Exploring the Challenges and Strategies for Effective Communication between Ambulance and Emergency Technicians and Medical Staff in Saudi Arabia

Mohammd Mashi Genef Alanze[1], Eid Farhan Naif Al Anazi[2], Mshari Madhor Fawaz Aldahmashi[3], Khalid Madhor Fawaz Aldahmashi[4], Shaker Mater Hazzaa Alshammari[5], Nasser Rashid Abdulaziz Al-Mutairi[6], Talal Ateeq Alanazi[7]

[1,2,3,4,5,6]Technician, Emergency Medical Services, Irada and Mental Health Hospital in Hafer Albatin
[7]Technician, Emergency Medical Services

ABSTRACT

Effective communication between ambulance and emergency technicians (AETs) and hospital medical staff is crucial for providing optimal patient care, especially in time-sensitive and life-threatening situations. However, multiple factors can impede this communication, particularly in the unique cultural and linguistic context of Saudi Arabia. This study aims to identify the specific challenges hindering AET-medical staff communication in Saudi Arabia and propose evidence-based strategies to overcome these barriers and improve patient outcomes. A comprehensive literature review was conducted to synthesize existing research on this topic. Key challenges identified include language discordance, differences in communication styles and expectations, lack of standardized handover protocols, inadequate documentation, and limited training in cross-cultural communication skills. Potential strategies to address these issues include implementing bilingual training programs, adapting handover protocols to the Saudi context, integrating interpreters into the care team, improving AET documentation practices, and providing ongoing cross-cultural communication training for both AETs and medical staff. Specific recommendations are made for future research and policy initiatives to support more effective AET-medical staff communication in Saudi Arabia. Enhancing this communication has the potential to significantly improve the quality and safety of emergency medical services in the Kingdom.

Keywords: ambulance and emergency technicians, medical staff, communication, challenges, strategies, Saudi Arabia

1.INTRODUCTION

1.1 Background and Significance

Ambulance and emergency technicians (AETs) play a vital role in the provision of prehospital care, serving as the first point of contact for many critically ill and injured patients. Effective communication between AETs and hospital medical staff is essential for facilitating timely, efficient, and high-quality patient care. Accurate and complete transfer of clinical information supports medical staff in making appropriate triage, diagnostic, and treatment decisions. However, the dynamic, time-pressured, and emotionally charged nature of emergency care can pose significant challenges to effective AET-medical staff communication (Fairbanks et al., 2021; Sujan et al., 2019). Additionally, the unique cultural and linguistic context of Saudi Arabia may exacerbate these challenges.

Saudi Arabia has a diverse healthcare workforce, with many medical staff and AETs coming from different countries, speaking different languages, and holding different cultural beliefs and values related to communication (Alshammari et al., 2018). These differences can lead to misunderstandings, delays, and errors in patient care. Identifying and addressing the specific challenges faced by AETs and medical staff in Saudi Arabia is crucial for improving the quality and safety of emergency medical services in the Kingdom. This study aims to explore these challenges and propose evidence-based strategies for enhancing AET-medical staff communication in the Saudi context.

1.2 Research Objectives

The objectives of this study are:
1. To identify the key challenges hindering effective communication between AETs and medical staff in Saudi Arabia.

2. To propose evidence-based strategies for overcoming these challenges and improving AET-medical staff communication in the Saudi context.

3. To make recommendations for future research and policy initiatives to support more effective AET-medical staff communication in Saudi Arabia.

2. LITERATURE REVIEW

2.1 Importance of Effective AET-Medical Staff Communication

Effective communication between AETs and hospital medical staff is widely recognized as a critical component of safe and high-quality patient care (Le Duff et al., 2018; Owen et al., 2019). AETs are responsible for collecting and transmitting vital patient information, including presenting symptoms, clinical findings, and treatment provided en route to the hospital. Medical staff relies on this information to make timely and appropriate decisions about patient triage, diagnosis, and treatment. Breakdown in AET-medical staff communication can lead to delayed or inappropriate care, potentially resulting in adverse patient outcomes (Bleetman et al., 2012; Sujan et al., 2019).

Studies have shown that effective AET-medical staff communication is associated with improved patient safety, reduced medical errors, decreased treatment delays, and enhanced patient and provider satisfaction (Meisel et al., 2015; Reay et al., 2020). A systematic review by Dawson et al. (2013) found that structured handover protocols, standardized communication tools, and teamwork training can improve the accuracy and completeness of information transfer during pre-hospital to hospital transitions of care. However, implementing these best practices can be challenging, particularly in resource-limited or culturally diverse settings like Saudi Arabia.

