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A management approach to nursing education for preventing post-cataract surgery infections: A scoping review

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Abstract

Background: Cataracts remain the leading cause of blindness globally, and surgery is the primary treatment. Inadequate postoperative care can lead to serious complications, including endophthalmitis. Nurse-led education is critical for prevention, and its impact can be strengthened through a management function approach.

Purpose: To review nursing education strategies for preventing postoperative cataract infection from a management function perspective.

Method: A scoping review was conducted following PRISMA guidelines using the PCC framework (P: nurse, C: educational management, C: postoperative cataract infection). Searches were performed in PubMed (MeSH terms) and Science Direct (standard keywords) for English-language, full-text articles published between 2014 and 2024. Narrative, integrative, scoping, and systematic reviews, as well as meta-analyses, were excluded.

Results: The search retrieved 166 articles (75 PubMed, 91 Science Direct). After screening and eligibility assessment, 12 articles were included. Although none explicitly examined management functions, analysis revealed their implicit application. Educational interventions, when systematically planned, organized, implemented, and evaluated, enhanced effectiveness in preventing postoperative cataract infections.

Conclusion: Incorporating a structured management function approach can improve the effectiveness of nursing education in preventing postoperative cataract infections. No studies were found that directly applied this framework in cataract postoperative care, indicating a gap for future research.

Keywords: Education Management; Eye Infection; Nurse; Post Cataract Surgery.

INTRODUCTION

Cataracts are the leading cause of blindness worldwide, with an estimated prevalence of 17% among the 2.2 billion people experiencing blindness and visual impairment (World Health Organization, 2023). In developed countries such as the United States, approximately 22 million individuals over the age of 40 are affected (Eldoushy, 2022). The prevalence in developing countries is estimated to be four times higher, with Asia accounting for 62% of global cases. In Indonesia, data from the Rapid Assessment of Avoidable Blindness survey indicate that 81.2% of the eight million people aged over 50 experience visual impairment or blindness due to

cataracts (Ministry of Health of the Republic of Indonesia, 2022).

Surgical intervention is the primary treatment for cataract-related blindness, preventing further deterioration in visual acuity and blindness (Taha, 2021). While cataract surgery typically improves vision, inadequate postoperative care can lead to complications such as endophthalmitis— a severe intraocular infection that may result in vision loss or eye removal (Ola, Kusumawardhani, & Anoez, 2024; Kanclerz, 2020).

Incidence of postoperative endophthalmitis varies globally. A meta-analysis across several regions—including the Americas, Europe, Asia, and Oceania—reported a pooled incidence of 0.107% (Si-Lu, Xiao-Ning, Yi-Lei, Si-Fan, & Xing-Chao, 2022). Specific rates include 0.076% in China (Sun, Guo, Li, Yang, & Wu, 2021), 0.029% in Sweden, and 0.102% in Argentina (Friling, Johansson, Lundström, & Montan, 2022; Segretín Gutiérrez, García, Bursztyn, Benavente Defferrari, & Ortiz-Basso, 2022). In Indonesia, the prevalence is 0.18%, with a multicenter study in six hospitals—two of them private facilities in Bali—reporting rates as high as 1.2% (Elvira & Gunanegara, 2023).

Despite preventive efforts by experts and the government, including pharmacological measures such as antibiotic prophylaxis, the prevalence remains significant. Endophthalmitis not only threatens vision but also affects patient productivity, increases morbidity, prolongs hospital stays, and escalates healthcare costs, including those covered by the National Health Insurance scheme (Ministry of Health of the Republic of Indonesia, 2022). Non-pharmacological prevention, particularly patient education on postoperative care, is essential. Nurses play a critical role as educators in enhancing patients' knowledge and skills (Althiabi, Aljbreen, Alshutily, & Althwiny, 2022; Desoky, Ebraheim, & Abd El Hafeez, 2024).

Effective nursing education should be targeted, appropriate, efficient, and guided by a management function approach (Indrayani, 2025). According to George R. Terry, management functions encompass planning, organizing, actuating, and controlling. However, no current scoping review specifically addresses postoperative cataract education using

this approach. The present review aims to address this gap (Suhardi, 2018).

RESEARCH METHOD

A scoping review was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, applying the PCC framework (P: nurse, C: educational management, C: cataract postoperative infection). Eligible studies were English-language, full-text articles published between 2014 and 2024, focusing on postoperative cataract care education. Narrative, integrative, scoping, and systematic reviews, as well as meta-analyses, were excluded.

