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Cardiovascular Risk Prediction, Glycemic Control, and Determinants in Diabetic and Hypertensive Patients in Massawa Hospital, Eritrea: Cross-Sectional Study on 600 Subjects

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Background: Hypertension and diabetes are key determinants of cardiovascular risks. The objective of this study was to calculate 10-year incidence of cardiovascular risk, determine cardiovascular risk factors, and evaluate how diabetes and hypertension are controlled in patients in Massawa Hospital, Eritrea.

Methods: This was a hospital-based cross-sectional study and a checklist and interview were used as data-collection tool from October 10 to November 20, 2020. Written consent was obtained from each study participant before starting the study. Descriptive statistics were used, and results are presented in percentages in tables, $p < 0.05$ was considered significant.

Results: A total of 600 patients were enrolled in the study, dominated by the Tigriana (58.7%) and Tigre (26.7%) ethnic groups. About half the patients (58.8%) had a body-mass index of 18–25 kg/m², with abdominal circumference of <95 cm (74%). Most (93.5%) patients had <10% risk of cardiovascular complications in the coming 10 years. Age showed significant association with hypertension, diabetes mellitus, cardiovascular risk, and poor glycemic and blood-pressure control ($p < 0.001$). Body-mass index, abdominal obesity, and history of stroke were associated with hypertension and diabetes mellitus ($p < 0.001$). Moreover, smoking, hypertension, and monthly income were associated with higher cardiovascular risk ($p < 0.001$). In addition, hypertension and abdominal obesity were associated with glycemic control ($p < 0.001$), and blood-pressure control was significantly associated with diabetes and hypertension ($p < 0.001$).

Conclusion: Age and hypertension were associated with diabetes, cardiovascular risk and poor glycemic control, and smoking, abdominal obesity, and monthly income also significant associations with higher cardiovascular risk and glycemic control. Cessation and adjustment of modifiable factors, such as smoking, hypertension, and regular exercise are highly recommended.

Biography

Dr Berhe, a Medical Doctor, worked in different hospitals of the country and as a medical director in one of the country's Zonal Referral Hospitals; Massawa Hospital for three years. Currently, I am taking my post-graduation specialty residency program in Orotta National Referral Hospital. I have done about 14 operational researches during my work experience in which most of them are published on international journals. I have participated in different zonal and national research conferences, and consensus workshops.

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