

Original Research

Experience of Emergency Nurse in Performing Cardiopulmonary Resuscitation (CPR) In Denpasar, Bali



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Article Info	Abstract
Article history: Received: May 25, 2023 Accepted: June 27, 2023	<i>Introduction:</i> When the heart stops beating, blood flow throughout the body stops, which is known as cardiac arrest. Cardiopulmonary resuscitation (CPR) is necessary as quickly as feasible in cardiac arrest. When meeting cardiac arrest patients, nurses typically feel uneasy and anxious because they feel unqualified and untrained to do cardiopulmonary resuscitation. The purpose of this study is to thoroughly examine nurses' experiences with cardiopulmonary resuscitation in cardiac arrest patients in the ER Dharma Yadnya Hospital.
Keywords: Cardiopulmonary resuscitation; Emergency nursing; Qualitative research	<i>Methods:</i> a single case study qualitative research design utilizing thematic analysis methods. Snowball sampling is the sample method, and there are 6 participants. In-depth interviews were used to acquire the data. <i>Results:</i> (1) Cardiopulmonary resuscitation management, (2) Nurse's emotional description when performing CPR, (3) Supporting factors for the success of CPR, (4) Unstable family emotions, patient's physical condition and poor coordination of the medical team, (5) Nurses' calmness as seen from professionalism, (6) Practice taking action in panic situations and (7) psychological readiness prior to performing CPR. <i>Conclusion:</i> Despite having the skills to do CPR, ED nurses were anxious about performing it. They later experienced psychological harm as well. Education that encourages CPR skills and support networks to lessen psychological discomfort for ED nurses could be beneficial

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INTRODUCTION

Basic life support (BHD), activation of the emergency response system (ERS), early cardiopulmonary resuscitation (CPR), and rapid defibrillation with an automated external defibrillator (AED) are the fundamental features of assistance in sudden cardiac arrest. In individuals with spontaneous breathing, BHD in the first minutes can boost survival rates by 4%[1].

Cardiopulmonary resuscitation (CPR) is the treatment required for cardiac arrest. During cardiac resuscitation, which produces blood flow due to increased intrathoracic pressure and direct compression on the heart, effective chest compressions are crucial to circulating blood and oxygen. Afterwards, assisted breathing is done to maintain enough oxygenation and to remove carbon dioxide. This can transport oxygen to the heart and the muscles in the brain[2].

According to information from the Sudden Cardiac Arrest Foundation, cardiac arrest, also known as sudden cardiac arrest, is a daily public health emergency that affects 1,000 persons of all ages. Every year, the United States experiences more than 356,000 out-of-hospital cardiac arrests, almost 90% of which result in death (SDAF, 2021). The prevalence of heart disease in people of all ages is 1.5%, according to 2018 data from fundamental health research [2][3]. According to PERKI data, there were 300,000 to 350,000 cardiac arrest cases in Indonesia in 2016 [3].

There is typically little information on cardiac arrest in the Province of Bali, but in 2013 it was discovered that 0.7% of people

there had coronary heart disease, and 0.1% had heart failure, which increased their chance of having a heart attack and cardiac arrest [3][4]. In addition to the effects of lifestyle, natural disasters, and rising life expectancy, cardiac arrest deaths are still the leading cause of sudden deaths worldwide over the past three years. These deaths are likely to continue to rise, especially in developing nations [4]. Seven people who received cardiopulmonary resuscitation (CPR) in the Dharma Yadnya Hospital emergency room died between January and March 2022, according to the medical records kept there.

The efficacy of cardiopulmonary resuscitation is impacted by a number of conditions, thus even when it has been performed, it does not ensure the recovery of spontaneous circulation [4]. Age, illness, and the patient's clinical state before to cardiac arrest are additional factors that affect whether spontaneous circulation succeeds or fails. Additionally, the recovery of spontaneous circulation is greatly influenced by the speed at which a patient is located, as well as the speed at which CPR is administered and prompt aftercare. Rescuers' ability to do high-quality CPR is equally vital; having the right knowledge and abilities will increase the likelihood that the patient will receive successful cardiopulmonary resuscitation, which will result in the resumption of spontaneous circulation. Age, psychological considerations, and the helper's motivation are all likely to play a role in the success of cardiopulmonary resuscitation in addition to these other variables [4][5].

