

“Impact of Management and Training of Emergency Medical Workers in RED Ambulance”

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled “**Impact of Management and Training of Emergency Medical Workers in RED Ambulance**” is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Dr. Shraddha Gawande

Date-01/07/2022

COMPLETION CERTIFICATE

This is to certify that **Dr. Shraddha Gawande** in partial fulfilment of the requirements for the award of the degree of **MBA in Hospital and Health Management** from the **IIHMR University, Jaipur** has successfully completed his internship at **Stanplus Technologies Pvt ltd** during April 08, 2022 to July 01, 2022.

Place: Hyderabad

Date: 01 July 2022

Preceptor/Head of the Organization

Stanplus Technologies Pvt ltd

Certificate from Faculty Guide & Dean

This is to certify that dissertation titled “**Impact of Management and Training of Emergency Medical Workers in RED Ambulance**” is a record of the research work undertaken by Dr. Shraddha Gawande in partial fulfillment of the requirements for the award of the degree of MBA in Hospital and Health Management from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide

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DISSERTATION

Abstract

Introduction: The basic aim of this study is to see how the management and Training of Emergency Medical Workers would create an impact on their roles and responsibilities as a responsible individual.

The initial aim of this study is to find out the need of training for the Ambulance Pilots, EMT's, Paramedics and Doctors. The later aim is to check if there are any improvement or benefits of the trainings conducted.

Objective: To assess the current resuscitative skills of the on ground Red Ambulance team and to check their scope of improvement.

Methodology: A Qualitative Cross-sectional study was conducted in Pan India locations of Stanplus team inclusive of Pilots, Paramedics, EMTs, Medical Call Center team, Operation Managers and Zonal Managers, etc. A comparative study was also conducted on the basis of their performance.

Result: 171 people got trained for FR (First Responder) Training, 103 people for BLS (Basic Life Support) Training and 31 people for Refresher FR Training. Impressive results were achieved after the Training was given to the participants.

Conclusion: Getting the Training once in your life is not beneficial. One can never learn anything at one go. To get a good catch, a Refresher Training should be done every 3 months.

Acknowledgement

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Abbreviations

1. ACLS: Advance Cardiac Life Support
2. AHA: American Heart Association
3. BLS: Basic Life Support
4. EMT: Emergency Medical Technician
5. EMS: Emergency Medical Services
6. FR: First Responder
7. KAP: Knowledge, Attitude, Practice
8. RM: Relationship Manager
9. TAT: Turn Around Time

Introduction

Ambulances have now become a fundamental part of our lives as they play a significant role in conjoining the patient with the medical centers. The ambulance services aim to transport those who need care, medical support and timely evacuation of the patients.

Earlier, ambulance services in India were solely dependent on municipalities, hospitals or charities. No committed departments or dedicated companies were dealing in ambulance services. Although, saving lives have been an immense priority in healthcare, yet minimum attention was paid to make the ambulances better and reduce the TAT.

When COVID-19 hit India with a huge number of positive cases, the vulnerabilities in healthcare sectors were exposed creating a lot of panic and chaos among the citizens. Unavailability of Ambulances, Hospital beds, oxygen cylinders were some of the major issues that people faced but couldn't find a way out. The already existing healthcare companies worked day and night to provide help and service. Getting the right help at the right time is all that matters.

India being the 2nd largest populated country as of 2022, we also come in the top rankings for most deaths due to road accidents or casualties. This number can be reduced and lives can be saved if timely assistance and treatment can be provided.

In 2016, Stanplus came into India to make its own name and provide the most efficient and quality emergency service to all. It was co- founded by Mr. Prabhdeep Singh, Antoine Poirson and Jose Leon in Hyderabad, India with a vision of providing the EMS all over India ensuring to provide all the assistance in the quickest possible manner.

Stanplus (Red Ambulance) is now India's largest medical response company with a team of more than 900 employees located in pan India location. It has a fleet of over 3500+ Ambulances and a response medical call center that works 24/7 and has a response rate of

maximum 3 secs to pick up a call. Stanplus promises and adheres to reach the Ambulance within 15 minutes of the call. Saving lives in every possible way is all that matters to Stanplus.

There are various types of Ambulances that Stanplus offers and categorizes for Transport:

1. Emergency Ambulances:
 - a. BLS
 - b. ACLS
 - c. Air Ambulance
2. Non-Emergency Ambulance:
 - a. Air Cargo
 - b. Hearse Vans

BLS Ambulance i.e., Basic Life Support Ambulance is used to transport Non-critical patients. Injection, IV Fluids or medicines are not administered on this ambulance. BLS Ambulance is equipped with Oxygen Cylinders, Stretchers, Wheelchair, and few other basic equipment and consumables.

ACLS Ambulance i.e., Advanced Cardiac Life Support Ambulance is used to transport Critical cases. These ambulances are accompanied with EMT's, Paramedics and Doctors for providing emergency care and treatment right on the site and on the way to hospital. We ensure to save life in every way possible.

Stanplus not just believes in delivering fully equipped Ambulances but also focuses on providing trained Pilots (Ambulance drivers), EMT's, Paramedics and Doctors.

AIM

The basic aim of this study is to see how the management and Training of Emergency

Medical Workers would create an impact on their roles and responsibilities as a responsible individual.

The initial aim of this study is to find out the need of training for the Ambulance Pilots, EMT's, Paramedics and Doctors. The later aim is to check if there are any improvement or benefits of the trainings conducted.

Objectives

- ❖ **General Objective-** To assess the current resuscitative skills of the on ground Red Ambulance team and to check their scope of improvement.
- ❖ **Specific Objective-**
 - To conduct a training need assessment.
 - To assess the effectiveness of training through Pre & Post Assessment.

