

# **Paramedics and EMT refresh Health courses outcome to employ in field**

**By**

**Hassan Saeed Shaiab**

**Occupation: Emergency Medical Technician  
Saudi Red Crescent Authority**

## Introduction

Stands for Emergency Medical Technician-EMTs are healthcare professionals who provide pre-hospital emergency medical care to patients. They are trained to assess patients' conditions, administer basic life support, and transport patients to medical facilities. EMTs work in a variety of settings, including ambulances, fire departments, and hospitals [1].

Paramedics and EMTs play a critical role in the healthcare system, providing emergency medical care to patients in a variety of settings. To maintain skills and knowledge, paramedics, and EMTs are required to take regular refresh health courses [2] which include:

- Assessment and patient management
- Pharmacology and medication administration
- Airway management and ventilation
- Cardiac emergencies
- Trauma care

There are many benefits to paramedics and EMTs taking refresh health courses. Paramedics and EMTs who take refresh health courses are better equipped to provide high-quality care to patients. This is because they are up-to-date on the latest medical advancements and protocols. Those who maintain their certification are more likely to secure employment. This is because employers are looking for paramedics and EMTs who are committed to continuous learning and professional development. It is obvious that they feel more confident in their abilities because they know that they have the skills and knowledge to handle a wide range of medical emergencies [2].

### 1.1 Assessment and patient management

EMTs and paramedics must have the ability to accurately assess patient conditions and implement appropriate interventions to stabilize and improve their health outcomes.

Patient assessment involves gathering information about a patient's condition to gain a comprehensive understanding of their needs. This includes obtaining a detailed medical history, performing a thorough physical examination, assessing mental status and pain level, and considering environmental factors.

Based on the assessment findings, EMTs and paramedics must make informed decisions about patient management. This may involve providing initial stabilization, administering medications, performing interventions, transporting the patient, and documenting care.

Effective assessment and patient management require a combination of clinical knowledge, critical thinking skills, and hands-on experience. EMTs and paramedics must continuously update their knowledge and skills through ongoing education and training to ensure they can provide the best possible care to patients in emergency situations [3].

## **1.2 Pharmacology and medication administration**

Pharmacology and medication administration are crucial aspects of emergency medical care, requiring EMTs and paramedics to possess comprehensive knowledge of drug properties and their effects on the body. They must be proficient in understanding pharmacokinetic and pharmacodynamic principles, determining appropriate dosages, and recognizing potential drug interactions. Additionally, EMTs and paramedics must demonstrate expertise in safely and effectively administering medications through various routes, including oral, inhalation, parenteral, and rectal, while closely monitoring for adverse reactions and maintaining accurate documentation.

Proficient medication administration skills are important for EMTs and paramedics to ensure patients receive the appropriate medications effectively and safely. Continuous education and training are essential to maintain up-to-date knowledge on pharmacology and medication administration practices [4].

## **1.3 Airway management and ventilation**

Airway management and ventilation are critical aspects of emergency medical care, ensuring adequate oxygen delivery to maintain vital organ function. EMTs and

paramedics must possess expertise in assessing airway patency, maintaining airway integrity, and providing supplemental oxygen or ventilation as needed. The initial step involves assessing airway patency to identify any airflow obstructions. This assessment encompasses visual inspection, palpation, and auscultation. If an obstruction is detected, appropriate interventions must be implemented, such as head-tilt-chin lift, jaw thrust, oropharyngeal airway (OPA), nasopharyngeal airway (NPA), or endotracheal intubation. In cases of inadequate or absent spontaneous breathing, supplemental oxygen or ventilation must be provided. Supplemental oxygen administration involves nasal cannulas, face masks, or non-rebreathing masks. Bag-valve-mask (BVM) ventilation delivers oxygen manually to the patient's lungs. Mechanical ventilators are employed for patients with severe respiratory compromise or cardiac arrest. Continuous training and practice are essential for EMTs and paramedics to maintain proficiency in these techniques and effectively manage respiratory emergencies, ensuring patient survival [5].

