Lubaga Journal of Health Research
Home Page Link: https://lubagajournals.com/index.php/ljhr/index

Practices of eye care nurses in handling ocular emergencies at Mengo Hospital. A descriptive cross-sectional study.

Fred Yiga* , Judith Kaziro, Donatus Kimera , Jane Frances Namuddu
St. Michael Lubaga Hospital Training Schools.

Submitted: January 05, 2026
Accepted: March 30, 2026
Published: May 12, 2026

Corresponding author: Fred Yiga

St. Michael Lubaga Hospital Training Schools.

Abstract

Background:
This study assessed the practices of nurses in handling ocular emergencies at Mengo Hospital.

Methodology:
A descriptive cross-sectional quantitative study was conducted among 32 eye care nurses selected through purposive sampling. Data were collected using structured questionnaires assessing emergency response practices, confidence in management, and availability of emergency equipment. Data analysis was performed using Microsoft Excel and Word.

Results:
The majority of respondents, 20(62%), were female, while 12(38%) were aged between 30–39 years. The findings revealed considerable gaps in the practical management of ocular emergencies. About 20(62%) of respondents reported that they did not perform eye irrigation during chemical eye burns, despite it being an essential first-aid procedure. Additionally, 11(34%) indicated low confidence in managing chemical eye injuries. The study further showed that 21(66%) of nurses lacked access to emergency kits and essential equipment required during ocular emergencies. Furthermore, more than half of the participants had never received updates on emergency eye care management, which negatively affected confidence and consistency in clinical practice.

Conclusion:
The study found inadequate practical preparedness among eye care nurses in managing ocular emergencies, mainly due to insufficient training, lack of emergency equipment, and absence of updated clinical guidelines.

Recommendations:
Hospitals should strengthen practical training programs, ensure the availability of ocular emergency kits, and establish regular mentorship and supervision programs to improve emergency eye care practices among nurses.

Keywords: Practices, eye-care, ocular emergencies, Mengo Hospital

Background of the study

Effective management of ocular emergencies requires not only theoretical knowledge but also practical clinical skills and timely interventions. Ocular emergencies such as penetrating eye injuries, chemical burns, retinal detachment, acute glaucoma, orbital cellulitis, and ocular trauma require rapid assessment, stabilization, and referral to prevent irreversible visual impairment and blindness. Eye care nurses play a central role in emergency ophthalmic management through triaging patients, initiating first aid measures, administering

medications, monitoring patient progress, and assisting ophthalmologists during emergency procedures. Consequently, the practical competence of eye care nurses is a fundamental determinant of the quality of emergency eye care services and patient outcomes (Dag et al., 2024).

Globally, studies have demonstrated that appropriate practical interventions by trained eye care nurses significantly reduce complications associated with ocular emergencies. According to the World Health Organization, timely and appropriate management of ocular trauma and eye emergencies can prevent up to 80% of avoidable visual disabilities associated with emergency eye conditions (WHO, 2023). In high-income countries, structured emergency eye care systems and regular simulation-based training programs have strengthened nurses' practical competencies in emergency ophthalmology. In Australia, Dixit et al. (2024) found that nurses who participated in periodic hands-on emergency eye care training demonstrated improved triage accuracy, better administration of emergency ocular medications, and faster response times during ophthalmic emergencies.

In the United States and Europe, practical competence among eye care nurses has been enhanced through evidence-based clinical protocols and multidisciplinary emergency care approaches. Nurses are routinely trained in procedures such as ocular irrigation for chemical burns, visual acuity assessment, eye patching, foreign body removal assistance, infection prevention, and emergency patient counseling. These interventions have contributed to improved patient outcomes and reduced rates of preventable blindness (CDC, 2024). However, disparities remain significant between developed and developing countries due to differences in healthcare infrastructure, training opportunities, and resource availability.

In many African countries, practical management of ocular emergencies remains inadequate because of limited specialized ophthalmic training, a shortage of essential equipment, and insufficient continuing professional development programs. Abu et al. (2020) reported that inappropriate initial management of eye injuries in Nigeria contributed substantially to preventable visual loss. Common deficiencies included delayed irrigation of chemical burns, poor infection control practices, and improper handling of penetrating ocular injuries. Similarly, Tagoe et al. (2021) in Ghana observed that many nurses lacked confidence in performing emergency ocular procedures such as eye irrigation, visual acuity assessment, and emergency dressing of ocular injuries due to limited hands-on training.

