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Interprofessional Collaboration in Emergency Patient Education Roles of Nurses, Laboratory Technicians, Pharmacy Technicians, Patient Care Technicians, Emergency Medical Technicians, Radiology Technicians, Health Information Technicians, and Dental Hygienists – A Systematic Review

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ABSTRACT:

Background: Emergency patient education depends on effective collaboration among healthcare professionals who contribute complementary knowledge during assessment, treatment, discharge, and follow-up. However, evidence concerning the specific educational roles of different professional groups remains fragmented.

Objective: To systematically review the roles of nurses, laboratory technicians, pharmacy technicians, patient care technicians, emergency medical technicians, radiology technicians, health information technicians, and dental hygienists in emergency patient education and interprofessional collaboration.

Methods: A systematic review was conducted using evidence from studies examining interprofessional collaboration, communication, and patient education in emergency and acute-care settings. Previous systematic reviews identified 21 studies addressing

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interprofessional collaboration in patient education, 37 studies addressing emergency-department nurse–provider communication, and 14 studies evaluating teamwork and communication in emergency departments.

Results: Across the included evidence, 21 studies identified five major determinants of effective interprofessional patient education: role clarification, communication infrastructure, shared collaborative space, interprofessional trust, and organizational support. In emergency departments, 37 studies showed that high workload, hierarchical barriers, and interruptions hinder communication, whereas structured communication tools, electronic supports, shared workspaces, and interprofessional training facilitate collaboration. A further 14 studies found high staff satisfaction with teamwork-training interventions and moderate evidence that multidisciplinary teams can reduce access block. Pharmacy-technician evidence additionally showed medication-history review and reconciliation as the most frequent activities (11 studies), with discharge education reported in 3 studies and reductions in medication errors reported in 13 studies.

Conclusion: Interprofessional collaboration improves the organization and consistency of emergency patient education by combining profession-specific expertise with structured communication and shared responsibilities. Clear role delineation, standardized educational processes, collaborative documentation, and interprofessional training should be integrated into emergency-care practice.

I. INTRODUCTION

Emergency departments are complex and fast-paced clinical environments where patients with a wide range of medical, surgical, traumatic, and dental conditions require rapid assessment, diagnosis, treatment, patient education, and discharge planning within limited timeframes (Kilner & Sheppard, 2010). The urgency and complexity of emergency care frequently require the involvement of several healthcare professionals, making effective teamwork and interprofessional communication essential for coordinating patient management and maintaining safety (Kilner & Sheppard, 2010; Hughes et al., 2016). Interprofessional collaboration enables professionals from different disciplines to combine their knowledge, skills, and perspectives while sharing responsibility for patient-centered care (Reeves et al., 2017).

Patient education is an important component of emergency care because patients and their families often need to understand diagnoses, diagnostic investigations, medications, treatment plans, self-care measures, warning signs, and follow-up recommendations before leaving the emergency department (Hoek et al., 2020). However, the emergency environment may create substantial barriers to effective education because patients may experience pain, anxiety, fear, limited health literacy, or difficulty processing large amounts of information while healthcare professionals work under considerable time and workload pressures (Hoek et al., 2020; Makaryus & Friedman, 2005). These factors can reduce comprehension and recall and may contribute to misunderstanding of treatment instructions, medication regimens, and discharge recommendations (Hoek et al., 2020).

Effective patient education therefore requires communication that is clear, consistent, timely, and adapted to individual patient needs (Reeves et al., 2017). Interprofessional collaboration can strengthen this process by ensuring that relevant educational information is communicated and reinforced by different members of the healthcare team rather than being dependent on a single professional (Reeves et al., 2017). Shared communication and coordinated educational practices may also reduce conflicting instructions, improve continuity between stages of care, and provide patients with a more complete understanding of their condition and treatment (Hughes et al., 2016; Reeves et al., 2017).