Literature Review

S l. N o.	Title	Author/Year	Locatio n	Sample Size/ Sample Technique	Salient Features
1	"The importance of preliminary evaluation in developing ambulance staff" https://www.ncbi.nlm.nih.gov/pubmed/31942745 .	Woo Chan Jeon, Hyun Jong Kim, 2020	Uzbeki stan	98 Emergency Staff participated in the constructed survey and pre-validated written test	The examination revealed that conventional prehospital knowledge and ability considered to be important for ambulance crew were only minor. Insufficient medical knowledge and clinical decision-making skills were discovered among the Tashkent, Uzbekistan, ambulance workers. Based on the results of this study, a training programme for ambulance crew in Tashkent should be designed.
2	"A comparative study on the frequency of simulation-based training and" 03 Jul. 2018, https://pubmed.ncbi.nlm.nih.gov/29970079/ .	Henrik Langdalen, Eirik B. Abrahamsen, 2018	Norweg ian	A comparison of the responses to cross-sectional surveys about the instruction in and evaluation of NTSs in 2015 from staff of the Norwegian prehospital EMSs, with an emphasis on the Norwegian GEMS and HEMS, was conducted in 2016. Pilots, HEMS crew members (HCMs), doctors, paramedics, emergency medical technicians (EMTs),	2015 saw statistically substantially more simulation-based training in and evaluation of seven generic NTSs for HEMS than for GEMS. Other healthcare professionals in GEMS and HEMS get statistically considerably less frequent simulation-based training in and evaluation of NTSs compared to pilots and HCMs. The HEMS

				EMT apprentices, nurses, and nurses with an EMT license are among the professional groups of interest.	physicians tend to receive training and evaluations more regularly than the other health trust personnel. According to the study, evaluation of NTSs tends to receive less attention than simulation-based training.
3	"Guideline for conducting a knowledge, attitude and practice (KAP) study" 01 Jan. 2004, https://www.researchgate.net/publication/285908075_Guideline_for_conducting_a_knowledge_attitude_and_practice_KAP_study .	Karunamoorthi Kaliyaperumal, 2004		In the beginning, the basics are defined to understand the scope of The Knowledge, Attitudes and Practices in diabetes and diabetic retinopathy.	The steps in preparation of KAP study requires domain identification, question preparation and validation of questions. In the domain identification, the suitable domain has to be selected on which the study will be conducted. In the Question Preparation step, the questions which are relevant are stated on the Knowledge, Attitude, and Practice section of the study respectively. Multiple choice questions are avoided as it limits the knowledge because of guessing the answer. Questions incorporated in the attitude section should assess any prevailing attitude, belief or misconception among the population.
4	"The Knowledge, Attitude and Practice about Public	Jingting Lu, Xiaoqin Guo, Xiaoyu Han, 2021	Shanghai, China	Cross sectional study was performed on 1269 participants in Shanghai, China.	The purpose was to understand the KAP about public emergency and response capability of residents.

	Emergencies and the" 30 Apr. 2021, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8124481/ .				It was discovered that 90.3 percent of participants demonstrated a positive behavior, although only 46.8% had solid knowledge and 46.2 percent performed well in the practice element. This showed that there was a poor knowledge and perception of people with respect to emergency response.
5	"Knowledge, attitude and practice of emergency medical care in Lima, Peru." https://www.researchgate.net/publication/332045686_Knowledge_attitude_and_practice_of_emergency_medical_care_in_Lima_Peru .	David Aaron Adler, Max Dean Goldstein, 2019	Lima, Peru	Lima houses were chosen for the study population using a two-stage 30x7 cluster sampling technique. A collaborative academic-community interview team conducted an EMS and first-aid centred knowledge, attitude, and practise (KAP) survey.	This study was performed in Peru among 210 households. It was done to understand if the community requires first aid and CPR training. The study revealed that 61.4% people were unaware about the EMS number and only 24.8% said that they would call an ambulance in case of an emergency. The findings revealed a lack of faith in Lima's EMS services as well as a lack of understanding of EMS contact numbers, which may have encouraged community members to trust one other instead of their local EMS.
6	"Public Awareness of	Pranav D. Modi, Rajavi Solanki,	Maharashtra,	The purpose of the study was to find out	When asked if the participants would try

	the Emergency Medical Services in Maharashtra" 15 Sept. 2018, https://www.cureus.com/articles/14467-public-awareness-of-the-emergency-medical-services-in-maharashtra-india-a-questionnaire-based-survey.	Tripti S. Nagdev, Pallavi D. Yadav, Nyayosh K. Bharucha, 2018	India	the awareness level of EMS among people in Mumbai. It was a cross-sectional survey in which 1220 people participated. Data was collected using a convenient sampling strategy	to check for responsiveness if they observed someone unconscious by the side of the road but there was no risk present, just 17.5% of respondents answered they would. It's interesting to note that 78.9% of the respondents who worked in healthcare said they wouldn't check for responsiveness. Only 76.2% of respondents were aware that you should call 108 in case of a medical emergency, and over a quarter of them were not. Only 20.2% of the responders had requested an ambulance by calling the EMS. If the ambulance's lights and sirens were activated, 68.5 percent of respondents would move out of the way without hesitation, and 27.5 percent would do the same.
7	"Public awareness of the need to call emergency medical services" https://pubmed.ncbi.nlm.nih.gov/29490526/.	Naohiro Yonemoto, Akiko Kada, Hiroyuki 2018	Japan	In Japan a population-based survey was carried out for employing quota sampling. The key outcome measure, which was broken down into on-time (daytime) and off-time (nights and holidays) hours, was response to	It was a quota sampling-based population-based survey done in Japan. A total of 1200 people took part in the poll. The study revealed that awareness level among the general public was low with respect to calling an emergency

				swiftly calling EMS at the commencement of an AMI.	service.
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Gap In Literature:

After extensive literature review it was found that most of the studies are either done on health professionals/doctors or some cohort of medical students. Few studies have been found which was done among the general public and took practices regarding ERS and First Aid into account. That is why this study was conducted to examine the AKAP regarding ERS and First Aid among the population of India.

Research Material & Methodology

Study Design

- A Qualitative and Quantitative Cross-sectional study was conducted in Pan India locations of Stanplus.
- A Comparative study was conducted on the basis of performance of Training conducted.

Study population

★ Inclusion criteria:

- Red Ambulance Team inclusive of Pilots, EMT's, Paramedics, Call Centre team, Operation Managers, Hospital Managers and Customers

★ Exclusion Criteria:

- Confidential data, External client information and trainings.