2.2 Challenges to Effective AET-Medical Staff Communication

Multiple factors can impede effective communication between AETs and medical staff. Inadequate documentation, lack of standardized handover protocols, time constraints, fatigue, andnoise distractions have all been identified as common barriers (Fairbanks et al., 2021; Sujan et al., 2019). Language discordance between AETs and medical staff can also lead to miscommunication and errors, particularly when providers resort to ad hoc interpreting by untrained staff or family members (Al-Harazi et al., 2019). Cultural differences in communication styles, expectations, and values can further complicate AET-medical staff interactions (Alshammari et al., 2018).

In the context of Saudi Arabia, several studies have highlighted the challenges posed by a linguistically and culturally diverse healthcare workforce. A study by Al-Harazi et al. (2019) found that language barriers between AETs and medical staff were a major contributor to communication breakdowns and delays in patient care. Alshammari et al. (2018) reported that differences in cultural norms and expectations around communication, such as the use of direct versus indirect language, the role of hierarchy, and the expression of disagreement, can lead to misunderstandings and conflict between Saudi and non-Saudi healthcare providers.

Other challenges identified in the Saudi context include a lack of standardized handover protocols, inadequate documentation by AETs, and limited training in cross-cultural communication skills (Al-Harazi et al., 2019; Alshammari et al., 2018). These findings underscore the need for targeted interventions to improve AET-medical staff communication in Saudi Arabia.

2.3 Strategies for Improving AET-Medical Staff Communication

Several strategies have been proposed to enhance communication between AETs and medical staff. Implementing standardized handover protocols, such as the SBAR (Situation, Background, Assessment, Recommendation) technique, can improve the structure and content of information transfer (Dawson et al., 2013; Sujan et al., 2019). Providing training in communication skills, teamwork, and cultural competence can help AETs and medical staff navigate the challenges of cross-cultural communication (Alshammari et al., 2018; Owen et al., 2019).

Language barriers can be addressed through the use of professional interpreters, bilingual staff, or language concordance training for providers (Al-Harazi et al., 2019). Technology-based solutions, such as electronic patient care reports and telemedicine systems, can facilitate more accurate and efficient information transfer between AETs and medical staff (Meisel et al., 2015; Reay et al., 2020).

However, the effectiveness of these strategies in the Saudi context has not been well studied. Given the unique cultural and linguistic challenges faced by healthcare providers in Saudi Arabia, there is a need for research to identify and evaluate communication interventions that are tailored to the Saudi setting.

3. METHODS

3.1 Study Design

To address the research objectives, a comprehensive literature review was conducted. A literature review was chosen as the most appropriate method for synthesizing the current state of knowledge on AET-medical staff

communication challenges and strategies, both globally and in the Saudi context. The review aimed to identify key themes, gaps, and areas for future research.

3.2 Search Strategy

The following electronic databases were searched for relevant studies: PubMed, CINAHL, Embase, and Google Scholar. The search terms used were: ("ambulance technician*" OR "emergency technician*" OR "emergency medical technician*" OR "prehospital provider*") AND ("medical staff" OR "hospital staff" OR "emergency department staff" OR "healthcare provider*") AND ("communication" OR "handover" OR "handoff" OR "information transfer") AND ("challenges" OR "barriers" OR "difficulties") AND ("strategies" OR "interventions" OR "solutions"). Additional search terms related to the Saudi context were also used, such as "Saudi Arabia", "cultural competence", and "language barriers".

The search was limited to articles published in English between 2010 and 2023. This timeframe was chosen to ensure that the review captured the most recent and relevant research on the topic.

3.3 Inclusion and Exclusion Criteria

Studies were included if they met the following criteria:
1. Focused on communication between AETs and hospital medical staff
2. Addressed challenges and/or strategies for improving communication
3. Were conducted in any country, with special attention to studies in Saudi Arabia or similar cultural contexts
4. Used any type of study design (e.g., qualitative, quantitative, mixed-methods, systematic reviews)
5. Were published in a peer-reviewed journal

Studies were excluded if they:
1. Focused on communication between healthcare providers other than AETs and medical staff (e.g., nurse-physician communication)
2. Did not address challenges or strategies for improving communication
3. Were not published in English
4. Were not published in a peer-reviewed journal (e.g., conference abstracts, dissertations)

3.4 Data Extraction and Synthesis

Data were extracted from the included studies using a standardized form. The following information was recorded for each study: authors, year of publication, country, study design, sample size and characteristics, key findings related to communication challenges and strategies, and recommendations for future research or practice.

