

Cardiogenic Shock Nursing Approach to Improve Patient's Outcomes: A Scoping Review

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ABSTRACT

Background: Cardiogenic shock is undeniably a disorder that causes threats to life, and prompt resuscitation with revascularization of the coronary artery is the key to survival for patients with cardiogenic shock. Cardiogenic shock affects all organs of the body; therefore, this condition is best managed by the multidisciplinary teams of healthcare professionals, including the nursing professionals. **Aim:** This scoping review aims to analyze the approaches utilized by nurses to improve the clinical conditions of the patients diagnosed with cardiogenic shock. **Methodology:** This scoping review was carried out by synthesizing the evidence from previously published studies. 10 studies were used to analyze the approaches utilized by nurses to improve the clinical conditions of the patients diagnosed with cardiogenic shock. **Results:** Nurses have an essential role in providing holistic, comprehensive care for patient with diagnosed with cardiogenic shock. Integral nursing intervention has strongly improvement of patient outcome will be directed to restoration of organ perfusion, detecting clinical deterioration and provide psychological care to the patient. **Conclusion:** Maintaining mean arterial pressure is essential for end-organ perfusion. The key of nursing intervention are focus around provide oxygen therapy, appropriate fluids and therapy administration .Close patient monitoring and continous assessment play piovital role with cardiogenic shock patients because it provide evidence of effectiveness of treatment, detect and prevent deterioration of patient condition.

INTRODUCTION

Cardiogenic shock is referred to as a primary cardiac disorder, resulting in the clinical, as well as biochemical evidence of the tissue hypo-perfusion. The clinical criteria for cardiogenic shock include the systolic blood pressure of ≤ 90 mmHg, for 30 minutes or more, and urine output either equal to or less than 30 mL/hr (Kosaraju et al., 2019) .In addition, the hemodynamic criteria for cardiogenic shock include the depressed cardiac index, which is equal to or less than 2.2 L/min/m², and elevation in the pulmonary-capillary wedge pressure more than 15 mmHg (Kosaraju et al., 2019).

This clinical complication is characterized by the low cardiac output, and the state of the circulatory failure, resulting in the end-organ hypo-perfusion, as well as the tissue hypoxia. The acute myocardial infarction is one of the most common causes of cardiogenic shock; however, there are various other disorders, including impairment in values, myocardium, pericardium, or the conduction system, which are likely to result in the cardiogenic shock (Rab et al., 2018). The advancement in reperfusion therapy and the mechanical circulatory support treatment

have reduced the rates of morbidity; however, it is further required to improve the treatment process (Kalmanovich et al., 2018; Maeda et al., 2018)

The cardiogenic shock is a life-threatening disorder; therefore, prompt resuscitation with revascularization of the coronary artery is the key to survival from the cardiogenic shock (Kosaraju et al., 2019). Cardiogenic shock affects all organs of the body; therefore, this condition is best managed by the multidisciplinary teams of healthcare professionals, including the nursing professionals. The two of the major goals for carrying out treatment of the cardiogenic shock includes enhance of the carbon monoxide levels, and reverse the shock syndrome (Al-Ganmi, 2014). The specific goals of nurses for managing the cardiogenic shock, including maintenance of SPO2 levels above 90%, cardiac output more the 2.2 l/min/m², the mean arterial pressure of above 60 mm Hg, urine output greater than 30 ml/hour, acid-base balance, and body temperature in normal ranges (Al-Ganmi, 2014).

The nursing professionals caring for individuals with cardiogenic shock have an emphasis on understanding the pathogenesis, recognition of signs, and symptoms, and implementation of interventions (Al-Ganmi, 2014). After the diagnosis of cardiogenic shock, the nurses are responsible for patient monitoring, carry out the cardiac catheterization, and assure the intake of appropriate doses of medications to the patients (Hajjar & Teboul, 2019). Specialized nurses are also responsible for assessing the current oxygenation levels of patients and assessing the requirement of mechanical ventilation.