Based on the findings of a preliminary study conducted through interviews with nurses at the Emergency Room of Dharma Yadnya Hospital, out of 12 nurses, one of the team leaders was first interviewed. The team leader then provided information about nurses who had performed cardiopulmonary resuscitation, especially those who had performed compression. Because the families that bring cardiac arrest victims experience fear, nurses frequently experience anxiety while performing CPR. Nurses perceive this condition to have an impact on their ability to make decisions, to raise work-related stress, and to result in both physical and emotional exhaustion. When seeing cardiac arrest patients, nurses frequently feel insecure and anxious because they feel unprepared and unqualified to handle the situation. The services offered will be impacted by this nurse's experience, which will be intimately tied to the decision-making process. In order to better understand the experiences of nurses providing cardiopulmonary resuscitation to cardiac arrest patients, the researcher is interested in conducting a qualitative study.

METHODS

This study used a single case study as part of a qualitative research design. On June 30, 2022, the study was done in the hospital's emergency room at Dharma Yadnya.

Sampling Technique: Six people made up the sample through snowball sampling. In-depth interviews were used to collect data, which was then thematically analyzed. Instrument: Primary data are the kind of

information used in this investigation. Structured interviews served as the means of gathering data. Open-ended questions are included in the interview guide. In order to address the issues with the research design, prior researchers wrote questions and arranged them.

Validity and reliability: 1) Checking the transcript results for floating definitions and meanings about the codes during the coding process and cross-checking with the intercoder agreement are two ways to ensure reliability, 2) Triangulation of many data sources through FGD activities and Member checking are two validity procedures that researchers can use.

Data Analysis: The four processes of data analysis are as follows: 1) taking notes that result in field notes with a code; 2) gathering, sorting, classifying, synthesizing, summarizing, and indexing; and 3) analyzing the data. 3) develop categories for data, and 4) interpret data. This study had permission from the hospital with number A.09/RSU.DY/VI/2022/006.

RESULTS

The study's findings revealed seven themes that summarize the experience of nurses performing cardiopulmonary resuscitation in patients experiencing cardiac arrest: (1) management of cardiopulmonary resuscitation; (2) description of the nurses' emotions when performing CPR; (3) factors supporting the success of CPR; (4) emotions of the patient's unstable family; lack of medical team coordination; and (5) the nurse's peace

of mind in the situation. (6) *practicing actions in panic situations*, and (7) *psychological readiness before carrying out cardiopulmonary resuscitation*. P1 code discussion will be held. P6 displays participants 1 through 6. Italicized statements from participants are used.

Theme 1: Management of Cardiopulmonary Resuscitation

"Patients who have experienced a cardiac arrest typically receive CPR." P1

"Patients that require CPR have experienced cardiac arrest and have ceased breathing." P2

"Patients that display a slower heartbeat or breathing rate." P3

"Patients who typically receive CPR are those who are in cardiac arrest, where there are no visible indications or symptoms of a pulse." P4

"thumping patient" P5

The preceding sentence demonstrates that individuals with cardiac arrest and respiratory arrest was eligible for CPR.

"If it's our fault, his hand is in a fatigued position." P6

This claim demonstrates that performing CPR incorrectly will make you feel more exhausted.

".. Because CPR only requires one cycle and is highly exhausting, you cannot perform it alone." P3

The sentence demonstrates that you must conserve energy to avoid being fatigued while on job.

