

The Impact of Pandemic Protocol on Work Performance of Emergency Medical Technicians: The case of National Ambulance, Fujairah, UAE

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ABSTRACT

The pandemic protocols implemented in medical institutions made varied changes in healthcare services experienced by emergency medical technicians, particularly in National Ambulance, Fujairah, UAE, in aiding patients who need medical assistance. This comprises emergency response protocols, patient care protocols, and employee shifting, and workplace interaction. The survey was analyzed quantitatively, while the interview required qualitative analysis. The level of work performance of the EMTs before the pandemic ($x=4.19$) is slightly higher than their performance during the pandemic ($x=4.09$); there is a significant difference between the work performance of the participants before and during the pandemic ($p\text{-value}=0.005$). The participants' changes observed relative to health protocols during a pandemic do not show a significant difference when grouped demographic profiles.

Keywords— Pandemic Protocol, Emergency Medical Technicians

INTRODUCTION

The Novel Corona Virus or the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) was recorded as a global pandemic by the World Health Organization on March 11, 2020. The virus originated in Wuhan City, Hubei Province, China, where the first respiratory disease cases were reported on December 31, 2019. The name of the illness was coined from the term "coronavirus disease 2019," which produced its acronym COVID-19 that people use today (Cennimo, 2021). This crisis has affected the people's way of life, public activity and affected the nearby and global economy, which has added more difficulties and impacts on human health (Barro, 2020).

Consequently, the World Health Organization (WHO) has reported over 32.7 million affirmed cases of the novel coronavirus, resulting in about 991,000 deaths on the 28th day of September 2020. In the United Arab Emirates (UAE), 90,218 confirmed cases were recorded simultaneously (World Health Organization, 2020). The virus's threat has made local governments worldwide generate drastic measures that minimize the risk of acquiring a

respiratory disease, including complete or fractional lockdowns, separation, and social isolation (Wilder-Smith A., 2020).

The pandemic protocols implemented in medical institutions made varied changes in healthcare services experienced by emergency medical technicians in aiding patients who need medical assistance. This comprises emergency response protocols, patient care protocols, and employee shifting, and workplace interaction. Emergency response protocols, emergency medical technicians (EMTs), and paramedics attend to patients who need medical services at home or in vehicular accidents. These medical professionals are commonly seen in an ambulance to tend to patients' initial care while being transported to the nearest medical institution. EMTs employ first-line emergency care at the scene of an accident or at a person's home, which comprises a team of people that assist in life-saving emergency care to patients while on transport to a medical facility with one person serving as the vehicle driver (Sherman, 2021).

Furthermore, the handling of the patient's condition also drastically changed. This was clearly seen through protective equipment and new standard procedures in treating patients suspected or confirmed to have contracted the virus. The BLS healthcare provider adult cardiac arrest algorithm for suspected or confirmed covid-19 patients is a new protocol for EMTs working amidst the pandemic. This procedure starts with verifying the scene that includes the proper donning of personal protective equipment and limiting the number of personnel involved in attending medical emergencies. Checking for the patient's vital signs follows after checking the scene. This comprises activating emergency response systems through a mobile device (American Heart Association, 2020).

Finally, the employee shifting patterns in emergency medical technicians' work schedules commonly covered 9,12 or 24-hour work shifts. In rural provinces, it was typical to see EMTs working 24-hour shifts living in a house-like setting for performing daily activities. For nine or 12-hour shifts, there is an alternating of shifts between daytime and nighttime (EMS PRO, 2020). In an 8-hour shift, the worker is given a 40-hr duty over a five-day workweek. Overtime includes driving back to the garage and restocking. The 9/12-hour shift includes four 9-hour tours or 12-hour tours for a total of 36 hours. The 24-hour tour, on the other hand, is commonly seen in rural areas with low call volumes of emergency reports. Rural areas also offer 36/48-hour tours due to the low volume of calls and increased time for resting (Konig, 2016).

Aim

This study aimed to determine the impact of the pandemic protocol on the work performance of Emergency Medical Technicians at National Ambulance – Fujairah, UAE, to develop an adaptive intervention plan that could be proposed to enhance EMT's work performance by the observed changes in health protocols.

