



E-ISSN: 2706-9575
P-ISSN: 2706-9567
IJARM 2019; 1(1): 71-74
Received: 15-12-2018
Accepted: 15-01-2019

Chandra Radhika Rani
Assistant Professor,
Department of Emergency
Medicine, ACSR Government
Medical College, Nellore,
Working on Deputation at
Guntur Medical College and
Hospital, Guntur, Andhra
Pradesh, India

JS Tharun Chowdary
HOD, Emergency Medicine,
Aayush Hospital, Vijayawada,
Andhra Pradesh, India

Kilari Sunil Kumar
Professor & HOD, Department
of Nephrology, Katuri Medical
College, Chinnakondrupadu,
Guntur, Andhra Pradesh,
India

Koneru Ravindra Nath Tagore
Freelance Anaesthesiologist,
Vijayawada, Past National
President of Indian Society of
Anaesthesiology, Andhra
Pradesh, India

SSC Chakra Rao
Chairman, Indian
Resuscitation Council and Past
National President of India
Society of Anaesthesiology,
Andhra Pradesh, India

Corresponding Author:
Chandra Radhika Rani
Assistant Professor,
Department of Emergency
Medicine, ACSR Government
Medical College, Nellore,
Working on Deputation at
Guntur Medical College and
Hospital, Guntur, Andhra
Pradesh, India

Peripheral resuscitation centers in developing countries and role of emergency physician: Present day need

Chandra Radhika Rani, JS Tharun Chowdary, Kilari Sunil Kumar, Koneru Ravindra Nath Tagore and SSC Chakra Rao

Abstract

The study aim is to analyse and understand the opinion of doctors regarding present-day need for the Peripheral Resuscitation Centers at every 6-minute radius, which consists of a setup, and COLS and BCLS trained individuals. Study also designed to know the acceptance of the concept of "Peripheral Resuscitation Centers" as present-day need among the doctors. This study carried out among the 100 number of doctors in Guntur medical College and General Hospital, Guntur, Aayush Hospital, Vijayawada, Katuri medical college and hospital, Chinnakondrupadu, Guntur, Private Practitioners of Guntur and Vijayawada Cities who are selected by simple random sampling. A semi structured questionnaire was used to collect the data.

The Idea of 'Peripheral Resuscitation Center' is supported by 86%. A total of 61% agreed Peripheral Resuscitation Center is practical alternate to training COLS and BCLS to everyone. 50% told Peripheral Resuscitation Center ensures scene safety. 82% agreed delay in resuscitation is decreased. 54% agreed CPR quality is improved and 62% agreed that increased effort of resuscitation is achieved. 57% agreed that other people got motivated to learn. 64% thought that training all citizens in developing countries in COLS and BCLS is impossible. 41% believe that any individual adequately trained can successfully run Peripheral Resuscitation Center and 36% believe Peripheral Resuscitation Center Needs Physician.

The study implication may insist to establish the Peripheral Resuscitation Centre in all rural and urban areas of India and to train all medics and paramedics to improve the survival and after the trauma or cardiac arrest in patients from the outside the hospital. This will definitely help in early recognition of life-threatening problems and to provide early treatment thereby reducing mortality.

Keywords: Peripheral resuscitation centres, compression only life support, basic cardiopulmonary life support, emergency physician, Indian resuscitation council

Introduction

Resuscitation in trauma and nontrauma patients comprises knowledge and skills which are meant to perform to rescue the victim under life-threatening emergencies. The Indian Resuscitation Council (IRC) has come up with three courses: COLS (Compression only Life Support) BCLS (Basic Cardiopulmonary Life Support) and CCLS (Comprehensive Cardiopulmonary Life Support) [1-4]. As per the recommendation of the American Heart Association (AHA, 2004) [5], all the medical student teachers and other frontline medical staff should be trained in BLS [6].

In India, only 10.54% of the patients are transported by ambulance personnel, whereas 45.40% patients were transported by their relatives, 36.59% by police personnel and 7.47% by bystanders [7].

But periodic resuscitation training is not practiced in rural parts of many developing countries like India, which results in poor survival outcomes.

Most of the developing countries like India face the problem of lack of adequately trained personnel in Compression-only life support (COLS) and Basic Cardiopulmonary Life Support (BCLS). It should be mandatory to get required resuscitation training by all medical professionals [8, 9].