"To begin applying pressure, situate the patient first, then extend the head, look forward, and locate the sternum. Usually one cycle—one cycle of 30 compressions and 2 ventilations—followed by 5 cycles of CPR. If there is no pulse, CPR should be continued. If the EKG already shows no pulse, check the EKG, continue CPR if there is still no pulse after five cycles, or perform more basic CPR until the helper is weary before stopping and checking the EKG." P4

This sentence demonstrates that CPR was performed in accordance with American Heart Association (AHA) recommendations for 2020.

Theme 2: Nurse's emotional during CPR

"When the nurse was upset and the family was upset following CPR, the nurse immediately tried to calm them down." P1

This claim demonstrates the action of giving psychological support to the patient's family in situations of worry and fear in the patient's family due to the patient's condition, who feels that he hasn't received the fullest amount of action.

".. If it bothers the family, it disturbs them, which is why there is panic. The family refuses to give us permission to perform CPR." P3

"The patient's family panics occasionally in situations like this, but I don't mind if, for

instance, they are instructed to leave in that manner " P4

"It's true that the family must be in a panic, but we should approach the situation as calmly as we can to prevent further panic among the family members. We should also try to prevent the family from entering the area where we are performing CPR to prevent other complications." P5

This statement shows the action of responding to the panic of the patient's family, namely the way nurses respond to panic in the patient's family.

"Regardless of how collected we are, panic persists. However, we remain nurses who are professional, consistent in who we are as people, and consistent in what we perform. " P6

This claim demonstrates a professional attitude toward activity, namely consistency in action.

Theme 3 Supporting Factors for CPR Success

" The team, which must include a leader and executor, as well as documentation, is what determines whether the first CPR is successful. " P3

" Because of the collaboration of his coworkers, the process moves quickly. " P4

This claim demonstrates the effectiveness of RJP's actions by demonstrating the presence of teamwork in which a leader (coordinator), an executor, and documentation are present.

" Yes, the depth of compression has a real

impact on CPR; the deeper the compression, the more concerned you become that the person with crepitus will have lungs. " P3

" Everybody's body is different, therefore it can't fit properly. If the body is bigger, the strength is stronger. Is the breathing already in or not? The correctness of the person's motions... the level of compression... on the mannequin and the real thing are obviously different lungs" P5

" Do compression when it seems broken, "deck" like that oh it's broken indicates how our hands feel when we break it, so we modify it. It doesn't have to be 5-6. The stance resembles that of an elderly person. It is narrow; the intercostal appears to be 5-6 cm thick, so we may pinch it. " P6

This claim demonstrates the effectiveness of CPR because the compression depth is accurate and changes depending on the patient's physical condition.

" Typically, people who have experienced a cardiac arrest receive CPR. "P3

" If the feet and ankles are still heated, we shall treat it for approximately 5 seconds." P6

This claim demonstrates the effectiveness of CPR, namely the rapidity with which the medical staff treats victims during the "golden time."

" Facilities must be affected somehow, right? If there is an emergency trolley in the emergency department, it has already been completed. " P6

The fact that there are sufficient facilities with

all the required medications available and easily accessible facilities demonstrates the effectiveness of CPR.

Theme 4: The patient's physical condition, unstable family dynamics, and less attentive medical team coordination comprise "

"since losing focus on work when we're furious" P1

" Because he panics, the family is also a hindrance, which is what disturbs us. " P3

" Because his family frightened, we panicked as well, disrupting our ability to concentrate" P4

" family for being alarmed " P6

This claim demonstrates that family anxiety, which interferes with concentration, is what prevents CPR from being successful.

" Because of a history of prior ailments, such as chest pain, the majority of patients pray here; a heart attack is referred to as an event that can no longer be prevented. " P1

" Patients with a history of heart disease make up the majority of people who pray here; most of them are unconscious for longer than 20 minutes and cannot be healed. " P2

" The patient's condition is also impeding; perhaps this is due to age " P3

" The condition of the patients is also mostly DOA. heart history " P4

" It was hampered by the patient's existing poor health. " P5

This statement shows that the thing that hinders the success of CPR is the patient's condition where most patients who come to the emergency room are in a condition of death on arrival (DOA) so they can't be helped.

