

## **Risk Factors for Diabetic Retinopathy in Patients Attending Primary Care Settings**

Jameel Nasser, MD, MSc\*, Fatima Habib, MD, MSc\* Basma Al Tajer, MD\* Maha Al  
Tajer, MD\* Fatima Juma, MD\* Muna Almohri, MD\*

**Objective:** To identify risk factors for diabetic retinopathy (DR) among patients with diabetes attending primary care health centers and to assess level of control.

**Design:** Case control study.

**Setting:** Twenty-two health centers.

**Method:** The medical records of patients with diabetes who were screened for retinopathy during the year 2011 were reviewed. The following were documented: age, sex, duration of diabetes, glycated hemoglobin (A1C), blood pressure (BP), lipid profile, smoking status, presence or absence of chronic kidney disease and guardian drugs [Angiotensin Converting Enzyme Inhibitors (ACEi), Angiotensin Receptor Blockers (ARBs), Statins and Aspirin] used. In addition, patients with diabetes who were screened as normal (no DR) from 4 health centers were randomly selected and their medical records were reviewed to compare the above mentioned risk factors between those with and those without DR.

**Result:** A total of 1,508 retinal screening forms were reviewed, 112 patients were diagnosed with DR. A total of 263 screened but had no DR were reviewed in the selected 4 health centers. In DR, uncontrolled A1C was found in 81 (72.3%) patients, high BP in 69 (61.6%) and Low Density Lipoprotein in 81 (72.3%). There was statistically significant association between A1C  $\geq$  53mmol/mol (P=0.000), increased diabetes duration (P=0.000), total cholesterol  $\geq$ 5.2mmol/l (P=0.008), LDL  $\geq$ 2.6mmol/l (P=0.002) and the presence of DR.

There was no significant association between age, sex, BP, and triglycerides level  $\geq$ 1.7mmol/l and presence of DR. The use of statins, ARBs, fibrates and aspirin was significantly higher in patients with DR.

**Conclusion:** Control of the identified modifiable risk factors is suboptimal. The burden of DR can be reduced by more intensive control of these factors through effective use of the currently available guardian drugs.

*Bahrain Med Bull 2014; 36(1):*

---

\*Family Physicians, Ministry of Health  
Kingdom of Bahrain  
Email: jnasser66@yahoo.com