Moreover, the nurses are also responsible for monitoring the patient for coagulopathy, oliguria, loss of pulses, stroke, and mesenteric ischemia (Hajjar & Teboul, 2019; Kosaraju et al., 2019). For delivering high-quality care services to the cardiogenic shock patients, the nurses utilize a range of approaches and interventions. The analysis of these approach contributes to understanding the manner in which nurses can utilize the interventions and approaches for managing cardiogenic shock and reducing the risk of mortality due to cardiogenic shock.

Aim

This scoping review aims to analyze the approaches utilized by nurses to improve the clinical conditions of the patients diagnosed with cardiogenic shock. This scoping was carried out to fulfil the following research objectives.

- To describe the characteristics of the
- studies and their samples.
- To describe approaches utilized by nurses to improve the clinical conditions of the patients diagnosed with cardiogenic shock.

Research Questions

Following is the research question for this scoping review.

What are the approaches utilized by nurses to improve the clinical conditions of the patients diagnosed with cardiogenic shock?

Table 1: Matrix comprising of the details related to the selected studies.

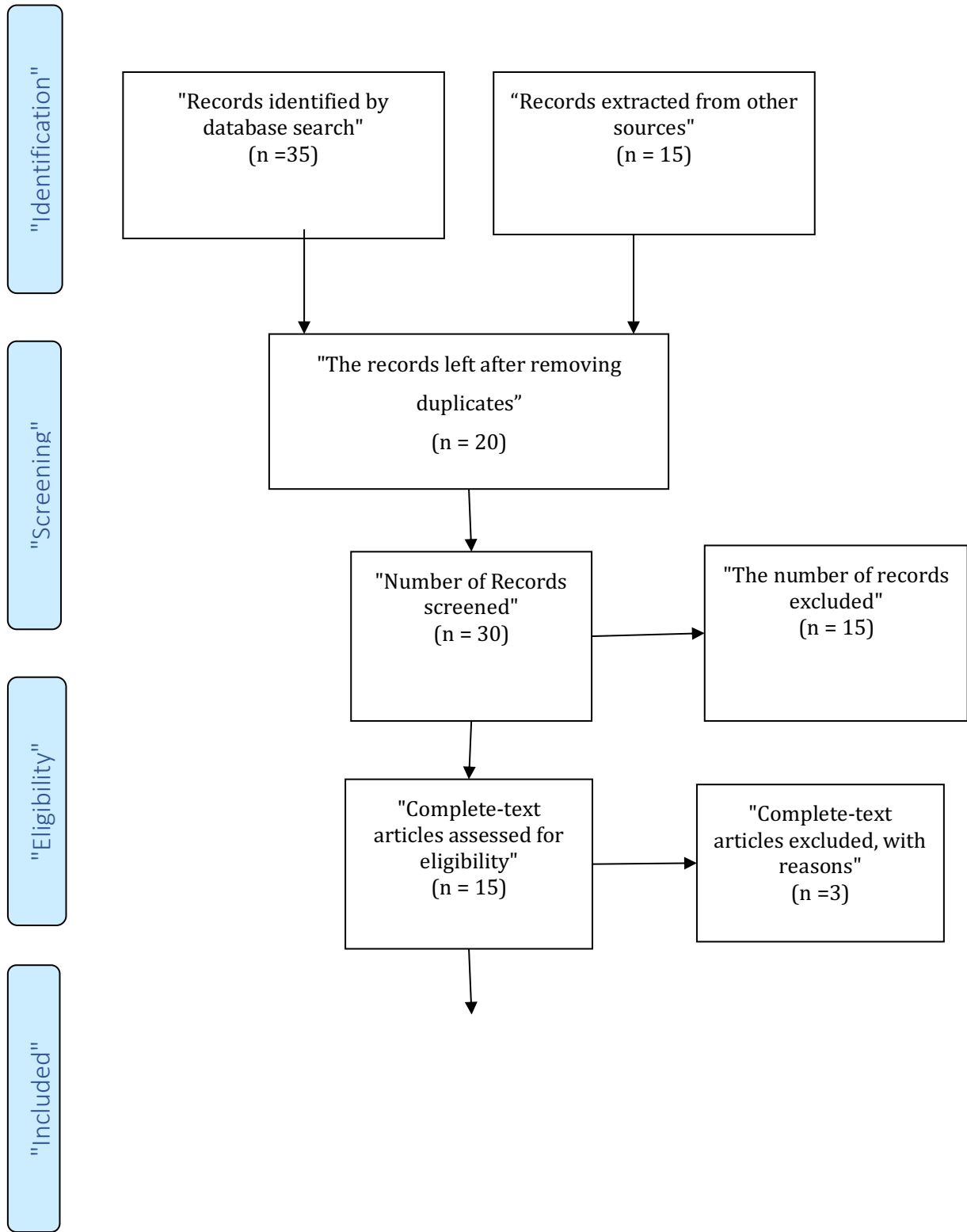
Author/Year	Method	Aim	Outcomes
Hamed et al (2020).	Qausi-experimenta l research design	Evaluate the effect of implementing standardized nursing care on out comes of patient with cardiogenic shock the coronary care unit through the following 1- improve patient outcome. 2- decrease length of the stay on the coronary care	The application of standardized nursing care for patient with cardiogenic shock had statistically significant positive effect on the outcome.
Asber et al (2020)		To review the Anatomical placement and mechanics of each type of device so that the nurses can anticipate patient hemodynamic responses and avoid complication thereby improving patient clinical outcome	Covered content regarding nursing considerations regarding intra-aortic balloon pump, the Tandem Heart, Impella and membrane oxygenation.
Mohamed et al. (2020)	Descriptive Research Design	To assess the knowledge and practices of nursing professionals regarding caring for the cardiogenic shock patients.	Nurses possessed inadequate knowledge regarding the approaches and strategies, which can be used for managing cardiogenic shock
Nakagawa et al. (2019)	Retrospective Cohort Research	To analyze the palliative care consultation among the patients with cardiogenic shock.	A considerable majority of the patients diagnosed with cardiogenic shock require short-term mechanical circulatory support (STMCS); therefore, there is a requirement to train nurses for delivering STMCS. Moreover, nurses must also be capable of delivering palliative care services to patients diagnosed with cardiogenic shock.
Dittman (2019)	Case Study Based Research	To analyze the roles and responsibilities, and approaches used by nurses while caring for the patients having cardiogenic shock.	The nurses caring for the cardiogenic patients are required to analyze the potential impacts of the traditional medical management methods for caring for the patients having cardiogenic shock; however, depending on the clinical conditions, they might also emphasis on using other therapy sessions.
O' Donovan (2019).		To review management of cardiogenic shock complicating Segment	Critical care nurses play pivotal role in caring of cardiogenic shock patient by monitoring them and

