, cytotoxic, neurotoxic, haemotoxic, envenomation, emergency, KwaZulu Natal