Nurses commonly have a central role in emergency patient education because of their frequent interaction with patients during assessment, treatment, monitoring, and discharge preparation (Kilner & Sheppard, 2010). Laboratory technicians and radiology technicians contribute information related to diagnostic procedures, preparation, specimen collection, and safety requirements, while pharmacy technicians support medication-related activities and reconciliation within their professional scope (World

Health Organization, 2010; Hammad et al., 2017). Emergency medical technicians provide education during prehospital care and transport, while patient care technicians may reinforce basic bedside instructions and self-care information as part of the wider care team (Jensen et al., 2013; Reeves et al., 2017).

Health information technicians support accurate documentation, confidentiality, information accessibility, and continuity across transitions of care, all of which facilitate communication between professionals and help preserve important patient information (World Health Organization, 2010). Dental hygienists can contribute oral-health education and preventive counseling when emergency presentations involve dental or oral conditions, extending the educational process beyond immediate symptom management toward prevention and longer-term care (Gurenlian, 2016). These contributions demonstrate that patient education in emergency care may involve several professional encounters rather than a single educational interaction.

Although interprofessional practice is increasingly emphasized, research on emergency patient education often focuses on individual professional roles or limited aspects of collaboration rather than examining their combined educational contribution (Reeves et al., 2017). A comprehensive understanding of these roles may help identify opportunities to improve communication, patient understanding, treatment adherence, safety, and continuity of care (Hughes et al., 2016; Reeves et al., 2017). Therefore, this systematic review evaluates the roles of nurses, laboratory technicians, pharmacy technicians, patient care technicians, emergency medical technicians, radiology technicians, health information technicians, and dental hygienists in interprofessional emergency patient education.

Rationale and Hypothesis

Rationale

Emergency patient education is an essential component of safe and effective emergency care because patients frequently need to understand their condition, investigations, medications, self-care requirements, and follow-up instructions before discharge (Hoek et al., 2020). The emergency environment can make this process difficult because patients may experience pain, anxiety, limited time for communication, and difficulty processing complex medical information (Makaryus & Friedman, 2005; Hoek et al., 2020). Interprofessional collaboration provides an opportunity to address these challenges by combining the knowledge and responsibilities of different healthcare professionals and promoting coordinated communication throughout the patient's emergency-care journey (Reeves et al., 2017).

Although nurses often have a major role in coordinating patient education, other professionals also contribute important discipline-specific information related to medications, diagnostic investigations, prehospital care, documentation, bedside support, and oral health (Kilner & Sheppard, 2010; Reeves et al., 2017). However, the available literature frequently examines these contributions separately, with considerably less attention given to their collective role in emergency patient education. A systematic synthesis of these professional contributions may help clarify responsibilities, identify communication gaps, and support the development of more integrated and patient-centered educational practices (Reeves et al., 2017).

Hypothesis

Interprofessional collaboration among nurses, laboratory technicians, pharmacy technicians, patient care technicians, emergency medical technicians, radiology technicians, health information technicians, and dental hygienists improves the quality, consistency, and continuity of emergency patient education and is associated with better patient understanding, treatment adherence, medication safety, communication, and transitions of care.

II. LITERATURE REVIEW

1. Interprofessional Collaboration in Emergency Care

Interprofessional collaboration involves healthcare professionals from different disciplines working together to coordinate care, exchange information, and make decisions according to patients' needs (Reeves et al., 2017). Emergency departments particularly depend on collaborative practice because rapid clinical decision-making, multiple simultaneous tasks, and frequent transitions require continuous communication among team members (Kilner & Sheppard, 2010). Effective teamwork allows professionals to combine complementary knowledge and skills while reducing duplication, communication failures, and gaps in patient care (Hughes et al., 2016). A systematic review of emergency-department teamwork identified 14 studies and reported

favorable effects of teamwork interventions on staff attitudes and satisfaction, with moderate evidence supporting multidisciplinary approaches within emergency care (Kilner & Sheppard, 2010).

2. Emergency Patient Education

Patient education in emergency departments includes communication concerning diagnosis, investigations, medications, treatment, self-care, follow-up, and warning signs that require further medical attention (Hoek et al., 2020). Emergency education can be particularly challenging because patients may receive large amounts of information within a short period while experiencing pain, anxiety, fear, or limited health literacy (Makaryus & Friedman, 2005; Hoek et al., 2020). Inadequate understanding of discharge instructions may affect adherence to treatment and the ability of patients to recognize clinical deterioration after leaving the emergency department (Hoek et al., 2020). A systematic review and meta-analysis involving 51 studies demonstrated differences in information recall according to the educational method, with correct recall of approximately 47% for verbal instructions, 58% for written instructions, and 67% for video instructions (Hoek et al., 2020).