A comprehensive search was performed in PubMed and Science Direct between January and February 2025. Standard keywords were used for Science Direct, while PubMed searches employed Medical Subject Headings (MeSH). Search strategies included: PubMed: ("Nurse" AND "nurse education management") OR "Health Education"[MeSH] OR "Patient Education as Topic"[MeSH] AND "Cataract Extraction"[MeSH] OR "post cataract surgery" AND "Eye Infections"[MeSH]. Science Direct: ("Nurse" AND "education management") OR "health education" OR "patient education AND post cataract surgery" OR "cataract extraction AND eye infection".

The search yielded 75 articles from PubMed and 91 from Science Direct (total = 166). After removing five duplicates via EndNote X9, 161 records were screened; 124 were excluded. Of the 37 articles sought for retrieval, two were unavailable, leaving 35 for full-text assessment. Twenty three did not meet the criteria, resulting in 12 articles for inclusion.

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RESEARCH RESULTS

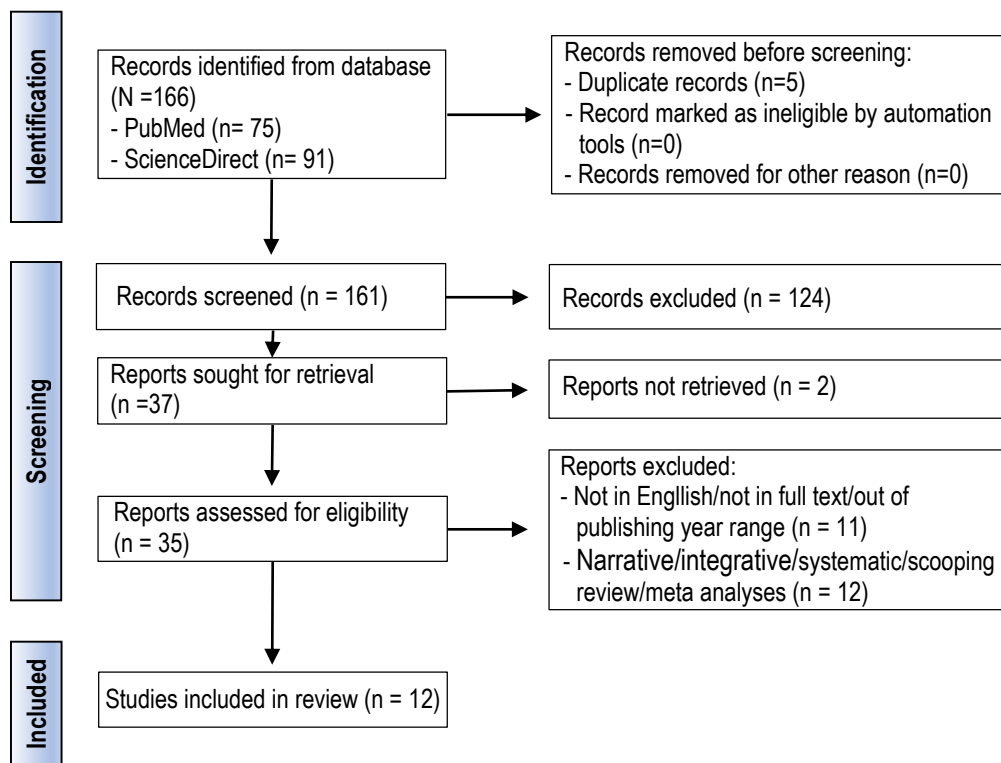


Figure PRISMA Flow Chart

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Table Summary of the Included Studies

(Author, Year) (Country)	Purpose	Method	Result	Management Function Perspective
(Syabariyah et al., 2023) (Indonesia)	To evaluate the effectiveness of audiovisual media in improving patient knowledge about cataract post-op care	Quasi-experiment	The application of audiovisual media in cataract postoperative care education significantly improved patient knowledge (p-value <0.001).	Planning - Goal: To evaluate the effectiveness of audiovisual media in improving patient knowledge about cataract post-op care - Target: cataract post-op patients aged ≥40 years - Method: audiovisual education. - Media: 7-minute educational video - Time: Educational delivery was conducted in 3 sessions with a duration of 7 minutes per session to ensure optimal understanding. Organizing - Role Assignment: Researchers, health workers, and nurses play a role in preparing educational media, directing patients, and managing the completion of pre-test and post-test questionnaires. Actuating - Education Delivery: Patients received education through interactive videos that visually and verbally displayed postoperative procedures. - Patient Monitoring: The education process is carried out in a structured manner with guidance from medical personnel to ensure patients understand the material well. Controlling - Evaluation of Patient Knowledge: Before receiving audiovisual education, only 24.1% of participants had a good understanding of postoperative care. However, after audiovisual education, 100% of participants had a good understanding.
(Mahfouz et al., 2019) (Egypt)	To evaluate the effectiveness of post-cataract surgery instructions in reducing eye	Quasi experiment	Implementing post-cataract surgery discharge instructions led to a lower incidence of eye infections in the	Planning - Goal: To evaluate the effectiveness of post-cataract surgery instructions in reducing eye infections in elderly patients - Target: cataract post-op patients > 60 years - Methods: direct education and demonstration.