Study tools

- Survey forms
- Pre-Training examination
- Post- Training examination.
- Feedback form.

Sampling Technique

- Non-Probability Convenience Sampling.

Duration of study

The duration of the study was from 8th April 2022 to 1st July 2022.

Data collection Procedure

- Primary data collection.

Data Analysis Plan: Analysis of data would be done using results of Pre and Post Training Examination, Feedback form and Microsoft Excel.

Implications of Research: This research will help the organization in assessing the existing skills and competencies of the team and to figure out ways to improve the life resuscitation skills for taking prompt and immediate action in any life-threatening circumstances.

Primary research:

Section A: Training Need Assessment

The initial step of the research was to conduct a survey for getting an idea about the knowledge and requirement of Training sessions from others point of view. This survey

was taken on a Google form and was circulated among the StanPlus team consisting of Drivers referred as Pilots, Paramedics, Relationship Managers, Fleet Managers, Operation Managers, Zonal Managers of our Pan India team and to our Medical Call Center.

The questionnaire consisted of 6 questions and was floated for 2 days and later the form was closed.

ANALYSIS:

Descriptive analysis was done. Bar graphs and Pie charts are used for the visual demonstration of the results achieved.

Result

Section A: Result of Training Need Assessment

A total of 177 responses were achieved.

Responses were achieved in a count stated below:

- Pilots-64
- Paramedics-27
- Zonal Managers-4
- Operation Managers- 5
- Medical Call Center team- 38
- Fleet Manager- 5
- Relationship Manager- 34

SL. No.	Designation	Number	Percentage
1	Pilots	64	36.2
2	Paramedics	27	15.3
3	Zonal Manager	4	2.3
4	Operations Managers	5	2.8
5	Medical Call Centre Team	38	21.5
6	Fleet Manager	5	2.8
7	RM	34	19.2
Total		177	100.00%

Table 4.1. 1 Designation of Respondent

A good count of response was achieved from the survey. Table 4.1.1 above shows Maximum responses were from the Pilots followed by Medical Call Centre team and Relationship Manager.

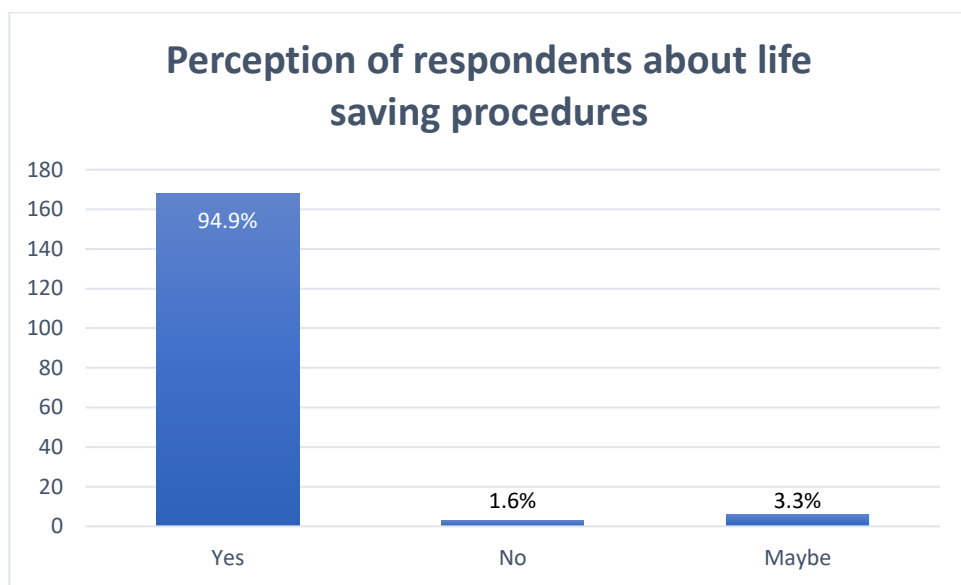


Figure 4.1. 2 Perception of respondents about life saving procedures

It can be seen from Figure 4.1.2 that large majority of respondents (94.9%) believed that knowledge of basic lifesaving procedures is important and they should know about it, only 1.6% respondents felt otherwise while 3.3% were unsure which interprets that either they feel that is not a part of their job or maybe it might not be relevant for them.