" When there is a lack of coordination, it might be difficult to know what to do in a team. " P3

" New hires (workers) occasionally struggle with knowing where to begin. When the leader panics, we are also perplexed. " P4

" The doctor's directions don't seem appropriate, so follow them instead. " P5

This claim demonstrates the factors that undermine CPR efforts, including the absence of team cooperation.

Theme 5: Nurses' Self-Care Seen Through the Lens of Professionalism

" There must be a sense of sadness; what can I do, because God has also lent me this life?" P1

" Although it is painful to see that the patient's family must be present, we cannot demonstrate that we must act professionally. " P2

" When aiding patients, there is only a sense of sadness and annoyance; however, if the patient's health is extremely terrible and there is nothing we can do to save them, there is no emotion at all as we perform CPR. " P3

" If it succeeds, I'm content. It is sad if it fails. It's acceptable if you're reluctant to treat another patient. " P4

" There is no doubt that I am relieved, yet it may also be a little sad if I don't make it. The most

crucial factor is that you gave it your all. " P5

" Despite having followed the SOP to the letter, we are still unhappy that we were unable to save more lives. Even though folks (like that) continue to arrive, we must accept it, especially at the frontline emergency room." P6

This statement demonstrates professionalism in the line of duty, emphasizing the need to always be prepared to accept patients and act in accordance with Standard Operating Procedures (SOP).

" I'm pleased that it was successful, but I'm also concerned. When we compress, I'm concerned because we're terrified of going too deep or hard. " P3

This claim expresses concern that fractures may result from excessive compression.

Theme 6: Exercise Taking Action in Emergency Situations

" In a circumstance like that, counting the cycles is the proper method to use; therefore, there is no need to fear. " P1

" You should try to compress as much as you can for the patient's security." P3

" When you worry or don't want to optimize it, sometimes the accuracy and speed (compression) suffer. " P4

" Because patients who require CPR don't arise all that frequently, you must learn more information, such as the depth and speed of the compression. " P5

" When we order asking, it's sometimes slow but the depth (compression) is the same. " P6

This claim points to areas that require improvement, including the precision with which CPR is performed.

" Facilities must be more accommodating, and the leader must be on board. " P5

The declaration points certain areas that require improvement, specifically adequate facilities and clear directions.

Theme 7: Being psychologically prepared before administering CPR

" First we inhale, then we exhale, and then we act. Take a five-minute break before starting work. "P1

" Simply take a few deep breaths, and get ready to perform CPR before at least some relaxation (deep breathing) when a new patient arrives. " P3

" The first step is to concentrate. Oh, and exhale deeply as well. " P4

" Yes, calm down initially, as if you were just waking up, and then approach the patient. Okay, now take a deep breath. " P5

" Yes, take a deep breath and then order the patient's family to wait outside. "P6

This statement demonstrates how to prepare for performing CPR by taking slow breaths to de-stress before beginning.

DISCUSSION

Seven interconnected themes were discovered in the study's findings, which described the experiences of nurses practicing cardiopulmonary resuscitation. This interpretation is the outcome of combining data gathered from each participant throughout the research, which is then compared to the current theory or previous related research, producing contextual meaning and allowing for the construction of a framework of participants' experiences as a whole meaning [6].

When someone stops breathing, there is no longer any chest movement or airflow from the victim, and Basic Life Support (BHD) procedures are needed. The heart is still beating and the pulse is still audible at the beginning of halting breathing, allowing oxygen to continue entering the blood for a short while and allowing the heart to continue pumping blood to the brain and other essential organs. He can assist in promoting improved circulation and avoiding organ perfusion failure by offering resuscitative assistance [7].

Locate the xiphoid process, pull a line cranially two fingers above it, and squeeze that area to begin the chest compression position [8]. The assistance is provided while the patient is squatting with their knee parallel to the victim's chest. Make sure that the victim's ribs are not being compressed while you place the base of one hand on top of the first, fingers locked. Never put pressure on the sternum's tip or the area above the abdomen. As the rescuer stands vertically above the patient's chest wall, exert at least 5

cm of downward pressure. Utilize the hips as the fulcrum and a supporting body weight to squeeze the chest [9].