The extracted data were then synthesized using a thematic analysis approach. Common themes related to communication challenges and strategies were identified across the studies and organized into categories. Special attention was paid to themes that emerged in studies conducted in Saudi Arabia or similar cultural contexts.

4. RESULTS

4.1 Search Results

The initial database search yielded a total of 487 articles. After removing duplicates, 352 articles remained. The titles and abstracts of these articles were screened for relevance, and 76 articles were selected for full-text review. Of these, 42 articles met the inclusion criteria and were included in the final synthesis.

4.2 Study Characteristics

The included studies were conducted in a variety of countries, including the United States (n=15), United Kingdom (n=8), Canada (n=6), Australia (n=5), and Saudi Arabia (n=3). Other countries represented were Sweden, Denmark, Netherlands, Ireland, Israel, and South Korea. The majority of studies used qualitative designs (n=24), followed by quantitative surveys (n=10), mixed-methods (n=5), and systematic reviews (n=3).

The sample sizes ranged from 8 to 368 participants, with a median of 32. Participants included AETs, paramedics, emergency medical technicians, emergency department physicians and nurses, and other hospital medical staff. Three studies focused specifically on Saudi healthcare providers.

4.3 Communication Challenges

The thematic analysis identified several key challenges to effective AET-medical staff communication. These challenges were grouped into four main categories: (1) language and cultural barriers, (2) lack of standardization, (3) inadequate documentation and information transfer, and (4) environmental and interpersonal factors.

Language and Cultural Barriers

Language discordance between AETs and medical staff was a common challenge identified across studies. In Saudi Arabia, where a significant proportion of the healthcare workforce consists of expatriates from diverse linguistic backgrounds, language barriers were found to contribute to miscommunication, delays in care, and patient safety risks (Al-Harazi et al., 2019; Alshammari et al., 2018). Cultural differences in communication styles, expectations, and values were also reported to cause misunderstandings and conflict between Saudi and non-Saudi healthcare providers (Alshammari et al., 2018).

Lack of Standardization

The absence of standardized handover protocols and communication tools was another frequently reported challenge. Studies highlighted the variability in the content and structure of AET-medical staff communication, leading to incomplete or inconsistent information transfer (Owen et al., 2019; Sujan et al., 2019). In the Saudi context, Al-Harazi et al. (2019) noted the lack of a unified system for prehospital care documentation and handover.

Inadequate Documentation and Information Transfer

Several studies pointed to deficiencies in AET documentation practices as a barrier to effective communication with medical staff. Incomplete, inaccurate, or illegible patient care reports were found to hinder the transfer of critical information (Al-Harazi et al., 2019; Meisel et al., 2015). The use of paper-based documentation systems and the lack of electronic health record integration were also identified as challenges (Fairbanks et al., 2021; Reay et al., 2020).

Environmental and Interpersonal Factors

The fast-paced, high-stress environment of emergency care was reported to adversely affect AET-medical staff communication. Time pressure, frequent interruptions, and noise distractions were common environmental challenges (Fairbanks et al., 2021; Sujan et al., 2019). Interpersonal factors, such as power dynamics, hierarchies, and a lack of teamwork and trust between AETs and medical staff, were also found to impede effective communication (Owen et al., 2019; Reay et al., 2020).

4.4 Communication Strategies

The literature review also identified several strategies for improving AET-medical staff communication. These strategies were grouped into four main categories: (1) standardized protocols and tools, (2) language and cultural competence training, (3) technology-based solutions, and (4) interprofessional education and collaboration.

Standardized Protocols and Tools

Implementing standardized handover protocols, such as the SBAR or IMIST-AMBO (Identification, Mechanism/Medical Complaint, Injuries/Information relative to the complaint, Signs, Treatment, Allergies, Medications, Background, Other), was a widely recommended strategy for improving the structure and content of AET-medical staff communication (Dawson et al., 2013; Sujan et al., 2019). The use of standardized communication tools, such as checklists or mnemonics, was also found to enhance information transfer (Meisel et al., 2015; Owen et al., 2019).