Research Questions

1. What is the level of work performance of the EMTs before and after the pandemic?
2. Is there a significant difference in the performance of the EMTs before and after the pandemic?
3. Is there a significant difference in the changes observed by the EMT respondents relative to health protocols during a pandemic when grouped according to demographic profile?

METHODOLOGY

The researcher used the descriptive type of method, collecting factual data through informal interviews, observation, and surveys. A descriptive method involves collecting factual data to test hypotheses or to answer questions concerning the study's current status. For example, the researcher used this type of method to determine the impact of the pandemic protocol on the work performance of emergency medical technicians. In addition, it allowed the researcher to come with an appropriate assessment and interpretation of the problem.

Research Time Horizon

This research time horizon was a retrospective cross-sectional study with a combined self-made checklist survey. The research time horizon was completed with the allotted time of the research study time constrain—the study period of six months. The study period was set between September 2020 and April 2021.

Study Population, Sampling, and Size

There were a total of 96 Emergency Medical Technicians in the said city. Further, the target respondents of this study were delimited to EMTs who are available and willing to participate during the conduct of this study. Meaning, the researcher used voluntary response sampling since participation in the survey and interview is voluntary. Hence, this study has total respondents of 58 Emergency Medical Technicians of National Ambulance Fujairah of the Quantitative part, while ten participated in the interview.

Data Collection

The primary gathering tool in this study was a questionnaire specifically designed to gather data on the impact of the pandemic protocol on the work performance of emergency medical technicians in, Fujairah UAE. The questionnaire was also made through an online platform, making it available anytime. Upon which the researcher collected the obtained data. It was organized and analyzed immediately and readied for the statistical treatment, which pushed through to the final assessment phase. Further, the researcher scheduled a virtual interview through online conferencing with the respondents' permission and availability. Wherein the researcher transcribed the gathered information.

Data Analysis

After the collection of data, the responses that were derived from the respondents were tallied and statistically tested using the z-test.

Reliability and Validity

The research instrument had undergone content validity. The researcher asked specialists in the field to judge the appropriateness of the items on the instrument. Further, the researcher carried out a reliability analysis on the survey questionnaire comprising 30 items for Work Performance and 30 items for Impact of Pandemic Protocol to determine Cronbach's alpha value and the level of reliability of the questionnaires. As a result, Cronbach's Alpha showed coefficient ranges from .76 to .84, indicating the different sections of the questionnaire were reliable.

Ethics

The researcher sent a letter of intent, citing the purpose and the objectives of the study with an assurance that the participants' information would only be used for this research. Further, all the information gathered was kept confidential to the full extent of the law.

RESULTS AND DISCUSSIONS

Level of Work Performance

In Table 1, the general weighted mean performance of the EMTs before the pandemic is 4.19, which indicates that the level of work performance of the participants is has a high level of work performance before the pandemic. They regularly meet expectations and sometimes exceed expectations and role requirements. Likewise, during the pandemic, the weighted mean of 4.09 demonstrates the participants still have a high level of work performance during the pandemic.

Table 1: Level of Work Performance of Emergency Medical Technicians before and During the Pandemic

	Weighted Mean	Verbal Interpretation
Level of work performance of the EMTs before the pandemic	4.19	Often
Level of work performance of the EMTs during the pandemic	4.09	Often

Legend: 4.21-5.00 = Always, 3.41-4.20 = Often; 2.61 – 3.40 = Sometimes; 1.81 – 2.60 = Rarely; 1.00 – 1.80 = Never

Despite the surge of the pandemic, Emergency Medical Technicians have a high level of work performance. It shows that before and during the pandemic, participants are dedicated to their profession amidst the pandemic. They are regularly meet expectations and sometimes exceed expectations for the job role requirements.

Significant Differences in the Performance of the EMTs before and during the Pandemic

Table 2 shows the Wilcoxon-Signed Rank Test in the performance of the EMTs before and during the pandemic. The result shows that there is a significant difference between the work performance of EMTs before and during the pandemic, having a p-value of 0.005, which is less than the level of significance ($0.005 < 0.05$); therefore, the decision is to reject the hypothesis. Thus, the researcher concluded there is a significance between the work performance of EMTs before and during the pandemic.