In Sub-Saharan Africa, studies indicate persistent gaps in the practical management of ocular emergencies among nurses. Sonenthal et al. (2023) found that fewer than one-third of nurses in Malawi and Ethiopia could independently perform standard emergency eye care procedures despite being involved in eye care services. Major challenges identified included a lack of mentorship, inadequate emergency equipment, the absence of updated protocols, and limited opportunities for clinical simulation training. These deficiencies negatively affect the quality and timeliness of emergency ophthalmic care provided to patients.

Within East Africa, practical preparedness among eye care nurses remains suboptimal despite increasing cases of ocular trauma and emergency eye conditions. In Kenya, Rono et al. (2019) reported that most nurses experienced difficulties in correctly performing emergency interventions for retinal detachment and chemical injuries. Similarly, Karikari et al. (2025) documented that nurses in Tanzania had limited exposure to emergency ocular procedures during both pre-service and in-service training, resulting in poor adherence to recommended ocular trauma management protocols.

In Uganda, the increasing prevalence of road traffic accidents, occupational injuries, interpersonal violence, and infectious eye conditions has contributed to a rising burden of ocular emergencies. Despite this growing demand for emergency ophthalmic services, several studies suggest that practical competencies among eye care nurses remain inadequate. Magyezi and Arunga (2020) reported that only 25% of nurses working in ophthalmic units could independently manage common ocular emergencies using recommended clinical protocols. Challenges such as inadequate supervision, shortage of emergency equipment, limited refresher training, and lack of standardized emergency eye care guidelines continue to affect nursing practice in many Ugandan health facilities (Nalukenge et al., 2023).

Mengo Hospital is recognized as one of the major providers of specialized eye care services in Uganda and receives a considerable number of patients presenting with ocular emergencies. Eye care nurses in the ophthalmology department are expected to provide rapid assessment, emergency stabilization, administration of first aid interventions, and continuous patient monitoring. However, despite their critical role in emergency eye care delivery, there is limited documented evidence regarding the practical skills and interventions employed by these nurses in managing ocular emergencies. Furthermore, little is known about the extent to which recommended emergency eye care protocols are implemented in routine clinical practice at the hospital. Assessing these practical skills and interventions is essential in identifying

competency gaps, strengthening nursing practice, improving patient outcomes, and informing the development of targeted capacity-building programs. Therefore, this study seeks to assess the practical skills and interventions employed by eye care nurses in the management of ocular emergencies at Mengo Hospital.

Methodology

Study Design and Rationale

This study employed a descriptive cross-sectional study design utilizing quantitative methods of data collection. From 1st to 31st August, this design was appropriate as it allowed data to be collected at a single point in time to assess the knowledge and practice of eye care nurses in managing ocular emergencies at Mengo Hospital. The descriptive nature of the study enabled exploration of relationships between demographic factors, training background, and knowledge or practice levels without manipulating any variables.

Study Area

The study was conducted at Mengo Hospital, located in Kampala District. It served as a key referral center offering a wide range of healthcare services, including specialized eye care. The hospital has a well-established ophthalmology department that provides outpatient, inpatient, surgical, and emergency services. The eye unit caters to a high number of patients, ranging between 150 and 250 per day from urban and peri-urban areas, making it a suitable setting for evaluating the preparedness and clinical competencies of eye care nurses in managing ocular emergencies.

Study Population

The target population for this study consisted of all eye care nurses working in the ophthalmology departments at Mengo Hospital during the study period.

Sample Size Determination

A total of 32 eye care nurses working at Mengo Hospital were selected and interviewed using Krejcie and Morgan's table, as in Appendix VI. The sample size was determined purposively based on the total number of available eye care nurses in the ophthalmology and emergency units during the study period.

Sampling Procedure

A purposive sampling technique was used to select all eligible eye care nurses employed in the eye departments at Mengo Hospital. Each nurse who met the Inclusion criteria and provided consent was recruited into the study until the full sample was achieved.

Selection Criteria

Inclusion Criteria

Eye care nurses who accepted to participate in the study were included upon consent.

Exclusion Criteria

Nurses who were on leave or absent during the data collection period and those who were not willing to participate in the study were excluded.

Data Collection Tools

Data was collected using a structured self-administered questionnaire. The questionnaire included mainly closed and open-ended questions. The tool was developed in English and pretested for clarity and relevance.

