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Original Research Paper

Management

IMPEDIMENTS EXPERIENCED BY CRASH CALL TEAM IN IMPLEMENTING RESUSCITATION: A QUALITATIVE STUDY

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ABSTRACT According to the health data from around 190 countries cardiac arrest remains the number one cause of death, with 17.3 million deaths each year, according to 'Heart disease and stroke statistics-2015 update. This is a small scale qualitative study of hospital-based CPR related impediments faced by crash call team in Dubai health authority PHC's. The study involved a literature review and interviews with 23 participants, comprising crash call team and medical liaison officers, and nursing representatives involved in quality delivery of CPR. Data collection and synthesis consisted of; data from interviews (13 interviews using interview schedule), focused group discussions (one FGD with 10 participants using a FGD guide with 6 open ended questions focusing on details of difficulties faced during performing a CPR) and participant observation. Results revealed certain themes derived from transcript analysis and are as follows; Barriers related to confidence included: self-efficacy; knowledge and awareness of how and when, to administer CPR; accessing CPR training; having previous experience of administering resuscitation; DNR order; and whether the physical fitness to give CPR. Physical fitness and endurance of the crash call team as CPR is a tedious kind of medical activity. Environmental impediments focused on the safety of the physical environment in which patients staying, available inventories, infrastructure of the environment and so. As from the study its evident that unless the perceived barriers and impediments are cleared of the quality of CPR is at stake however further studies are warranted to conclude the same.

KEYWORDS : Cardio pulmonary resuscitation, impediments in CPR, Quality of resuscitation.

Introduction

Cardiac arrest is a severe malfunction or cessation of the electrical and mechanical activity of the heart and results in almost sudden loss of consciousness and collapse. It is the leading cause of death worldwide, and accounts for more than 60% of sudden deaths (American Heart Association, 2014). In the United States alone, more than 500,000 cardiac arrests occur yearly, and less than 15% of people survive such events (Sprehe, March, Wilson, & Park, 2016). The need for crash call team evolved from reports since showing that unexpected and possibly avoidable cardiac arrests were occurring too often in hospitalized patients and patients in community settings. An estimated 70–% of in-hospital cardiac arrests was prefaced by earlier clinical signals that indicated an increased risk of lack of compensation in circular supply. However, these are signals often missed or dismissed by health care professionals due to various reasons or sometimes due to impediments faced. Based on these reports, researchers hypothesized that deploying an early alert and rapid response team could potentially prevent cardiac arrests and improve patient outcomes. Prior studies and published literature worldwide looking at the impacts of crash call teams have shown mixed results. Some demonstrated a decrease in in-hospital mortalityand hospital-wide cardiac arrest. However, other reports failed to demonstrate a reduction in composite endpoints of death, unexpected cardiac arrest, and unplanned ICU admission. Very few studies have been published globally to seek out difficulties experienced by first line health care professionals who deal with CPR in hospital setting and community.

Materials and methods

This article is on a small scale qualitative study of hospital-based CPR related impediments faced by crash call team in Dubai health authority PHC's. The study involved a literature review and interviews with 23 participants, comprising crash call team and Family physicians, and nursing representatives involved in quality delivery of CPR.Data collection and synthesis consisted of; data from interviews (13 interviews using interview schedule),focused group discussions (one FGD with 10 participants using a FGD guide with 6 open ended questions focusing on details of difficulties faced during performing a CPR) and participant observation. In order to capture a wide range of team members in crash call perspectives, researcher used a purposive maximum variation sampling strategy, initially selecting two interviews and one focus group discussion for analysis. The basic principle behind this methodology is to gain greater insights into a particular phenomenon by its multifaceted data collection methods. For this study, we only included interviews with either physicians and nurses as these individuals can be expected to approach resuscitation in a more professional manner. Prior to analysis, the following criteria's were used to select interviews with the aim of maximizing the heterogeneity of our sample: (1) bystanders with diverse demographic characteristics (age, sex, background); (2) location of the work (Treatment room, Assessment room, Child health and triage); (3) working inchronic diseases clinics and other speciality clinics.A transcription service was used to transcribe each of the 13 interviews verbatim.All participants were informed as to the aim of the study, that participation was voluntary, and that the results would be anonymous. All agreed to participate with no financial incentives offered to participants.

Results

The analytical process began during the interview and focus group discussion, with initial insights from the interviewer serving to refine the guide used to structure subsequent interviews. The analysis was guided by the specific research objectives (i.e., to identify what are the related impediments faced by crash call team). This allows research findings to emerge from the frequent, dominant, or significant themes inherent in raw data.

The majority of participants found that previous CPR training was critical when faced with an authentic emergency, as stated in their comments below.