		elevation myocardial infarction	provide physical care and psychological support.
El Sibai, Bachir, and El Sayed (2018)	Case Study Based	To examine the use of Extracorporeal Membrane Oxygenation (ECMO) in patients diagnosed with cardiogenic shock.	The cardiogenic shock patients undergoing ECMO had high rates of mortality, without increasing the duration of hospital stay, as compared to the patients without ECMO.
Rathod et al. (2018)	Observational cohort research	To assess the current approaches utilized for cardiogenic shock management, by specifically focusing on intra-aortic balloon pump therapy.	The intra-aortic balloon pump therapy did not contribute to the long-term survival of the patients diagnosed with cardiogenic shock; therefore, there is a requirement to consider alternative therapy for the treatment of cardiogenic shock.
Taib AL-Hayali and AL-samady (2018)	Correlation study	To assess knowledge as well as practices of nurses specialized for working in the emergency department and coronary care unit regarding cardiogenic shock.	The education and knowledge levels of the nursing professionals influence the delivery of care services for patients with cardiogenic shock.
Warise et al. (2015)	Case Study Based Research	To analyze the pathophysiology of cardiogenic shock. It also aims to analyze the precipitating factors, clinical diagnosis therapy, as well as nursing implications.	The utilization of nursing intervention contributes to the diagnosis of cardiogenic shock. Nursing interventions also facilitates the delivery of lifesaving therapies.
Al-Ganmi (2014)	Quantitative Research Design	To assess nursing knowledge concerning cardiogenic shock for patients admitted in the Cardiac Care Unit (CCU).	The nurses having levels of knowledge regarding the cardiogenic shock are likely to utilize the care approaches for managing cardiogenic shock, which is in the best interest of the patients
Mylotte et al. (2013)	Multicenter prospective observational study	To analyze the impacts of multi-vessel (MV) primary percutaneous coronary intervention (PCI) on the clinical outcomes of the patients having elevated STEMI, along with resuscitated cardiac arrest and cardiogenic shock.	STEMI patients with multi-vessel coronary disease, cardiogenic shock, and cardiac arrest are likely to improve their health outcomes by PCI.

