DOI: 10.21276/sjams.2016.4.10.20

Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2016; 4(10B):3644-3647 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublisher.com

Original Research Article

Dispatcher Experiences in Handling Telephone CPR

Mohd Said Nurumal[2], KhinThandarAung[1], Nurbaitibinti Haron[3]

[2]PhD in nursing Dean Faculty of Nursing, International Islamic University, Malaysia, Level 2, Jalan Hospital Campus, P.O Box 141, 25710 Kuantan, Pahang Darul Makmur

[1]Lecturer/ Head, Critical Care Nursing Department, Kulliyyah of Nursing, International Islamic University Malaysia, Level 2, Jalan Hospital Campus, P.O Box 141, 25710 Kuantan, Pahang Darul Makmur

[3]Kulliyyah of Nursing, International Islamic University Malaysia

***Corresponding author**
KhinThandarAung
Email: khin_ta@iium.edu.my

Abstract: The risk of getting sudden cardiac arrest is unknown and unpredictable. Mostly, cardiac arrest incidence occurred in public places such as home, shopping mall. Telephone Cardiopulmonary Resuscitation (CPR) brings a new trend in emergency medical services. It has the tendencies in lowering the out of hospital cardiac arrest mortality. The immediate response of bystander by activating the emergency medical service (EMS) and conducting the CPR by following instructions from the dispatcher may help with the survival of the victims. The aim of this study was to explore the dispatcher experience in handling telephone CPR. A descriptive qualitative study design that involves interviewing dispatchers who had experienced giving telephone cardiopulmonary resuscitation instruction to the bystander in the EMCC Department of Hospital Tengku Ampuan Afzan (HTAA) Kuantan, Pahang was conducted. Participants were chosen based on their expert knowledge of the dispatcher routines and experiences in handling telephone CPR using purposive sampling method. The data were collected using a semi structure interviews conducted in Malay language. The data were analysed by the researcher independently by using content analysis and then specific coding. The importance of bystander dispatcher-assisted CPR had been proved through this study. Based on the dispatcher experiences in handling telephone CPR, there is significant in early CPR. The mortality out of hospital cardiac arrest would reduce with the chain of survival linked. The dispatcher experience in handling telephone CPR showed that the importance of bystander dispatcher-assisted CPR. The mortality rate out of hospital cardiac arrest victim will be reduced with bystander dispatcher-assisted CPR.

Keywords: Dispatcher experiences, Telephone CPR (T-CPR), Bystander dispatcher-assisted CPR, Cardiac arrest.

INTRODUCTION

According to Star Online News [7], the cardiovascular or heart disease is the leading cause of death in Malaysia nowadays. The statistics of death in 2013 reports that due to heart diseases increased by one death per four people. This had alarmed the Ministry of Health to take a further step in improving the lifestyle of Malaysian. The risk factors caused the heart disease are high blood cholesterol, hypertension, stress, high fat diet, diabetes, obesity and lack of exercise (Risk Factor for Heart Disease, 2015) [6]. These factors had been practically seen in Malaysian society [1]. The society of Malaysia lifestyle has been changing with the developing economy and socio-demographic. In sequence, one of the heart diseases which are cardiac arrest incidence also had been increasing. Sudden cardiac arrest is unclear and unpredictable. The arrest would happen in anyone with or without heart diseases diagnose. Thus, the CPR practice should be learned and applied in Malaysia.

Emergency department around the globe has been improving their services by doing many researches and studies. Telephone Cardiopulmonary Resuscitation brings a new trend in emergency medical services. It has the tendencies in lowering the mortality rate of cardiac arrest out of hospital. The immediate response of bystander by activating the EMS and conducting the CPR by following instructions from the dispatcher may help with the survival of the victims. According to American Heart Association (2013), chain of survival must be activated immediately to save the victim. However, the importance of the chain of survival was little known by the public. Thus, pre-hospital care is

significant emergency medical services that will be sought by public for emergency cases out of the hospital area. As a front line of emergency medical services, the dispatcher will be answered the call, gather the required information, provide the caller with instructions to help the victims and sending an emergency medical team to the incident scene.Furthermore, the EMS team had their own response time needed to reach the incident scene, while waiting for the team arrival dispatcher-assisted CPR would be a great help for the victims. In this study, the researcher interview the dispatchers in order to gather and explore their experiences in handling telephone CPR.Moreover, by using the dispatchers' experiences, the problems and thoughts of the bystander would be known and understand. This study might also help in improving the public knowledge on telephone CPR and dispatcher competency in giving instructions for the bystander.

MATERIALS AND METHOD

A descriptive qualitative study that involved interviewing five dispatchers who had experienced giving telephone cardiopulmonary resuscitation instruction to the bystander in the EMCC Department of Hospital Tengku Ampuan Afzan (HTAA) Kuantan, Pahang was conducted. These five participants were chosen by purposive sampling and semi- structures questionnaires were used with an interviewing technique. The questions were mainly about the experiences of dispatcher in handling telephone CPR. The data were collected with a recorder, memo pad and field notes to avoid any miss out data. Once the data transcriptions are done, the data analysis was shown to the participants in order to ensure the data analysis is correct and valid. Data credibility was double checked with the five respondents. Data saturation of the finding of this research was supplied to increase the significance in the results. The raw data, reflexive journals, field notes, memos and product of the data analysis increased the trustworthiness and conformability of the data. Ethical consideration was obtained from Kulliyyah of Nursing Post Graduate Research Committee (KNPGRC), International Islamic University Malaysia Ethic Committee (IREC), EMCC department of Hospital Tengku Ampuan Afzan, Kuantan Pahang. Content analysis was used to analyze the collected data.