3. Role of Nurses

Nurses commonly occupy a central position in emergency patient education because they have frequent contact with patients throughout assessment, treatment, monitoring, and discharge preparation (Kilner & Sheppard, 2010). Their educational responsibilities may include assessing patient needs, explaining treatment plans, reinforcing instructions, and evaluating understanding before discharge (Reeves et al., 2017). Nurses can also facilitate communication between patients and other healthcare professionals by identifying unanswered questions or inconsistencies in information provided during the emergency encounter (Reeves et al., 2017). Their coordinating role makes nursing practice particularly important for maintaining consistency and continuity in patient education.

4. Role of Laboratory Technicians

Laboratory testing is an important part of emergency diagnosis, and laboratory technicians contribute to the accuracy and safety of this process through proper specimen collection, processing, and communication (World Health Organization, 2010). Patient-facing communication may include instructions related to specimen collection, preparation, identification, and testing requirements when applicable (World Health Organization, 2010). Effective communication between laboratory and clinical professionals is important because errors in specimen identification or collection can affect diagnostic accuracy and subsequent patient management (World Health Organization, 2010). Although laboratory technicians may have less direct educational contact than nurses, their contribution supports the diagnostic component of comprehensive emergency patient education.

5. Role of Pharmacy Technicians

Medication-related education is an important component of emergency care because medication discrepancies may occur during transitions between community, emergency, inpatient, and discharge settings (Hammad et al., 2017). Pharmacy technicians can support medication-history collection, reconciliation, medication-management activities, and discharge processes within their professional scope and under appropriate supervision (Hammad et al., 2017). Evidence from a recent systematic review involving 21 studies reported medication-history review and reconciliation in 11 studies and discharge education in 3 studies (De Graef et al., 2026). The same review reported medication-error reductions in 13 studies, suggesting that pharmacy-technician involvement may contribute to medication safety and improved coordination of medication-related information (De Graef et al., 2026).

6. Role of Patient Care Technicians

Patient care technicians provide supportive bedside services and may have frequent contact with patients during emergency care. Their responsibilities can create opportunities to reinforce basic instructions related to hygiene, mobility, comfort, monitoring, and self-care under the supervision of appropriate healthcare professionals (Reeves et al., 2017). They may also identify patient concerns or misunderstandings and communicate them to nurses or other members of the clinical team (Reeves et al., 2017). Although their educational contribution is generally supportive rather than independent, their interaction with patients may strengthen repetition and reinforcement of important instructions.

7. Role of Emergency Medical Technicians

Emergency medical technicians provide an early point of contact between patients and healthcare services and may initiate patient education during prehospital assessment and transport (Jensen et al., 2013). Their communication may involve reassurance, explanations of immediate interventions, safety instructions, and information supporting transition to emergency-department care (Jensen et al., 2013). Effective transfer of information between emergency medical services and hospital professionals is particularly important because handover is a critical transition in the patient-care pathway (Jensen et al., 2013). Consistent communication across this transition can help prevent information loss and support continuity of patient education.

8. Role of Radiology Technicians

Radiology technicians frequently interact directly with emergency patients undergoing diagnostic imaging and therefore represent another important source of procedural information (Kilner & Sheppard, 2010). Their communication may include explanations of imaging procedures, preparation requirements, positioning, expected procedures, and safety precautions (Kilner & Sheppard, 2010). Clear communication can improve patient cooperation and reduce anxiety associated with unfamiliar diagnostic procedures (Hughes et al., 2016). Coordination between radiology personnel and other emergency professionals is also important when imaging results influence treatment decisions, further investigations, or discharge planning.

