

# COVID-19: What Should We Do in Future Crises? The Leadership Role and Scope of Nurses in a Health Disaster: A Scoping Review

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**Aim:** The present study surveys the available evidence regarding the role and scope of nursing leadership in disaster and emergencies.

**Materials and Methods:** This scoping review was carried out between 2010 and 2020 through a series of database including Embase, Scopus, CINAHL, Web of Science, Cochrane Library, PubMed, ProQuest, and Google Scholar with keywords of "leadership," "nursing," "competency," "disaster," and "emergency".

**Results:** Seven articles met the inclusion criteria of the scoping review. Three main research questions were addressed, relating to the role of nursing leadership in times of disaster, the skills required of a nursing leader, and the strategies recommended for promoting nursing leadership during a disaster or pandemic.

**Conclusion:** This study shows that nurses are a vital part of the healthcare system in times of disaster and that nursing leaders provide valuable services for maintaining individual and community health. Given that there is no agreement in the existing research as to which competencies are required of nursing leaders in times of disaster, more researches must be developed to enhance the effectiveness of nursing leaders in future disasters and pandemics.

**Keywords:** Leadership, Disaster, Pandemic, Health System, Nurse.

**Short Title in English:** Leadership Role of Nurses in Disaster

## Introduction

The COVID-19 pandemic began in December 2019 in Wuhan, China, and quickly spread around the world(1-3). According to the latest available statistics from August 1, 2020, 17 396 943 people in the world are currently infected with this disease(4). The COVID-19 infection can cause very mild to very critically infection in people and the most important intervention for treatment of critically ill patients seems to be the level of standard care and appropriate and early diagnosis and treatment(5).

The World Health Organization has described COVID-19 as both an emergency and a critical disaster for human health(6, 7). Disasters demand special attention because they are sudden, disruptive, and involve considerable uncertainty. When a disaster occurs, the functioning of healthcare systems is often disrupted because there are so many victims in comparison to shortage of staff and resources(8). In these situations, nurses face new challenges and must set appropriate goals to ensure that the quality of their care is consistent. So new health leadership teams may be formed quickly to manage a disaster, even if team members lack the necessary leadership skills. Health team leaders often make quick decisions without having the required facilities available(9). In times of extreme stress, leaders must be able to identify the disaster, make effective decisions, develop appropriate communications, and balance existing resources—all despite a lack of time

and information. Throughout history, leaders in healthcare systems have not performed well in response to complex and sudden disasters like the Anthrax epidemic in 2001 or H1N1 in 2009.

To some extent, this has resulted from a lack of standard protocols(10). In healthcare teams, nurses are at the front line of care, providing a wide range of services in critical situations and with limited resources; they are recognized as first responders, care providers, and service and information coordinators(9). The importance of nurses is evident in a disaster, as nurses make up the most substantial proportion of the healthcare community providing care(11). Therefore, effective leadership is especially crucial in preparing for disasters. Disaster leaders can only be successful if they have the necessary skills and abilities to manage the situation. The COVID-19 pandemic has forced nursing leaders to take a new approach because of changes in emergency care quality, workload, lack of staff availability, and special needs for coordination and management(12). Given that there have been several gaps in effective leadership in nursing during disasters such as COVID-19 pandemic, the present study is designed to provide evidence of nursing leaders' roles and scope and provide the necessary tips for improving effective leadership during a disaster.

## **Materials and Methods**

In the present study, the Scoping review approach was used to identify nursing leadership during disasters. Scoping review is a study that examines the domain and the extent of a particular topic in different literatures. Using this type of study, we will be able to examine newly available evidence about a specific topic(13). In this study, Joanna Briggs Institutes' protocol for scoping reviews was used to design and conduct this study (14).

### *Determining research questions:*

The research questions in this study were based on Joanna Briggs Institute's guidelines, which is specifically designed for scoping review studies. PCC mnemonic means 'Population, Concept, and Context', which is specifically designed for scoping review studies and helps to adjust the research question according to the title of the research, purpose and inclusion criteria of the study(15). For this purpose, the main keywords used in this study based on PCC format were: nurse (person), the role of nursing leadership or the role of the nurse in disaster leadership or the main skills of nurses in the role of disaster leadership (concept) and disaster (context) (Table 1).