When practicing CPR, the body complains of exhaustion and shortness of breath due to the increased cardio vascular workload. Lactic acid builds up in the blood and muscles, causing fatigue [10]. Because each person's cardiovascular workload is affected by unique elements, not everyone who performs CPR complains in the same way. These include age, gender, physical activity, exercise, heart disease, environmental variables, and body posture. Taking patients to their rooms, bathing them, heating wounds, switching out wound dressings, and placing infusions are all physical tasks performed by nurses. Nurses may be overworked by this physical exercise [2]. When nurses do CPR on patients who are having cardiac arrest, workload may rise. Increased workload can have an impact on service quality, particularly in CPR. When conducting CPR, the workload must be monitored because if the rescuer becomes fatigued soon, the quality of the CPR may be compromised [11], [12].

The AHA's (2020) recommended CPR procedures are as follows: (a) Start cardiopulmonary resuscitation (CPR), attach a monitor/defibrillator, and administer oxygen. (b) Apply shock if the cardiac rhythm is Ventricular Fibrillation (VF) or pulseless Ventricular Tachycardia (pVT)[13]. (c) After two minutes, continue administering cardiopulmonary resuscitation by obtaining intravenous (IV) or intraosseous (IO) access. (d) If the rhythm is manageable, shock the patient once more, followed by two minutes of

cardiopulmonary resuscitation and three to five minutes of epinephrine administration., (e) Continue cardiopulmonary resuscitation for two minutes while administering shock therapy once more. Treat reversible causes and provide amiodarone or lidocaine, (f) Immediately administer epinephrine every three to five minutes and do cardiopulmonary resuscitation for two minutes if the cardiac rhythm sounds like asystole or pulseless electrical activity (PEA). Seek intravenous (IV) or intraosseous (IO) access and take capnography into consideration for an advanced airway. (g) If shock can be administered to the cardiac rhythm, repeat cardiopulmonary resuscitation (CPR). (h) Cardiopulmonary resuscitation (CPR) should be administered for two minutes if shock therapy cannot restore the rhythm. The underlying cause of cardiac arrest should also be treated, (i) Continue cardiopulmonary resuscitation (CPR) if the rhythm has not restored and there are no indications of return of spontaneous circulation (ROSC); (j) Go ahead with post-cardiac arrest treatment if a return of spontaneous circulation (ROSC) is discovered. (k) Examine whether it is possible to continue CPR [7], [13].

In order to calm the families of patients who are receiving CPR and then being deemed helpless, nurses offer psychological support. Along with the creation of a sense of responsibility for one's role as a nurse, the feeling of being called out arises from the heart. When confronted with a cardiac emergency, nurses' impulse to assist patients arises naturally [14].

One of the responses nurses make out of empathy and care for the suffering of patients

and their families is the provision of psychological support. This is a realistic response given that neither the patient's family nor the nurse were prepared for the current situation. Psychological support is the attention, affirmation, and other forms of assistance that people receive from others or from groups to help them stay brave, enthused, passionate, disciplined, and other traits. In addition to explaining the patient's condition and the activities that have been taken, nurses also reassure the family, exhibit empathy, and remind them that all their efforts should be directed toward God, who created human life. The nurse does this approach in an effort to help the family relax and accept the patient's condition [15].

Situations that occur when families have a family member go into cardiac arrest, particularly those who are in the presence of cardiac arrest victims, cause confusion and terror. Feelings come from observing a circumstance that they are not accustomed to, one in which it is quite challenging to decide how to proceed and handle these issues. They need swift relief from this circumstance as well as the presence of a coworker who can offer assistance [16]. The nurse's internal drive stems from her belief that she can help cardiac arrest sufferers because she wants to save other people. The agony of patients and their families may be felt by nurses with full knowledge, and this is what motivates them to truly mobilize all of their resources to assist patients [6]. The sense of community need that the nurse has serves as her external incentive. The sensation of need makes nurses feel important, and their presence in the emergency room improves the neighborhood.

