Effectiveness of cardio pulmonary resuscitation in identifying end of life based on the data of RS Juwita Bekasi from 2013-2017 and the overview according to Islamic view

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Abstract

Background: Cardio Pulmonary Resuscitation is used in basic life support procedure consisting of compression, ventilation and defibrillation. Cardio Pulmonary Resuscitation is recommended as an emergency intervention for respiratory or cardiac arrests.
Method: This study will use non-probability sampling technique. Non-probability sampling technique will be determined purposively, the sample is taken according to the established criteria.
Result: The result of the study conducted for 26 days taken from the medical record of patients at RS Juwita Bekasi, showed that 94 patients were unsuccessful after Cardio Pulmonary Resuscitation and 4 patients were successful after Cardio Pulmonary Resuscitation. Regarding the diagnosis of traumatic brain injury and severe head injury was found that the most were not successful at Cardio Pulmonary Resuscitation.
Conclusion: The use of Cardio Pulmonary Resuscitation in the medical record of RS Juwita Bekasi from 2013-2017 on the indication of respiratory and cardiac arrestsis found to be ineffective because the success rate is 1%.

Keywords: Cardio pulmonary resuscitation; end of life, basic life support.

Introduction

Cardio Pulmonary Resuscitation (CPR) was first used in 1960 in basic life support procedure consisting of compression, ventilation and defibrillation. CPR is recommended as an emergency intervention for unexpected respiratory arrestor cardiac arrest. The CPR strategy aims to help patients who experience respiratory arrest or cardiac arrest to stay alive. Modern RJP has had many major changes and development in conducting resuscitation. The number of people who can be saved is still constant. Only 10% of patients can survive after receiving resuscitation.

The factors that influence the success of CPR include the ability of health workers, response time, quality of CPR, availability of emergency equipment, client condition, location of care, and hospital policy. Trained health workers improve CPR results. The ability of health workers to make decision to do CPR is also important to help patients to stay safe. The faster a patient who experiences cardiac arrest is given basic life support with CPR less than 5 minutes from the moment he/she experiences cardiac arrest so the possibility to stay alive is great. The study conducted by Punjab, India states that the number of patients who have the most survivor of cardiac arrest are patients who receive CPR as early as possible, duration of CPR less than 20 minutes, young age, male and presence of arrhythmias. Cardiac arrest for patients who are being treated at the hospital has the possibility of life until he/she is repeated at 15-20%. Factors that influence success, including the presence of arrhythmias, time of delivering drugs, time to be found, and the provision of basic life support are understood as the airway management, ventilation and compression, namely cardio pulmonary resuscitation. The presence of arrhythmias and the time to determine drug administration so far are more important. Age, sex, location of cardiac arrest and condition indirectly affect the level of patient safety. CPR result is not only affected by resuscitation efforts but also the condition before CPR is given. The causes of death after resuscitation include central nervous system

damage in one third of cases, myocardial damage, sepsis and other complications.

In the Islamic view, death and life is a certainty that deserves and is believed by humans as Muslims. Acceptance in the context of theology, for example, is actually the death and life are a chain of life that is interconnected, namely something that represents the transition stage between two regions (pole A as a region of death and pole B as a region of life). These two regions, between death and life, in the language of Qur'an is an equal part towards eternal life. Therefore, the two understandings of death and life become more distinctive, if not said to be identical, where Qur'an has played an important role in informing these two words based on any context as manifestation that is certainly respected. This attention is considered important, by Qur'an, even though it is classified as an ordinary case of "human destiny" - death and life - but it still has the same magnetism in context as a creation. It means, there is someone who creates death as the creation of a life (1).

أَوَلَمْ يَرَوْا كَيْفَ يُبْدِئُ اللَّهُ الْخَلْقَ ثُمَّ يُعِيدُهُ ۚ إِنَّ ذَٰلِكَ عَلَى اللَّهِ
يَسِيرٌ ﴿١٩﴾ قُلْ سِيرُوا فِي الْأَرْضِ فَانْظُرُوا كَيْفَ بَدَأَ الْخَلْقَ ۚ ثُمَّ
اللَّهُ يُنْشِئُ النَّشْأَةَ الْآخِرَةَ ۚ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ ﴿٢٠﴾

Meaning:

"Have they not considered how Allah begins creation and then repeats it? Indeed that, for Allah, is easy. Say, [O Muhammad], Travel through the land and observe how He began creation. Then Allah will produce the final creation. Indeed Allah, over all things, is competent (2)*"*

According the Islamic view, every human being will face five stages of life, starting from: [1] something that does not exist, then [2] in the womb, then [3] in the world, then [4] enter in g*barzakh* (grave) and finally [5] entering the after life. And this final day is the final stage of human life (3).