RESULTS

Socio-demographic data

The five participants were from the MECC department in HTAA who are call dispatchers and had experienced in handling telephone CPR for 2 to 3 years. The respondents were males between the ages of early 30 to early 40.

Through the interview the data collected were focused on the discussion of dispatcher experiences in handling telephone CPR. There were commonalities in the experiences between respondents. The respondents also shared on low public awareness on the emergency call system in Pahang area and shared some opinion in increasing and promoting telephone CPR towards the public.

The categories are exhaustive and mutually exclusive. The category is the factor caller refused in performing telephone CPR. This category refers mainly to the descriptive level of content and seen as an expression of the manifest content. There are five subcategories; panic, not confidence, knowledge, age and unfocused.

Dispatcher experiences

Dispatcher usually tried their best in attaining the caller. The respondent would be calmed first the caller in order to gain as much as information on victims and scene. The experience of the dispatcher in handling telephone CPR divided into two; agree and not agree in performing telephone CPR. The caller agreement in performing telephone CPR might be varied in result of the process helping out the victims.

> "Thus, I asked her would she want to perform the CPR by following my instructions and she does agree with my suggestions."

However, some of the callers refuse or not agree in performing the telephone CPR. The caller was usually not giving good cooperation when dealing with the dispatcher. In addition, they preferred in waiting for the ambulance arrived. While, some preferred to wait the arrival of ambulance in order to confirm the death of victims only.

> "Most of the callers usually did not give their cooperation when dealing with us (dispatchers). The caller usually did not hear our instructions and keeps talking in their own."

Moreover, the victim was probably a stranger to the caller. In sequence, they refused in performing because afraid of the result or the consequences after helping out the victim such as being sued.

Factors caller in performing telephone CPR

There are many elements in the factors caller in refused to perform telephone CPR. The caller usually panics and not calm. This is because the victims usually collapse resulting from a sudden heart attack or cardiac arrest. When the caller was not focused, he or she is unable to understand the instructions given by the dispatcher and not giving

enough information. They usually end up wanted the help or ambulance as soon as possible.

> "The caller usually gets panic and wants the help come as fast as possible".

> "They disconnect the call or panicked. There were some did not know anything about CPR and refuse to do it."

In addition, the age of the caller also would be the reason of refusal in performing telephone CPR. The middle age or elderly usually would refuse in performing telephone CPR because their physical capabilities did not allow them to perform it.

> "If the caller were middle age woman from village, they usually did not understand and refuse in doing telephone CPR. "

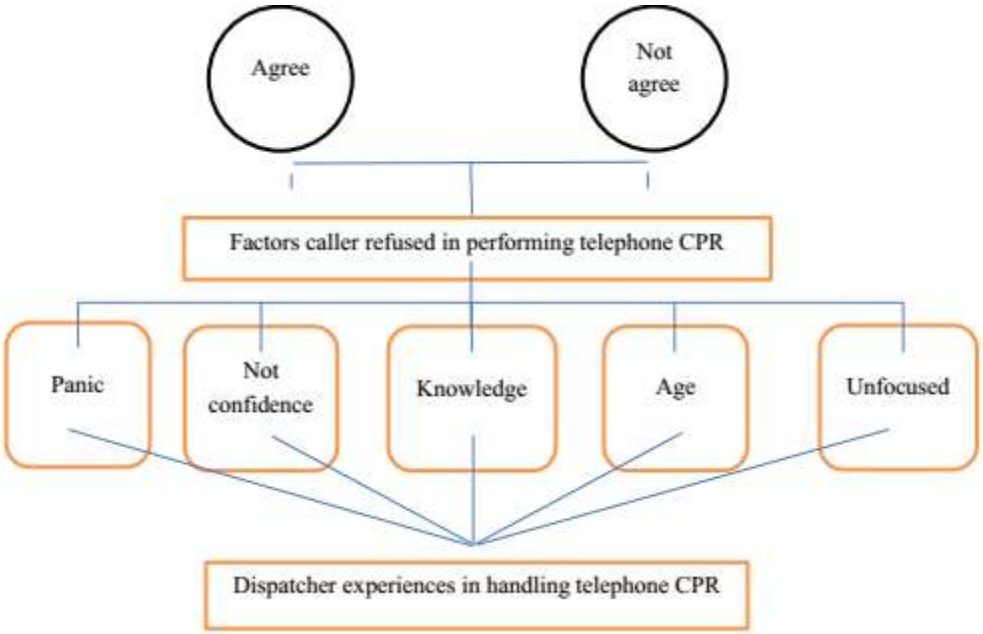

Fig 1: Thematic analysis flowchart of dispatcher experiences in handling telephone CPR

DISCUSSION

Telephone CPR is known as a new practice in Malaysia. It was invented to provide pre-hospital care before the ambulance arrived for the victim, performs by the bystander. The protocol used in the EMCC Department of HTAA is Emergency Medical Dispatch (EMD) Protocol v12.1. There are two ways of using this protocol; manually or by computer. In the HTAA EMCC department, the dispatchers using the system installed in the computer. The dispatcher will receive an emergency call will click on the system by following the information given by the caller. Thus, the system will provide further instruction should be given to the caller to help the victim.