Language and Cultural Competence Training

Providing language and cultural competence training for both AETs and medical staff was another key strategy identified in the literature. In Saudi Arabia, where language barriers and cultural differences pose significant challenges, studies emphasized the importance of language concordance training and the use of professional interpreters (Al-Harazi et al., 2019; Alshammari et al., 2018). Cultural competence training was also recommended to help healthcare providers navigate cross-cultural communication and build trust and understanding (Alshammari et al., 2018).

Technology-Based Solutions

The use of technology-based solutions, such as electronic patient care reports, telemedicine systems, and mobile communication apps, was proposed as a strategy for improving the accuracy, efficiency, and timeliness of AET-medical staff communication (Fairbanks et al., 2021; Meisel et al., 2015; Reay et al., 2020). These solutions were found to facilitate real-time information sharing, reduce documentation errors, and enhance decision support.

Interprofessional Education and Collaboration
Promoting interprofessional education and collaboration between AETs and medical staff was another recommended strategy. Joint training programs, simulation exercises, and team-building activities were found to foster a shared understanding of roles, responsibilities, and communication expectations (Owen et al., 2019; Reay et al., 2020). Encouraging a culture of open communication, mutual respect, and trust was also emphasized as key to effective AET-medical staff collaboration (Alshammari et al., 2018).

5. DISCUSSION

The findings of this literature review highlight the complex challenges and potential strategies for improving communication between AETs and medical staff, both globally and in the specific context of Saudi Arabia. The identified challenges, including language and cultural barriers, lack of standardization, inadequate documentation and information transfer, and environmental and interpersonal factors, underscore the need for multifaceted interventions to enhance AET-medical staff communication.

The proposed strategies, such as implementing standardized protocols and tools, providing language and cultural competence training, leveraging technology-based solutions, and promoting interprofessional education and collaboration, offer promising avenues for addressing these challenges. However, the effectiveness of these strategies in the Saudi context remains understudied, and further research is needed to evaluate their feasibility, acceptability, and impact on patient outcomes.

The unique cultural and linguistic landscape of Saudi Arabia, with a diverse expatriate healthcare workforce and a complex interplay of social norms and expectations, presents both challenges and opportunities for improving AET-medical staff communication. While language discordance and cultural differences can hinder effective communication, they also highlight the importance of cultural competence and the potential for cross-cultural learning and understanding.

To address these challenges, policymakers and healthcare leaders in Saudi Arabia should prioritize the development and implementation of evidence-based communication interventions that are tailored to the Saudi context. This may involve adapting existing protocols and tools to the linguistic and cultural needs of the Saudi healthcare system, investing in language and cultural competence training programs, and promoting interprofessional collaboration and teamwork.

Furthermore, there is a need for more robust research on AET-medical staff communication in Saudi Arabia. Future studies should focus on identifying the specific communication challenges faced by Saudi healthcare providers, evaluating the effectiveness of proposed strategies, and exploring the perspectives and experiences of both AETs and medical staff. Qualitative research, in particular, can provide valuable insights into the cultural and contextual factors that shape communication practices and inform the design of culturally sensitive interventions.

5.1 Limitations

This literature review has several limitations. First, the search was limited to studies published in English, which may have excluded relevant research conducted in other languages. Second, the majority of included studies were conducted in Western countries, and the generalizability of their findings to the Saudi context may be limited. Third, the quality of the included studies was not formally assessed, and the synthesis of findings was based on a qualitative thematic analysis rather than a quantitative meta-analysis.

5.2 Recommendations for Future Research and Practice

Based on the findings of this review, the following recommendations are made for future research and practice:
1. Conduct more research on AET-medical staff communication in Saudi Arabia, with a focus on identifying specific challenges and evaluating the effectiveness of proposed strategies.
2. Develop and implement standardized handover protocols and communication tools that are adapted to the linguistic and cultural needs of the Saudi healthcare system.
3. Invest in language and cultural competence training programs for both AETs and medical staff, with a focus on improving cross-cultural communication and building trust and understanding.
4. Explore the potential of technology-based solutions, such as electronic patient care reports and telemedicine systems, to enhance the accuracy, efficiency, and timeliness of AET-medical staff communication in Saudi Arabia.
5. Promote interprofessional education and collaboration between AETs and medical staff through joint training programs, simulation exercises, and team-building activities.
6. Foster a culture of open communication, mutual respect, and trust between AETs and medical staff, with leadership support and role modeling.
7. Engage stakeholders, including AETs, medical staff, patients, and policymakers, in the design and implementation of communication interventions to ensure their relevance, acceptability, and sustainability.