كُلُّ نَفْسٍ ذَائِقَةُ الْمَوْتِ ۗ وَإِنَّمَا تُوَفَّوْنَ أُجُورَكُمْ يَوْمَ الْقِيَامَةِ ۖ
فَمَنْ زُحْزِحَ عَنِ النَّارِ وَأُدْخِلَ الْجَنَّةَ فَقَدْ فَازَ ۗ وَمَا الْحَيَاةُ الدُّنْيَا
إِلَّا مَتَاعُ الْغُرُورِ

Meaning:

"Every soul will taste death, and you will only be given your [full] compensation on the Day of Resurrection. So he who is drawn away from the Fire and admitted to Paradise has attained [his desire]. And what is the life of this world except the enjoyment of delusion (4)*."*

From this case, this study is very important to be conducted to know the effectiveness of cardio pulmonary resuscitation in the identification of end of life for patients at hospital and reviewed according to the Islamic religion.

Material & Method

This study is qualitative research. It is to find out how effective the use of Cardio Pulmonary Resuscitation in dealing with end of life. The population is taken from the medical record data of adolescent patients (10-19 years), young adults (20-25 years) full adults (25-65 years) who have performed Cardio Pulmonary Resuscitation (CPR) from 2013-2017 at RS Juwita Bekasi. Sampling is done by using non-probability sampling technique. Non-probability sampling technique will be determined purposively, namely the sample is taken according to the established criteria. The determination of total sample is done by evaluating qualitative data based on the medical record from 2013-2017 at RS Juwita Bekasi.

Result

The result of the data obtained from the study on the effectiveness of conducting Cardio Pulmonary Resuscitation is taken in the medical record of the Emergency Installation of RS Juwita Bekasi from 2013-2017. The result of this study is obtained from secondary data collection. The determination of total sample is done by evaluating qualitative data based on the medical record from 2013-2017 at RS Juwita Bekasi. This study uses non-probability sampling technique. Non-probability sampling technique will be determined purposively, namely the sample is taken according to the established criteria, namely pulmonary and cardiac arrests.

This study is conducted by taking medical record data of patients in the Emergency Installation of RS Juwita Bekasi from 2013-2017 and carried out for 26 days, starting on February 12,2019 until March 15,2019.

The following is the medical record data taken according to the criteria of respiratory and cardiac arrests in 2013-2017: From the table 1, 98 patients with various diagnoses are in it, including respiratory and cardiac arrests. There are 2 patients with 40 and 43 years old on indication of cardiac arrest diagnosed as myocardial infarction, then 1 patient with 42 years

Table 1: Medical Record Data of Patients at RS Juwita Bekasi in 2013-2017 that have been Conducted Cardio Pulmonary Resuscitation

NO	AGE	INDICATION	DIAGNOSIS	CARDIO PULMONARY RESUSCITATION RESULT
1.	40	Cardiac Arrest	Myocardial Infarction	Successful
2.	43	Cardiac Arrest	Myocardial Infarction	Successful
3.	60	Cardiac Arrest	Myocardial Infarction	Not Successful
4.	67	Cardiac Arrest	Myocardial Infarction	Not Successful
5.	56	Cardiac Arrest	Myocardial Infarction	Not Successful
6.	59	Cardiac Arrest	Myocardial Infarction	Not Successful
7.	45	Cardiac Arrest	Myocardial Infarction+ HT	Not Successful
8.	45	Cardiac Arrest	Myocardial Infarction+ HT	Not Successful
9.	41	Cardiac Arrest	Heart Failure	Successful
10.	62	Cardiac Arrest	Heart Failure	Not Successful
11.	55	Cardiac Arrest	Heart Failure	Not Successful
11.	56	Cardiac Arrest	Heart Failure+ HT	Not Successful
12.	42	Cardiac Arrest	Arrhythmia	Successful
13.	38	Cardiac Arrest	Cardiogenic Shock	Not Successful
14.	65	Cardiac Arrest	Cardiogenic Shock	Not Successful
15.	45	Cardiac Arrest	Cardiogenic Shock	Not Successful
16.	37	Cardiac Arrest	Coronary Heart	Not Successful
17.	35	Cardiac Arrest	Sudd. Cardiac Arrest	Not Successful
18.	40	Cardiac Arrest	Angina Pectoris	Not Successful
19.	47	Cardiac Arrest	Cardiomyopathy	Not Successful
20.	50	Cardiac Arrest	Cardiomyopathy	Not Successful
21.	18	Cardiac Arrest	PJR	Not Successful
22.	54	Respiratory Arrest	Meningitis	Not Successful
23.	43	Respiratory Arrest	Meningitis	Not Successful
24.	21	Respiratory Arrest	Meningoencephalitis	Not Successful
25.	43	Respiratory Arrest	Meningoencephalitis	Not Successful
26.	46	Respiratory Arrest	Meningoencephalitis	Not Successful
27.	55	Respiratory Arrest	CKF	Not Successful
28.	34	Respiratory Arrest	CKF	Not Successful
29.	56	Respiratory Arrest	CKF	Not Successful
30.	60	Respiratory Arrest	CKF	Not Successful
31.	56	Respiratory Arrest	CKF	Not Successful
32.	45	Respiratory Arrest	CKF+ Anemia Gravis	Not Successful
33.	50	Respiratory Arrest	CKF+ Anemia	Not Successful
34.	51	Respiratory Arrest	CKF+ Pulmonary Edema	Not Successful
35.	40	Respiratory Arrest	Bronchopneumonia	Not Successful
36.	48	Respiratory Arrest	Bronchopneumonia	Not Successful
37.	50	Respiratory Arrest	Bronchopneumonia	Not Successful
38.	45	Respiratory Arrest	PPOK	Not Successful
39.	40	Respiratory Arrest	PPOK	Not Successful
40.	60	Respiratory Arrest	PPOK	Not Successful
41.	41	Respiratory Arrest	Bronchiectasis	Not Successful
42.	55	Respiratory Arrest	Bronchiectasis	Not Successful
43.	32	Respiratory Arrest	Bronchiectasis	Not Successful
44.	30	Respiratory Arrest	Pneumonia	Not Successful
45	59	Respiratory Arrest	Emphysema	Not Successful
46.	55	Respiratory Arrest	Emphysema	Not Successful
47.	56	Respiratory Arrest	Ca Pulmonary	Not Successful
48.	32	Respiratory Arrest	Asphyxia	Not Successful