According to Lyon, R.M *et al.;* [4], dispatchers are an important chain of other emergency medical care. However, little is described about the characteristics of the dispatcher-caller interaction in influencing the detection and treatment of OHCA [5]. In detecting the cardiac arrest case, the dispatcher will ask the caller on victim's condition by asking presence of cardiac arrest symptoms such as agonal breathing, pulseless, and bluish skin. Based on the dispatcher years of experience in handling the emergency call, they should be able to identify the cardiac arrest case by processing the given information. In this study, the dispatcher had been experienced in handling telephone CPR for two or more years. According to Bang, A. *et al.;* [2], a major challenge in detecting the cardiac arrest victim was the presentation of agonal breathing. In unconscious victim, the presence of agonal breathing would be hard to be recognized. Thus, the agonal breathing is not a helpful method of detecting the cardiac arrest incidence.

One emergency incidence might have several callers in reporting the incident. The caller came with varying backgrounds of race, religion and level of knowledge. Ways of information were delivered might be different from one another and contradicted from the incident. Thus, with the years of experiences the dispatcher should be able to sort out the information. Through the information given by the caller, the dispatcher will process and decide on the further instruction. Thus, the trustworthiness on the information given by the caller will also lead the dispatcher in giving further instruction [3]. For cardiac arrest incidence, the information given should lead to the instruction in performing telephone CPR.

Furthermore, the cognitive level of caller is varied. The dispatcher should match with the mental level of understanding of the caller and supportive when giving instruction. The caller needs support in terms of psychological in performing the telephone CPR. They also should be flexible and organized when giving the instruction in order to help the caller feel secure and confidence in following the instructions.

In addition, this study purpose is conveying important of bystander in improving survival rates out of hospital cardiac arrest by performing telephone CPR. Through the respondents' experiences in dealing with the caller, the factors caller refused in performing telephone CPR would be discussed. Content analysis offered in analyzing the overall experiences of the dispatcher as whole.

There is the significant role of caller in performing telephone CPR for pre-arrival of emergency help. Every element in the chain of survival is linked and important [5]. The survival rate out of hospital cardiac arrest victim is depending on the success in performing each element in the chain of survival. One the element is early CPR. Thus, while waiting for the ambulance arrival, the bystander early telephone CPR will reduce the mortality rate of cardiac arrest incidence.

CONCLUSION

The promotion of CPR should have widely conducted in Malaysia in order to increase the awareness. The dispatching system and protocol such as questions that will be asked by dispatcher also should be introduced to the public. These will help in improving public cooperation and willingness in performing telephone CPR. As for this study, the content analysis on the category and subcategory has proved that through the dispatcher experiences the significance of telephone CPR in decreasing the mortality rate of the cardiac arrest victims.

REFERENCES

1. Amiri M, Majid HA, Hairi F, Thangiah N, Bulgiba A, Su TT. Prevalence and determinants of cardiovascular disease risk factors among the residents of urban community housing projects in Malaysia. BMC public health. 2014 Nov 24;14(3):1.
2. Bång A, Herlitz J, Martinell S. Interaction between emergency medical dispatcher and caller in suspected out-of-hospital cardiac arrest calls with focus on agonal breathing. A review of 100 tape recordings of true cardiac arrest cases. Resuscitation. 2003 Jan 31; 56(1):25-34.
3. Bång A, Ortgren PO, Herlitz J, Währborg P. Dispatcher-assisted telephone CPR: a qualitative study exploring how dispatchers perceive their experiences. Resuscitation. 2002 May 1; 53(2):135-51.
4. Lyon RM, Bohm K, Christensen EF, Olasveengen TM, Castrén M. The inaugural European emergency medical dispatch conference–a synopsis of proceedings. Scandinavian journal of trauma, resuscitation and emergency medicine. 2013 Sep 23; 21(1):1.
5. Richard CT. Qualitative Analysis of the Caller-Dispatcher Interaction during 9-1-1 Calls for Victims Experiencing Out-of-Hospital Cardiac Arrest. Northwestern Feinberg School of Medicine Chicago EMS..NAEMSP Annual Meeting 2015 http://www.naemsp.org/Documents/2015%20Annual%20Meeting%20Handouts/THU%20430%20Richards.pdf
6. Risk Factor for Heart Disease. (2015). Beacon Hospital Malaysia. Retrieved from <http://www.beaconhospital.com.my/cancer-health-resources/general-health/risk-factors-for-heart-disease/> (accessed December 2014)
7. Star online News, 2013. Retrieved from http://www.thestar.com.my/news/