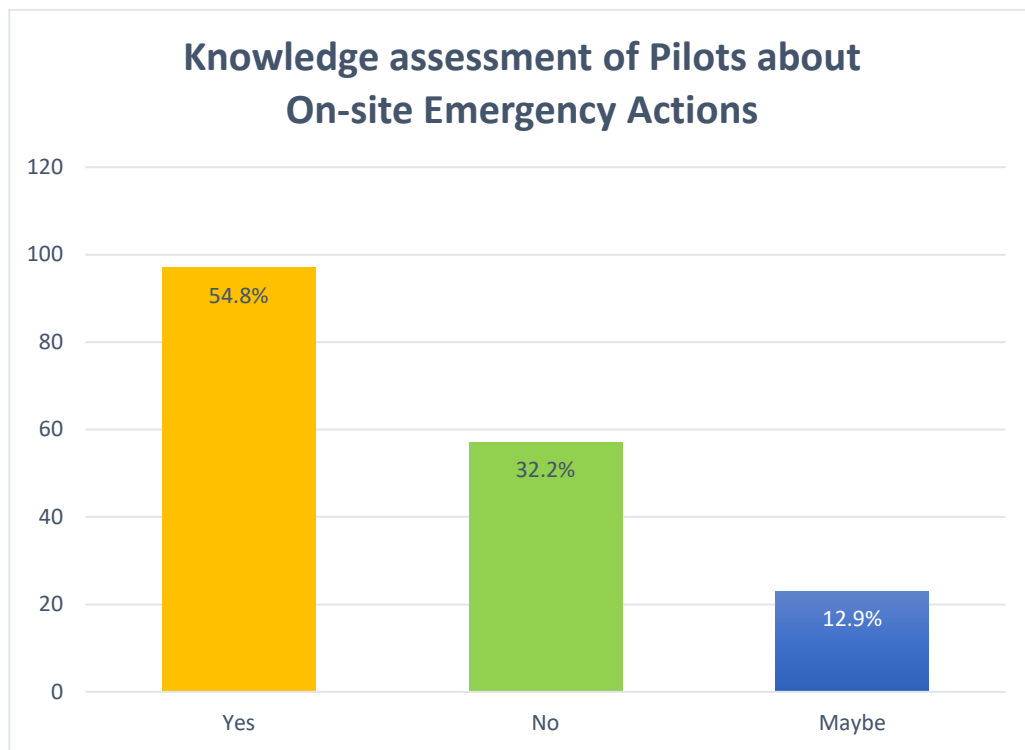


Figure 4.1. 3

Figure 4.1.3 above shows that 54.8% people think Pilots have detail knowledge about on-site Emergency Actions but to check it further we need to analyze their skills by conducting a skill check process.

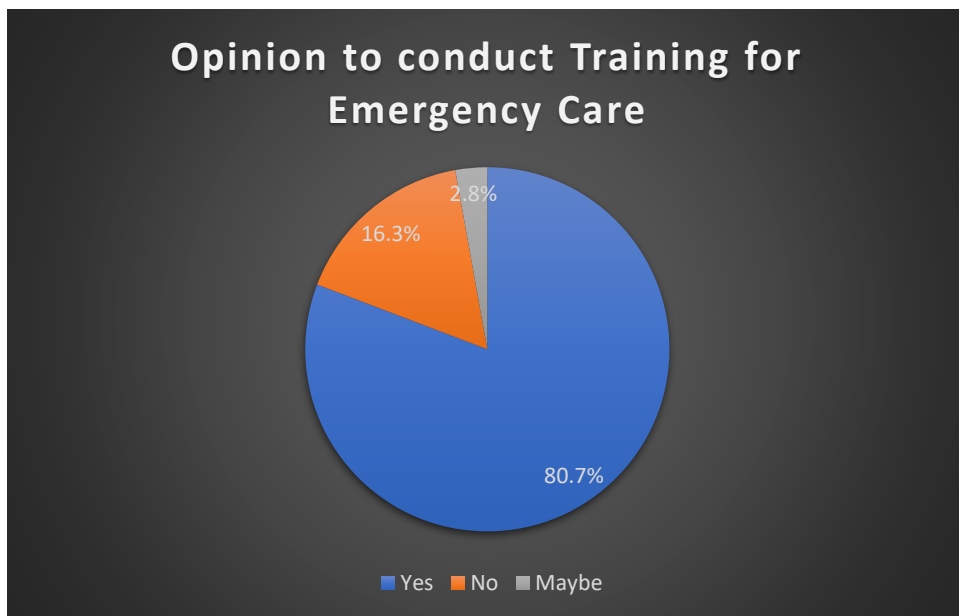


Figure 4.1. 4

Figure 4.1.4 above shows that 80.7% people rooted to yes while others have different opinion.

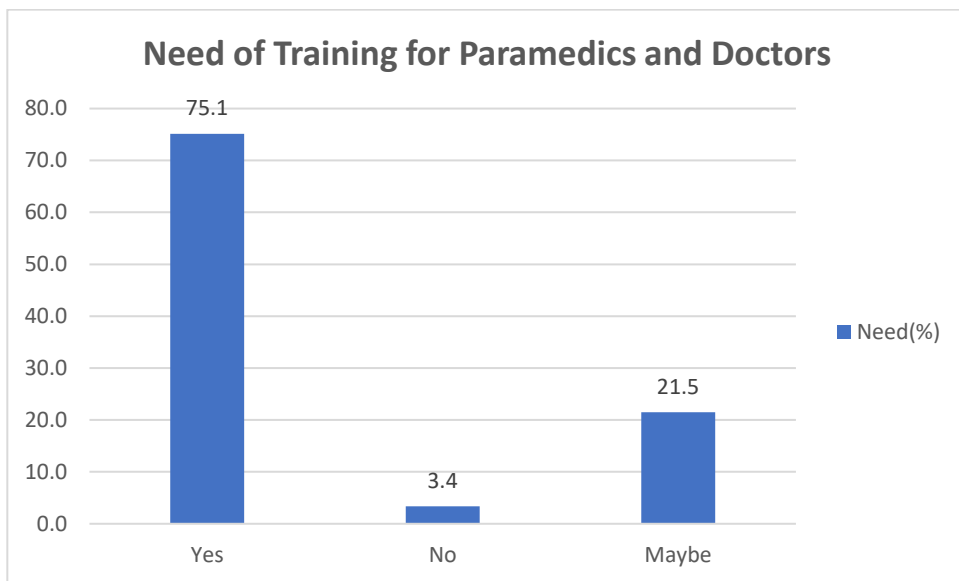


Figure 4.1. 5

The above Figure clearly states that majority (75.1%) of people think Paramedics and Doctors should receive training while 21.5% people were not sure about the same.

Trainings are of utmost importance for any Emergency Medical Worker but we need to understand that it's not just important for Medical people, it should also be conducted for every other individual may it be a Healthcare provider or a Non-Healthcare provider.

Trainings in Emergency Medical Care can be divided into two categories:

1. For Healthcare Providers
2. For Non-Healthcare Providers

Training for Healthcare Providers include:

1. BLS Training
2. ACLS Training

Trainings for Non-Healthcare Providers include:

1. FR Training (First Responder Training)
2. Medical Terminology
3. Ambulance Equipment Orientation

These Trainings also have a Certification body. Other than ACLS Training, all other trainings can be done in-house and Stanplus is eligible to issue Certificates for the same. ACLS Training Certificates needs to be issued by an external certification body. Stanplus is now connected to an external certification body who are authorized to issue AHA ACLS Certifications.

- ✚ These Certifications are valid for 2 years from the date of issue.
- ✚ Refresher Trainings are conducted by our team every 3 months

We then started the journey of conducting Trainings by our onboarded AHA certified Instructor.