### *Data collection:*

In the present study, a comprehensive search was done in medical databases including Embase, Scopus, CINAHL, Web of Science, Cochrane library, PubMed, ProQuest, and Google Scholar with the keywords according to the MeSH and also through manual searching in library books, dissertations and related journals from 2010 to 2020.

In scoping review studies, the inclusion and exclusion criteria are usually selected based on the characteristics of PCC (person, concept, and context) and the type of published studies. Therefore,

in this study, the inclusion criteria were any qualitative full-text articles related to the role of nursing leadership during disasters and pandemics that have been published in English language. Exclusion criteria were articles that focused on nursing leadership in non-crisis situations, as well as articles that have been published as a letter to the editor, correspondent, quantitative study or those that we did not have access to their full text.

In this study, Joanna Briggs Institute's (2017) guideline was used to gather available evidence. According to Joanna Briggs Institute's (2017) guideline, a three-step approach including initial search in at least two databases to identify keywords, a comprehensive search in databases, and additional searches in the list of article's references was performed(15). The search process in various databases is provided in the PRISMA flow chart (Figure 1). The characteristics of included studies are presented in Table 2. In order to assess quality of evidence, we used GRADE evaluation as high (There is a lot of confidence that the true effect lies close to that of the estimated effect), moderate (There is moderate confidence in the estimated effect: The true effect is likely to be close to the estimated effect, but there is a possibility that it is substantially different), low (There is limited effect in the estimated effect: The true effect might be substantially different from the estimated effect), very low (There is very little confidence in the estimated effect: The true effect is likely to be substantially different from the estimated effect)(16, 17).The results of GRADE evaluation are presented in table 2.

#### *Data analysis*

In this study, Bengtsson's approach to inductive content analysis was used to ensure the precise and objective interpretation of the texts. First, the articles were read carefully several times, and the answers to the research questions were extracted(18). From these answers, semantic units, codes and categories were identified.

### **Results**

Seven articles were included in this scoping review. Based on the research questions, the results of the analysis were separated into three categories: reasons for choosing nurses to lead in times of disaster, the skills required of nursing leaders in times of disaster, and ways to improve the performance of nursing leaders in times of disaster.

#### *Reasons for choosing nurses to lead in times of disaster*

A: Nurses make up a large part of the healthcare workforce and play a significant role in providing care.

According to a study by Edmonson et al., nurses make up the largest workforce in any country's healthcare system(19). Numerous studies report that their presence and their leadership are vitally important in times of health disaster. White et al. note that providing leadership is among a nurse's primary roles, and that nursing leadership is central to the healthcare systems of countries facing health crises(20). The role of a nurse in leading a health disaster may include planning, preparing,

managing problems, coordinating, and supervising care to ensure that it provide in highest quality. Evidently, a significant amount of knowledge is requisite under such circumstances. Effective nursing leadership also motivates other nurses to perform their tasks correctly and efficiently(21); in this regard, supporting, informing, and coordinating a nursing workforce are additional responsibilities borne by nursing leaders under disaster conditions(22). According to Ahmadi et al., nursing leadership during disasters demands a strong knowledge of care, communication skills, problem-solving, teamwork, and the ability to manage resources. Given that nurses account for the largest number of workers in our healthcare system, their role in times of disaster is critical(23). As stated by Veenema et al., nurses are a pillar of care in healthcare systems, and they play a crucial role in leading the workforce in times of disasters(24).

B: Nursing leadership in times of disaster benefits the population in numerous ways. Leadership is a central component of nursing.

Nurses are highly knowledgeable and bring a wide range of leadership skills to disaster situations. In general, any nurse who is directly or indirectly involved in patient care develops some degree of nursing leadership. Basic nursing leadership skills include communication and coordination, the ability to lead, monitor, and manage; and the ability to provide holistic patient care(25).

C: Unexpected events and disasters reveal the need for leadership in the healthcare system.