9. Role of Health Information Technicians

Health information management supports continuity of care by ensuring that relevant clinical information is accurately documented, accessible, and appropriately protected (World Health Organization, 2010). Health information technicians contribute to information organization, documentation, confidentiality, and accessibility, allowing healthcare professionals to access consistent information during transitions of care (World Health Organization, 2010). Accurate documentation of medications, diagnoses, patient instructions, and follow-up plans can reduce information gaps and help different professionals reinforce the same educational messages. Therefore, health information management represents an important indirect component of interprofessional patient education.

10. Role of Dental Hygienists

Dental hygienists contribute to preventive oral healthcare through patient education, oral-hygiene instruction, and counseling regarding behaviors that support long-term oral health (Gurenlian, 2016). Their role may be particularly relevant for emergency presentations involving dental and oral-health problems, where immediate treatment should ideally be accompanied by preventive education and appropriate follow-up advice (Gurenlian, 2016). Interprofessional collaboration can allow dental hygienists to complement emergency treatment by addressing risk factors and preventive measures that may reduce recurrence or complications (Reeves et al., 2017).

11. Communication and Coordination Between Professional Groups

Effective emergency patient education depends on communication that is timely, accurate, and consistent across professional boundaries (Reeves et al., 2017). Differences in professional responsibilities, workload, hierarchy, and communication practices may create barriers to information exchange and collaborative decision-making (Kilner & Sheppard, 2010). Team training and structured communication have been associated with improvements in teamwork behavior and communication processes, supporting the importance of organized approaches to interprofessional practice (Hughes et al., 2016). Shared documentation and clear role definitions may further reduce duplication and prevent important educational information from being omitted (Reeves et al., 2017).

12. Barriers to Effective Interprofessional Patient Education

Several factors may limit effective interprofessional patient education in emergency settings, including time pressure, high workload, frequent interruptions, unclear responsibilities, and communication barriers (Kilner & Sheppard, 2010). Patients may also experience anxiety, pain, or limited health literacy, making it difficult to absorb and retain complex information during a single encounter (Hoek et al., 2020). The 21-study systematic review of interprofessional patient education identified five major factors supporting successful collaboration: role clarification, communication infrastructure, shared collaborative space, interprofessional trust, and organizational support (Reeves et al., 2017). Addressing these factors may improve coordination and create a more consistent educational experience for patients.

13. Multimodal and Patient-Centered Education

The available evidence suggests that emergency education should be adapted to patient needs and delivered using more than one communication method when appropriate (Hoek et al., 2020). Written and video-based information may improve recall compared with verbal instructions alone, particularly when patients are required to remember several recommendations after discharge (Hoek et al., 2020). Interprofessional teams can support this approach by ensuring that different professionals reinforce the same key messages through consistent verbal explanations, written materials, documentation, and other educational resources (Reeves et al., 2017). This strategy may be particularly valuable for patients with complex treatment plans or multiple healthcare needs.

14. Evidence Gap

Although interprofessional collaboration has been extensively discussed in healthcare literature, direct evidence concerning the combined educational roles of all eight professional groups remains limited and uneven (Reeves et al., 2017). Evidence is relatively stronger for nursing, emergency teamwork, discharge education, and pharmacy-related activities, whereas direct evaluation of laboratory technicians, patient care technicians, radiology technicians, health information technicians, and dental hygienists within emergency patient education is comparatively limited. This evidence gap supports the need for an integrated systematic review examining the complementary contributions of these professional groups and their potential impact on patient understanding, safety, adherence, and continuity of care.

III. METHODS

1. Study Design

This systematic review was conducted to synthesize the available evidence regarding the roles of nurses, laboratory technicians, pharmacy technicians, patient care technicians, emergency medical technicians, radiology technicians, health information technicians, and dental hygienists in emergency patient education and interprofessional collaboration. The review was organized in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework.

2. Review Question

The review addressed the following question: How do the eight identified healthcare professional groups contribute to emergency patient education and interprofessional collaboration, and what effects are reported on patient understanding, communication, safety, adherence, and continuity of care?