Challenges faced for Training:

1. Absence of Training Equipment in Organization.

To solve this, we started making a list of equipment and consumables which would be needed for Trainings. Post which we began the process of Procurement.

2. Challenges with Procurement:

During Procurement we started facing challenges like limited vendors in city, quotations of sky-high prices, negotiations, unavailability of preferred brand.

Section B: To check Effectiveness of Training

- ❖ **The second step of my Research** was to check the effectiveness of the Training. To get a clear data for my research, I conducted a comparative study.

This comparative study was conducted in the form of Pre-Training Test and Post Training Test.

Pre- Training Test:

This test was conducted before starting the Training session. Hard copy of questionnaire was circulated among the students which consisted of 25 questions for BLS and 15 questions for FR.

Result of Pre-Training Test

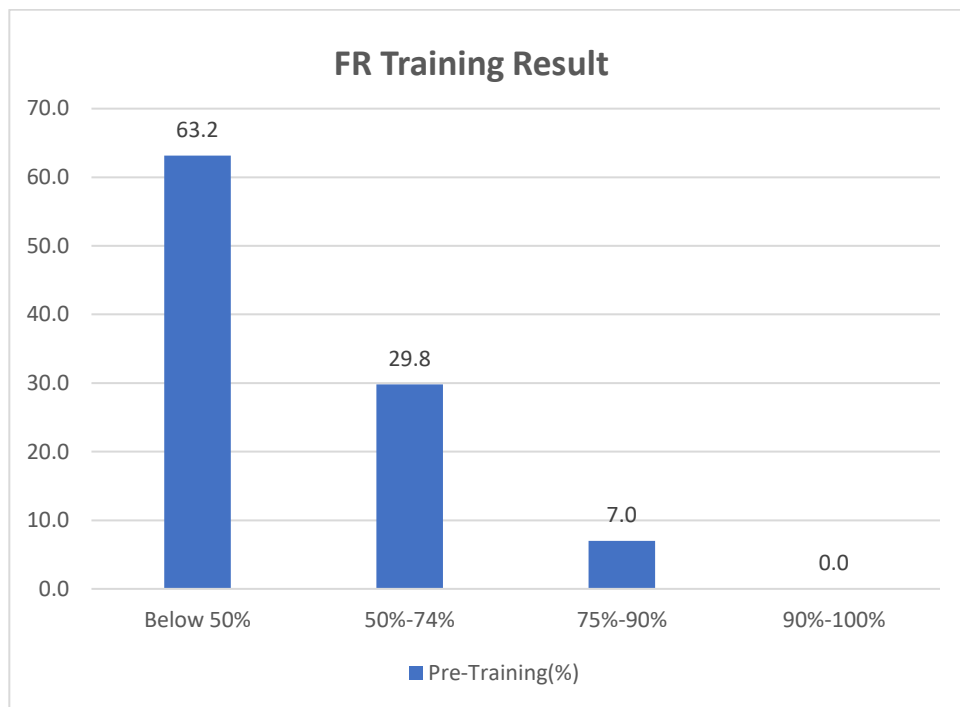


Figure 4.2. 1

The above Figure shows the Pre- Training result of FR (First Responder Training). Out of 171 participants 63.2% people scored below 50% marks, 29.8% participants scored between 50- 74% and only 7% people scored above 75%.

This test was conducted for Pilots, Medical Call Center team and site Managers.

This data clearly indicates Training is very much necessary for them to perform their duties on ground. Being one of the primary point of contact for patient on site, First aid and First response actions should be well versed to the Pilots and Call center team.

Medical Call Center team should have the knowledge of FR since they are the ones to whom the patient or patient relatives reach out to. Understanding the medical summary or the problems which the patient is having is important to decide which vehicle is to be deployed and if Doctor or Paramedic is required to go along with the vehicle.

Pilots are the first point of contact to the patient who is suppose to lift the patient and get

him into the ambulance via stretcher. In case of cases where the patient becomes unconscious or is getting unconscious and the pilot is not accompanied by any Paramedic or Doctor then, the Pilot should be able to at least perform the First Responder actions like CPR, Airway Management, Dressing and bandaging, etc.

The Pre-Training marks clearly implies the need of Training for the Pilots.

Coming to the results of BLS Trainings:

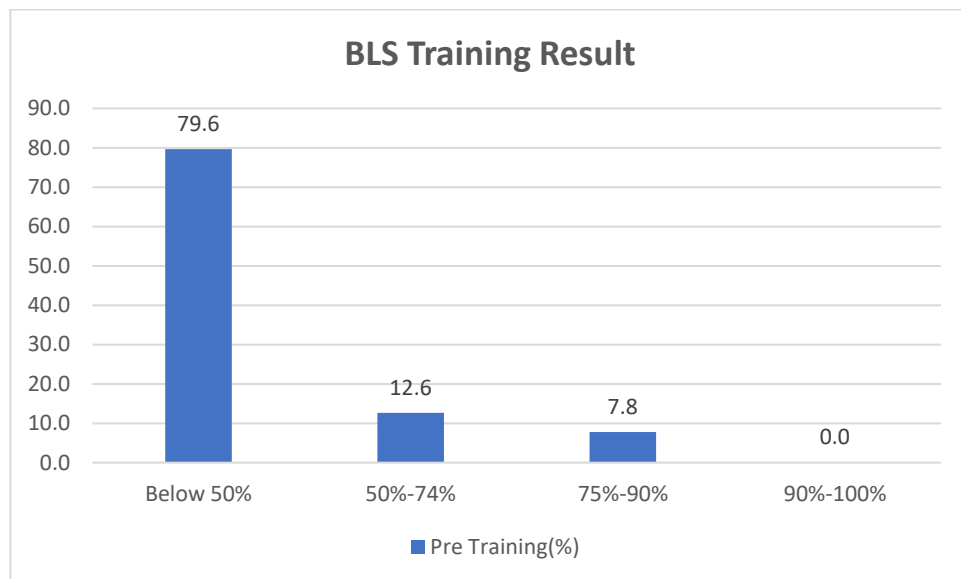


Figure 4.2. 2

The above-mentioned Pre- Training result is of BLS (Basic Life Support Training). Out of 103 participants, 79.6% people scored marks below 50%, 12.6% participants scored between 50-74% and 7.8% participants scored above 75%.