Research suggests that disasters are occurring with increasing frequency each year. Such unpredictability has created a special need for nursing care. Today, we are facing crises of globalization and population growth(19). Roberta et al., emphasize the special need for nursing leadership in such times. They note that the increasing number of crises at the international level increases the demand for nurses skilled in the preparation, supervision, and provision of care(21).

E. Nurses are highly skilled in care and disaster leadership.

Nurses offer excellent leadership in times of crisis, in part because of their managerial skills and their extensive knowledge in the field of care. They play an integral role in crisis management in the home, in the community, in their workplaces, and at the scene of a disaster. They also make up the largest proportion of workers in the healthcare system. Various researchers have acknowledged that employing nursing leaders is critical in communities experiencing crises<sup>22</sup>. Given that crises can occur at any time, the presence of nurses with appropriate leadership skills is essential. Their role is to plan and prepare for major health crises and to provide quality care to victims. Nursing leaders contribute to crisis management by providing information, supporting other nurses, and coordinating care<sup>20</sup>.

#### *4.2. Nursing leaders' competencies during disasters*

In this section, the skills required of nursing leaders in disasters are presented according to the second research question, with support from relevant literature. Unfortunately, we find the lack of agreement among academics as to which competencies are central to nursing leadership.

#### *4.2.1. Lack of agreement regarding nursing competencies during disasters*

A review of the literature reveals that competency-based leadership and training are relatively new concepts within the past ten years. However, this hardly justifies a failure to define the core skills required of nursing leaders in times of disaster<sup>22</sup>. Numerous studies suggest that nursing students and even nurses are not adequately prepared to respond to disasters<sup>16, 21</sup>. Given the broad scope of disaster research, the focus on nurses and their role in disasters has been underestimated. More attention must be paid to this specific area(26).

Unfortunately, little research has been done to date on the basic skills required of nursing leaders(24, 26). Veenema et al., note that no study has yet identified nursing leaders' core competencies; though, they also acknowledge that nursing leadership in times of disaster is a new issue requiring special development and attention<sup>18</sup>.

#### *The skills required of nursing leaders in times of disaster*

##### **A: Communication skills**

The primary role of nursing leaders is to maintain security and answer to the needs of nursing staff and patients in times of disaster. To do this effectively, nursing leaders must be skilled in maintaining patient safety, coordinating, communicating, and working with a team(19, 20). The ability to communicate—both with patients and with colleagues—is imperative(25). The scoping review conducted by Thobaity et al. supports this idea(26).

##### **B: Collaboration, coordination and teamwork skills**

Skills in collaboration, coordination, and teamwork are also central for nursing leaders in times of disaster. The ability to communicate with others and maintain effective and efficient relationships is particularly important. Nursing leaders must also provide guidance to staff who face multiple challenges in a disaster(19). The unpredictability and dynamicity of such circumstances demand special attention, response, and coordination among all policymakers and leaders(27), as timely communication can prevent the spread of rumors. Nurse leaders use coordination and cooperation skills through teamwork, hazard prevention, patient prioritization, and resource distribution(24).

##### **C: Personality traits (e.g., adaptability in unstable conditions)**

To lead in times of disaster requires certain personality traits. Studies suggest that the characteristics of nurses assigned as disaster leaders include a calm personality, professionalism, skillfulness, self-confidence, outward confidence, and courage; these traits promote appropriate performance in health-threatening situations(27). Veenema et al., highlight physical abilities, independence, a calm and decisive personality, emotional intelligence, and analytical abilities as core competencies(25).

##### **D: Decision-making ability**

Given the nature of crises and disasters, decisions made under these conditions have particular significance. Nursing leaders must be able to make quick decisions to save lives. According to Samuel et al., good decision-making skills are among the most essential characteristics of leaders in times of disaster(20).

#### E: Critical thinking

One of the most important skills for nursing leaders in times of disaster is critical thinking(19, 28). Critical thinking is the ability to pay attention to, interpret, and analyze situations and relationships critically(19). Nursing leaders must be able to access information with ease and promptly make it available to policy makers(20).

#### F: Emotional intelligence and humanity

In life-threatening disasters, emotional intelligence and humanity are essential to leadership. Nursing leaders use these characteristics when assessing and managing critical situations. Effective disaster planning and evaluation rely on the emotional intelligence of leaders(24).