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	infections in elderly patients		study group compared to the control group. The study group had significantly lower rates of eye infections than the control group at 1 day (32% vs 6%), 7 days (66% vs 24%), and 4 weeks (88% vs 60%) after surgery.	- Media: brochure - Time and place: Education was conducted during the hospitalization period (1-2 days) as well as in follow-up sessions at the outpatient clinic on the 1st, 7th, and 30th postoperative days. Organizing - Role Assignment: The team involved consisted of researchers, nurses, and doctors - Division of Roles: Nurses had the primary responsibility of delivering education and monitoring patient compliance with instructions. Actuating - Instruction Delivery: Patients were given hands-on education on postoperative eye care, including eye drops, eye protection, and steps to avoid infection. - Demonstration of Practice: The nurse demonstrates eye drop administration and eye care procedures. - Distribution of Educational Materials: Patients are given a brochure with postoperative instructions to reinforce their understanding. Controlling - Evaluation of Patient Compliance: The level of patient compliance with postoperative instructions was evaluated on days 1, 7, and 30 using a rating scale. - Infection Symptom Monitoring: There was a significant reduction in infection symptoms in the educated group compared to the control group.
(Gülşen & Akansel, 2020) (Turkey)	To assess the impact of discharge education and telephone follow-up on post-cataract surgery patient activity	Controlled comparative study	Discharge education based on the model of living and telephone follow-up are effective interventions for improving daily living activities in cataract patients.	Planning - Goal: To assess the impact of discharge education and telephone follow-up on post-cataract surgery patient activity - Targets: Patients undergoing cataract surgery - Method: Direct Education - Media: PowerPoint and booklet - Time: First-day postoperative education, third-day and tenth-day telephone follow-up.

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			The intervention group that received discharge education performed significantly better than the control group.	Organizing - Role Assignment: The team involved consists of researchers, nurses, and health workers responsible for providing education and conducting telephone follow-ups. - Division of Duties: Nurses were responsible for education delivery, data collection, and telephone monitoring. Actuating - Education Delivery: Intervention group patients received comprehensive education covering the topics of How to administer eye drops, protection of the operated eye, when to contact the doctor in case of complications, habits to avoid, such as excessive coughing or sneezing - Distribution of Educational Materials: Intervention group patients received an educational booklet summarizing the oral material. Controlling - Patient Evaluation: Monitoring was conducted on the 1st, third, and 10th postoperative days using a checklist containing 54 items related to the patient's daily activities.
(Taha, 2021) (Egypt)	To assess the effectiveness of a nursing intervention protocol in improving nurse performance and self-care activities of post-cataract surgery patients	Quasi-experiment	Nurses' performance (knowledge and practice) showed significant improvement immediately after and one-month follow-up after the nursing intervention protocol compared to the implementation of the nursing intervention protocol before the implementation of the nursing intervention	Planning - Goal: to assess the effectiveness of a nursing intervention protocol in improving nurse performance and self-care activities of post-cataract surgery patients - Objectives: 35 nurses and 50 patients undergoing cataract surgery - Methods: theoretical and practical education, demonstration, hands-on mentoring and practice - Media: booklet and postoperative self-care guide. - Schedule: The protocol was implemented through 6 theoretical education sessions (35-55 minutes per session) and 10 practical sessions for nurses. Organizing - Role Assignment: The team involved included researchers and nurses Actuating - Education Delivery: The protocol included both theoretical and practical education,

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			protocol ($p < 0.001$). The general improvement in patient self-care activities (41.6 ± 11.042) increased significantly to (64.2 ± 13.65) after the nursing intervention protocol was implemented at $p = 0.001$.	including demonstrations on how to administer eye drops, use of eye protection, and postoperative wound care. Patient Assistance: Patients received explanations on self-care at home, with follow-up by phone to ensure understanding and compliance. Hands-on Practice: Nurses are encouraged to practice the techniques taught under supervision during training sessions. Controlling Nurse Knowledge Evaluation: Results showed significant improvement in nurses' knowledge scores post-protocol implementation Nurse Practice Monitoring: Nurses' performance in patient care improved significantly after protocol implementation. Follow-up: Continuous evaluation through practice observation and active communication with nurses and patients helped ensure the protocol's success.
(Eldoushy, 2022) (Egypt)	To assess the effectiveness of a nurse-led intervention in improving knowledge, self-care practices and postoperative outcomes in cataract patients	Quasi experiment	The nurse-led intervention significantly improved the study group's knowledge, self-care practices, and expected outcomes compared to the control group. Improvements in the study group's knowledge and self-care practices were positively correlated with expected outcomes. The nurse-led intervention, which	Planning Goal: To assess the effectiveness of a nurse-led intervention in improving knowledge, self-care practices, and postoperative outcomes in cataract patients Target: Patients undergoing cataract surgery Methods: direct explanation, practical demonstration, and interactive discussion Media: color booklet with illustrative pictures and simple video. Time: Education is provided through three sessions, consisting of sessions 1 and 2 are theory and session 3 is hands-on practice Organizing Role Assignment: The team included researchers, nurses, and other health workers Actuating Education Delivery: Patients in the intervention group received nurse-led education Practice Demonstration: Patients were taught the correct techniques for administering eye drops, warm compresses, and relaxation methods to prevent complications. Interactive Discussion: Patients were allowed to ask questions after the education session

