Proceedings of the International Conference on Nursing and Health Sciences, Volume 2 No 2, November 2021, Page 67 – 74
e-ISSN 2774 – 5104, Global Health Science Group
http://jurnal.globalhealthsciencegroup.com/index.php/PICNHS

The Willingness Of Bystander To Perform Cpr To The Patient With Out Of Hospital Cardiac Arrest During The Pandemic Covid 19: A Literature Review

Zulmah Astuti*, Misbah Nur Jannah
Faculty of Nursing, Universitas Muhammadiyah Kalimantan Timur, Jl. Ir. H. Juanda No.15, Sidodadi, Samarinda Ulu, Kota Samarinda, Kalimantan Timur 75124, Indonesia
*za874@umkt.ac.id

ABSTRACT

Cardiac arrest is one of the emergency cases that requires immediate treatment. The Out of the Hospital Cardiac Arrest (OHCA) can happen anytime and everywhere with or without any sign. During a pandemic, OHCA often occurs at home and the patient have been found by family members as witness. unfortunately, based on the data The survival rate for patients with OHCA during the pandemic has decreased. There are several factors that cause this to happen, one of which is a decrease in bystander in performing CPR on patients. Bystander's willingness to perform CPR plays an important role in the chain of survival of patients with OHCA which affects patient outcomes. Based on this, a study was conducted on the willingness of bystander to perform CPR to the patient with out of hospital cardiac arrest (OHCA) during the pandemic covid 19. This research method is a literature review sourced from research journals conducted in 2019 to 2021 about the willingness of bystanders to perform CPR during the pandemic. The results seven journals that have been analysed show that most of the bystanders are willing to perform CPR with various conditions including Perform hands only CPR and if Personal Protective Equipment (PPE) is Avalaible. There are several conditions that cause the CPR bystander not to be willing to perform CPR, such as the fear of being infected, the absence of PPE and the victim is a stranger or unfamiliar person for bystander. Conclusion the willingness of bystanders to perform CPR on OHCA victims during the pandemic is still high, bystander perform hands only CPR and using PPE during the intervention.

Keywords: bystander; cardiac arrest; cardiac pulmonary recucitation (cpr); covid 19; pandemic

INTRODUCTION

Out of hospital cardiac arrest (OHCA) is one of the emergency cases that causes death and requires immediate intervention. sudden cessation of cardiac function can occur with or without symptoms, the patient may or may not have a history of heart failure. The prevalence of OHCA in some countries increased during the pandemic by more than 50% (Rashid et al., 2020) ; (Kovach & Perman, 2021). The covid pandemic has a long-term effect on the treatment of patients who experience cardiac arrest outside the hospital due to the low level of CPR performed by bystanders (Perkins & Couper, 2020). The survival of patients with OHCA depends on the accuracy and speed of a person recognizing signs of cardiac arrest, performing CPR and Immediate Defibrillation ((Tjelmeland et al., 2021)). OHCA cases can be found by anyone who is called a bystander. a bystander is a person who is expected to provide assistance in the form of Cardiac Pulmonary Resucitation (CPR) but unfortunately maybe not all bystanders are willing to provide CPR assistance, especially during the current covid 19 pandemic. the cause of this is a person's fear of making direct contact with other people which can cause him to contract covid 19 (Pranata et al., 2020). Several case reports stated that OHCA incidents outside the hospital did not get help by bystanders who were afraid of contracting the covid virus, and this caused the patient to die (Scquizzato et al., 2020). providing assistance to patients with OHCA cases during the pandemic faced various problems including resuscitation protocols that required limited personal protective equipment, limited first responders which led to an increase in response time and also a decrease in the implementation of CPR by bystanders (Ong et al., 2021). OHCA

events during pandemics in several countries often occur at home and most do not get CPR from family members who are bystanders, causing worsening of patient outcomes or also leading to patient death (Lim et al., 2021). From various studies in various countries, it is found that the survival rate of people with OHCA is low due to the low effort to implement CPR immediately by the bystander (Marijon et al., 2020). Several attempts were made to increase the number of CPR bystanders, namely by providing guidance on CPR assistance from health workers by telephone (Chong et al., 2021). Overall, the implementation of CPR by bystander CPR in OHCA sufferers has decreased in various countries during the covid pandemic (Uy-Evanado, 2021; Pan, 2021). Based on this, the researchers conducted research on the perspective of bystander's willingness to perform CPR during the covid 19 pandemic: Literature Review.