#### G: Ethical principles, work commitment, and adherence to the goals and vision of the organization

Nurses in leadership roles are expected to have clearly defined work perspectives(19). In addition, they must make ethical and values-based judgments in times of disasters. Nursing leaders must have moral convictions; they must be able to choose the best path in a moral dilemma(25) and perform humanitarian and ethical duties when dealing with the victims of a disaster(27).

#### H: Planning

Another core competency of a nursing leader is the ability to plan for disaster management and ensure preparedness. Communicating such plans to their organization, educating staff members and patients, assigning immediate-response groups, supporting nursing staff in their patient care, and managing costs are all important considerations. Nurse leaders must coordinate these efforts in order to prepare an effective disaster management strategy(29).

#### *Ways to improve the performance of nursing leaders in times of disasters*

In this section, we discuss ways to improve the performance of nursing leaders in times of disasters based on the selected literature.

#### A: Lack of rigorous research

Research on disaster leadership is being conducted in the health sciences and various other fields around the world(20); however, nursing leadership in disasters—a broad and valuable field—has not yet been the subject of extensive study(25). Further research is needed about the roles, abilities, and skills of nursing leaders in disasters(20).

#### B: Evidence-based skills and education

Given the increasingly valuable role of nurses in disasters worldwide, additional attention must be paid to the training and skills necessary for nursing leadership in disasters(30). Ever-changing educational curricula must shift to an evidence-based model and focus on nurse leaders in disasters(25, 30).

#### C: Inadequate recognition of nurses as leaders in disasters

Little acknowledgment has been given to nurses for their effective disaster leadership; in fact, nurses themselves admit that they do not have sufficient preparation or knowledge to manage disasters. Their unpreparedness limits their ability to respond effectively and may impact patients' health outcomes. Therefore, the role of nursing leaders in disasters should not be overlooked.

### **Discussion**

Nurses are the frontline workforce that provides a wide range of emergency care, rehabilitation, treatment, promotion, and preventive care for individuals, families, and communities. Nurses account for a significant proportion of the workforce managing crises and disasters, many stakeholders and policymakers fail to recognize the potential of nursing leadership in this area(23, 30).

In a review of the literature, no consensus was found regarding the core competencies of nursing leaders in times of disaster; so far, no integrated standard has been designed for this purpose. The core competencies have thus been reported very differently in published articles. Even those articles that propose core competencies for nurses in times of disaster fail to consider nursing leaders.

Among a nursing leader's most important skills is the ability to plan in a disaster. Planning requires knowing the location, type, and nature of the disaster and determining effective solutions to control it. If nursing leaders are aware of the purpose and content of a disaster management plan, then they can manage a disaster effectively.

Another vital skill is the ability to cooperate and communicate with other team members. All nursing leaders require communication skills to effectively coordinate the members of their team, especially in times of disaster. Studies suggest that most hospitals rank poorly in terms of communication, coordination, strength, common language, and disaster management training.

Another critical skill for nursing leaders is ethical commitment and work commitment. Nursing leaders must be able to identify and manage ethical challenges that arise in times of disaster and during regular care.

Critical thinking is also a core competency for nursing leaders(19, 28). In times of disaster, they must be able to access information with ease and promptly make it available to policy makers(20). Nursing leaders must also interpret and synthesize information from different sources(19). Studies show that critical thinking in nurses improves with experience and age and that critical thinking related to disaster management is markedly better with experience(31, 32).

Emotional intelligence is imperative to leadership in a disaster. Because nurses encounter different levels and types of emotions when dealing with the complex needs of each patient, they must be able to manage and understand emotions. Emotional intelligence allows nursing leaders to think clearly under challenging circumstances, avoid wasting time due to anger, anxiety, and fear, and calm the troubled minds of others easily (33).

Our study confirms that nurses play a critical role in disasters, especially in leadership roles. Despite their leadership skills and knowledge, however, nurses are often paid little attention by policy makers(19, 20, 25). However, the literature remains inconsistent in terms of what those skills are, and organizations have defined their own core competencies for nursing leaders based on their needs and contexts; as such, no universal skills have been defined(34) and there are lack of evidence-based standards contributes to this problem(24).