Data Collection Procedure

Ethical approval from the management of Mengo Hospital was obtained, allowing the person in charge of the eye clinic to introduce the researcher to the respondents.

Eligible eye care nurses were identified and approached individually. The purpose of the study was explained, and informed consent was obtained. Questionnaires were issued to participants and collected upon completion; names were not used, but instead numbers were given for confidentiality.

Data Management and Analysis

Data was edited before leaving the study area to ensure that there were no mistakes or areas left blank. The questionnaires were coded for easy reference and confidentiality. The collected questionnaires were kept under lock and only accessed by the researcher.

Data was entered into the computer using micro soft office excel program, and it was presented in the form of tables, figures, graphs, and pie charts to establish the accuracy of the facts, and then interpretations were done.

Quality Assurance

Validity: The questionnaire was pretested on 5 nurses from a nearby facility, Lubaga Hospital eye department, for validity and clarity of questions.

Reliability: Research assistants were trained on study protocols, and daily reviews of filled questionnaires helped maintain consistency and minimize errors.

Ethical Considerations

Ethical approval was sought from the Mengo Hospital review board. The study adhered to the following ethical principles: participants were informed about the

study's purpose, procedures, risks, and benefits, and they were asked to sign a consent form. All participant information was kept confidential and used strictly for research purposes. Participants were informed of their right to withdraw at any time without any consequences to their employment or professional standing.

Results

Demographic characteristics of the study participants

Table 1: Shows socio-demographic characteristics and Training of Eye Care Nurses at Mengo Hospital, n=32

Variable	Category	Frequency	Percentage
Age	20–29 years	10	31%
	30–39 years	12	38%
	40–49 years	6	19%
	50 years& above	4	12%
Gender	Male	12	38%
	Female	20	62%
Professional Qualification	Registered Nurse	14	44%
	Ophthalmic Clinical Officer	10	31%
	Enrolled Nurse	6	19%
	Other	2	6%
Years of Experience	<1 year	8	25%
	1–3 years	12	38%
	4–6 years	6	19%
Time Since Last Training	>6 years	6	19%
	<1 year	6	19%
	1–3 years	5	16%
	3–6 years	3	9%

Table 1, 12 (38%) of the respondents were aged 30–39 years, and 10 (31%) were 20–29 years old. 6 (19%) were 40-49 years old, and the minority, 4 (12%) were 50 years and above. Twenty 20 (62%) of the respondents were female, while 12 (38%) were male. Regarding professional qualifications, 14 (44%) were registered nurses, 11 (31%) were enrolled nurses, and 7 (19%) were Ophthalmic Clinical Officers. In terms of work experience, 12 (38%) had 1–3 years, and 8 (25%) had less than 1 year. Training in ocular emergency management: 18 (56%) had never received any training; 6 (19%) received it less than 1 year ago; 5 (16%) received it 1–3 years ago; and a minority, 3 (9%), received it more than 3 years ago.

Practices of Eye Care Nurses in Managing Ocular Emergencies

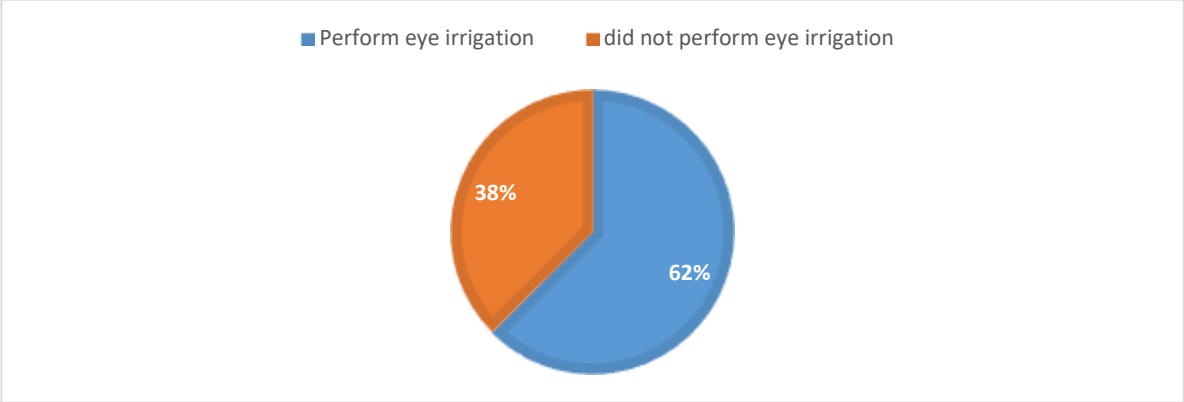
Table 2: Shows Practices of Eye Care Nurses on Managing Ocular Emergencies (n=32)