It is practically not easy to make COLS and BCLS training mandatory to everyone. So there has to be a practical solution that starts small and can result in a big change like a nuclear chain reaction. It is also not possible for medical help to reach in time due to poor roads. No articles describing the state of Peripheral Resuscitation Centers and emergency care in India are available.

Hence the current cohort aims to study the opinion of doctors regarding present-day need for the Peripheral Resuscitation Centers at every 6-minute radius consisting of a room, a table for resuscitation and 2 to 3 COLS and BCLS trained individuals living close to facility. This study is to know the acceptance of the concept of "Peripheral Resuscitation Centers" as present-day need among the doctors.

This study describes the opinion of doctors regarding role of Emergency physician in peripheral resuscitation centres.

Materials and methods

This is a descriptive cross-sectional study done among doctors in Guntur medical College and General Hospital, Guntur, Aayush Hospital, Vijayawada, Katuri medical college and hospital, Chinnakondrupadu, Guntur, Private Practitioners of Guntur and Vijayawada Cities who are selected by simple random sampling.

Study subjects: A total of 100 Doctors.

Study tools: A semi structured questionnaire.

Duration: in the month of September 2018.

Data collection: Questionnaire distributed to subjects and collected after adequate time.

Collected data was entered in MS Excel and analysed.

Results

Among 100 study subjects following are the results.

Question 1. Do you think peripheral resuscitation centre at

every 6 minutes radius that is having a dedicated small room with a resuscitation table to place patient and 2 to 3 people trained in COLS and BCLS living close to facility and awareness among people can make considerable difference?

Response: 92% responded 'yes' and the remaining 8% responded no.

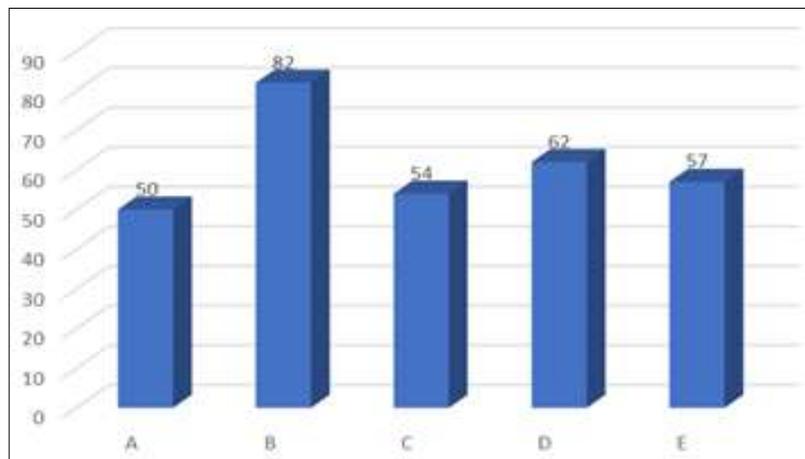
Question 2: Do you think training everyone (all the citizens) in COLS and BCLS in developing countries?

Response: 33% responded as Possible, 64% responded as Impossible, and 3% were non-answered.

Question 3: Which of the following advantages you have in having peripheral resuscitation centers (you can tick multiple)?

- A) Ensures scene safety
- B) Decreases delay in resuscitation and increases chance of survival
- C) Improved quality of CPR
- D) Resuscitators are local people so make highest effort in saving their own people.
- E) E) Motivates other people to learn COLS and BCLS which eventually results in most citizens being educated in COLS and BCLS eventually.

Response: A: 50%, B: 82%; C: 54%; D: 62%; E: 57%.



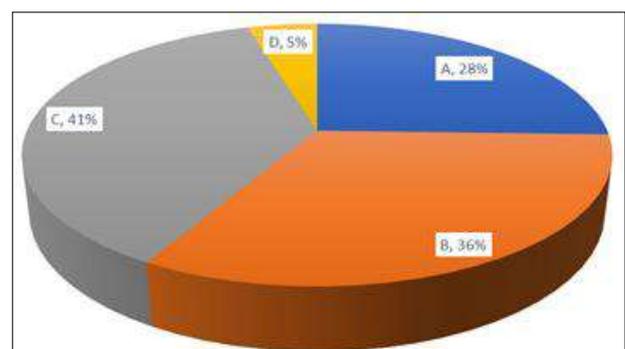
Question 4: Do you think increased number of Emergency Physicians can decrease mortality (due to lack of intervention in the right time) significantly in our country?

Response: 82% responded yes, 12% responded no, and 6% were non answered.

Question 5: Who according to you can successfully run Peripheral Resuscitation centers?