Based on our review of the literature, we are unable to determine the core competencies required of nursing leaders in disasters. One reason for the lack of consensus around nursing leadership skills is the general apathy toward the topic in both the scientific and professional communities(25, 26).

The widespread unpreparedness of nursing leader's points to a need for appropriate education. The results of this study suggest that evidence-based research should be conducted to respond effectively to disasters and to determine the core competencies of nursing leaders. Also, it is suggested that preparedness in disasters included in the nursing curricula and support nurses participation in disaster workshop and maneuvers.

As disasters continue to increase in frequency and present health risks worldwide, this research is of particular importance. Indeed, existing articles—even in the field of nursing—have failed to address the role of nursing leadership in disasters. While it may be a small consideration in the greater context of nursing, the scale, threat, and complexity of disasters—difficult though they may be to measure, assess, or predict(20)—are undeniable. Therefore, further research must be conducted to determine the essential skills that all disaster leaders need.

### **Limitations**

This study was designed as a scoping review. It is worth noting that most articles reviewed in this study were from the USA; few articles have been written about the leadership of nurses in disasters in different countries and contexts. Additionally, a limited number of articles focused specifically on nursing leadership in disasters; most referred more generally to the roles of nurses and leaders in crises. The content analysis used for extracting categories and selecting appropriate words was developed by non-native English speakers, which may also impact the reliability of the study.

### **Conclusions**

Nurses are central to the healthcare system in times of disaster, and they play a key role in patient care. Effective leadership is essential for nurses in times of disaster. Observing the gaps in nursing

leadership in situations like the COVID-19 pandemic highlights the importance of effective planning. To ensure that nurses can provide the best care possible, we must take into account their physical and mental health. Additionally, we should incorporate more robust disaster management programs into their nursing school curricula.

### **Author Disclosures**

Conflict of interest: none to report.

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Table 2: characteristic of included studies

N	Author, Year	Title	Country	Sample size	Study design	Key findings	GRADE evaluation
1	Veenema et al, 2016. (25)	Nurses as Leaders in Disaster Preparedness and Response-A Call to Action	UK	14 interviews, 70 workshop participant s	Qualitative study and systematic literature review	The role of nurses in times of crisis is very broad, and the role of nursing leaders needs to be enhanced.	Moderate
2	Thobaity et al, 2017. <sup>24</sup>	What are the most common domains of the core competencies s of disaster nursing? A scoping review	Australia	200 questionnaire	Qualitative study and Scoping review	In this study, some tools have been designed to measure and examine the skills of nursing leaders and their barriers.	Moderate
3	Roberta, 2017. (21)	Society for the advancement of disaster nursing: Exploring the path to excellence	USA	None	Policy analysis of present condition of disaster leadership in nursing	It is essential that nursing care in crisis situations is precisely defined and explained.	Low
4	Pourvakhshoori et al, 2017. (23)	Nurse in limbo: A qualitative study of nursing in disasters in Iranian context	Iran	15 participant	Qualitative study	It is well mentioned about the main skills of nurses in crises.	Moderate
5	Loke et al, 2014. (35)	Nurses' competencies s in disaster nursing: Implications for curriculum development and public health	USA	45 participants	Qualitative study	Leadership skills are one of the main skills for nurses in times of crisis.	Moderate
6	Beiranvand et al, 2014. (36)	Disaster nursing in Iran: Challenges and opportunities	Iran	32 articles	Qualitative study, systematic literature review	There are many tips for nursing leaders in disasters that need to be considered.	Moderate
7	Veenema et al, 2016. (24)	Exploration and development of standardized nursing leadership competencies s in disasters	USA	22 articles	Qualitative study, systematic literature review	There are many tips for nursing leaders in disasters that need to be considered.	Moderate