Variable	Category	Frequency	Percentage
Confidence in managing chemical eye injury	Very confident	5	16%
	Somehow confident	8	25%
	Not confident	11	34%
	Never managed one	8	25%
First action for sudden vision loss	Refer to the doctor	10	31%
	Assess visual acuity & pupil reaction	6	19%
	Give painkillers	9	28%

Table 2, the majority, 11 (34%) of respondents reported that they were not confident in managing chemical eye injuries, 8 (25%) said they had never managed one. A smaller proportion, 8 (25%), were somewhat confident, while the minority, 5 (16%), felt very confident.

Regarding sudden vision loss, 10 (31%) indicated that they would refer to the doctor immediately, 9 (28%) would give painkillers, while 7 (22%) preferred to reassure and observe least, 6 (19%) mentioned the action of assessing visual acuity and pupil reaction.

Figure 1: Shows Eye irrigation for chemical burns (n=32)



On chemical burns, the majority, 20 (62%) of the respondents said they did not perform eye irrigation, while 12 (38%) did.

Figure 2: Shows the Use of triage principles (n=32)

About triaging ocular emergencies, 10 (31%) of respondents said they rarely used the triage principles, 9 (28%) sometimes did, 8 (25%) never applied, and 5 (16%)
Always used triage principles.

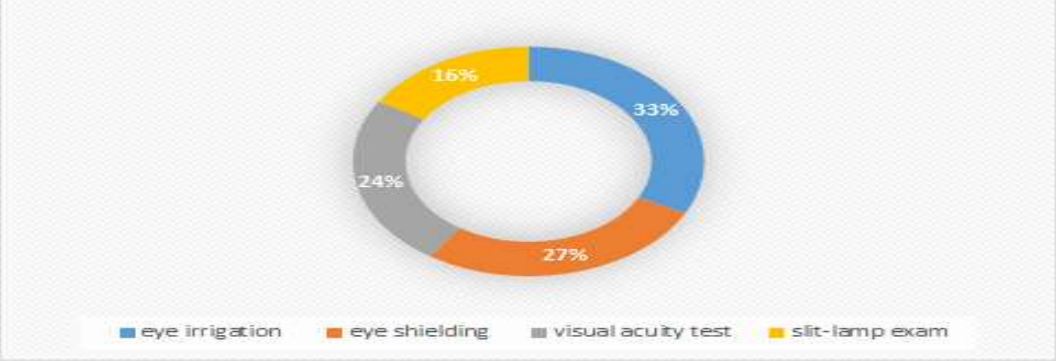
Table 2: Shows Specific Responses in Ocular Emergencies (n=32)

Variable	Category	Frequency	Percentage
Response to acute angle-closure glaucoma	Administer cycloplegics & refer	4	13%
	Wait for the ophthalmologist	7	22%
	Administer analgesics only	13	41%
	Perform eye massage	8	25%
Frequency of updates on ocular emergencies	Monthly	3	9%
	Quarterly	4	13%
	Yearly	6	19%
	Never	19	59%

Table 2, the majority, 13 (41%) of respondents would only administer analgesics to a patient with acute angle-closure glaucoma, while 8 (25%) performed eye massage, 7 (22%) waited for the ophthalmologist, and 4 (13%) administered cycloplegics and referred.

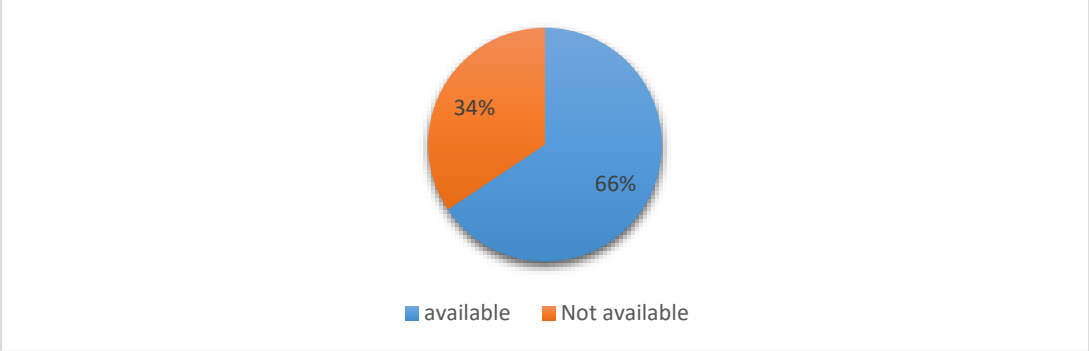
On frequency of updates, 19 (59%) of the respondents had never received updates, while 6 (19%) received them yearly, 4 (13%) received them quarterly, and the smallest proportion, 3 (9%) received updates monthly.

