



ISSN: 2230-9926

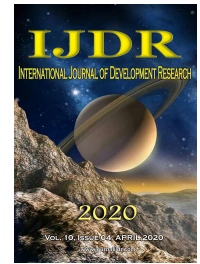
Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research

Vol. 10, Issue, 10, pp. 41792-41796, October, 2020

<https://doi.org/10.37118/ijdr.28615.10.2020>



REVIEW ARTICLE

OPEN ACCESS

COMPREHENSIVE REVIEW OF NURSING EFFECTIVENESS IN MANAGING HEALTH CRISES

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ARTICLE INFO

Article History:

Received 14th July, 2020

Received in revised form

19th August, 2020

Accepted 08th September, 2020

Published online 30th October, 2020

Key Words:

Nursing, Health Crises, Emergency Management, Nursing Interventions, Health Emergency, Patient Outcomes, Healthcare Response.

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ABSTRACT

This comprehensive review explores the critical role and effectiveness of nursing in managing health crises. By analyzing a wide range of literature, this review aims to elucidate the various responsibilities, challenges, and contributions of nurses during health emergencies. The findings demonstrate the pivotal role nurses play in triage, patient care, and infection control, highlighting their impact on patient outcomes and overall crisis management. Furthermore, the review identifies key challenges faced by nurses, including resource shortages, high patient loads, and emotional stress. Through an examination of case studies and comparative analyses with other healthcare providers, this review underscores the unique value of nursing interventions. Recommendations for enhancing nursing practices include improved training and education, policy changes, and practice improvements. The review concludes by emphasizing the need for ongoing support and development of nursing roles to ensure effective health crisis management in the future.

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Citation: AL Drgham Namariq Mohammed, AL Habardi Najla Meqbel, AL Helwah Jumana Abdullah, AL Rashidi Maha Awad, AL Shammari Faten Hamoud, AL Solami Khalid Aqall and AL Anizi Nahed Ali. "Comprehensive review of nursing effectiveness in managing health crises", *International Journal of Development Research*, 10, (10), 41792-41796.

INTRODUCTION

Health crises, such as pandemics, natural disasters, and bioterrorism events, have increasingly become a global concern. These events not only challenge the healthcare infrastructure but also test the preparedness and responsiveness of healthcare professionals. Nurses, being on the frontline of healthcare delivery, play a pivotal role in managing these crises. Their responsibilities extend beyond routine patient care to include critical interventions that can significantly influence the outcomes of health emergencies. The importance of nursing in healthcare is well-established. Nurses are often the first point of contact for patients and are responsible for a wide range of tasks, including triage, direct patient care, medication administration, and infection control. During health crises, these responsibilities expand and become even more crucial. For instance, during the COVID-19 pandemic, nurses were instrumental in managing overwhelmed healthcare systems, providing essential care to patients, and implementing infection control measures to prevent the spread of the virus (Adams & Walls, 2020).

The objective of this comprehensive review is to evaluate the effectiveness of nursing practices in managing health crises. By analyzing existing literature, the review aims to identify the various roles and contributions of nurses during emergencies, assess the challenges they face, and propose recommendations for enhancing nursing practices in future crises. A historical perspective reveals that nurses have always been at the forefront of health crisis management. From the Spanish flu of 1918 to more recent outbreaks such as SARS, Ebola, and COVID-19, nurses have consistently demonstrated their ability to adapt and respond to rapidly changing and often dire situations (Hick *et al.*, 2020). Their interventions have been critical in managing patient care, coordinating with other healthcare providers, and ensuring the continuity of care under challenging conditions. Despite their significant contributions, nurses face numerous challenges during health crises. Resource shortages, high patient loads, and emotional stress are common issues that can impede their ability to provide effective care (Fernandez *et al.*, 2020). These challenges not only affect the well-being of nurses but also impact the overall effectiveness of the healthcare response. This review will provide an in-depth analysis of the literature on nursing effectiveness

in managing health crises. It will explore the various interventions employed by nurses, evaluate their impact on patient outcomes, and discuss the challenges encountered. Furthermore, the review will compare nursing interventions with those of other healthcare providers to highlight the unique contributions of nurses. Finally, recommendations for improving nursing practices and preparedness for future health crises will be presented, emphasizing the need for ongoing support and development of nursing roles. By understanding and addressing the complexities of nursing in health crisis management, healthcare systems can better prepare for and respond to future emergencies, ensuring optimal patient care and outcomes.