PRISMA

This scoping review was carried out by synthesizing the evidence from several studies, to analyze the approaches utilized by nurses to improve the clinical conditions of the patients diagnosed with cardiogenic shock. The studies were extracted from the databases, including

PubMed, CINAHL, and MEDLINE. The studies were retrieved by using exclusion and inclusion criteria. The criteria for inclusion for this research ascertained the inclusion of studies focused on the approaches utilized by nurses for managing patients diagnosed with cardiogenic shock, published in English, and published after the year 2013. In addition, the exclusion criteria ascertained the exclusion of studies focused on cardiac complications other than cardiogenic shock. The extracted studies were assessed for their relevance with the research topic by screening titles and abstracts of the studies. The less relevant studies were removed, and the complete texts of the remaining studies were assessed. The PRISMA flow chart (**figure 1**) displays the process of retrieval of studies.



METHODOLOGY

Research Design and Method

The scope review aims to identify, assess, and summarize the outcomes of the studies related to a particular topic of interest (Arksey & O'Malley, 2005). This research design facilitates increasing the accessibility of the decision-makers towards authentic and high-quality evidence.

This scoping review aims to analyze the approaches utilized by the nurses for improving the clinical conditions of the patients diagnosed with cardiogenic shock was conducted by considering the previously published studies related to the research topic. For this scope review, the research articles were extracted by using inclusion and exclusion criteria. On the basis of the criteria of inclusion, this research is explicit in nature, and the data collecting process was initiated by the formulation of the scope of review.

Population

The population for this scoping review was patients diagnosis with cardiogenic shock receiving comprehensive nursing intervention. Thus, the research studies considered for this scope review revolved around the nursing managing and caring for the patients diagnosed with cardiogenic shock and the strategies implemented for caring for cardiogenic shock patients.

Context

The analysis of the outcomes of previously published evidence revealed that cardiogenic shock might contribute to the life-threatening conditions for the patients (Hajjar & Teboul, 2019); therefore, after the diagnosis of the cardiogenic shock, the nurses are responsible for monitoring patients, analyze the current oxygenation levels of patients and assess the requirement of mechanical ventilation. To deliver high-quality care services to the patients, the nurses utilize several interventions and strategies. The analysis of these approaches contributes to understanding the manner in which the nurses utilize the strategies and approaches to manage cardiogenic shock and prevent the risk of further deterioration in the health outcomes of the patients. Thus, this scope review provided a significant insight regarding the most appropriate nursing strategies for caring for patients with cardiogenic shock.

Nursing management	Items
Standardized nursing care of patient with cardiogenic shock	Monitor respiratory rate every 2 hours during hypoxia. Monitor heart rate and blood pressure every 2 hours. Observe for any signs of changes level of consciousness as headache restlessness is early signs of cerebral hypoxia. Evaluate patient for cyanosis pallor by examining the skin perfusion. Monitor patient intake and output to reduce signs of overload on the heart. Checking arterial blood gases for if increasing paco2 and decreasing pao2 are sign of hypoxemia and respiratory acidosis. measure oxygen saturation by pulse ox meter and maintain above 90%. Chest auscultation and suction of secretion to maintain clear airway. Elevated bed position to facilitate ventilation. Provide oxygen therapy as order and prepare patient for mechanical ventilation if oxygen therapy is ineffective.
Nursing management of patient of patient with Mechanical circulatory support devices	Nursing considerations regarding the intra-aortic balloon pump.
Nursing approach to improve cardiogenic outcome	Common holistic plan of care for patient receiving nursing care for cardiogenic shock.
O'Donovan's management of cardiogenic shock complicated ST-segment elevation myocardial infraction:2	Nursing implications in managing patient with cardiogenic shock include monitoring, administration fluids and inotropic and vasopressors therapy. And nursing role in mechanical circulatory support.