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(Author, Year) (Country)	Purpose	Method	Result	Management Function Perspective
			focused on improving patient knowledge and self-care practices, effectively improved expected outcomes after surgery.	to ensure understanding. Controlling • Evaluation of Patient Knowledge and Practice: Patients in the intervention group showed significant improvement in knowledge scores and self-care practices compared to the control group. • Postoperative Monitoring: Evaluation was conducted two weeks after the intervention to measure patient understanding, adherence to self-care instructions, and postoperative clinical outcomes. • Outcome Evaluation: Patients in the intervention group had significantly higher postoperative outcome scores than the control group, with decreased symptoms of complications such as redness, pain, or infection.
(Desoky et al., 2024) (Egypt)	To assess the effectiveness of a nursing intervention guide on the knowledge and self-care practices of post-cataract surgery patients	Quasi-experiment	The study group showed improvement in all total scores of knowledge level and self-care practices after implementation of the nursing intervention guidelines compared to the control group. There was a highly statistically significant impact on patient outcomes related to knowledge level and self-care practices after cataract surgery in the study group.	Planning • Goal: to assess the effectiveness of a nursing intervention guide on the knowledge and self-care practices of post-cataract surgery patients • Target: Adult patients undergoing cataract surgery • Methods: direct education, demonstration and hands-on practice • Media: Booklet • Time: Pre-surgery and post-surgery education sessions were conducted before the patient was discharged. Organizing • Role Assignment: The team involved includes nurses responsible for providing education and demonstrations to patients. Actuating • Education Delivery: The nurses provided education directly through theory sessions and practical demonstrations on how to administer eye drops, use eye protection, and personal hygiene. • Demonstration and Repeat Practice: The nurse demonstrates the procedure and asks the patient to repeat it to ensure understanding.

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				Controlling - Knowledge Evaluation: Results showed a significant increase in the knowledge level of patients in the intervention group - Evaluation of Self-Care Practices: Intervention group patients showed satisfactory improvement in self-care practices - Postoperative Monitoring: Evaluations were conducted on the second and seventh postoperative days to assess the implementation of self-care practices.
(Zarifsanaiey et al., 2022) (Iran)	To compare the effectiveness of video-based training and educational booklets in improving self-care performance of patients after cataract surgery	Interventional study	Video-based education and booklets have the same effect on improving patients' knowledge level. The mean self-care ability score was significantly higher in the video-based training compared to the booklet group after the intervention (P=0.014). Video-based education can significantly improve patients' knowledge and self-care skills regarding cataracts than patient education through booklet media.	Planning - Goal: To compare the effectiveness of video-based training and educational booklets in improving self-care performance of patients after cataract surgery - Target: Patients undergoing cataract surgery - Method: hands-on explanation through video and booklet - Media: 5-minute educational video with animation, text, sound, and images and 7-page educational booklet with text and color images. - Time: Each educational session was provided the day before surgery for both groups, with evaluations conducted before and after the education. Organizing - Role Assignment: Research team consisting of ophthalmologists and nurses Actuating - Delivery of Educational Materials: Video group patients received video-based training containing visual explanations of postoperative care. Booklet group patients received verbal explanations from medical staff accompanied by educational booklets. Controlling - Evaluation of Knowledge and Practice of Self-Care: Results showed that both methods (video and booklet) were equally effective in improving patients' knowledge about cataracts. However, the group receiving video-based education showed a more significant improvement in postoperative self-care practices than the booklet group.

