

Determinants of diabetic retinopathy in Tikur Anbessa Hospital, Ethiopia: a case-control study

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Background:

Diabetic retinopathy is the most frequent complication of Diabetes Mellitus and remains the leading cause of preventable blindness. However, there are limited studies on the determinants of diabetic retinopathy in the study area as well in Ethiopia. Hence, this study aimed to assess the determinants of diabetic retinopathy among diabetic patients at Tikur Anbessa Hospital.

Methods:

An institution-based unmatched case-control study design was conducted at Tikur Anbessa Hospital from May 11 to June 26, 2020. Diabetic patients who developed retinopathy within 2 years were cases in the study. Patients who were free of retinopathy were controls in this study. Data were collected using a pretested interviewer administered questionnaire, Topcon retinal examination, and a record review. The collected data were entered into Epi Data version 3.1 software, and analyzed using SPSS version 25. Binary logistic regression analysis was used to assess the determinants of diabetic retinopathy.

Results:

A total of 282 patients (142 cases and 140 controls) were included in the study. The mean age (\pm Standard deviation) for the cases and the controls were 50.6 (SD: \pm 18.7) and 44.9 (SD: \pm 17.65) respectively. Patients who had a glucometer at home (AOR = 0.048; 95% CI: 0.005–0.492), exercise adherence (AOR = 0.075; 95% CI: 0.007–0.84), diabetes duration < 5 years (AOR = 0.005; 95% CI: 0.00–0.10) and 5–10 years (AOR = 0.041; 95% CI: 0.003–0.57), health information on diabetic complications (AOR = 0.002; 95% CI: 0.00–0.042) and appointments every month (AOR = 0.004; 95% CI: 0.00–0.073) and every 3 months (AOR = 0.022; 95% CI: 0.002–0.23) were less likely to develop diabetic retinopathy. Participants who had poor glycemic control (AOR = 19.9; 95% CI: 2.34–168.69), systolic hypertension (AOR = 23.4; 95% CI: 2.56–215.36) and nephropathy (AOR = 17.85; 95% CI: 2.01–158.1), had a higher risk of developing diabetic retinopathy.

Conclusions:

Patients who had a glucometer at home, exercise adherence, diabetes duration < 10 years, health information on diabetic complications, and frequent follow-up had a preventive role. However, poor glycemic control, systolic hypertension, and nephropathy increase the risk of diabetic retinopathy. A concerted effort should be made to improve the health status of patients with Diabetes Mellitus, with particular emphasis on lifestyle modification practices to prevent diabetic retinopathy.

Keywords: Diabetic retinopathy, Determinants, Case-control, Ethiopia

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1. Seid K, Tesfaye T, Belay A, Mohammed H. Determinants of diabetic retinopathy in Tikur Anbessa Hospital, Ethiopia: a case-control study. *Clinical Diabetes and Endocrinology*. 2021 Dec; 7(1): 1-9.
2. Gube AA, Debalkie M, Seid K, Bisete K, Mengesha A, Zeynu A, Shimelis F, Gebremeskel F. Assessment of anti-TB drug nonadherence and associated factors among TB patients attending TB clinics in Arba Minch Governmental Health Institutions, Southern Ethiopia. *Tuberculosis research and treatment*. 2018 Feb 18; 2018.

Biography

I am expertise in adult health nursing basically non-communicable diseases in sub-Saharan country, Ethiopia. I have different papers in review process concerning diabetes self-care practices and its association with COVID-19 in Ethiopia. I have built models for nursing practice in southwest Ethiopia after years of experience in research, evaluation, teaching and administration both in hospital and education institutions.

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