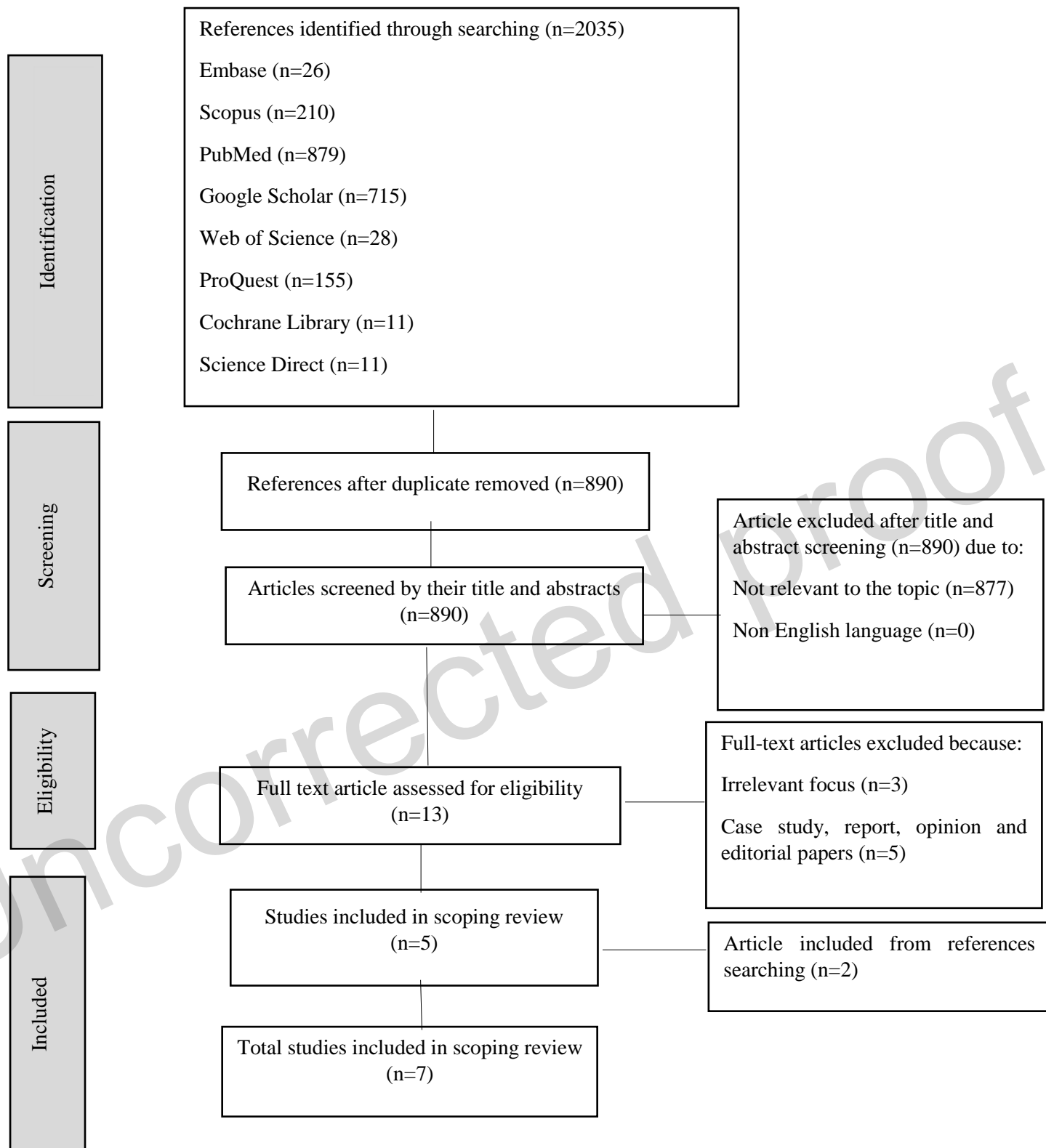


Fig 1. Preferred reporting items for systematic reviews and meta-analyses (PRISMA)

Table 1: PCC, terms and keywords used in present study

PCC	Terms	Keywords
Population	Nurses	Nurse, Nurses, Nursing
Concept	Nursing leadership	Leadership, Management, Competencies
	Nursing leadership role	
	Main competency of nurses in leadership	
Context	Emergency situation	Disaster, Emergency
	Disaster condition	