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(Author, Year) (Country)	Purpose	Method	Result	Management Function Perspective
(Wisely et al., 2020) (USA)	To assess the impact of video-based education on patients' understanding of cataract surgery, their perception of the quality of the preoperative visit, and their choice of procedure and intraocular lens (IOL)	Prospective survey study	Patients who received the educational video had a better understanding of cataract surgery, especially regarding postoperative visual outcomes, than those who did not receive the educational video. Patients who watched the educational videos had a more positive perception of the quality of the explanation provided by their surgeon and felt that the surgeon spent enough time with them. Video education did not affect the time the surgeon spent with the patient or the patient's choice of premium surgical option.	Planning - Goal: To assess the impact of video-based education on patients' understanding of cataract surgery, their perception of the quality of the preoperative visit, and their choice of procedure and intraocular lens (IOL) - Target: Patients undergoing a cataract preoperative visit - Methods: video - Media: 10-minute video - Time: Patients were randomly selected to watch or not watch the video before meeting with the doctor. Organizing - Role Assignment: The team involved includes ophthalmologists, medical personnel, and researchers responsible for providing education and conducting outcome evaluations. - Implementation Structure: All patients received standard preoperative counseling from the physician Actuating - Education Delivery: The intervention group watched an educational video before meeting with the doctor, while the control group only received a direct explanation from the doctor without a video. - Doctor Interaction: All patients still had the opportunity to discuss the surgical procedure and postoperative care with the doctor. Controlling - Evaluation of Patient Understanding: Patients who watched the video had a higher level of understanding of cataract surgery compared to those who did not watch the video - Understanding of Postoperative Expectations: Patients who watched the video better understood postoperative visual outcome expectations than those who did not. - Visit Quality Evaluation: Patients who watched the video were more likely to feel that the doctor provided more precise explanations.

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(Qiu et al., 2019) (China)	To investigate the quality of discharge education, Readiness for Hospital Discharge (RHD), and Post-Discharge Outcomes (PDO) in cataract patients undergoing day surgery	Cross-sectional	The quality of discharge teaching for cataract patients in the inpatient wards was relatively high, with an overall mean score of 192.95 out of 240. 95.36% of patients considered themselves ready for hospital discharge, with an overall mean readiness for hospital discharge (RHD/Readiness For Hospital Discharge) score of 175.51 out of 220. Patients had a good post-discharge outcome, with a mean post-discharge outcome (PDO) score of 77.08 out of 80, and no major complications.	Planning - Goal: To investigate the quality of discharge education, Readiness for Hospital Discharge (RHD), and Post-Discharge Outcomes (PDO) in cataract patients undergoing day surgery - Target: Cataract patients undergoing surgery - Methods: oral presentation, educational video, written instructions, and demonstration - Media: Scheduling: Data were collected on the day of discharge, and a follow-up interview was conducted by telephone two weeks later. Organizing - Role Assignment: The team included health workers, researchers, and hospital staff Actuating - Education Delivery: Education focused on important aspects such as: an explanation of cataract surgery, instructions on the use of eye drops, prevention of postoperative complications, advice to rest, avoid strenuous activities, and maintain eye hygiene - Personalized Approach: In addition to group sessions, individualized education is conducted to suit the patient's specific needs. Controlling - Education Quality Evaluation: Patients rated the quality of education with a moderately high mean score (192.95 out of 240), with the highest dimension being the teaching skills of health workers. - Discharge Readiness Evaluation: 95.36% of patients felt ready for discharge, although the lowest score was understanding their illness. - Post-Discharge Outcome Evaluation: Patients reported significant improvement in their vision, with an average visual score improvement of 0.60 from baseline. A total of 18.56% of patients experienced slight discomfort, mainly in the form of eye swelling, dryness, or feeling of a foreign body in the eye.
(Taha & Abd Elaziz, 2015) (USA)	To evaluate the effectiveness of the nursing intervention	Quasi-experiment	Nurses' knowledge and practice showed significant	Planning Goal: To evaluate the effectiveness of the nursing intervention guide on nurses' knowledge and practice and the fulfillment of patients' needs after cataract surgery