Inclusion and Exclusion criteria

The studies were retrieved by using exclusion and inclusion criteria. The criteria for inclusion for this research ascertained the inclusion of researches focused on the strategies utilized by nurses for managing the patients diagnosed with cardiogenic shock, published in English, and published after the year 2013. In addition, the exclusion criteria ascertained the exclusion of studies focused on cardiac complications other than cardiogenic shock. Moreover, the studies published in languages other than English, and the studies published before 2013 were also excluded from this research.

Tools

This scoping review was conducted by extracting the evidence from the previously published studies focused on nurses' approaches to improve the clinical conditions of the patients diagnosed with cardiogenic shock. The studies were acquired from the electronic databases, including PubMed, CINAHL, and MEDLINE. The literature search was carried out by using keywords and search terms, including "nurse", "nursing approaches", "strategies", "outcomes", "health outcomes", "clinical outcomes", "cardiogenic shock", and "cardiogenic shock conditions".

The research studies were assessed for their relevance with the research topic by screening titles and abstracts, resulting in the removal of the less relevant studies. The remaining studies' complete texts were assessed, and N=12 studies fulfilling the inclusion criteria were considered in this scoping review (refer to **figure 1**).

Main Results

One retrospective research examined the utilization of Extracorporeal membrane oxygenation (ECMO) in patients with cardiogenic shock in the US-based hospitals and analyzed the length of hospital stay, hospital discharge, and mortality associated with the ECMO (El Sibai et al., 2018). The observational cohort research conducted by Rathod et al. (Rathod et al., 2018) assessed the current approaches utilized for cardiogenic shock management by specifically focusing on intra-aortic balloon pump therapy.

A multicenter prospective observational research considered the ST-segment elevation myocardial infarction (STEMI) patients having Cardiogenic shock and assessed the impacts of multi-vessel (MV) primary percutaneous coronary intervention (PCI) on the health outcomes of these patients (Mylotte et al., 2013). Moreover, a retrospective cohort research conducted by Nakagawa et al. (Nakagawa et al., 2019) analyzed the palliative care consultation among the patients with cardiogenic shock.

Correlational research conducted by Taib AL-Hayali and AL-samady (Taib AL-Hayali & AL-samady, 2018) assessed the knowledge, as well as practices of the nursing professionals living in coronary care units and the emergency departments. Another research conducted by using the descriptive research method assessed nurses' knowledge and practices regarding cardiogenic shock within the coronary care unit (Mohamed et al., 2020). Al-Ganmi (Al-Ganmi, 2014) conducted quantitative research to assess nursing knowledge regarding the management of cardiogenic shock.

Three of the studies considered in this review were conducted by using the case study based approaches, such that Warise et al. (Warise, 2015) analyzed the pathophysiology, precipitating factors, clinical diagnosis therapy, as well as nursing implications related to cardiogenic shock, Whereas Dittman (Dittman, 2019) examined the roles and responsibilities, as well as the approaches utilized by the nursing professionals for caring for patients with cardiogenic shock. Warise studied a 67 years African American man and implemented a common holistic plan of nursing care for patient diagnosed with cardiogenic shock. nursing management's objectives include optimize cardiac output by established normal baseline values by optimize oxygen delivery, decrease oxygen consumption, monitoring and tracking the hemodynamic status (Warise, 2015). The quasi-experimental design conducted by Hala et al in Egypt to evaluate the effect of implementing standardized nursing care on outcome on patient diagnosed with cardiogenic shock (Hamed et al., 2020). Asber et al study nursing consideration regarding IABP (Asber et al., 2020). More over, Donovan essential nursing role in providing advanced holistic care for patient with cardiogenic shock (O'Donovan, 2019).

Characteristics of Population Considered within the Research

Dittman (Dittman, 2019) recruited 29 years old patients with cardiogenic shock, Warise et al. (Warise, 2015) considered the case of a 67-year-old patient with cardiogenic shock. Taib AL-Hayali and AL-samady (Taib AL-Hayali & AL-samady, 2018) recruited N=50 nurses working in

the coronary care unit and emergency department, whereas Mohamed et al. (Mohamed et al., 2020) recruited N=40 nurses working in the coronary care unit. Moreover, Al-Ganmi (Al-Ganmi, 2014) recruited the sample population comprising of N=50 nurses responsible for caring for patients with cardiac diseases.

