

Significance of Crew Resource Management in Healthcare Sector

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ABSTRACT: *Nowadays, there has been a possibility of occurring human errors while performing the medical procedures in the healthcare centres that can harm the patient who is undergoing the medical treatment. Certain actions need to be taken to avoid these human errors. The medical procedures have been carried out with the coordination of multiple clinical departments such as intensive care unit, Emergency Department (ED), ambulatory clinics, and anaesthesia care unit. There is need to avoid such kind of “human errors”, so the new emerging technique called as “Crew Resource Management” has been proven o be essential for enhancing the skills of the medical practitioners in the healthcare sectors which reduce the chances of errors. This paper demonstrates the significance of the “Crew Resource Management” right from its originating to its implementation in the healthcare sector.*

KEYWORDS: *Healthcare sector, medical procedure, treatment, patient, human error, Crew Resource Management (CRM).*

INTRODUCTION

In recent years, there is a need to establish appropriate training programs in the health-care sectors that will be essential for the performing the error-free activities in the operating rooms by the medical practitioners. Every medical practitioners or the surgeons in the hospitals should use standardized procedures while performing the surgeries or any other medical treatment activities to cure the patient. Even though the procedures used might be of standard form, but there are possible chances of making mistakes (human error) by the physicians in the operating room. So to avoid this a significant framework should be introduced in every health care organizations for the benefits of medical practitioners as well as the patients.

It was reported by the “NASA’s Aerospace Human factors Research Division” that the problems associated with the aircraft accidents are occurred due to “pilot error”. This is because of improper communication, coordination and lack of decision making skills. Then the Crew Resource Management (CRM) module was introduced which was specially designed for the crew members in the flight which is termed as a training module for the crew members which test their ability to utilize their potentials of using the available resources in the environment of unfettered communication. This training module is also used in the aircraft industries, maintenance and traffic control. It is the collaborative approach of training were all the crew member in the flight manage to perform the given task. This will help to find the optimize solution in the critical situations [1].

The CRM module is widely used in operating room, anaesthesia training and intensive care units of the healthcare sectors in many countries. This training programs are beneficial to improve the skills of the medical practitioners in the healthcare sectors [2]. So that the medical practitioners can perform their relevant operations needed to cure the patient with minimum errors. More specifically CRM training is used for error prevention in the health care sector [3].

CRM have been implemented in every aircraft industries along with the aircraft flight and air traffic control interventions. This programs utilizes the techniques of collaborative training, group discussions and optimum solution findings. The major focus is on eliminating the “human-error” while performing the medical operations in the operating room along with all the physician staffs. The team work is the most important aspect in this training program. Proper co-ordination between the physician staffs will definitely reduce the chances of error occurrence even under critical circumstances [4].

CRM identifies the certain behaviours emerging under critical circumstances or in the stressful environment. The CRM training module comprises of factors that advances the skills in inquiry, briefing, vigilance, workload distribution, conflict resolution and assertion. The training results in improvement of the communication skills and interaction between all the medical staffs working in the health care sector, especially the physician staffs in the operating room performing the medical treatment procedures. This will suggest the change or the strategies required while performing medical activities. “CRM builds an organizational environment where cooperative and communicative behaviours are defined, conceding that communication, process change and technology need to work together to acquire maximum effectiveness. Fig 1 illustrates the factors associated with the Crew Resource Management (CRM) which comprises of Communication, Leadership, Decision making, Monitoring and Cross checking. There is need to enhance this particular factors for the improvement in coordination and the communication skills between all physician staffs performing medical treatment procedure such as surgeries in the operating room [5].