- A) Emergency physician
- B) Any physician
- C) Any individual (who may not be a doctor) trained.
- D) None of the above.

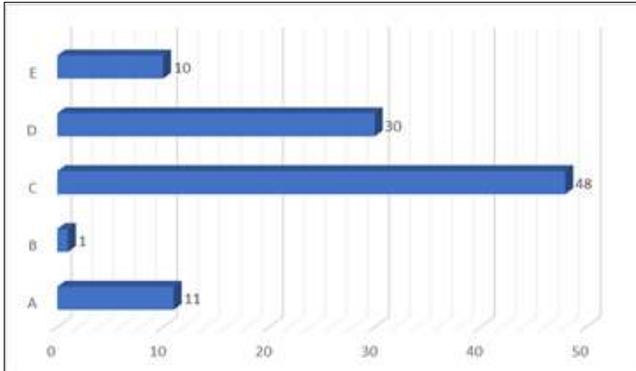
Response: A- 26%, B- 31%; C-38%; D- 5%.



Question 6: You want a Peripheral Resuscitation Center close to your home?

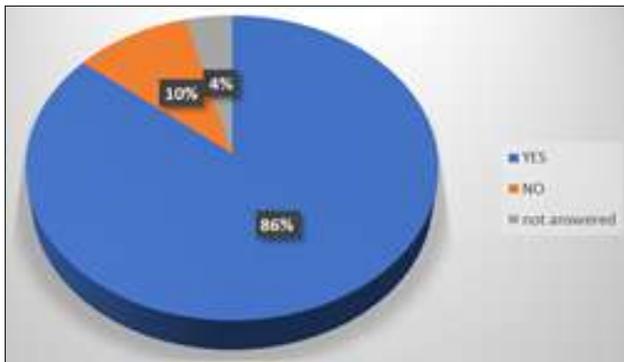
- A) Disagree
- B) I do not know
- C) Agree
- D) strongly agree
- E) unanswered.

Response: A- 11%, B- 1%; C-48%; D- 30%, E- 10%



Question 7: Do you think peripheral resuscitation Center is a good idea which can support life until advanced help arrives?

Response: 86% responded yes, and 10% responded No, and 4% were answered.



Discussion

Emergency Medicine (EM) is a specialty that is expanding at a phenomenal pace across the world. Emergency physicians have excellent skills in managing any problem whether related to patients or their attendees. Every emergency physician is trained appropriately in the latest and appropriate methods of cardiopulmonary, trauma and paediatric resuscitation skills. This makes them an ideal choice to teach first aid and CPR skills.

The International Summit on Emergency Management and Trauma (ISEMT 2014) is one of many new Emergency Medicine conferences that has encouraged India’s core of EM physicians and researchers to address novel clinical issues, collect data, and share these findings amongst themselves [10].

In our current study, the Idea of 'Peripheral Resuscitation Center' is supported by 86%. Sixty-one percentage of study subjects agreed Peripheral Resuscitation Center is practical alternate to training COLS and BCLS to everyone in present scenario. Fifty percent said Peripheral Resuscitation Center

ensures scene safety. Eighty two percent agreed delay in resuscitation is decreased. Fifty four percent agreed CPR quality is improved and 62% agreed that increased effort of resuscitation is achieved. Fifty seven percent agreed that other people got motivated to learn. Sixty four percent think that training all citizens in developing countries in COLS and BCLS is impossible.

In the present study, forty one percent believe that any individual (who may not be a doctor) adequately trained can successfully run Peripheral Resuscitation Center and 36 % believe Peripheral Resuscitation Center Needs Physician.

The data from the National Resuscitation Registry will help in creating a simple, evidence-based, efficient resuscitation guideline for India in the future. Successful implementation and acceptance of the Indian Society of Anaesthesiologists’ resuscitation guidelines would be achieved when layperson and trained medical personnel all over India are aware of the guidelines, accept them, add the guidelines in their training curriculum and practice the guidelines in resuscitating cardiac arrest victims [11].

Emergency Medicine (EM) is a fast-upcoming medical speciality wherein patients presenting with emergent life-saving medical and surgical problems are managed. In India, EM gained official recognition as a speciality from the Medical Council of India (MCI) in 2009. Emergency physicians are first-line providers of emergency care. National Medical Commission has made the existence of the department of EM compulsory in all medical colleges in India. The EM physicians in India and abroad also have opportunities to join the military services. They have opportunities to hold the positions of EMS director, Code Blue Committee Director, EM Quality Consultant, Disaster Management Consultant, Medicolegal Expert, Poison Centre Director, Simulation Centre Faculty, Life Support Courses Faculty, point-of-care ultrasound (POCUS) faculty, consultant in hospitals/'free-standing EDs', 'urgent care centres'(not attached to hospitals).

