



**Graduation Project**  
**Faculty of Medicine and Health Sciences**  
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**Epidemiological features and experience of type 1 diabetic patients in Nablus and Ramallah, West Bank: a mixed methodology study**

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## Abstract

**Introduction:** The global prevalence of DM worldwide in 2019 is approximately 9.3%. Of them, T1DM embraces around 10% to 15%. The Palestinian prevalence of is 15.3%, of which 4,4% are type 1 diabetics. In 2020, the Palestinian incidence rate was 210.7 per 100,000 populations. Any chronic illness has different impacts on patients' lives leading to a bunch of stressful events to which patients have to react, resulting in emotional and behavioral changes. The response of the patients is based on the severity of the disease and their current social conditions when they were diagnosed.

**Methods:** A data extraction sheet was designed for the quantitative research. The files in the diabetic centers were revised and variables were extracted. Phone calls with an informed verbal consent were used to complete missing variables. The IBM SPSS Statistics for Windows, Version 20.0 (IBM Corp., Armonk, NY: IBM Corp) was used for statistical analyses. Frequencies and percentages and means  $\pm$  standard deviation (SD) to describe participants' characteristics. Clinical and epidemiological data of participants were reported. Univariate analysis using Pearson *Chi<sup>2</sup> test* (or Fisher exact test when appropriate) or independent *t-test* were used to evaluate the relation between the different independent variables and the diabetes control status (controlled versus uncontrolled). A p value less than 5% was set as a level of significance. The qualitative section was implemented a face to face in-depth interviews using a sheet with open-ended questions. Convenient sampling was used. Interviews were audio recorded and transcribed. A thematic content approach was used for analysis.

**Results:** Of the 177 patients, 94 patients were females (53.1%), the mean age was  $26.88 \pm 7.569$ , 84 live in villages (47.7%), 108 made their way to the university (65.5%), 109 do not work (63.4%), 108 are not married (62.1%), 76 had a diabetes duration of more than 10 years (43.7%), the duration of treatment was  $10.29 \pm 8.768$ , 171 used only insulin injections (97.2%), 66 used Glucocheck for monitoring (70.2%), the mean HbA1C was  $9.46 \pm 2.327$ , 140 were uncontrolled (85.9%), the mean number of hospitalizations during the last year was  $0.61 \pm 1.729$ , 155 had no complications (87.8%), 31 had peripheral neuropathy (17.5%), 153 had no comorbidities (86.4%), 115 with positive family history (64.9%), 123 never smoked (69.5%), the mean BMI was  $23.218 \pm 3.447$ , 104 had a normal weight (61.2%), and 75 were physically active (43.4%). There is a statistically significant relationship between diabetic control and educational level in favor of high educational level (p value = 0.013). Thirteen patients were interviewed. Five themes and seventeen subthemes were identified from the interviews: self-perception (subthemes: psychological aspect, physical aspect, future aspect), attitude toward disease (acceptance and denial, thoughts about the disease, compliance to treatment, complications), impact on education and occupation (rejection from others, restriction in performance), impact of social environment (family and friends, community, marital aspect, refuge when facing a problem) and relation with the health system (doctor's role, preventive care, source of information about the disease, demands from the health system).

**Conclusion:** our patients are mostly females, 27 years old, live in villages, have high educational level, are unemployed, are unmarried, had diabetes for more than 10 years, use only insulin injections, use Glucocheck, are uncontrolled, have no complications, have a positive family history, are moderately

active, with a normal BMI. A low educational level increases the risk of having uncontrolled diabetes. Some of our patients show indicators of maladjustment behaviors, attributed mostly to the false perception of the community about the disease.