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	guide on nurses' knowledge and practice and the fulfillment of patients' needs after cataract surgery		improvements at the post and follow-up tests ($p < 0.001$), with a statistically strong positive correlation ($r = 0.714$) between them. In addition, there were statistically significant improvements in all patient need areas after implementation ($p < 0.001$). In multivariate analysis, the intervention was a statistically significant independent positive predictor of improvements in nurses' knowledge and practice and patient needs.	Target: nurses and patients undergoing cataract surgery. Methods: discussion, question and answer session, demonstration, and practice. Media: booklet Time: The intervention was conducted in six educational sessions for 45-60 minutes. Organizing Role Assignment: Nurses were responsible for educating, practicing postoperative care techniques, and conducting periodic evaluations. Actuating Education Delivery: Nurses provide theoretical and practical education, including the administration of eye drops. Use of eye protection, postoperative wound care, postoperative pain management techniques using non-pharmacological methods such as relaxation, light massage, and breathing techniques. Demonstration and Repeat Practice: The nurse repeats each step of the practice until adequate skill is achieved. Controlling Nurse Knowledge Evaluation: Nurses' knowledge increased significantly from 38.2% (pre-intervention) to 100% (post-intervention) and remained high at the evaluation three months later (97.1%). Nurse Practice Evaluation: Nurses' practice in caring for patients improved from 0% (pre-intervention) to 100% (post-intervention and follow-up). Evaluation of Patient Needs: The number of patients reporting vision problems decreased, while the fulfillment of patient needs improved significantly in all aspects, including nutrition, rest, daily activities, and understanding of postoperative instructions.
(El-Khamisy et al., 2019) (Egypt)	To evaluate the effect of individualized health education on postoperative	Quasi-experiment	Implementing the individualized health teaching immediately after cataract surgery can effectively improve	Planning Goal: To evaluate the effect of individualized health education on postoperative outcomes in patients undergoing cataract surgery Target: Adult patients aged 20-60 years undergoing cataract surgery Methods: discussion, practical demonstration, and question and answer session

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	outcomes in patients undergoing cataract surgery		the knowledge and visual acuity of postoperative patients and reduce postoperative complications.	(individualized health teaching). Media: Booklet Time: The intervention was conducted through several education sessions before the patient underwent surgery. Organizing Role Assignment: The team involved includes nurses responsible for providing education and conducting follow-up on patients. Actuating Education Delivery: Education is provided personally to each patient through discussions, practical demonstrations, and question and answer sessions. Family Involvement: The patient's family is involved as a companion in the education process to assist the patient in carrying out postoperative instructions properly. Practical Demonstration: The nurse demonstrates how to administer eye drops, wear eye protection, and postoperative wound care techniques. Controlling Evaluation of Patient Knowledge: Patients who participated in the individualized education showed significantly improved understanding of cataracts and postoperative care compared to patients who did not receive the education. Evaluation of Postoperative Complications: Patients receiving individualized education experienced lower complications than the control group. Follow-up: Evaluation was conducted through regular visits up to one-month post-surgery to assess patients' level of understanding and monitor for possible complications.
(Sanguansak et al., 2017) (USA)	To assess the feasibility and effectiveness of using a two-way social media application to	Prospective intervention study	On treatment compliance: On postoperative day 7, adherence was higher in the intervention group (96%) than in the control	Planning Goal: to assess the feasibility and effectiveness of using a two-way social media application to provide post-cataract surgery reminders and education Target: patients undergoing their first cataract surgery Method: Social media messaging (LINE) Media: Social media application (LINE)

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	provide post-cataract surgery reminders and education		group (73%) (P = 0.004). However, on day 30, the difference in compliance was not significant. On Visit Adherence: On day 30, adherence in the intervention group reached 100%, which was higher than 88% in the control group (P = 0.03).	Time: Messages were sent at designated times, with a total of nine messages during the postoperative period. Organizing Role Assignment: The team involved included health workers, nurses, and ophthalmologists responsible for providing education and answering patient questions via the LINE app. Actuating Education Delivery: Intervention group patients received messages with practical guidance on eye drop use, facial hygiene, and visit schedules. Two-way Interaction: Patients were given the opportunity to reply to messages with questions about postoperative care. Medical Personnel Response: Questions asked by patients were classified into three categories: administrative (e.g., visit schedule), postoperative care (e.g., how to administer medication), and clinical symptoms (e.g., discomfort or visual disturbances). Controlling Evaluation of Patient Compliance: Patients who received LINE messages showed higher medication adherence at day 7 postoperatively than the control group. However, at day 30 there was no significant difference between the two groups. Postoperative Visit Evaluation: Adherence to the 30th-day visit was higher in the group that received the messages (100%) compared to the control group (88%). Clinical Outcome Evaluation: The two groups had no significant differences in long-term clinical outcomes (visual acuity, intraocular pressure, or inflammation level).

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DISCUSSION

Across the included studies, the planning stage of post-cataract surgery education involved defining educational objectives, identifying target populations, determining delivery methods and educational media, and establishing session timing. Most studies aimed to enhance patient knowledge and self-care behaviors (75%), with additional goals to reduce postoperative infection rates and improve clinical outcomes (35%). The target population comprised adult patients over 18 years of age. Common delivery methods included direct instruction, interactive discussions, demonstrations, and practical exercises, supported by media such as videos, booklets, and leaflets; one study utilized the social media platform LINE. Educational durations varied: video sessions typically lasted 5–10 minutes, direct instruction 15–60 minutes, and demonstrations or practical sessions 45–60 minutes.