Moreover, Nakagawa et al. (Nakagawa et al., 2019) recruited a comparatively smaller sample size, comprising of N=195 adult individuals with cardiogenic shock. El Sibai, Bachir, and El Sayed (El Sibai et al., 2018) considered N=802 patients with ECMO and compared them with N=805 patients without ECMO. Mylotte et al. (Mylotte et al., 2013) considered a considerably larger sample size comprising of N=11,530 STEMI patients presenting with the cardiogenic shock and resuscitated cardiac arrest. In addition, Rathod et al. (Rathod et al., 2018) considered N=1890 patients presented with cardiogenic shock at the eight Heart Attack Centres in London between 2005–2015.

PRINCIPAL FINDINGS AND DISCUSSION

Role of nurses in Cardiogenic Shock Management

Nurses play a significant role in the management and care of individuals with cardiogenic shock. With reference to the available evidence, nursing professionals are responsible for recognizing signs and symptoms of cardiogenic shock during the early stages, and utilize interventions and deliver lifesaving therapies for reducing the risk of clinical complications (Warise, 2015). The nurses caring for the patients with cardiogenic shock implement the traditional medical management methods for caring for the patients having cardiogenic shock; however, depending on the clinical conditions, they are likely to utilize other therapies (Dittman, 2019). For this reason, nurses are required to possess knowledge regarding the symptoms of a cardiogenic shock for carrying out efficient management of the patients.

Knowledge Levels of Nursing Professionals Regarding Cardiogenic Shock

Taib AL-Hayali and AL-Samady (Taib AL-Hayali & AL-samady, 2018) found a significant difference in the knowledge levels and practices performed by the nurses of coronary care unit and emergency department regarding the management of cardiogenic shock. Al-Ganmi (Al-Ganmi, 2014) also mentioned no significant association between the training session for the nursing professionals and knowledge levels of nurses regarding cardiogenic shock.

However, nurses' knowledge and practices regarding the management of the cardiogenic shock were found to be influenced by the education levels and employment duration (Al-Ganmi, 2014; Taib AL-Hayali & AL-samady, 2018). Mohamed et al. (Mohamed et al., 2020) found that for the nurses working in the coronary care unit, a considerable majority (72.5%) had an unsatisfactory level of knowledge, whereas (27.5%) of nurses had a satisfactory level of knowledge and were capable of delivering adequate levels of care services to the patients.

On the basis of outcomes of the considered evidence, it can be stated that the inadequacy of knowledge and practices of nursing professionals regarding cardiogenic shock is required to be managed by arranging education programs (Taib AL-Hayali & AL-samady, 2018). It is also essential to deliver a constant support to the nursing professionals to understand the clinical requirements of the individuals with cardiogenic shock and empower them to provide the best possible care services to the service users. Moreover, there is also a requirement to have a strict check on nurses' levels and quality of care services.

General management of Cardiogenic Shock

Analyzing from the context of the treatment approaches utilized by the nursing professionals for managing cardiogenic shock, El Sibai, Bachir, and El Sayed (El Sibai et al., 2018) found that the cardiogenic shock patients who were treated with therapies other than ECMO had reduced rates of mortality (4.0%), as compared to the patients treated with ECMO (48.9%). Thus, non-ECMO based therapies were efficient for the management of cardiogenic shock. Rathod et al. (Rathod et al., 2018) revealed that the intra-aortic balloon pump insertion for the patients with cardiogenic shock during primary percutaneous coronary intervention was efficient for younger individuals having poor left ventricular functions.

However, the major adverse cardiac event rates among the patients who had undergone intra-aortic balloon pump insertion were higher than another group (43.8% vs. 33.7%). Moreover, the mortality rate was also higher among intra-aortic balloon pump insertion compared to control therapy (50.9% vs. 39.9%) (Rathod et al., 2018). Mylotte et al. (Mylotte et al., 2013) found that STEMI patients with multi-vessel coronary disease, cardiogenic shock, and cardiac arrest are likely to experience improvement in their health outcomes by the primary percutaneous coronary intervention (PCI). Thus, PCI is also considered as one of the preferred methods for the management of cardiogenic shock. Thus, intra-aortic balloon pump insertion, PCI, and other strategies are likely to result in efficient health outcomes; however, it is significant to consider potential limitations of each of the treatment method, with reference to the clinical history, severity of clinical complications, age, and other patient-specific factors.