In India, the challenges faced by the new emergency physicians will be to establish the ED and emergency services, to start academic and ethical emergency medicine teaching and training and to provide an effective and coordinated continuum of care in the ED.

Emergency medicine is currently a great career choice with a very wide range of post-residency work options and a potential for a safe job. EM is more adventurous and exciting than other specialities.

Limitations of this study include; Doctors were included in the study irrespective of experience. Knowledge of COLS and BCLS in study group is not known. Knowledge and awareness among the doctors about branch of Emergency medicine is not known.

Conclusion

Establishing Peripheral resuscitation centers is a good idea which has advantage of scene safety, early start of resuscitation, greater effort is put in saving life. Idea of Peripheral Resuscitation Center is immediate practical alternative to achieving goal of all citizens being educated in Compression Only Life Support and Basic Cardiopulmonary Life Support. So, developing countries should strongly consider this option which is relatively cost-effective because this uses surrounding infrastructure and man-power.

Recommendations

- Governments and NGOs should actively take steps in training common people and health workers and rural medical practitioners in COLS and BCLS at selected places in villages.
- Village level administration should label one available room as Peripheral Resuscitation Center in school/health sub-center/local government building at every 6 minute radius.
- Increase the no of Emergency physicians for better Emergency management.
- 5 to 10 Resuscitation Centers can be lead by a Physician preferably by an Emergency Physician. They can be connected to a head health center by video conference or phone for assistance.
- 2 or 3 residing close to it should be trained in COLS and BCLS.

References

1. Garg R, Ahmed SM, Kapoor MC, Mishra BB, Rao SC, Kalandoor MV, Divatia JV, Singh B. Basic cardiopulmonary life support (BCLS) for cardiopulmonary resuscitation by trained paramedics and medics outside the hospital. *Indian J Anaesth.* 2017 Nov;61(11):874-882.
2. <http://www.lww.co.uk/emergency-medicine-toxicology/decision-making-in-emergency-critical-care;2015>
3. <https://www.cambridge.org/core/books/emergency-airway-management/65F6E8117405BA92AD27281939DB1EB8>
4. <https://www.scribd.com/document/353543024/Roberts-Hedges-Clinical-Procedures-in-Emergency-Medicine-6th-Ed-PDF-Tahir99-VRG>
5. Almesned A, Almeman A, Alakhtar AM, AlAboudi AA, Alotaibi AZ, Al-Ghasham YA, *et al.* Basic life support knowledge of healthcare students and professionals in the Qassim University. *Int J Health Sci (Qassim).* 2014;8:141-50.
6. Wang J, Zhuo CN, Zhang L, Gong YS, Yin CL, Li YQ. Performance of cardiopulmonary resuscitation during prolonged basic life support in military medical university students: A manikin study. *World J Emerg Med.* 2015;6:179-85.
7. Bhoi S, Mishra PR, Soni KD, Baitha U, Sinha TP. Epidemiology of traumatic cardiac arrest in patients presenting to emergency department at a level 1 trauma center. *Indian J Crit Care Med.* 2016;20:469-72.
8. González-Salvado V, Abelairas-Gómez C, Peña-Gil C, Neiro-Rey C, Barcala-Furelos R, González-Juanatey JR, *et al.* Basic life support training into cardiac rehabilitation programs: A chance to give back. A community intervention-controlled manikin study. *Resuscitation.* 2018;127:14-20.
9. Kumari KM, Amberkar MB, Alur SS, Bhat PM, Bansal S. Clinical Awareness of Do's and Don'ts of Cardiopulmonary Resuscitation (CPR) among university medical students – A questionnaire study. *J Clin Diagn Res.* 2014;8:MC08-11
10. Alagappan, K., Brown, A., Ganti, L. *et al.* Importance of research for the specialty of Emergency Medicine in India. *Int J Emerg Med.* 2014;7(II). <https://doi.org/10.1186/1865-1380-7-S1-II>

11. Trichur RV. Need for resuscitation registry in India based on Indian Society of Anaesthesiologists cardiopulmonary resuscitation guidelines. *Indian J Anaesth.* 2017;61:895-6.