#### 1.4 Cardiac emergencies

Paramedics and EMTs are trained to identify the signs and symptoms of cardiac emergencies, including myocardial infarction (heart attack), stroke, and sudden cardiac arrest (SCA). They are equipped to provide immediate treatment, such as cardiopulmonary resuscitation (CPR), defibrillation, and medication administration, to stabilize patients and improve their chances of survival. Additionally, paramedics and EMTs should be familiar with advanced cardiac life support (ACLS) equipment and protocols to ensure the best possible care for their patients. Regular cardiac refresh courses are essential for paramedics and EMTs to stay up-to-date on the latest treatment guidelines and techniques, enabling them to provide optimal care for patients experiencing cardiac emergencies [6].

#### 1.5 Trauma care

Trauma, caused by blunt or penetrating force, is a leading cause of death and disability worldwide, and prompt and appropriate care can significantly improve patient outcomes. Trauma refresh courses cover a wide range of topics, from understanding trauma anatomy and physiology to mastering primary and secondary surveys, hemorrhage control, and shock management. These courses also emphasize effective airway management, assessment and management of

central nervous system and musculoskeletal trauma, handling pediatric trauma, fostering communication and coordination, and addressing the mental health aspects of trauma. Regular trauma refresh courses ensure that paramedics and EMTs remain up-to-date on the latest evidence-based practices and protocols in trauma care, enabling them to provide the highest quality of care to trauma patients and improve their chances of survival and recovery [7].

### **1. Problem Statement**

The rapid evolution of medical technology, advancements in treatment protocols, and the emergence of new medical conditions necessitate continuous education and skill enhancement for paramedics and EMTs. However, the effectiveness and impact of current refresher training programs on patient care, provider performance, and EMS system efficiency remain unclear in our country.

### **2. Aim of the research**

The aim of a study of paramedics and EMT refresh health courses can be multifaceted, encompassing both the enhancement of individual skills and the overall improvement of emergency medical services (EMS) systems.

The study aims to evaluate the effectiveness of current refresher courses. It assesses whether the existing refresher courses are adequately preparing paramedics and EMTs for the challenges they face in the field. This can identify areas where the courses can be strengthened or updated to better meet the needs of practicing emergency responders.

Also study identifies areas for improvement in EMS protocols and procedures by gathering insights from paramedics and EMTs about potential gaps or inefficiencies in current EMS protocols and procedures. This feedback may refine existing guidelines and develop new approaches to optimize patient care.

Additionally, the findings can assess the impact of refresher training on job satisfaction and retention by examining whether refresher training contributes to increased job satisfaction and reduced turnover among paramedics and EMTs. Beside this, recommendations can be developed for enhancing refresher training and improving EMS systems.

### 3. Methodology

The research is based on a cross-sectional study utilizing a structured questionnaire to assess the effectiveness and impact of refresher training for paramedics and EMTs.

#### *Target Population*

Paramedics and EMTs currently employed in emergency medical services (EMS) systems across a diverse range of geographic regions and healthcare settings.

#### *Sampling Strategy*

Stratified random sampling to ensure a representative sample of paramedics and EMTs from different demographics, experience levels, and geographic locations.

#### *Questionnaire Development*

The researcher got expert consultation help to consult with EMS educators, paramedics, and EMTs to refine questionnaire items and ensure content validity and relevance to the target population.

The questionnaire is distributed electronically via a secure online platform to facilitate widespread participation and data collection.

#### *Data Analysis:*

Descriptive statistics is used to summarize participant characteristics and responses to questionnaire items using descriptive statistics, such as frequencies and percentage.

### 4. Results and discussion

The researcher constructed the questionnaire containing 5 parts. It started with the demographic information of the participants (age, gender, location, and educational background). Figure 1 shows that 5 (27.8%) participants are 18-24 years, 8 (44.4%) participants are 25-34 years, 3 (16.7%) participants are 35-44 years, and 2 (11.1%) participants are 45-54 years. This refers to that the most interactive people with this topic are among young to mature people.