Figure 3: Shows procedures performed during ocular emergencies (n=32)



The most common procedure performed was eye irrigation, 12 (38%), 10 (31%), and 9 (28%) reported visual acuity testing.8 (25%) reported performing eyelid eversion, and the least, 6 (19%) mentioned slit-lamp exam.

Figure 4: Shows Availability of emergency kits/equipment (n=32)



The majority, 21 (66%), indicated that emergency kits or equipment for ocular emergencies were not available, while the minority, 11 (34%), said they were available.

Discussion

Practical skills and interventions employed by eye care nurses in the management of ocular emergencies

The majority of respondents, 11 (34%), reported that they were not confident in managing chemical eye injuries. This was in agreement with a study by Mucunguzi et al. (2024) done in Uganda that revealed less than 9 (30%) of nurses felt confident in conducting initial stabilization for acute angle-closure glaucoma. Furthermore, 10 (31%) of the respondents indicated that they would refer a patient with sudden vision lossto30 a doctor immediately. This was in agreement with a study by Nshutiyukuri et al. (2020) done in Rwanda, which revealed that most nurses correctly identified red flags like sudden vision loss, but only a few acted within the recommended timeframe.

The majority of respondents, 20 (62%), reported that they did not perform eye irrigation for chemical burns. This was in agreement with an observational study by Ssekajigo & Kyakulaga (2024) in Uganda, which revealed that only 34% of eye care nurses adhered to standard emergency procedures, such as immediate eye irrigation in chemical burns. This could be due to a lack of confidence and insufficient skills. The majority of respondents, 10 (31%), said they rarely applied triage principles in ocular emergencies. This was in agreement with a study by Burton et al. (2021) in Kenya, which found that although 70% of nurses could perform basic eye assessments, only 40% appropriately prioritized patients based on urgency. This could be due to the absence of standardized triage guidelines, which discourages routine use of prioritization systems.

The majority of respondents, 13 (41%), said they would only administer analgesics to a patient with acute angle-closure glaucoma. This was in agreement with a study by Mucunguzi et al. (2024) in Uganda, which revealed that less than 30% of nurses felt confident in managing acute angle-closure glaucoma. This could be due to a lack of adequate knowledge on pharmacological interventions by nurses, leading to focusing on symptomatic relief while waiting for an ophthalmologist's input.

The majority of respondents, 12 (38%), reported eye irrigation as the most common procedure performed during ocular emergencies. This was in agreement with a study by Skruodyte et al. (2025) in Malawi, which revealed that 40% of nurses could correctly perform ocular irrigation for chemical burns. This could be because eye irrigation is one of the simplest and most emphasized procedures in nursing training for eye care.

The majority of respondents, 21 (66%), indicated that emergency kits or equipment for ocular emergencies were not available in their facilities. This was in agreement with a study by Hansraj et al. (2024) in South Africa, which found that only 47% of nurses had experience in using eye emergency carts. This could be because many health units face resource constraints, leading to poor stocking of essential emergency supplies.

The majority of respondents, 19 (59%), reported that they had never received updates on ocular emergency management. This could be because continuous professional development programs and refresher courses are not routinely provided in many facilities. This was in agreement with a study by Ayenew et al. (2022) in Ethiopia, which revealed that low confidence levels and infrequent refresher courses contributed to poor adherence to ocular emergency protocols. This could be because continuous professional development programs and refresher courses are not routinely provided in many facilities.

Acknowledgement

The authors express sincere gratitude to the administration and staff of Mengo Hospital for granting permission and support during the study. Special appreciation goes to all eye care nurses who participated in the research. The authors also acknowledge the supervisors, lecturers, colleagues, and family members whose guidance and encouragement contributed to the successful completion of this study.