The nurse experiences this as a result of her perception that she plays a crucial part in the delivery of healthcare services. These two sorts of motivation enable nurses to conduct responsibility-bearing activities in a sincere manner that upholds work professionalism [17].

When treating cardiac arrest, it's important to focus on teamwork elements that require effective coordination and interaction between team members. Resuscitation efforts should be carried out in teams that function dynamically, according to the AHA's recommendations [13]. One cardiac arrest patient should ideally have six personnel performing resuscitation. When treating cardiac arrest, it's important to focus on teamwork elements that require effective coordination and interaction between team members. Resuscitation efforts should be carried out in teams that function dynamically, according to the AHA's recommendations. One cardiac arrest patient should ideally have six personnel performing resuscitation [10].

Strong pressure is defined as giving chest compressions with a depth of at least two inches (five cm) to 2.4 inches (six cm) for adults, and full chest recoil is defined as giving the opportunity for the chest to expand completely again by minimizing interruptions. These are the criteria for high-quality CPR. When there is only one rescuer present, the ratio of chest compressions to ventilation is 30:2, while it is 15:2 when there are two rescuers [9]. The patient's death follows the patient's brain death. Therefore, the optimal time for victims who have cardiac and respiratory arrest is less than 10 minutes.

This implies that patients who have experienced cardiac arrest and respiratory arrest must have started receiving aid in fewer than 10 minutes. If not, the patient has a very low chance of survival [18].

According to the theory advanced by Arikunto that facilities are anything that can facilitate and expedite the implementation of this business, which can be in the form of goods or money, facilities can be equated with facilities who're in the hospital, there is a relationship between facilities and supportive factors that make it easier for nurses to deal with cardiac arrest. An BVM, oxygen tube, oxygen suction, OFA, endotracheal tube and mandrain, laryngoscope, flashlight, and emergency medication such as adrenaline, SA, or amiodarone are typically required pieces of equipment [19].

The effectiveness of CPR in this scenario is impacted by the patient's state. For these patients, persistent myocardial infarction, coronary heart disease, sepsis, and cardiogenic shock are the causes or co-morbidities that lead to cardiac arrest. Age is one of the factors that predicts poor CPR outcomes, even if it is not a contraindication for conducting CPR. Age is considered to be associated to the accumulation of many deficiencies and diseases that require long-term therapy [20].

When treating cardiac arrest, it's important to focus on teamwork elements that require effective coordination and interaction between team members. When working as a team to manage cardiac arrest, nurses need to be very committed. This dedication is a demonstration of the nurses' honesty in working with other team members

while respecting each officer's right to operate independently. The nurse's lack of autonomy is evident in her constant uncertainty and need to consult the doctor about her nursing decisions, despite the fact that she ought to have the same freedom to alter her course and choose how to carry it out [21].

CONCLUSION AND RECOMMENDATIONS

With hurdles to patient circumstances, panic situations, teamwork that is less alert, and poor facilities, CPR is supported by teamwork, facilities, and the personal competency of nurses.

The researchers would like to offer the following recommendations based on their study and discussion of the experiences of nurses doing cardiopulmonary resuscitation in patients experiencing cardiac arrest in the emergency room of Dharma Yadnya Hospital. Nurses are expected to continue honing their abilities through training so they can perform cardiopulmonary resuscitation with greater proficiency. When observing patients who need CPR, there are many different emotional stressors that are experienced. For Institutions of Higher Learning The administration of cardiopulmonary resuscitation in hospitals, in particular, can be included in emergency nursing courses using the study as a learning resource. For Additional Researchers Further study is required on the skills of nurses in performing cardiopulmonary resuscitation, particularly the use of medications and the timing of administering DC shock.

CONFLICT OF INTEREST

Authors declare no conflict of interest to disclose in this study.

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