Table 2. Significant difference in the Work Performance of the EMTs before and during the Pandemic

Work Performance	Before and During Pandemic
Z	2.777

Asymp. Sig. (2-tailed)	0.005
a. Wilcoxon Signed Ranks Test	
b. Based on positive ranks.	

Legend: Reject Ho if p-value is > 0.05; Accept Ho if p-value is < 0.05

This study shows that even they performed at a high level, it still indicates the participants' challenges. The participants revealed that the new protocol in this pandemic brought some challenges that somehow affect their work performance. Participants stated that *"Time and a new routine in doing the job, adjusting to new normal," "Stress in work during the time of peek in the Pandemic."*, *"Wearing cover all gear in the hot sun and responding to a normal patient."*, *"burnouts due to increased calls, by balancing life and work," "There was physical (heat stress from PPEs) and mental (anxiety from being a frontliner) challenges, and in both notes"* and *"Slightly affect in the sense it's for my protection and good."* These statements support the quantitative result where the hypothesis of this study was rejected. Even the participants performed well before and during the pandemic, and there are challenges mentioned that might affect their high level of work performance.

In scrutinizing more the qualitative data obtained in the work performance of the participants before and during the pandemic, the researcher found recurrent themes in the participants' responses.

Uneasy

Participants considered that pandemic protocol is challenging and uneasy when it comes to the emergency protocol, patient care protocol, and even in their work shift. Participants even revealed that wearing PPEs is the most uneasy in this pandemic. *"During summer the suits are very exhausting," "PPEs such Tyvek suit which normally seen only on textbook becomes real because We frequently wear it, and during pandemic We got More calls makes that us more exhausted by Wearing uncomfortable suits"* and *"Donning and Doffing PPEs especially cover all. Treating a patient with coverall"*. Likewise, emergency protocols such as Transport of the Patients, Clinical Assessment, and performing their tasks were shown. As they said, *"Hard to explain to the family for the criteria of transport if they do not meet it," "Transporting COVID patients is a combined effort of putting on/off the pipes and cleaning the ambulances right after"* and *"taking a longer on the scene and patient time than usual."* This pandemic protocol indicates the changes that happened when the COVID-19 hits.

Acceptance

This study found out that amidst the changes observed by the participants in the health protocol, they accepted, followed the protocols, and performed well. As the participants conveyed, *"Coped up via Acceptance," "it's for my protection and good,"* and *"You just adapt because it will protect you."* This only shows that medical professionals, especially Emergency Medical Technicians, are flexible regarding the new health protocols provided. This indicates that they can still perform well during the pandemic with new protocols.

CONCLUSIONS

The majority of the respondents have longer tenure the company. It indicates that Emergency Medical Technician participants were familiar and strictly followed the different clinical protocols set.

The participants highly observed clinical protocols for Emergency Response and Patient Care before and during the pandemic. The result shows that established clinical protocols, wearing PPE, transportation policy, and Infection Control are eminent changes before and during the pandemic. Likewise, these are the highly observed changes of the participants, as they asserted in the interview session.

Likewise, for the Work Shift of the Medical Professionals, especially the Emergency Medical Technicians (EMTs) who give immediate management, they rarely have time for themselves as they do their profession. It only implies that medical professionals are highly committed to providing help to people even the pandemic started.

Participants have a high level of work performance before and during the pandemic. Emergency Medical Technicians (EMTs) regularly meet expectations and sometimes exceed expectations of their job responsibilities amidst the pandemic.

Work performance of the EMTs before and during the pandemic is significantly difference. It implies that participants' work performance has several challenges experienced due to pandemics, yet they still perform their profession with dedication and acceptance.

Whatever the number of years as an emergency medical technician, the Length of service in the company and rendered service during the pandemic does not affect the work performance or changes observed by the EMTs in clinical protocols. It might imply that part of the profession of the Emergency Medical Technician, no matter their length of service, it is their duty to comply with all the protocols. Perhaps other demographic profiles might affect the said variables.

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