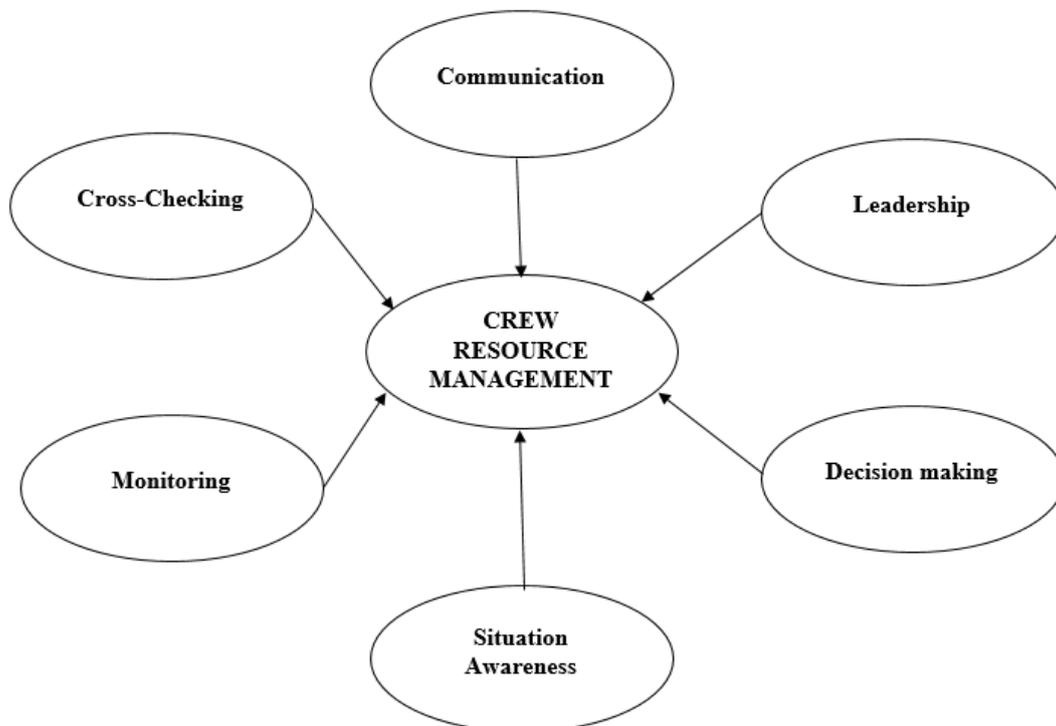


Fig 1 – Factors associated with Crew Resource Management (CRM)

Guidelines and resources used in CRM training:

There are certain guidelines and resources used in the CRM training to reduce the human errors while performing the medical procedures. Wherein the major guidelines illustrated are

Design and delivery of team training, Team process, Assertiveness, Cross Training, Stress Management and Self correction. The resource can be in the form of Principles of practice and feedback, wherein the necessary knowledge regarding the significance of active rehearsals and feedback of training, observation and creating learning model plays an important role in improving effectiveness of CRM training programs. Certain “meta-cognitive strategies” were also introduced in the CRM training programs [6].

CRM training comprises of various stages where skills can be developed in a certain manner. The very basic stage consists of knowing “what to perform”. As the medical practitioners in the health care sector are familiar with the theoretical or the declarative knowledge, they have to convert it into “procedural knowledge”, this can be done by performing rehearsals. More often the workers rely on “lecture-based” programs, CRM training provide “practice-based” programs. Combination of “lecture-based” programs and “practice-based” programs will definitely enhance the operating skills of the medical practitioners. They can work under every possible emerging condition in the operating room by acquiring these kinds of practices. Obtaining feedback from the trainees will help in improving their knowledge and the weaknesses can be identified easily and be cleared at a same time soon. Individual attention can be paid easily in the task organized in the training programs so that every trainee can work collaboratively with the team. Obtaining a Feedback has proved to be very essential in the CRM training program as it improves the performance of an individual [7].

Certain goals have been set in front of the trainees, to achieve those particular goals every trainee should be participated actively in each and every task which has been allotted by the trainers. The trainers will create positive environment for optimal training. Relationship between the trainee and the trainer also plays an important role in the CRM training program. All the trainees should be able to engage in each and every activity followed in the task with the trainer’s assistance. This will definitely increase the effectiveness of training.