METHOD

This research method is a literature review that is sourced from research journals through the google cholar search engine. Search journals through keywords, namely about bystander CPR and the covid pandemic, the search year is limited to 2019 to 2021. From the search results, 7 journals are obtained that match the keywords used. The analysis was carried out on the seven journals to see the willingness of the bystander to perform CPR and also the conditions that affect the willingness to perform CPR.

RESULTS

Table 1.

Willingness to do CPR during a pandemic

City or Region	Total respondent	Willingness to do CPR during a pandemic		Method & studied time interval	Bystander	Source
		Willing/with conditions to perform CPR	Not willing to perform CPR			
Taiwan	1347	90%	10%	✓ Cross sectional study via an internet survey ✓ studied time interval: Not mentioned	Trained: 66% Untrained: 34%	(Chong et al., 2021)
Australia	3607	55%	45%	✓ an international media social Survey ✓ studied time interval : June, 2020	Trained: not mentionde Untrained: not mentioned	(Howell et al., 2021)
Malaysia	172	63%	37%	✓ Cross sectional questionnaire based survey ✓ Studied time interval: may 2020	Trained: 24% Untrained: 86%	(Yi Ern et al., 2019)
Europe, united state, America	1360	(Deacreased in stranger or unfamiliar person)	Not clearly mentioned	✓ Survey to the general public through social media channels ✓ Studied time interval: June, 2020	Trained: 82,5% Untrained: 17, 5%	(Grunau et al., 2020)
Greek	1199	83,36%	16,64%	✓ Electronic Survey ✓ Studied time interval :	Trained : 100%	(Latsios, 2021)

				June, 2020	Untrained: 0%	
Thailand	1195	82,5%	17,5%	✓ Online Survey ✓ Studied time interval: August till November, 2020	Trained : 75% Untrained: 25%	(Boonmak et al., 2021)
Germany	571	low	Not mentioned	✓ Using Smartphone alert System ✓ May 2020	Trained : 100% Untrained: 0%	(Ganter et al., 2021)

Table 1 above shows that most of the respondents in the study were willing to carry out CPR directly or were willing to perform CPR with various conditions, namely the availability of Personal Protective Equipment while giving CPR, willing to perform hands only CPR. further data is that most of the respondents in the research study had previously attended conventional CPR training.

Table 2.
Willing with various conditions

City or Region	Total respondent	willing with various conditions	Method & studied time interval	Source
Taiwan	1347	Instructed Wearing a facemask Hands only CPR	✓ Cross sectional study via an internet survey ✓ studied time interval: Not mentioned	Chong, *et al*, 2021
Australia	3607	Hands only CPR	✓ an international media social Survey ✓ studied time interval : June, 2020	Howell, S, et al, 2021
Malaysia	172	Hands only CPR	✓ Cross sectional questionnaire based survey ✓ Studied time interval: may 2020	Ern, et al, 2019
Europe, united state, America	1360	If personal protective Equipment (PPE) available Family member	✓ Survey to the general public through social media channels ✓ Studied time interval: June, 2020	Grunou, et al, 2020
Greek	1199	Hands only CPR Aply and use PPE regardless of the time delay	✓ Electronic Survey ✓ Studied time interval : June, 2020	Latsios, et al, 2020
Thailand	1195	Hands only CPR Familly member	✓ Online Survey ✓ Studied time interval: August till November, 2020	Boonmak, et al, 2020
Germany	571	Hands only cpr, Using face mask PPE available	✓ Using Smartphone alert System ✓ May 2020	Ganter, et al, 2020

Table 2, it was found that there are several conditions bystander respondents want to perform CPR on OHCA patients, namely only doing hands only CPR, willing to do CPR if PPE is

available and if those experiencing OHCA are family members and if there are instructions to perform CPR.