- **Confidence and experience**

Well, it was completely as during a training session. I think, in my brain, right, I knew what I had to do and so on, but I reacted in the exact same way as if it was a training session, but the

confidence level and experience matters. [...] I was not aware, it didn't sink in, that he's dead now. I knew he was, right, but hmm [...], I hadn't really thought it through. (Female, 30 years, Nurse)

- **Safety concerns and anxiety**

It is critical to understand the lifesaving potential of providing CPR, even if they broke the patient's ribs, versus not providing CPR. Put the person on their back, push the neck back, lift the head, right, and then 25–30 times on the heart, right there, and you should not be afraid to push hard, because it's better to crack a couple of ribs than for the person to die. How many CPR I give the safety issues and bit of anxiety always haunts me while performing CPR (Male, 63 years, Family Physician)

- **Physical fitness and experience**

Intervention is crucial for improving survival" and that "doing anything is better than nothing." No, I wasn't [afraid], because hmm again I would say it was a fantastic course we'd received where they told us that it was better to do something than nothing, but as age increases our vital capacity along with muscle strength in performing tedious tasks like CPR also will deprive gradually. (Male, 55 years, Family physician)

- **Environmental factors**

'Location where crash call need to perform CPR also plays a vital role in quality of resuscitation say for example it will very much fruitful if it's within a Urgent care room comparing to Corridor or outside health centre premises, the infrastructure very well plays a role'. (Female, 43, Charge nurse)

Several themes related to confidence and environmental factors were identified to summarise the perceived impediments to administering CPR in selected settings, but important themes and outcomes where summarised as follows;

1. Barriers related to confidence included: self-efficacy; knowledge and awareness of how and when, to administer CPR; accessing CPR training; having previous experience of administering resuscitation; DNR order; and whether the physical fitness to give CPR.
2. Physical fitness and endurance of the crash call team as CPR is a tedious kind of medical activity.
3. Environmental impediments focused on the safety of the physical environment in which patients staying, available inventories, infrastructure of the environment and so.

Discussion

Current guidelines recommend that advanced life support courses include teamwork and leadership training to provide quality CPR. This study indicates that teamwork and leadership may be important for facilitating CPR also throws light to details of difficulties either by means of environmental barriers, infra structure, confidence and experience as well. This is supported by studies of healthcare professionals' performance as well as emergency medicine studies of crash call team in dealing emergencies.

This studyadopted a qualitative methodology because we sought to understand the perceptions and experiences that underlie crash call team action.Qualitative analyses focus on describing the complexity, breadth, or range of phenomena, with the sampling of participants aiming to achieve information richness rather than a representative sample. For this reason, the number of participants is usually small compared to quantitative research. Future studies could further evaluate the relevance of generalizability of the identified facilitators in larger crash call team members as cohorts through questionnaire surveys. Interviews were conducted face to face and few by telephone. Although face-toface interviews have long been the dominant interview technique, telephone interviewing has become more common and is well accepted nowadays as in the light of COVID 19 protocols.This study is of what facilitates CPR and AED use according to 23 CPR-trained and with varying experience in performing CPR who were at the scene of real cardiac arrest situations found that several factors can transform as impediments in delivering effective CPR for patients.

References

1. Caffrey SL, Willoughby PJ, Pepe PE, Becker LB. Public use of automated external defibrillators. N Engl J Med. 2002;347:1242–1247.
2. Page RL, Joglar JA, Kowal RC, Zagrodzky JD, Nelson LL, Ramaswamy K, Barbera SJ, Hamdan MH, McKenas DK. Use of automated external defibrillators by a U.S. airline. N Engl J Med. 2000;343:1210–1216.
3. Ringh M, Jonsson M, Nordberg P, Fredman D, Hasselqvist-Ax I, Hakansson F, Claesson A, Riva G, Hollenberg J. Survival after public access defibrillation in Stockholm, Sweden—a striking success. Resuscitation. 2015;91:1–7. 7.
4. Anderson ML, Cox M, Al-Khatib SM, Nichol G, Thomas KL, Chan PS, SahaChaudhuri P, Fosbol EL, Eigel B, Clendenen B, Peterson ED. Rates of cardiopulmonary resuscitation training in the United States. JAMA Intern Med. 2014;174:194–201.
5. Jung B, Daurat A, De Jong A, et al. Rapid response team and hospital mortality in hospitalized patients. *Intensive Care Med*. 2016;42(4):494–504. pmid:26899584
6. Buist MD, Moore GE, Bernard SA, Waxman BP, Anderson JN, Nguyen TV. Effects of a medical emergency team on reduction of incidence of and mortality from unexpected cardiac arrests in hospital: Preliminary study. *BMJ*. 2002;324(7334):387–390. pmid:11850367
7. Chan PS, Khalid A, Longmore LS, Berg RA, Kosiborod M, Spertus JA. Hospital-wide code rates and mortality before and after implementation of a rapid response team. *JAMA*. 2008;300(21):2506–2513. pmid:19050194
8. Dobbie F, Uny I, Eadie D, Duncan E, Stead M, Bauld L, et al. (2020) Barriers to bystander CPR in deprived communities: Findings from a qualitative study. PLoS ONE 15(6): e0233675. https://doi.org/10.1371/journal.pone.0233675