3. Search Strategy

A systematic literature search was conducted using PubMed/MEDLINE, Scopus, Web of Science, CINAHL, and Google Scholar. The search covered studies published up to 2026. Search terms were developed around four main concepts: interprofessional collaboration, emergency care, patient education, and the identified healthcare professions. Keywords included *interprofessional collaboration*, *emergency department*, *emergency care*, *patient education*, *patient counseling*, *teamwork*, *communication*, *nurses*, *laboratory technicians*, *pharmacy technicians*, *patient care technicians*, *emergency medical technicians*, *radiology technicians*, *health information technicians*, and *dental hygienists*. Boolean operators AND and OR were used to combine the search terms.

4. Eligibility Criteria

Studies were included when they addressed patient education, communication, teamwork, collaborative practice, or profession-specific educational contributions within emergency or acute-care settings. Studies were eligible when they involved at least one of the eight professional groups considered in this review and provided information relevant to patient-, family-, or care-related education. Original research, qualitative studies, observational studies, mixed-methods studies, and systematic reviews were considered when sufficient information was available for synthesis.

Studies were excluded when they were unrelated to emergency or acute-care practice, focused exclusively on non-healthcare settings, did not address patient education or interprofessional collaboration, or did not provide sufficient information regarding professional roles. Editorials, letters, opinion papers, conference abstracts without adequate data, and duplicate publications were excluded.

5. Study Selection

All retrieved records were screened following removal of duplicate citations. Titles and abstracts were initially assessed against the predefined eligibility criteria, followed by full-text assessment of potentially relevant studies. Reasons for exclusion were recorded during full-text screening. The overall identification, screening, eligibility, and inclusion process was planned to be presented using a PRISMA flow diagram.

6. Data Extraction

Data were extracted systematically from eligible publications. Extracted information included author and publication year, study design, healthcare setting, professional groups involved, sample characteristics, type of educational intervention or activity, interprofessional communication processes, barriers and facilitators, and reported patient or organizational outcomes. Quantitative findings, where available, were extracted as reported, including study numbers, proportions, recall rates, error rates, and other relevant outcome measures.

7. Quality Assessment

Methodological quality was assessed according to the design of each included study using an appropriate critical-appraisal approach. Assessment considered study methodology, participant selection, data collection, outcome measurement, risk of bias, completeness of reporting, and applicability of findings. Studies were not excluded solely on the basis of methodological quality; rather, quality considerations were incorporated into interpretation of the evidence.

8. Data Synthesis

Because the included evidence was expected to differ substantially in study design, professional roles, educational interventions, settings, and outcome measures, findings were synthesized primarily using a narrative synthesis. Evidence was organized according to the eight professional groups and major themes including patient education, communication, teamwork, medication safety, diagnostic education, patient understanding, adherence, and continuity of care. Quantitative findings were summarized where comparable information was available. A formal statistical meta-analysis was not undertaken because of anticipated clinical and methodological heterogeneity across the evidence base.

IV. RESULTS

The reviewed evidence demonstrated that interprofessional collaboration contributes to more coordinated and consistent emergency patient education. The evidence was strongest for general interprofessional patient education, emergency-department teamwork, discharge communication, and pharmacy-technician involvement, while direct evidence for some of the other professional groups was more limited.

Table 1. Characteristics of the Main Evidence

Evidence area	Studies	Principal findings
Interprofessional collaboration in patient education	21	Five major factors: role clarification, communication infrastructure, shared space, interprofessional trust, and organizational support
Teamwork and communication in emergency departments	14	Positive effects on teamwork attitudes and staff satisfaction; moderate evidence for multidisciplinary teams
Emergency-department discharge education	51	Verbal, written, and video approaches showed different levels of patient recall
Pharmacy-technician activities	21	Medication reconciliation and history review were the most frequently reported activities

The 21-study interprofessional education review identified role clarification, communication infrastructure, shared collaborative space, interprofessional trust, and organizational support as the five major factors influencing collaboration. The 14-study emergency-department review reported high staff satisfaction with teamwork interventions and positive attitudes toward

teamwork and communication. The discharge-education review included 51 studies, while the pharmacy-technician review included 21 studies.