Table 3.
Reasons for not willing to perform CPR

City or Region	Total respondent	Reasons for not willing to perform CPR	Method & studied time interval	Source
Taiwan	1347	Not mentioned	✓ Cross sectional study via an internet survey ✓ studied time interval: Not mentioned	Chong, *et al*, 2021
Australia	3607	Not mentioned	✓ an international media social Survey ✓ studied time interval : June, 2020	Howell, S, et al, 2021
Malaysia	166	Fear of being infected with the covid virus Stranger or unfamiliar persons	✓ Cross sectional questionnaire based survey ✓ Studied time interval: may 2020	Ern, et al, 2019
Europe, united state, America	1360	Stranger or unfamiliar persons PPE unavalaible	✓ Survey to the general public through social media channels ✓ Studied time interval: June, 2020	Grunou, et al, 2020
Greek	1199	Close social contact for hours, increase their chance of infection	✓ Electronic Survey ✓ Studied time interval : June, 2020	Latsios, et al, 2020
Thailand	1195	Stranger	✓ Online Survey ✓ Studied time interval: August till November, 2020	Boonmak, et al, 2020
Germany	571	PPE Not Available	✓ Using Smartphone alert System ✓ May 2020	Ganter, et al, 2020

Based on table 3 above, it was found that the reasons for not being willing to perform CPR on patients with OHCA cases during the pandemic were the fear of being exposed to a viral infection, the unavailability of PPE and the person being helped was a stranger or who was not known by the bystander.

DISCUSSION

Bystanders can be lay people or health workers, the person is trained or untrained. a bystander is a person who finds a victim with cardiac arrest for the first time and is expected to provide CPR assistance to that person. Bystander plays an important role in survival and neurological repair in individuals experiencing cardiac arrest (Perman, 2020). During the current pandemic, the term bystander effect appears where people around the victim do not immediately provide assistance for various reasons. One of the causes of the bystander's unwillingness to perform CPR is the fear of contracting the covid 19 virus. Based on data, the implementation of CPR that has the potential to transmit the virus is CPR without using gloves and mouth-to-mouth ventilation (Fragkou et al., 2021). Based on this, several guidelines have been made by the Institute that focuses on the

management of cardiac arrest cases during a pandemic. The international liaison committee or resuscitation (ILCOR) recommends performing CPR with only chest compressions and the use of personal protective equipment to reduce the risk of droplet exposure (Nolan et al., 2020). Another reason the bystander is not willing to help is because the patient is a stranger to the bystander. What can be done is to provide information through a massive campaign by social scientists about hand only CPR measures that can be used as standard CPR during a pandemic to save lives (Baldi et al., 2020). The results of a survey in Korea found that the implementation of CPR by a bystander did not change compared to before the pandemic. This is due to good CPR education for first responders and students, the modified good Samaritan' law and also the recommendation from the Korean Emergency Doctors Association for bystanders to wear PPE (Yi Ern et al., 2019). A survey conducted on the level of bystander's willingness to perform CPR before and after the covid 19 pandemic after receiving Basic life support training found a high level of willingness to provide CPR (Birkun, 2020).

CONCLUSION

Bystander plays an important role in improving the survival of patients with OHCA. The implementation of CPR in OHCA patients by CPR bystanders during the pandemic in several countries has decreased compared to before the pandemic and has an impact on the high mortality rate in cardiac arrest patients. The decrease in the bystander's to perform CPR is due to the fear of contracting the virus, and people experiencing OHCA are strangers to the Bystander. The willingness of the bystander is high to perform CPR only if hands only CPR and PPE are available during the pandemic covid 19. Training on the management of cardiac arrest, especially during the covid pandemic, needs to be carried out for the entire community to increase the survival rate of patients experiencing OHCA.

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