In the organizing phase, roles and responsibilities within the educational team—comprising researchers, nurses, and other healthcare professionals—were clearly delineated. Several studies specifically reported that nurses served as the primary providers of patient education (Mahfouz, Mohamed, Abdelhalim, & Mohamed, 2019; Gülşen & Akansel, 2020). Organizing, as defined in management theory, entails structuring planned strategies into an operational framework that facilitates efficient goal attainment. This includes allocating resources, assigning tasks, establishing authority, and ensuring role clarity to avoid ambiguity (Wijayanti et al., 2023; Suhardi, 2018). While the reviewed studies included role assignments, they rarely described hierarchical structures or leadership involvement, and none addressed the training or competency development of nurses delivering education.

During implementation, educational content focused on essential aspects of postoperative eye care, including correct eye drop administration, protective measures, infection prevention strategies, recognition of complications, and avoidance of harmful behaviors such as excessive coughing or sneezing. The delivery methods corresponded to those established in the planning phase, with interactive videos most frequently employed (Syabariyah, Hidayat, Sofiyah, & Hisan, 2023; Wisely et al., 2020; Zarifsanaiy et al., 2022), supplemented

in several studies by live demonstrations to reinforce learning (Desoky et al., 2024; El-El-Khamisy et al., 2019; Eldoushy, 2022; Mahfouz et al., 2019; Taha, 2021; Taha & Elaziz, 2015). Actuating, within the management framework, involves translating planned objectives into actionable steps and motivating all stakeholders to perform their roles effectively and consistently. This includes providing guidance, reinforcing correct practices, and facilitating patient engagement in their own care (Suhardi, 2018).

Evaluation activities assessed patient knowledge, self-care competence, adherence to postoperative instructions, monitoring for infection symptoms, readiness for discharge, and patient feedback. Within the management function framework, controlling refers to verifying that all planned, organized, and implemented activities align with intended objectives, measuring outcomes against predefined indicators, and addressing deviations through corrective measures (Suhardi, 2018). Evidence from the reviewed studies indicated that multi-modal educational interventions of 5–60 minutes in duration significantly improved knowledge, promoted self-care, enhanced clinical outcomes, and reduced infection rates among post-cataract surgery patients.

Education remains a fundamental nursing intervention for preventing postoperative infections following cataract surgery. The management function framework—comprising planning, organizing, actuating, and controlling—offers a structured methodology to ensure that education is targeted, relevant, effective, and efficient. Although none of the twelve reviewed studies explicitly applied this framework, analysis revealed that its principles were inherently integrated into their interventions. The findings suggest that when educational programs are systematically planned, clearly organized, effectively implemented, and rigorously evaluated, they yield measurable improvements in patient outcomes, including enhanced knowledge, skill acquisition, adherence to postoperative care instructions, reduced infection incidence, and better overall recovery.

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CONCLUSION

No research has specifically addressed post-cataract surgery education using a functional management approach. Existing education has proven effective, but it would be more optimal if it were carried out with proper planning, implementation, and evaluation in accordance with a functional management approach. Future research is recommended to focus on POAC management approaches that involve nurses.

REFERENCES

- Althiabi, S., Albreen, A. J., Alshutily, A., & Althwiny, F. A. (2022). Postoperative Endophthalmitis After Cataract Surgery: An Update. *Cureus*, 14(2), e22003.
- Desoky, G. M., Ebraheim, M. N., & Abd El Hafeez, N. A. (2024). Effect of Nursing Intervention Guidelines on Knowledge and Self-care Practices among Adult Patients Undergoing Cataract Surgery. *Egyptian Journal of Nursing and Health Sciences*, 5(1), 30-47.
- Eldoushy, E. (2022). Effect of Nurse-Led Interventions on Post-surgical Expected Outcomes among Patients with Cataract. *Egyptian Journal of Health Care*, 13(3), 1252-1267.
- El-Khamisy, A. M. A., Ahmed, S. A., & Abo El-Ata, A. B. (2019). The effect of an individualize health teaching on post-operative outcomes for patients undergoing cataract surgery. *Port Said Scientific Journal of Nursing*, 6(1), 229-246.
- Elvira, E., & Gunanegara, A. S. (2023). Komplikasi Endoftalmitis Pasca-operasi Katarak. *Cermin Dunia Kedokteran*, 50, 665-666.
- Friling, E., Johansson, B., Lundström, M., & Montan, P. (2022). Postoperative Endophthalmitis in Immediate Sequential Bilateral Cataract Surgery: A Nationwide Registry Study. *Ophthalmology*, 129(1), 26-34.
- Gülşen, M., & Akansel, N. (2020). Effects of discharge education and telephone follow-up on cataract patients' activities according to the model of living. *Journal of perianesthesia nursing*, 35(1), 67-74.
- Indrayani, N. L. D. (2025). Trends of concept analysis in nursing science with Walker and Avant approaches: a literature review. *Innovation in Health for Society*, 5(1), 51-62.
- Kanclerz, P. (2020). *Current concepts in ophthalmology*. A. Grzybowski (Ed.). Springer International Publishing.
- Mahfouz, E., Mohamed, A. A., Abdelhalim, A. S., & Mohamed, R. F. (2019). Effect of post cataract surgery discharge instructions on reducing eye infection among elderly patients. *Minia Scientific Nursing Journal*, 6(1), 19-25.
- Marquis, B. L., & Huston, C. J. (2009). *Leadership roles and management functions in nursing: Theory and application*. Lippincott Williams & Wilkins.
- Ministry of Health of the Republic of Indonesia. (2022). *Pedoman Penyelenggaraan Pelayanan Kesehatan Mata Terintegrasi (Vision Center)*. Retrived from: <https://www.scribd.com/document/610594730/A5-Finalisasi-Pedoman-Pelayanan-Kes-Mata-Terintegrasi-10092022>
- Ola, A. T., Kusumawardani, S. I., & Anoez, A. (2024). Analisis Komplikasi Operasi Katarak Terhadap Pasien Katarak. *Jurnal Kesehatan Amanah*, 8(1), 312-321.
- Qiu, C., Feng, X., Zeng, J., Luo, H., & Lai, Z. (2019). Discharge teaching, readiness for discharge, and post-discharge outcomes in cataract patients treated with day surgery: a cross-sectional study. *Indian journal of ophthalmology*, 67(5), 612-617.