Nakagawa et al. (Nakagawa et al., 2019) concluded that PCC is an effective strategy for improving the clinical outcomes of individuals with cardiogenic shock. The duration of stay within the intensive care unit, as well as the duration of hospitalization after STMCS, was shorter in early PCC groups, as compared to the late PCC group (Nakagawa et al., 2019). PCC among the patients with cardiogenic shock occurs towards the end of life, regarding the STMCS duration; however, there is no clarity regarding the optimal timing for PCC. Thus, the delivery of PCC is also likely to reduce the duration of hospitalization among individuals with cardiogenic shock.

Holistic nursing management for cardiogenic shock patient

Cardiogenic shock is life threatening emergency nursing management is remains as a fundamental to improve patients' outcome. Cardiogenic shock is caused by inability in cardiac muscle to perform their function effectively. Therefore, to lead results in diminished cardiac output, hypoperfusion, and hypoxia. Clinically this present as hypotension that resist volume recitation require pharmacological or mechanical intervention (Asber et al., 2020).

Cardiogenic shock nursing management's objectives include optimize cardiac output by established normal baseline values by optimize oxygen delivery, decrease oxygen consumption, monitoring and tracking the hemodynamic status (Warise, 2015). Nursing intervention to maintain and optimize cardiac out put by assessing clinical manifestation of left ventricular failure including dyspnea, bilateral cackles, presence of extra heart sounds S3 & S4, elevated pulmonary arterial wedge pressure (PAWP), and sustained systolic hypotension (Warise, 2015).

Implementation of standardized nursing care monitor patient respiratory rate during hypoxia every 2 hours. Observe patient heart rate, blood pressure every 2 hours. Close monitoring for any signs of change level of consciousness as headache, restlessness indicates early signs of cerebral hypoxia. Examine patient's skin for perfusion to detect pallor and cyanosis. Monitor fluids intake and output to prevent fluid overload. Close follow up for arterial blood gases increasing paco₂ and decreasing pao₂ indicate hypoxia and respiratory acidosis. Monitor O₂ saturation through pulse ox meter maintain level of oxygen above 90%. Maintain airway clearance by regular chest auscultation and suctioning secretion if indicated. Placing patient on elevated bed position to facilitate ventilation.

Oxygen therapy as order and preparing patient for mechanical ventilation if the therapy by oxygen not effective (Hamed et al., 2020). After implementing nursing interventions nurse will monitor the for the expected outcome patient will be alert and responsive, skin warm and dry with good turgor, moist mucus membranes, capillary refill < 2s and jugular neck veins 1-2 cm above the angle louis. Other parameters should be monitored as expected outcome urine output at least 0.5 ml/kg per hour (Warise, 2015).

Other manifestation to be taken in concertation right ventricular failure that including peripheral edema and elevated right arterial pressure. Close observation of lung sounds for crackles, respiratory effort, presence of orthopnea and location and extent of edema. Continuous monitoring of CVP, MAP, and CO. Satisfactory outcomes patient remain free of edema, clear lung sounds, maintain normal CVP, and free from jugular distension (Warise, 2015)

Nursing assessment and intervention play a pivotal role in improve patient condition with cardiogenic shock. The general goal management for cardiogenic shock focus on restoration and maintaining end organ perfusion. Therefore, comprehensive nursing goals will be directed to restoration of organ perfusion, detecting clinical deterioration and provide psychological care to the patient. Maintaining mean arterial pressure is essential for end-organ perfusion. The reliable indicators to adjust mean arterial pressure are mental status, skin appearance, serum lactate level, oxygen saturation, and hourly urinary output.