Certain communication guidelines has been also introduced in the CRM training, so that the medical practitioners can be able to communicate or deliver appropriate information to each other so that there will be no chance of emerging an error while operating the patients in the operating room. This has been practiced really well during the training rehearsals. “Good decision making” between the activities which has been carried out together as a team while performing a single task may also prove to be essential to avoid the human errors. And giving feedback to team will assure that every individual were taken right decision in a specific situation but it cannot be concluded that the optimal process was used to arrive at the right decision. The team weakness can be identified easily by obtaining the feedback.

Various sessions were conducted in the training programs in the healthcare sector, wherein every certain department were involved such as department of the intensive care unit, Emergency Department (ED), ambulatory clinics, and anaesthesia care unit. They have been provided the learning sessions by the trainers, wherein each session has been composed by a physician, a nurse, and a facilitator with the communication expertise. Certain teaching films were recording by the various health-care organizations. Those films were published in the training session of all the medical practitioners of all the departments of the medical healthcare.

CRM training of the medical staffs have been carried out by hiring the vendor using military and commercial airlines pilots experienced in CRM. These have been coordinated by their

board of medical advisory. The case studies implemented by them have been used for the study and the training was adapted accordingly in the healthcare sector so that it will help the participants (i.e. the medical staffs in the healthcare sectors) for enhancing the skills of team building, managing the fatigue, identification of the adverse situations, effective communication and cross checking. This training has proved to be very effective in the practice sessions, where the chances of error occurring was found to be negligible.

LITERATURE SURVEY

The literature study demonstrates about the use of Crew Resource Management (CRM) training module for the medical team training. It also briefly discusses about the crisis resource management, as subset of CRM, as applied to high-acuity medical situations. Certain guidelines are introduced which are used for setting up the medical training programs in the health care sector. Various collaborative programs and class-room programs were also organized to provide appropriate training to the medical practitioners so that the chances of the error will be less while performing the medical activities [8].

Researchers have found that, change in the training programs can be proved to be more effective to reduce the human-errors in the emergency departments, operation theatres, resuscitation teams and other settings within the healthcare where there is human interaction including in the medical treatment procedure, wherein there are certain breakdowns in the communication and the team-work can have critical consequences. The Crew Resource Management technique (CRM) was designed especially for training pilots. And later recommended to use it in the health-care sector which can be implemented for the formal training of the healthcare workers [9].

When the medical team is pursuing any medical treatment in the operating room, they can have critical consequences. Wherein improper communication or interaction between the surgeons, anaesthesiologists and nurses may put the patient in danger. A survey was conducted in the organization and it was found that the communication or the interaction between all the medical practitioners in the operating room was very poor. And this communication can be improved with the help of the medical team training by conducting several sessions comprising of role play, clinical vignettes and training films by using the guidelines of “Crew Resource Management) [10].

The study describes the before and after effects of training five general staff physicians on Crew Resource Management Strategies. A session was organized for all the staff physicians and were trained for an hour, wherein the significance of CRM skills were discussed to overcome the issues observed in the cases in the operating room. These training programs have proven to be essential for all the medical practitioners working in that particular organizations of the health care sector [11].

CONCLUSION

Every health-care organization should adapt the CRM training module to enhance the skills required for every medical practitioner in the healthcare sector for performing the medical procedures to cure the patients. Avoiding the human error in the medical practices has become an important aspect in the health care organization as it can put the patient into the

danger. The patient should be satisfied with the medical treatment. CRM training sessions must be conducted in each and every department of the healthcare sector to improve their collaborative nature in the medical practices. Each and every guidelines of CRM should be followed by every trainee (medical practitioner) that will improve the effectiveness of the training. All the medical staffs should be able to take the right decision while performing every medical procedure, so that the team performance will be increased.

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