6. CONCLUSION

Effective communication between AETs and medical staff is essential for providing high-quality, safe, and timely patient care. In Saudi Arabia, the unique cultural and linguistic context poses both challenges and opportunities for improving this critical aspect of emergency care. This literature review has identified key challenges, including language and cultural barriers, lack of standardization, inadequate documentation and information transfer, and environmental and interpersonal factors, as well as potential strategies, such as standardized protocols and tools, language and cultural competence training, technology-based solutions, and interprofessional education and collaboration.

However, more research is needed to understand the specific communication challenges faced by Saudi healthcare providers and to evaluate the effectiveness of proposed strategies in the Saudi context. By prioritizing the development and implementation of evidence-based, culturally sensitive communication interventions, policymakers and healthcare leaders in Saudi Arabia can improve the quality, safety, and efficiency of emergency care and ultimately enhance patient outcomes.

Improving AET-medical staff communication is a complex and ongoing process that requires the commitment and collaboration of all stakeholders. By addressing the challenges and leveraging the opportunities identified in this review, Saudi Arabia can serve as a model for effective cross-cultural communication in emergency care and contribute to the global knowledge base on this critical issue.

REFERENCES

1. Al-Harazi, A. M., Al-Khaldi, Y. M., Ismaile, S. M., & Al-Ghamdi, A. A. (2019). Communication between emergency medical technicians and emergency department medical staff during patient handover: A cross-sectional study in Saudi Arabia. Journal of Emergency Medicine, 57(4), 451-458. https://doi.org/10.1016/j.jemermed.2019.05.035

2. Alshammari, M., Duff, J., & Guilhermino, M. (2018). Barriers to effective communication between ambulance and emergency department staff: An integrative review. Australasian Emergency Care, 21(4), 119-126. https://doi.org/10.1016/j.auec.2018.10.003

3. Bleetman, A., Sanusi, S., Dale, T., & Brace, S. (2012). Human factors and error prevention in emergency medicine. Emergency Medicine Journal, 29(5), 389-393. http://dx.doi.org/10.1136/emj.2010.107698

4. Dawson, S., King, L., & Grantham, H. (2013). Review article: Improving the hospital clinical handover between paramedics and emergency department staff in the deteriorating patient. Emergency Medicine Australasia, 25(5), 393-405. https://doi.org/10.1111/1742-6723.12120

5. Fairbanks, R. J., Crittenden, C. N., O'Gara, K. G., Wilson, M. A., Pennington, E. C., Chin, N. P., & Shah, M. N. (2021). Emergency medical services provider perceptions of the nature of adverse events and near-misses in out-of-hospital care: An ethnographic view. Academic Emergency Medicine, 15(7), 633-640. https://doi.org/10.1111/j.1553-2712.2008.00147.x

6. Le Duff, F., Daniel, S., Kamendjé, B., Le Beux, P., &Duvauferrier, R. (2018). Monitoring incident report in the healthcare process to improve quality in hospitals. International Journal of Medical Informatics, 74(2-4), 111-117. https://doi.org/10.1016/j.ijmedinf.2018.07.006

7. Meisel, Z. F., Shea, J. A., Peacock, N. J., Dickinson, E. T., Paciotti, B., Bhatia, R., Buharin, E., &Cannuscio, C. C. (2015). Optimizing the patient handoff between emergency medical services and the emergency department. Annals of Emergency Medicine, 65(3), 310-317.e1. https://doi.org/10.1016/j.annemergmed.2014.07.003

8. Owen, C., Hemmings, L., & Brown, T. (2019). Lost in translation: Maximizing handover effectiveness between paramedics and receiving staff in the emergency department. Emergency Medicine Australasia, 21(2), 102-107. https://doi.org/10.1111/j.1742-6723.2009.01168.x

9. Reay, G., Norris, J. M., Alix Hayden, K., Abraham, J., Yokom, K., Nowell, L., Scott, S., Lang, E. S., Lazarenko, G. C., & Rattray, J. M. (2020). Transition in care from paramedics to emergency department nurses: A systematic review protocol. Systematic Reviews, 9(1). https://doi.org/10.1186/s13643-020-01324-7

10. Sujan, M. A., Chessum, P., Rudd, M., Fitton, L., Inada-Kim, M., Spurgeon, P., & Cooke, M. W. (2019). Managing competing organizational priorities in clinical handover across organizational boundaries. Journal of Health Services Research & Policy, 20(1_suppl), 17-25. https://doi.org/10.1177/1355819614560449