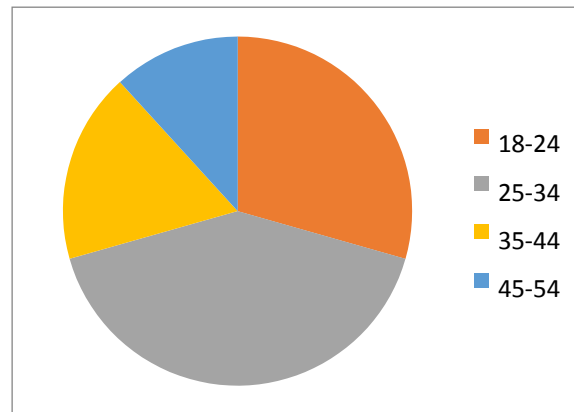


Figure 1. Ages of the participants

Figure 2 shows that 6 (33.3%) participants are females, while 12 (66.7%) participants are males which indicates that males are more involved in this field and more interested in these courses.

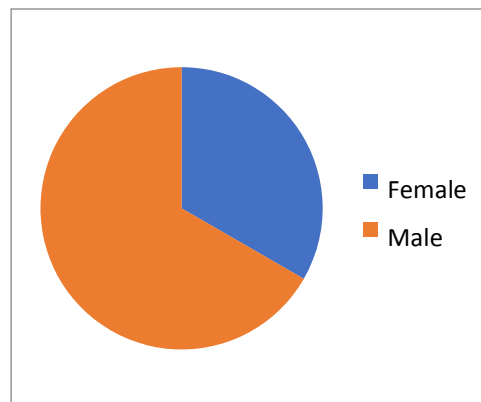


Figure 2. Gender of the participants

All participants declared that they live in cities. Their educational background is represented by figure 3. It is found that 12 (66.7%) participants have bachelor's degree, 4 (22.2%) participants have associate degree, 1 (5.55%) participants has master's degree , and 1 (5.55%) participants has high school degree.

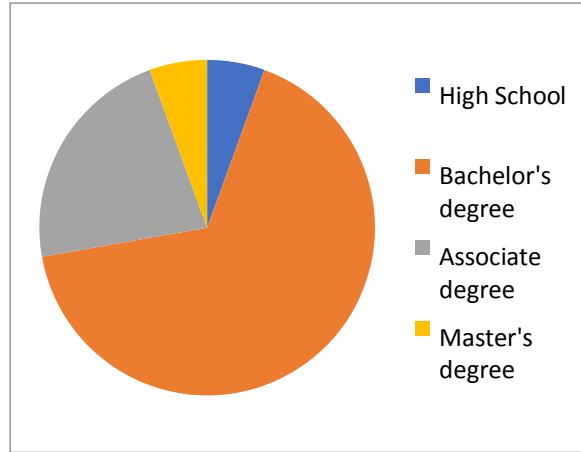


Figure 3. Educational background of the participants

Figure 4 shows that 16 (88.9%) participants completed either Paramedics or EMT refresh health courses within 1-3 years, while 2 (11.1%) participants did not.

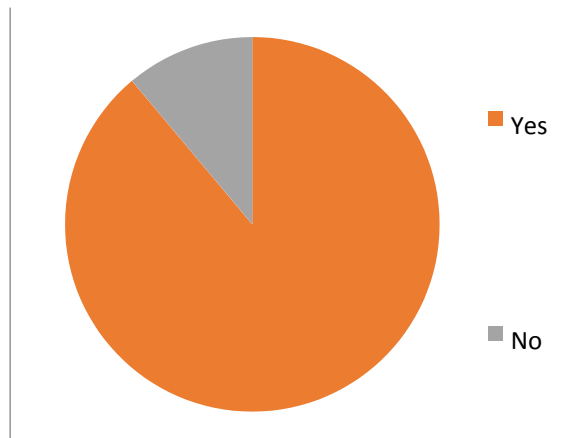


Figure 4. Respondents' completion of courses within 1-3 years

Half of the participants (50%) had completed their courses in traditional classrooms, and the other half (50%) had hybrid courses (traditional + online).

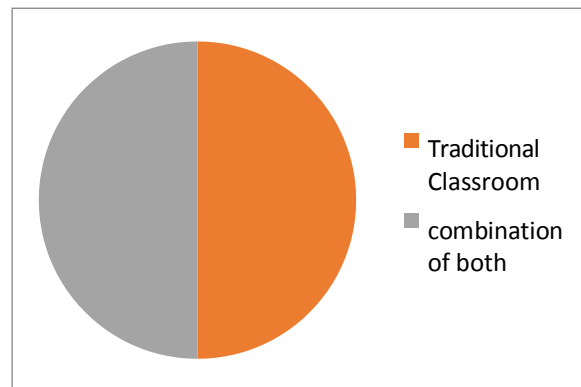




Figure 5. Respondents' courses experience

According to figure 6, 12 (66.7%) participants who had Paramedics or EMT refresh health courses are employed in the field, while 6 (33.3%) participants are not. Which means that job opportunities in this field are available and even desirable for many.