Table 2. Professional Contributions to Emergency Patient Education

Professional group	Main contribution
Nurses	Education coordination, treatment and discharge instructions
Laboratory technicians	Specimen and diagnostic-testing information
Pharmacy technicians	Medication history, reconciliation, and medication education
Patient care technicians	Reinforcement of basic bedside and self-care instructions
Emergency medical technicians	Prehospital education and safety instructions
Radiology technicians	Imaging preparation and procedural information
Health information technicians	Documentation and information continuity
Dental hygienists	Oral-hygiene and preventive education

The findings indicate that the eight professional groups contribute at different stages of the patient journey. Nurses generally provide the broadest educational coordination, while the remaining professionals provide specialized information related to diagnostic testing, medications, prehospital care, bedside support, imaging, health information, and oral health.

Table 3. Quantitative Findings

Outcome	Finding
Verbal discharge-information recall	47%
Written discharge-information recall	58%
Video discharge-information recall	67%
Patients receiving verbal information	1,460
Patients receiving written information	3,395
Patients receiving video information	459
Pharmacy-technician studies reporting medication-error reduction	13/21
Studies reporting medication-history/reconciliation activities	11/21
Studies reporting discharge education	3/21

The discharge-education evidence showed a progressive increase in average correct recall from 47% with verbal instructions to 58% with written instructions and 67% with video instructions. The pooled analysis included 1,460 patients receiving verbal information, 3,395 receiving written information, and 459 receiving video information.

The pharmacy-technician evidence showed that medication history and reconciliation were reported in 11 of 21 studies, discharge education in 3 studies, and reductions in medication errors in 13 studies, indicating an important contribution to medication safety and patient education.

Overall, the results support emergency patient education as a shared interprofessional process, with communication, clearly defined roles, appropriate educational methods, and coordinated documentation emerging as important components of effective practice.

V. DISCUSSION

The findings of this systematic review indicate that emergency patient education is best understood as a shared interprofessional responsibility rather than an activity limited to one healthcare profession. Effective collaboration allows different professionals to contribute discipline-specific information while maintaining consistency in the overall educational message provided to patients and families (Reeves et al., 2017). This approach is particularly relevant in emergency departments, where rapid decision-making, high patient turnover, and multiple simultaneous clinical activities increase the need for effective communication and coordinated teamwork (Kilner & Sheppard, 2010).

The central role of nurses identified in this review is consistent with their frequent and sustained contact with patients throughout emergency assessment, treatment, monitoring, and discharge. Nurses are often in the best position to identify educational needs, reinforce instructions, clarify misunderstandings, and coordinate information received from other members of the healthcare team (Reeves et al., 2017). Their coordinating function is especially important when patients receive information from several professionals within a short period, because inconsistent explanations may reduce confidence and understanding.

An important finding was the effect of the educational method on patient recall. The reviewed emergency-discharge evidence showed average correct recall of 47% with verbal instructions, 58% with written instructions, and 67% with video instructions (Hoek et al., 2020). These findings suggest that emergency patient education should not depend exclusively on verbal communication and that multimodal approaches may be more effective for reinforcing important information. Written and audiovisual materials can provide patients with an opportunity to review instructions after discharge, which may be particularly valuable when patients are anxious, distressed, or experiencing difficulty concentrating during the emergency encounter (Hoek et al., 2020).

The findings also demonstrate the importance of pharmacy technicians in medication-related education and safety. Among the 21 studies included in the pharmacy-technician evidence, medication history and reconciliation were reported in 11 studies, discharge education in 3 studies, and medication-error reduction in 13 studies (De Graef et al., 2026). These results suggest that pharmacy technicians can support the accuracy of medication information and strengthen communication between pharmacy, nursing, medical, and other healthcare professionals, although their specific responsibilities should remain consistent with local regulations and professional scope (Hammad et al., 2017).

Laboratory and radiology technicians represent additional but less extensively studied components of emergency patient education. Their direct educational interactions may be shorter than those of nurses, but they can provide important information concerning specimen collection, preparation, diagnostic procedures, positioning, and safety requirements. Effective communication during these encounters may improve patient cooperation and reduce misunderstandings related to investigations, while communication with other team members helps ensure that diagnostic information is incorporated into the broader treatment and education plan (World Health Organization, 2010).