This test was given by Pilots, Paramedics, Nurses, EMTs, Client Success Managers, Doctors and Site Operation Managers.

It clearly implies they all need Training and there is a room for lots of improvements.

❖ **The final step of my Research** was to get the results of same participants after attending the Training and then getting the same question paper solved. This would show the effectiveness of the Training without any bias.

Post- Training Test Results:

FR Training Result:

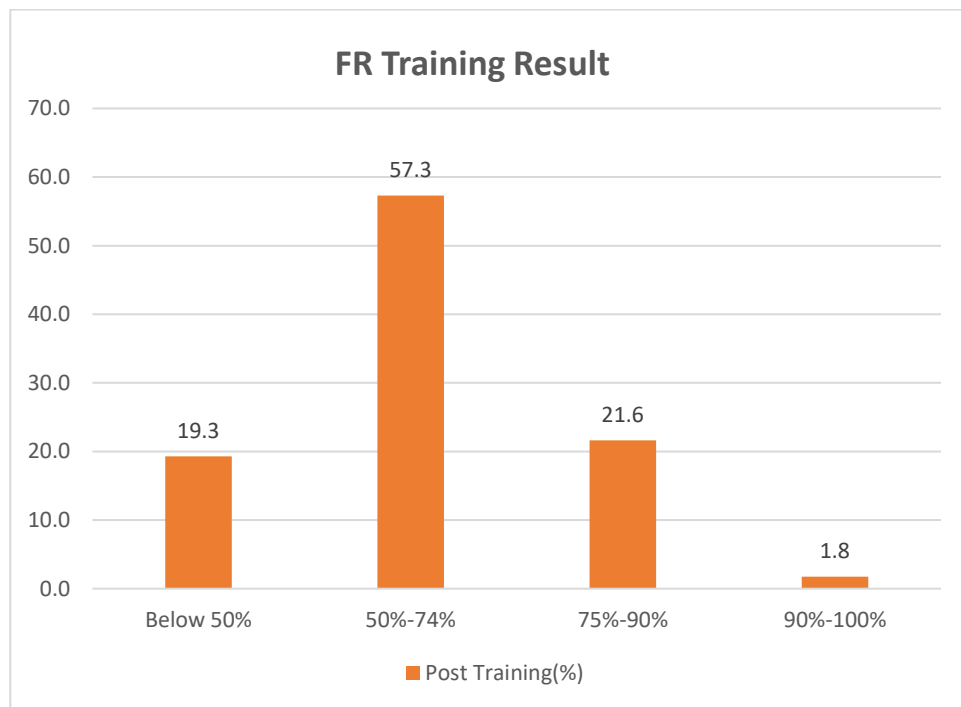


Figure 4.3. 1

A visible change was observed in the skillsets of Pilots. After getting the Training, a clear difference was observed in the participants performance, 57.3% people scored between 50-74% marks and an impressive change was seen in the marks range of 75-90%, 21.6% people scored more than 75%. This clearly shows improvements.

BLS Training Result:

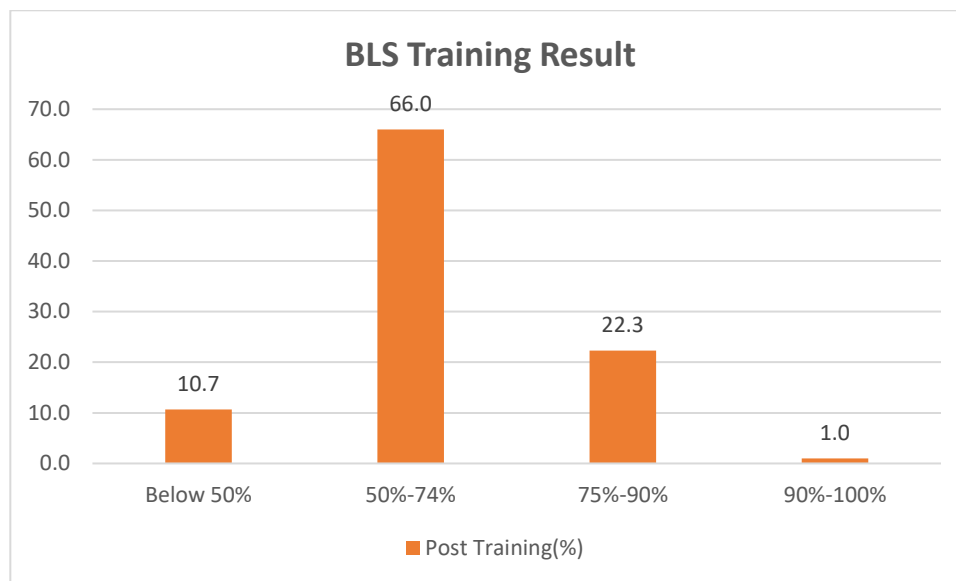


Figure 4.3. 2

Post Training, we got to see a huge difference in the statistics. The results were all visible in the Test results as well as on the skills they were enacting on the Mannequins and on each other. In the Pre-Training result, only 7.8% people scored above 75% but, After Training, 22.3% participants scored above 75%. A clear difference is visible and it is for the betterment.

My major study and focus was on the comparative study of FR & BLS Trainings. There were few other Trainings that we conducted to strengthen our system and to improve the skills of team members.