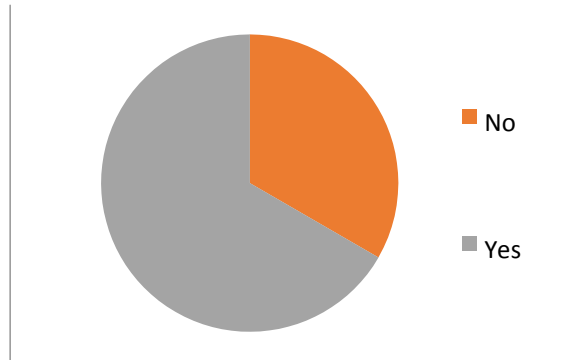


Figure 6. Respondents' employment in the field

As shown in figure 7, respondents showed the benefits they get from the courses that adequately prepared them for jobs in the field. 4 (22.2%) participants got prepared very well, 10 (55.6%) participants got prepared well, and 4 (22.2%) participants got natural preparation.

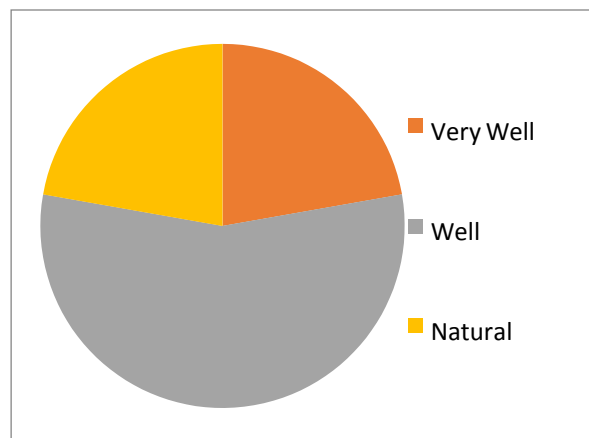


Figure 6. Respondents' qualifications in the field by the courses

Respondents answered on their satisfaction with employment as a consequence of the courses they got in the field as in figure 7. 3 (16.66%) participants are very satisfies, 10 (55.56%) participants are satisfied, 4 (22.22%) participants are natural, and 1 (5.56%) participant is dissatisfied.

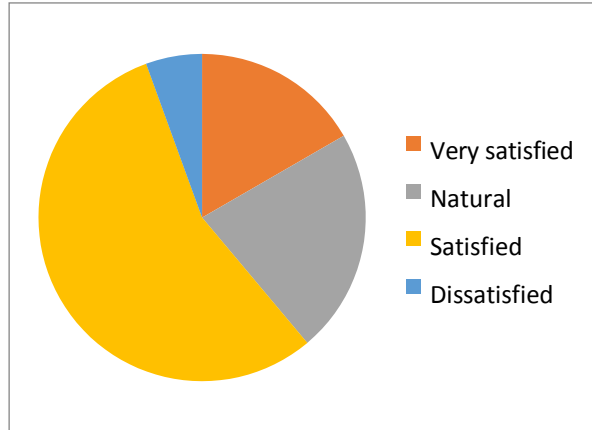


Figure 7. Respondents' satisfaction in their jobs in the field

Significant number of respondents 11 (61.11%) find their income suitable in the field, while 7 (38.89%) respondents find their income lower than expected.

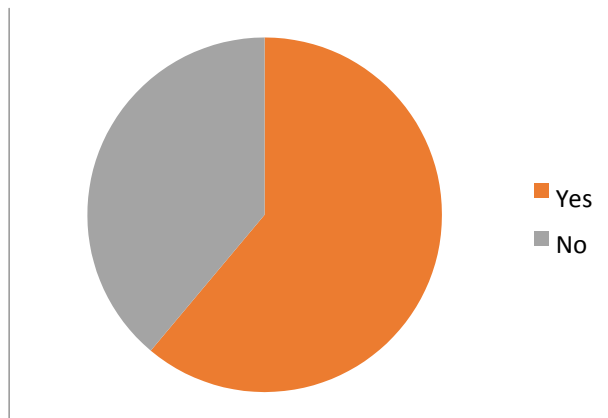


Figure 8. Convenience of respondents' income

Respondents answered on their future plan regarding further education in the field such that 13 (72.22%) participants would like to get further education in the field, while 5 (27.78%) participants would not.