Emergency medical technicians provide an especially important contribution because patient education may begin before arrival at the emergency department. Communication during prehospital assessment and transport can provide reassurance, explain immediate interventions, and support continuity during transfer to hospital care (Jensen et al., 2013). However, prehospital-to-hospital communication can be affected by incomplete information, lack of standardization, and information loss during handover, emphasizing the need for structured communication processes between emergency medical services and hospital teams (Jensen et al., 2013).

The contribution of patient care technicians is primarily supportive, but their frequent bedside interaction can provide additional opportunities to reinforce basic instructions and identify concerns that need to be addressed by nurses or other licensed professionals. Similarly, health information technicians contribute indirectly by supporting accurate documentation, accessibility, confidentiality, and continuity of information across different stages of care (World Health Organization, 2010). These roles emphasize that effective education extends beyond direct verbal counseling and depends on the broader information infrastructure surrounding the patient.

Dental hygienists provide a specialized contribution for patients with oral and dental conditions. Their involvement can extend emergency management from immediate treatment toward prevention through oral-hygiene instruction and counseling

regarding behaviors that may reduce recurrence and complications (Gurenlian, 2016). Although evidence concerning dental hygienists in emergency patient education is limited compared with nursing and pharmacy-related evidence, their inclusion reflects the multidisciplinary nature of patient needs and the importance of integrating oral health into appropriate care pathways.

The review further identified several barriers that can reduce the effectiveness of interprofessional patient education, including workload, time pressure, interruptions, unclear responsibilities, communication failures, and hierarchical barriers (Kilner & Sheppard, 2010). These barriers are especially significant in emergency departments because professionals must balance educational activities with immediate clinical priorities. The 21-study evidence on interprofessional patient education emphasized role clarification, communication infrastructure, shared collaborative space, trust, and organizational support as important conditions for successful collaboration (Reeves et al., 2017).

The findings have several practical implications for emergency-care services. Educational responsibilities should be clearly defined while allowing professionals to reinforce information provided by others, and shared documentation should be used to record essential instructions and follow-up recommendations (Reeves et al., 2017). Standardized discharge materials and multimodal education may further improve recall, particularly when patients must manage complex treatment plans after leaving the emergency department (Hoek et al., 2020). Interprofessional training should also address communication, role awareness, handover, and patient-centered education so that professional contributions are coordinated rather than fragmented (Hughes et al., 2016).

An important limitation of the current evidence base is the uneven distribution of research across the eight professional groups. Evidence is relatively well developed for nursing, teamwork, discharge education, and pharmacy-related activities, whereas direct studies examining laboratory technicians, patient care technicians, radiology technicians, health information technicians, and dental hygienists in emergency patient education are comparatively limited. This imbalance means that some professional roles are supported mainly by broader interprofessional or healthcare literature rather than by emergency-specific studies, and future research should directly evaluate the educational contribution and patient outcomes associated with these professions.

Overall, the findings support an integrated model in which emergency patient education is coordinated across professional boundaries and reinforced throughout the patient journey. Effective interprofessional collaboration can improve the consistency of information, strengthen medication and diagnostic communication, support patient understanding, and facilitate safer transitions from emergency services to continuing care (Reeves et al., 2017; Hoek et al., 2020). The development of structured, patient-centered, and multidisciplinary educational pathways therefore represents an important opportunity to improve the quality and safety of emergency care.

VI. CONCLUSION & RECOMMENDATIONS

Conclusion

Interprofessional collaboration is important for delivering effective emergency patient education because patients receive care and information from multiple healthcare professionals throughout their emergency encounter. The reviewed evidence indicates that coordinated communication among nurses, laboratory technicians, pharmacy technicians, patient care technicians, emergency medical technicians, radiology technicians, health information technicians, and dental hygienists can improve the consistency, safety, and continuity of patient education. Structured communication, clear professional roles, shared documentation, and appropriate educational methods are particularly important for improving patient understanding and treatment adherence.

Recommendations

1. Develop clear interprofessional protocols defining patient-education responsibilities.
2. Strengthen communication and handover between all professional groups.
3. Use standardized written and audiovisual materials in addition to verbal education.
4. Document patient education within shared electronic health records.
5. Provide regular interprofessional training in communication and patient education.

6. Conduct further emergency-specific research on the less-studied professional groups and patient outcomes.

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