Statistics of Completed Trainings:

Those trainings are as follows:

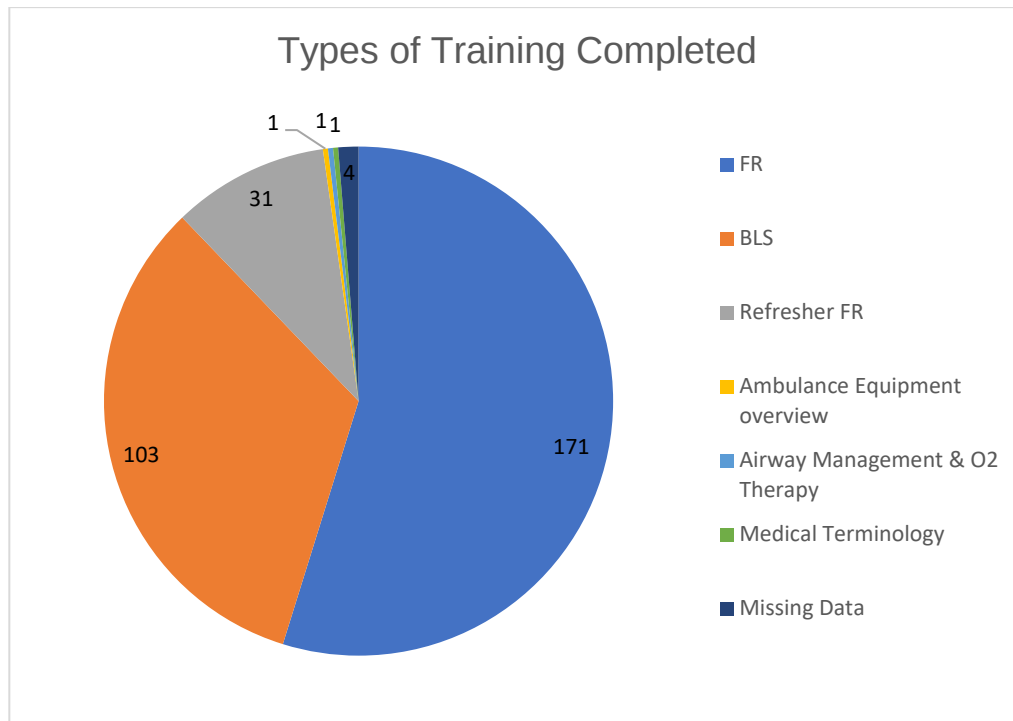


Figure 4.4. 1

Other than FR, BLS Trainings we also conducted the above Trainings for improving the skillsets of team.

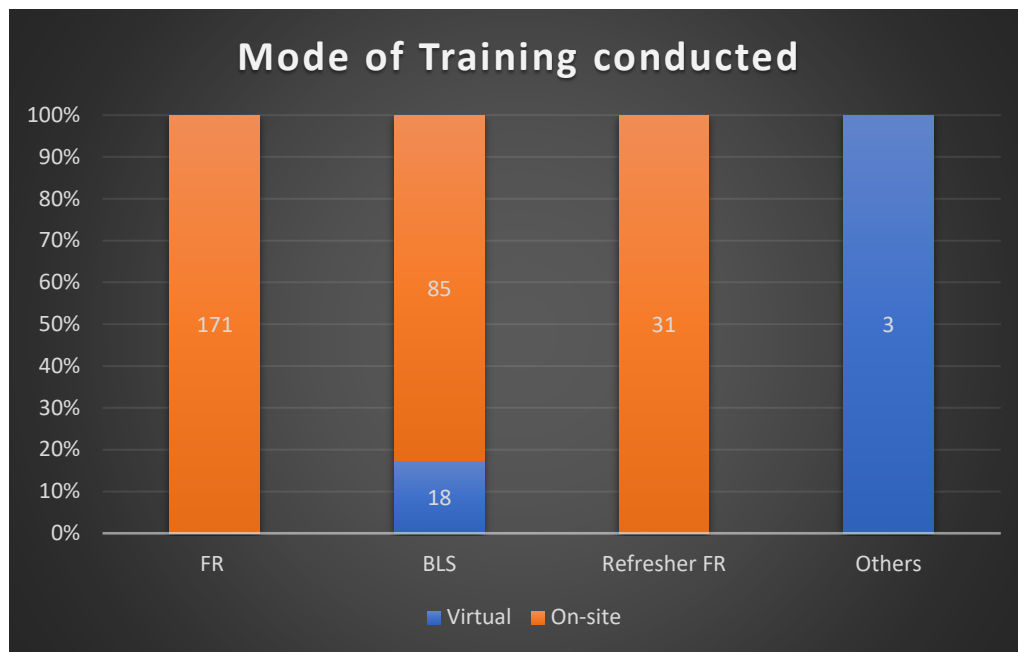


Figure 4.4. 2

We have conducted Trainings of 287 participants on their work sites (in various cities) and virtual trainings of 21 participants till date and we are still in the field to continue these trainings.

Challenges faced during Training

1. Language barrier:

Few participants had trouble in understanding and writing in English so, it was consuming a lot of time to translate each questions in the question paper to their mother tongue and then solving it.

2. Different Education Level:

Participants had different educational background due to which it was difficult for them to learn the Medical terminologies, understanding the body functions and imparting it during the training.

Every Pilot, Paramedic, EMTs had different education level in spite of working for the same organization.