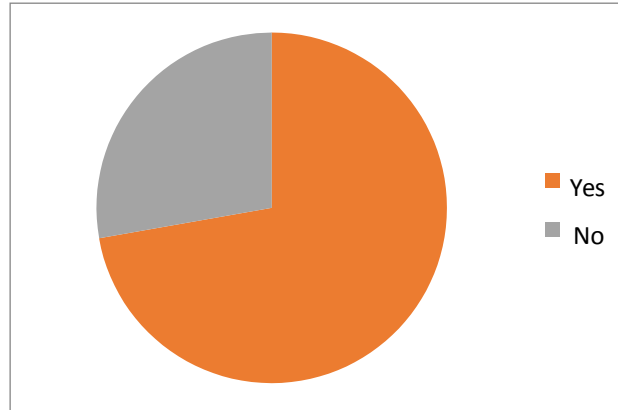


Figure 9. Future plan for further education in the field

Most of participants (77.77%) gave positive comments to encourage on learning these courses.

The findings prove that Paramedics and EMTs are required to take continuing education courses to maintain their certifications, improve job opportunities, and income. These courses help to ensure that paramedics and EMTs are up-to-date on the latest medical knowledge and practices.

There are a number of different courses that paramedics and EMTs can take in person, online, or through a combination of both methods.

### **Outcomes of Paramedics and EMT Refresh Health Courses**

The outcomes of paramedics and EMT refresh health courses can be broadly categorized into different areas. Paramedics and EMTs can gain a strong understanding of the latest medical knowledge and practices. They should also be able to demonstrate the skills necessary to provide effective pre-hospital care and feel more confident in their abilities to assess patient's conditions. Moreover, They are more satisfied with their jobs because they will feel more competent and prepared to handle any situation that they may encounter.

The findings of the study explore number of benefits to paramedics and EMTs taking refresh health courses including improved patient care due to the quality of care that paramedics and EMTs provide to their patients as they have a strong understanding of the latest medical knowledge and practices. Also paramedics and EMTs' confidence in their abilities can help to reduce the risk of errors as they become better prepared to handle any situation that they may encounter. Furthermore, the refresh health courses can help to increase job satisfaction among paramedics and EMTs because they will feel more competent and prepared to handle any situation that they may encounter.

## Conclusion

Paramedics and EMT refresh health courses are an essential part of maintaining the skills and knowledge of these vital healthcare professionals. These courses help to ensure that paramedics and EMTs are able to provide high-quality care to patients in a variety of settings.

## References

- [1] <https://www.coursera.org/articles/emergency-medical-technician>
- [2] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, EMTs and Paramedics. <https://www.bls.gov/ooh/healthcare/emts-and-paramedics.htm> (visited October 04, 2023).
- [3] McCord C., Chowdhury Q. A Cost Effective Small Hospital in Bangladesh: What It Can Mean for Emergency Care. International Journal of Gynecology and Obstetrics. 2003;81(1):83–92.
- [4] <https://www.ncbi.nlm.nih.gov/books/NBK595006/>
- [5] Jennie Helmer, Basic Airway Management in EMS, August 15th, 2021. <https://medcognition.com/blog/basic-airway-management-in-ems>.
- [6] Committee on the Treatment of Cardiac Arrest: Current Status and Future Directions; Board on Health Sciences Policy; Institute of Medicine; Graham R, McCoy MA, Schultz AM, editors. Washington (DC): National Academies Press (US); 2015 Sep 29. <https://www.ncbi.nlm.nih.gov/books/NBK321505/>

[7] Leslie V. Simon; Richard A. Lopez; Kevin C. King, Blunt Force Trauma. August 7, 2023. <https://www.ncbi.nlm.nih.gov/books/NBK470338/>