Integral nursing assessment for cardiovascular and respiratory system helping to identify clues for impending shock include higher heart rate and low blood pressure. Increase oxygen delivery to patient represent with respiratory distress, using accessory muscle, cyanosis and oxygen saturation < 94%. For hypovolemic patient administration of intravenous fluid as order (crystalloids, colloids). The aim of IV fluid administration is to increase circulation volume, raise systemic arterial pressure, decrease heart rate increase urinary output.

Close observation by nurses for the development of fluid overload which manifested by increase heart rate, respiratory rate and decrease oxygen saturation. Administering inotropes and vasopressors aim to improve contractility, vascular tone, blood pressure so they can maintain end organ perfusion and decrease fluid over load. Nursing monitoring for invasive arterial pressure will guide administration of inotropes and vasopressors therapies. Central line is used for administration of inotropes and vasopressors therapies also, blood sample for electrolytes, renal function and cardiac marker obtain through it. Crucial complication of

inotropes and vasopressors therapies the nurse should take in concertation are increase myocardial oxygen consumption this will lead to increase myocardial injury. Arrhythmias is another complication can observe. So, it is recommended to use the lowest therapeutic dose.

The reliable indicators for positive response to inotropes and vasopressors therapies the nurses should be observed are MAP 65-70 mm Hg, a urine output >0.5 ml/kg/ hour, decrease effort breathing and heart < 100 beats per minute. Close hemodynamic monitoring for 12-24hours after discontinuation of inotropes and vasopressors therapies. Mechanical circulatory support is indicated when pharmacological therapy fails to maintain adequate end-organ perfusion and there is risk for multiple organs dysfunction syndrome MODS. The most common type of circulatory support is intra-aortic balloon pump (IABP) (Donovan, 2019).

Nursing management should be followed the policies and guidelines of hospital. Special observation for response to the therapy and complications(O'Donovan, 2019). The fundamental principle underlying the LABP is counter pulsation during diastole, the IABP inflates and deflates during systole. The most common access site for the IABP is femoral artery. Nursing intervention should be focus on confirming accurate timing, preventing complications, and troubleshooting alarms from consoles. Timing is based on appropriate inflation and deflation of the balloon during cardiac cycle.

Although the consoles have autonomic mode some tone nurse need to use the semiautomatic mode to choose inflation or deflation points to maximize hemodynamic effects. The nurse will observe IABP waveform the inflation will occur at dicrotic notch, which represent the onset of diastole and systole occur before the next systole. If the patient does not have reliable R wave a pressure trigger can be selected. Monitoring for any deviation of vital signs and urine output that may indicate timing error, poor tolerance of weaning, or migration of the catheter below the renal artery if urine output decrease. Complication associated with counter pulsation include ischemia at distal extremity related to obstruction of blood flow, damage of the vascular, bleeding, thrombus formation, infection and catheter migration the nurse play a crucial role in detecting and managing these complications and prevent deterioration (Asber et al., 2020) Patient diagnosed with cardiogenic shock is critically ill integral nursing care such as meeting patient's personal hygiene, skin assessment and care should be implemented (O'Donovan, 2019).

To avoid recusancy of cardiogenic shock can be achieves by following Standardized guide lines that include control hypertension, maintain healthy weight, stop smoking, limit salt and saturated fat(Hamed et al., 2020).

LIMITATIONS

The screening process for this scoping review was carried out by browsing the titles and abstracts of the studies. There is no adequate nursing research being studied nursing management of cardiogenic shock patient. The scoping review outcomes cannot be generalized for the healthcare sector of any country, which is another research limitation.

IMPLICATIONS FOR PRACTICE

Nursing management of patients with cardiogenic has a significant effect on the outcome.
Establish comprehensive standardized care increase quality of patient care.

CONCLUSION

In conclusion, it can be stated that Nurses have an essential role in providing holistic, comprehensive care for patient with diagnosed with cardiogenic shock. Integral nursing intervention has strongly improvement of patient outcome will be directed to restoration of organ perfusion, detecting clinical deterioration and provide psychological care to the patient. Maintaining mean arterial pressure is essential for end-organ perfusion. The key of nursing intervention are focus around provide oxygen therapy, appropriate fluids and therapy administration. Close patient monitoring and continuous assessment play pivotal role with cardiogenic shock patients because it provide evidence of effectiveness of treatment, detect and prevent deterioration of patient condition.

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