List of Abbreviations

CME	Continuous Medical Education
CPD	Continuous Professional Development
IOFB	Intraocular Foreign Body
WHO	World Health Organization
SPSS	Statistical Package for Social Sciences
SOPs	Standard Operating Procedures

Source of Funding

The study was not funded

Conflict of Interest

The authors declare that there was no conflict of interest regarding the publication of this study.

Author Contributions

All authors participated actively in the conception and design of the study, data collection, analysis, interpretation of findings, manuscript writing, and final approval of the manuscript for publication.

Data Availability

The datasets used and analyzed during the current study are available from the corresponding author upon reasonable request.

Ethical Approval

Ethical approval was obtained from the relevant institutional review authorities before data collection. Permission to conduct the study was granted by the administration of Mengo Hospital.

Informed Consent

Written informed consent was obtained from all participants before enrollment into the study. Participants were informed about the purpose of the study, confidentiality of information, and their right to withdraw from the study at any stage without penalty.

Author Biography

Fred Yiga is a health researcher and medical scholar with an interest in ophthalmic nursing, emergency eye care, and public health research. He has participated in several academic and clinical research projects aimed at improving healthcare service delivery and patient outcomes in Uganda.

References

1. Abu, E. K., et al. (2020). Ocular trauma and avoidable blindness in Nigeria. *African Journal of Ophthalmology, 27*(3), 145–152.
2. Ayenew, T., et al. (2022). *Assessment of nurses' adherence to ocular emergency protocols and associated factors in selected hospitals in Ethiopia*. Ethiopian Journal of Health Sciences, 32(4), 455–463.
3. Burton, M. J., et al. (2021). *Emergency eye care practices and triage among nurses in Kenyan health facilities*. African Vision and Eye Health, 80(1), 1–8.
4. Centers for Disease Control and Prevention. (2024). *Eye injury statistics and prevention*. Centers for Disease Control and Prevention
5. Dag, U., et al. (2024). Emergency management of ocular conditions and visual outcomes. *International Journal of Ophthalmic Practice, 18*(2), 88–96.
6. Dixit, A., et al. (2024). Ophthalmic emergency training among nurses and its effect on patient outcomes in Australia. *Journal of Clinical Nursing, 33*(4), 521–530.
7. Hansraj, R., et al. (2024). *Availability and utilization of ocular emergency equipment among nurses in South Africa*. South African Medical Journal, 114(2), 120–126.
8. Karikari, A., et al. (2025). Knowledge and practices of ocular trauma management among nurses in Tanzania. *East African Medical Journal, 102*(1), 34–42.
9. Kaur, P., et al. (2024). Burden of ocular emergencies in tertiary hospitals in India. *Indian Journal of Ophthalmology, 72*(5), 611–618. https://doi.org/10.4103/IJO.IJO_1578_23
10. Magyezi, R., & Arunga, S. (2020). Preparedness of nurses in ocular emergency management in Uganda. *Uganda Journal of Health Sciences, 8*(2), 55–63.
11. Mucunguzi, P., et al. (2024). *Knowledge and confidence of nurses in managing ocular emergencies in Uganda*. Uganda Journal of Health Sciences, 18(1), 66–74.
12. Nalukenge, C., et al. (2023). Emergency eye care capacity and preparedness among health workers in Uganda. *BMC Health Services Research, 23*(1), 417–425.
13. Nshutiyukuri, J., et al. (2020). *Recognition and referral practices of ocular emergencies among nurses in Rwanda*. Rwanda Medical Journal, 77(3), 15–22.
14. Rono, J., et al. (2019). Knowledge of retinal detachment and emergency eye care among nurses in Kenya. *Kenya Medical Research Journal, 11*(2), 73–81.
15. Skruodyte, G., et al. (2025). *Competence of nurses in ocular irrigation and emergency eye care procedures in Malawi*. Malawi Medical Journal, 37(1), 28–35.
16. Sonenthal, P., et al. (2023). Emergency eye care knowledge and competencies among nurses in Malawi and Ethiopia. *BMC Nursing, 22*(1), 201–210.
17. Ssekajigo, H., & Kyakulaga, F. (2024). *Adherence to ocular emergency management protocols among eye care nurses in Uganda*. East African Health Research Journal, 8(2), 101–109.
18. Tagoe, H., et al. (2021). Specialized ocular emergency training among ophthalmic nurses in Ghana. *Ghana Medical Journal, 55*(3), 210–217.

19. World Health Organization. (2023). *World report on vision and ocular trauma*. World Health Organization