ABSTRACT

Ocular trauma is a major cause of preventable visual impairment worldwide, with a disproportionate burden among working-age individuals due to occupational exposure. Visual outcomes depend heavily on timely and appropriate first-hour management, which requires both competent medical officers and adequately prepared healthcare institutions.

To assess the preparedness of medical officers and selected healthcare institutions for first-hour ocular trauma management in ETU, OPD and PCU settings of selected government hospitals in Gampaha District, Sri Lanka.

A descriptive cross-sectional study was conducted from June to December 2025 in seven government hospitals in Gampaha District. A total of 197 eligible medical officers working in Emergency Treatment Units (ETU), Outpatient Departments (OPD), and Primary Care Units (PCU) participated in the study. Data were collected using a self-administered questionnaire to assess knowledge and perceived preparedness, together with a structured checklist to evaluate institutional preparedness at the point of first contact. Data were analysed using descriptive statistics and chi-square tests, with statistical significance considered at $\mathbf{p < 0.05}$.

More than half of the participants (56.3%) demonstrated lower knowledge levels regarding ocular trauma management. While knowledge of some fundamental principles was satisfactory, important deficiencies were identified in safety-critical aspects of first-hour care, particularly the management of suspected open-globe injuries, orbital compartment syndrome, and high-velocity ocular injuries. Participants reported greater confidence in initiating referrals than in recognising and managing sight-threatening emergencies. Institutional assessment demonstrated that referral pathways and access to ophthalmology services were generally available; however, many essential point-of-care resources, including eye shields, fluorescein strips, pH indicator strips, cobalt-blue illumination, and visible management protocols, were not readily available in ETU, OPD, and PCU settings despite being available elsewhere within hospitals. Knowledge levels differed significantly according to hospital category ($\mathbf{p < 0.001}$).

Preparedness for first-hour ocular trauma management in Gampaha District demonstrates important strengths but also significant gaps in both clinician preparedness and point-of-care institutional readiness. Strengthening targeted training, improving access to essential equipment, and implementing standardized clinical protocols at first-contact units would enhance emergency ocular trauma management and may contribute to reducing preventable vision loss.

Keywords: Ocular trauma; preparedness; medical officers; institutional readiness; Gampaha District