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# Ocular Surface Changes in patients with Type 2 Diabetes Mellitus: Evidence from Palestine

[Pakistan Journal of Ophthalmology](#) • Article • Open Access • 2025 •

DOI: 10.36351/pjo.v4i3.2020

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## Abstract

**Purpose:** To determine the ocular surface disease in patients with Type 2 diabetes mellitus (DM) by using translated and validated Arabic version of Ocular Surface Disease Index (Arab-OSDI) and the clinical measurements. **Study Design:** Cross-sectional study. **Place and Duration of Study:** Faculty of Health and life sciences, management and science university and International Islamic University Malaysia, from March to July 2022. **Methods:** A total of 30 patients with Type 2DM and 30 non-diabetic controls were included in this study. All participants, who were non-contact lens users, completed the Arab-OSDI questionnaire and underwent clinical evaluations including tear break-up time (BUT), meibomian gland assessments, tear meniscus height (TMH), Marx line (ML), Schirmer II tear test, fluorescein corneal staining (F/S), and lissamine green conjunctival staining (LGS) were recruited. Dry eye (DE) was diagnosed when Arab-OSDI scores were  $\geq 13$  and BUT was  $< 5$  seconds. **Results:** The DM and non-DM groups demonstrated notable differences in the outcomes of Arab-

OSDI ( $p = 0.017$ ) and the evaluations of meibomian gland ( $p = 0.022$ ). Within the DM group, individuals with dry eye showed significantly elevated Arab-OSDI results compared to those without dry eye ( $p = 0.014$ ), whereas the other clinical parameters showed no statistically significant differences. Conclusion: Individuals with Type-2 DM may experience damage to the lacrimal functional unit, leading to tear deficiency or evaporative DE. This altered tear composition may increase DE symptoms, as reflected in elevated Arab-OSDI scores. © 2025, Ophthalmological Society of Pakistan. All rights reserved.

### Author keywords

Diabetes Mellitus; Ocular surface disease; Ocular surface disease index

### Funding details

Details about financial support for research, including funding sources and grant numbers as provided in academic publications.

| Funding sponsor                                                          | Funding number | Acronym |
|--------------------------------------------------------------------------|----------------|---------|
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#### Funding text

We would like to extend our heartfelt thanks to the Islamic University of Gaza, Palestine for providing the necessary resources and equipment which were crucial in the successful completion of this study. Although the premise has perished and perhaps the personals involved with the study are no longer around, our prayers and gratitude stay with them.

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