

## **Impact of Treatment Pattern and Current Clinical Status on Complications among Type 2 Diabetic Patients: a Cross- Sectional Study from Palestine**

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### **Abstract :**

**Introduction:** diabetes mellitus (DM) type 2 is one of the most rapidly growing disease worldwide, and is a prime cause of excess cardiovascular morbidity and mortality. In addition, DM can lead to long term complications that affect many organ systems.

**Objectives:** the main objectives of this study were to identify the characteristics and the current status of type 2 diabetic patients, estimate the prevalence of vascular complications and other risk factors, and assess the impact of treatment pattern of using anti-diabetic medication classes and the use of other medications, the current clinical status on complications among the diabetic patients.

**Methods:** A five-month period cross sectional study that included type 2 diabetic patients was done. Information was gathered from face to face interviews as well as patients' records. A data collection form concerning socio-demographic, clinical characteristics, medications that they were prescribed, patients' complications and the extent of patients' adherence to these medications were included.

**Results:** A total of 451 patients who were diagnosed with type 2 DM and agreed to be interviewed were assessed. The results showed that the disease was more prevalent among females than males (1.9:1) ratio. In terms of patients' complications, one or more microvascular or macrovascular complications developed in (80.9%) diabetic patients. Regarding medications used, insulin and oral antidiabetic agent were the most been used; (68.1%) patients were on insulin injection and (71%) were on oral antidiabetic agent. In addition,  $\beta$ -blockers were used by (11.3%) patients. Angiotensin related anti hypertensive medications were used by (34.1%) patients; among those (28.8%) patients were on ACEI and (5.5%) were on ARB medications. Furthermore, antiplatelet agents were used by (46.3%). Regarding antihyperlipidemic agents, (58.3%) patients were using statins. Patients using insulin, ACEI or ARB, antiplatelet, antihyperlipidemic or diuretics developed significantly at least one complication than medications non-users (73.2 versus 46.5% ( $p = 0.000$ ), 36.4% versus 24.4% ( $p = 0.034$ ), 49.3% versus 33.7% ( $p = 0.009$ ), 64.9% versus 36.0% ( $p = 0.000$ ), 15.9% versus 5.8% ( $p = 0.015$ ), respectively). However, patients who did not use the oral anti-diabetic agents developed significantly at least one complication than oral anti-diabetic agents users (81.4% versus 68.5%,  $p = 0.018$ )).

**Conclusion:** Understanding diabetes and its risk factors can help control the disease. Lifestyle modifications are important elements for avoiding the complications of diabetes. Patients having hypertension, dyslipidemia, and arrhythmia were significantly developed complication than those without hypertension, dyslipidemia, and arrhythmia. Patients with at least one complication are usually using insulin, ACEI or ARB, antiplatelet, antihyperlipidemic or diuretics. However, patients who did not use the oral anti-diabetic agents developed significantly at least one complication than oral anti-diabetic agents users.