49.	28	Respiratory Arrest	Asphyxia	Not Successful
50.	62	Respiratory Arrest	Hypovolemic Shock	Not Successful
51.	55	Respiratory Arrest	Hypovolemic Shock	Not Successful
52.	59	Cardiac Arrest	Stroke	Not Successful
53.	65	Cardiac Arrest	Stroke	Not Successful
54.	26	Respiratory Arrest	Severe Head Injury	Not Successful
55.	45	Respiratory Arrest	Severe Head Injury	Not Successful
56.	40	Respiratory Arrest	Severe Head Injury	Not Successful
57.	28	Respiratory Arrest	Severe Head Injury	Not Successful
58.	26	Respiratory Arrest	Severe Head Injury	Not Successful
59.	45	Respiratory Arrest	Severe Head Injury	Not Successful
60.	40	Respiratory Arrest	Severe Head Injury	Not Successful
61.	28	Respiratory Arrest	Severe Head Injury	Not Successful
62.	19	Respiratory Arrest	Severe Head Injury	Not Successful
63.	45	Respiratory Arrest	Severe Head Injury	Not Successful
64.	40	Respiratory Arrest	Severe Head Injury	Not Successful
65.	28	Respiratory Arrest	Severe Head Injury	Not Successful
66.	26	Respiratory Arrest	Severe Head Injury	Not Successful
67.	45	Respiratory Arrest	Severe Head Injury	Not Successful
68.	40	Respiratory Arrest	Severe Head Injury	Not Successful
69.	28	Respiratory Arrest	Severe Head Injury	Not Successful
70.	19	Respiratory Arrest	Severe Head Injury	Not Successful
71.	52	Respiratory Arrest	Traumatic Brain Injury	Not Successful
72.	55	Respiratory Arrest	Traumatic Brain Injury	Not Successful
73.	50	Respiratory Arrest	Traumatic Brain Injury	Not Successful
74.	35	Respiratory Arrest	Traumatic Brain Injury	Not Successful
75.	40	Respiratory Arrest	Traumatic Brain Injury	Not Successful
76.	38	Respiratory Arrest	Traumatic Brain Injury	Not Successful
77.	45	Respiratory Arrest	Traumatic Brain Injury	Not Successful
78.	52	Respiratory Arrest	Traumatic Brain Injury	Not Successful
79.	41	Respiratory Arrest	Traumatic Brain Injury	Not Successful
80.	33	Respiratory Arrest	Traumatic Brain Injury	Not Successful
81.	29	Respiratory Arrest	Traumatic Brain Injury	Not Successful
82.	35	Respiratory Arrest	Traumatic Brain Injury	Not Successful
83.	20	Respiratory Arrest	Traumatic Brain Injury	Not Successful
84.	43	Respiratory Arrest	Traumatic Brain Injury	Not Successful
85.	35	Respiratory Arrest	Traumatic Brain Injury	Not Successful
86.	28	Respiratory Arrest	Traumatic Brain Injury	Not Successful
87.	30	Respiratory Arrest	Traumatic Brain Injury	Not Successful
88.	48	Respiratory Arrest	Traumatic Brain Injury	Not Successful
89.	55	Respiratory Arrest	Traumatic Brain Injury	Not Successful
90.	52	Respiratory Arrest	Traumatic Brain Injury	Not Successful
91.	25	Respiratory Arrest	Traumatic Brain Injury	Not Successful
92.	29	Respiratory Arrest	Traumatic Brain Injury	Not Successful
93.	50	Respiratory Arrest	Traumatic Brain Injury	Not Successful
94.	42	Respiratory Arrest	Traumatic Brain Injury	Not Successful
95.	54	Respiratory Arrest	Traumatic Brain Injury	Not Successful
96.	30	Respiratory Arrest	Traumatic Brain Injury	Not Successful
97.	43	Respiratory Arrest	Traumatic Brain Injury	Not Successful
98.	36	Respiratory Arrest	Traumatic Brain Injury	Not Successful