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- Sanguansak, T., Morley, K. E., Morley, M. G., Thinkhamrop, K., Thuanman, J., & Agarwal, I. (2017). Two-way social media messaging in postoperative cataract surgical patients: prospective interventional study. *Journal of medical Internet research*, 19(12), e413.
- See, M. T. A., Chee, S., Rajaram, R., Kowitlawakul, Y., & Liaw, S. Y. (2020). Missed nursing care in patient education: A qualitative study of different levels of nurses' perspectives. *Journal of Nursing Management*, 28(8), 1960-1967.
- Segretín Gutiérrez, E. F., García, M. M., Bursztyn, M., Benavente Defferrari, M. M., & Ortiz-Basso, T. (2022). Incidencia de endoftalmitis post cirugía de catarata en un hospital de tercer nivel en Buenos Aires. *Medicina (Buenos Aires)*, 82(6), 851-855.
- Si-Lu, S., Xiao-Ning, Y., Yi-Lei, C., Si-Fan, Z., & Xing-Chao, S. (2022). Incidence of endophthalmitis after phacoemulsification cataract surgery: a Meta-analysis. *International Journal of Ophthalmology*, 15(2), 327-335.
- Suhardi, S. (2018). *Pengantar Manajemen dan Aplikasinya*. Yogyakarta: Gava Media.
- Sun, J., Guo, Z., Li, H., Yang, B., & Wu, X. (2021). Acute infectious endophthalmitis after cataract surgery: Epidemiological characteristics, risk factors and incidence trends, 2008–2019. *Infection and Drug Resistance*, 14, 1231-1238.
- Syabariyah, S., Hidayat, T. M., Sofiyah, Y., & Hisan, U. K. (2023). Audiovisual media effectiveness in post-cataract surgery care education in National Eye Center Cicendo Hospital. *International Journal of Public Health*, 12(4), 1736-1743.
- Taha, A. (2021). Effectiveness of Nursing Intervention Protocol on Nurses' Performance and Patients' Self-Care after Cataract Surgery. *Evidence-Based Nursing Research*, 3(2), 13-28.
- Taha, N., & Abd Elaziz, N. (2015). Effect of nursing intervention guidelines on nurses' role, patients' needs, and visual problems post cataract surgery. *American Journal of Nursing Science*, 4(5), 261-269.
- Wijayanti, N., & Wicaksana, F. A. (2023). Implementasi Fungsi Manajemen George R Terry Dalam Meningkatkan Mutu Lembaga Pendidikan. *Cerdik: Jurnal Pendidikan dan Pengajaran*, 3(1) 30–43.
- Wisely, C. E., Robbins, C. B., Stinnett, S., Kim, T., Vann, R. R., & Gupta, P. K. (2020). Impact of Preoperative Video Education for Cataract Surgery on Patient Learning Outcomes. *Clin Ophthalmol*, 14, 1365-1371.
- World Health Organization. (2023). *Blindness and vision impairment*. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>
- Zarifsanaiey, N., Hedayat, M., Mehrabi, M., & Bagheri, Z. (2022). Video-based versus educational booklet training on self-care performance of patients with cataract. *Bangladesh Journal of Medical Science*, 21(3), 601-609.

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