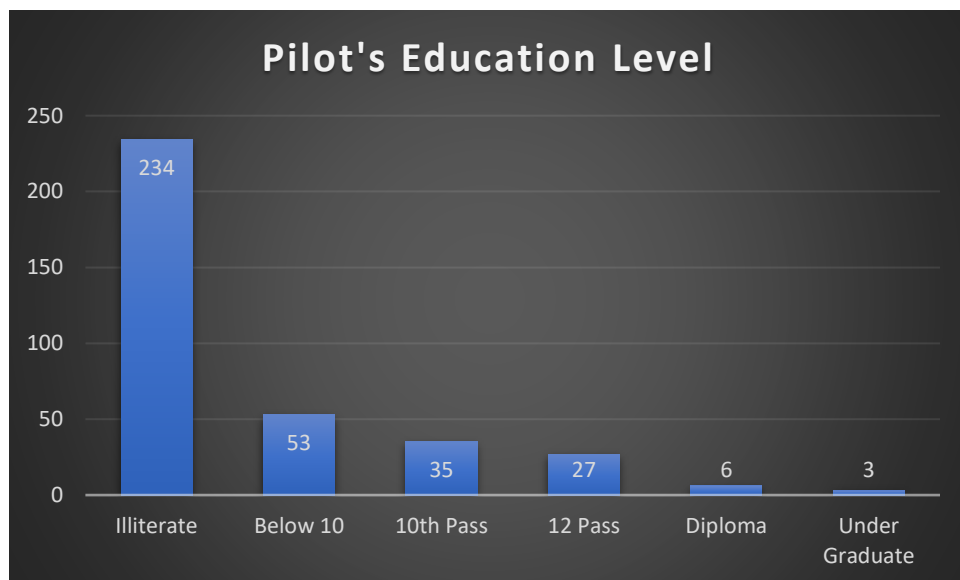


Figure 5. 1

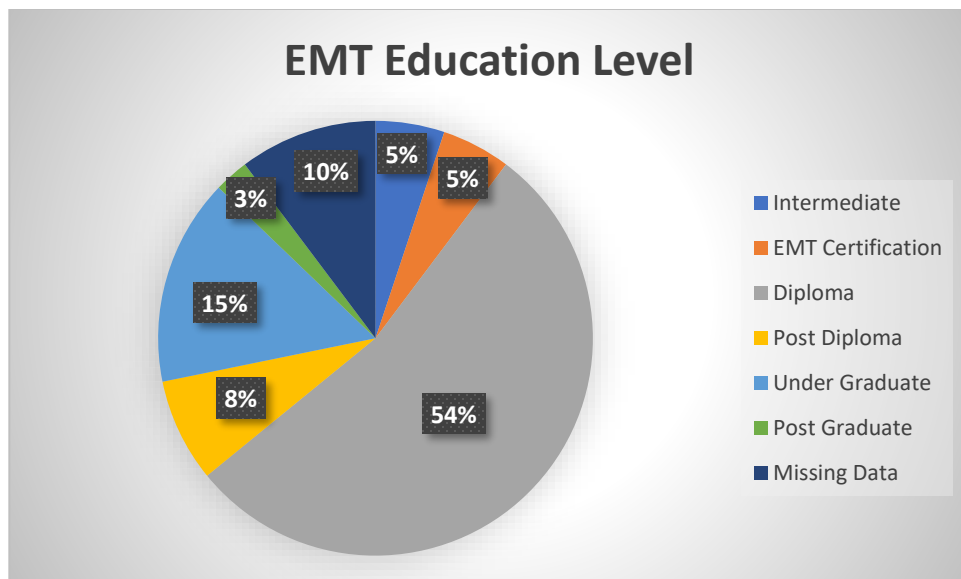


Figure 5. 2

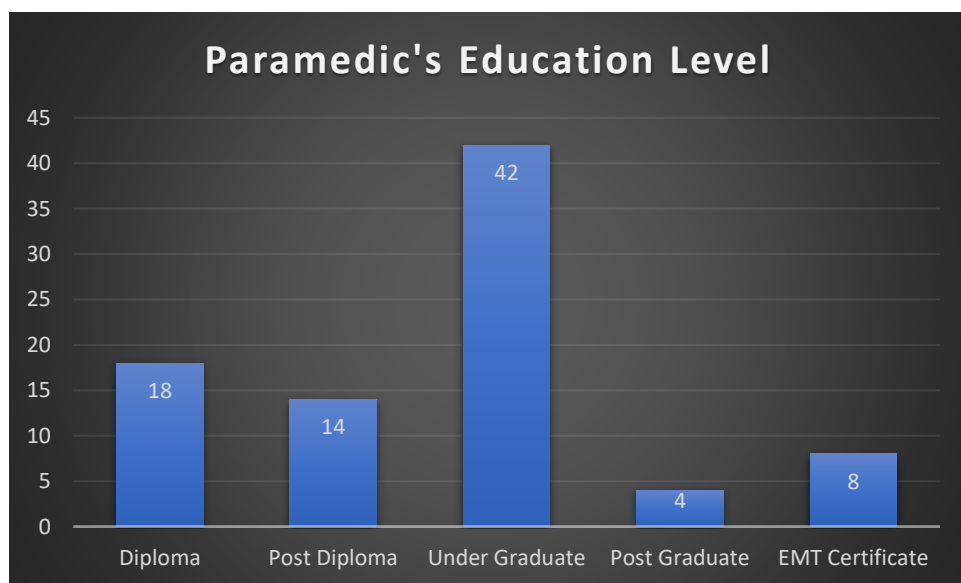


Figure 5. 3

Recommendations

1. Each individual working in Stanplus should get trained irrespective of their job profile.
2. Once, they are done with the 1st phase of training, a Refresher Training should be conducted every 3 months.
3. There should be levels of Training like after giving the basic knowledge of FR, BLS and ACLS, upgraded Trainings should be provided.
4. A Red Academy should be opened wherein all the equipment, consumables can be displayed and trainings can also be conducted on this platform.
5. After Training, when the Pilots, Paramedics or Doctors would be on ground performing their duties there should be a single platform to connect to the Trainer wherein they can ask their doubts which they face on ground.

CONCLUSION

People in India think they have excelled in every segment and every aspect. They don't mostly realize there is always something more to learn. During my initial survey, there were people who thought Training wasn't required for the StanPlus team members and that the Pilots already have detail knowledge about the Emergency services, but what we vaguely think is not the reality! There were people who thought Trainings are essential and they should know about the emergency actions to perform during situations and I appreciate their optimistic approach!

Getting the Training once in your life is not beneficial. One can never learn anything at one go. To get a good catch, a Refresher Training should be done every 3 months.

FR, BLS, ACLS knowledge can never be of any harm but it will always be of immense value. This knowledge can help you save lives even in a time period of 3 secs. Having the right person at the right time with the right knowledge is all that MBA and Life teaches us!

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ANNEXURE

What is your current designation?

Choose



How long have you been in Stanplus?

Your answer

Do you think it is important to know about the basic life saving procedures?

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you think our pilots have detail knowledge about on-site Emergency Actions?

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you think trainings should be provided to StanPlus team for Emergency Care?

- ☐ Yes
- ☐ No
- ☐ Maybe

Do you think trainings are required for Paramedics and Doctors as well?

- ☐ Yes
- ☐ No
- ☐ Maybe

Submit

Clear form