old diagnosed as arrhythmia and 1 patient with 41 years old diagnosed with heart failure successfully performed Cardio Pulmonary Resuscitation. In myocardial infarction, 6 patients are unsuccessful at Cardio Pulmonary Resuscitation. Patients diagnosed with heart failure and conducted Cardio Pulmonary Resuscitation as many as 3 patients are unsuccessful. Regarding the diagnosis of traumatic brain injury and severe head injury are found that the most are not successful at Cardio Pulmonary Resuscitation.

Discussion

From the result of table 1 above found 4 patients for indication of cardiac arrest with the diagnosis of 2 patients with myocardial infarction, 1 patient with heart failure and 1 patient with arrhythmia succeed after doing cardio pulmonary resuscitation (CPR) from 94 patients who do not succeed. This is in accordance with the journal reported by the American Heart Association, namely, efforts to reduce mortality due to cardiac arrest, appropriate management is needed in the treatment of patients with cardiac arrest. One of the treatments developed is cardio pulmonary resuscitation. Until now CPR is very vital management in the case of cardiac arrest. American Heart Association states that the incidence of cardiac arrest can occur anywhere, handling CPR at the time of the incident can help reduce the risk of death. Cardiac arrest can be very deadly, but when CPR and defibrillation can be given as soon as possible, in many cases the heart can be retracted (5).

In the result, there are many traumatic brain injury and severe head injury and unsuccessful after doing Cardio Pulmonary Resuscitation (CPR) found. This is related to the research in the United States as much as 70% of out-of-hospital cardiac arrests (OHCAs) occur at home, and about 50% are not witnessed. The result of bad OHCA, only 10.8% of adult victims with non-traumatic heart attack who have received resuscitation efforts from emergency medical service (EMS) are able to survive to the hospital. Heart attack at the hospital or In hospital cardiac arrest (IHCA) has better results, with 22.3% to 25.5% of adults still surviving (6).

Decision about Cardio Pulmonary Resuscitation (CPR) is very complicated and often made in seconds by medical personnel without knowing whether the patient has advanced directives or not. Advanced directives are legal document that is written before patients suffer from an incapacitating disease. The instruction in this advanced directives can release medical personnel in making decision, in other words the advanced directives are statement about the patients preferenceregarding what medical action should be performed or not done when the patients are in incompetencystate. Some studies show that giving CPR often goes against the patientspreference. Though every decision must be made with compassion, based on ethical principles and scientific references that exist. The result of several studies on CPR turn out that the result of CPR until now is still poor. CPR can be very successful at heart surgery, cardiac arrest is witnessed directly, irregular heart rhythms (*ventricular fibrillation* or*tachycardia*).

At the beginning and end of resuscitation, differences in ethics and cultural norms must be considered. Although the ethical principles about beneficence, non-maleficence, autonomy and justice can be accepted in all cultures, but the priority of these ethical principles can vary between different cultures. In the United States,the most of the emphasis is on individual autonomy. In Europe, more emphasis on autonomous health care providers is their duty in making decision when problems arise. Whereas in Asia the community group decision dominates decision made when problems arise. It is said that resuscitation is a blend of effort between scientific data and social values where at the same time there is an effort to maintain cultural autonomy. So the doctor must play an important role in making decision based on the scientific data and patients' preference.

Conclusion

Based on the result of the study that has been carried out it can be concluded that the use of Cardio Pulmonary Resuscitation is found to be ineffective in dealing with end of life at RS Juwita Bekasi.

Suggestion

It is hoped that there will be further study on the effectiveness of Cardio Pulmonary Resuscitation in the process ofend of lifeand it is hoped that the doctors will provide the best understanding and information of the impact after doing Cardio Pulmonary Resuscitation (CPR) to the of patients familyin the process of end of life.

Conflict of Interest

None declared

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