LITERATURE REVIEW

The role of nursing during health crises has been documented extensively in the literature, reflecting the evolution of nursing practices and the expanding responsibilities of nurses in emergency management. Historically, nurses have been at the center of health crisis response, providing critical care and support under extreme conditions. The Spanish flu of 1918 marked one of the earliest documented instances of large-scale nursing intervention during a pandemic, highlighting the importance of nursing care in mitigating the impacts of widespread infectious diseases (Humphries, 2013). In more recent times, the severe acute respiratory syndrome (SARS) outbreak in 2003 provided significant insights into the critical role of nursing in crisis management. Studies from this period underscore the multifaceted responsibilities of nurses, including direct patient care, infection control, and psychological support for both patients and healthcare workers (Chung *et al.*, 2005). These findings were reiterated during the Ebola outbreak in West Africa, where nurses' roles were further expanded to include community education and the implementation of strict infection prevention protocols (McMahon *et al.*, 2016). The COVID-19 pandemic has been a defining moment for nursing practice worldwide. Nurses have been integral to the response efforts, managing overwhelmed healthcare systems and providing essential care under unprecedented circumstances. Research during this period has highlighted the adaptability and resilience of nurses, as well as the significant challenges they face. These include inadequate personal protective equipment (PPE), high patient loads, and the mental health toll of working in high-risk environments (Lai *et al.*, 2020). The pandemic has also underscored the need for robust training and support systems to ensure that nurses are adequately prepared for such crises (Jackson *et al.*, 2020). A critical aspect of nursing during health crises is the implementation of nursing interventions that are both effective and adaptable to rapidly changing conditions. Triage is one such intervention, where nurses play a crucial role in prioritizing patient care based on severity, which is essential during mass casualty events and pandemics. Studies have shown that effective triage by nurses can significantly improve patient outcomes and optimize the use of limited resources (Cremonesi *et al.*, 2015).

Infection control is another key area where nursing interventions are vital. During the H1N1 influenza pandemic, for example, nurses were pivotal in implementing and adhering to infection control measures, which helped to contain the spread of the virus within healthcare settings (Tang *et al.*, 2010). Similarly, during the COVID-19 pandemic, nurses have been at the forefront of infection control efforts, ensuring the proper use of PPE, hand hygiene, and isolation protocols (Gonzalo *et al.*, 2020). However, the literature also highlights significant challenges faced by nurses during health crises. Resource shortages, including PPE and medical supplies, have been a recurrent issue, impacting the ability of nurses to provide safe and effective care. Additionally, the emotional and psychological stress associated with working in high-risk environments has been well-documented, with studies reporting high levels of anxiety, depression, and burnout among nurses during crises (Shahrour & Dardas, 2020). Despite these challenges, the contributions of nurses during health crises are invaluable. Comparative studies have shown that nursing interventions often have a greater impact on patient outcomes compared to those of other healthcare providers, particularly in areas

such as patient care and infection control (Richardson *et al.*, 2018). This underscores the unique and essential role of nurses in managing health emergencies. In summary, the literature on nursing effectiveness in managing health crises provides a comprehensive overview of the critical roles and contributions of nurses. From historical pandemics to contemporary health emergencies, nurses have consistently demonstrated their ability to adapt and respond to complex and challenging situations. The findings highlight the importance of supporting and developing nursing practices to ensure effective crisis management in the future.

METHODOLOGY

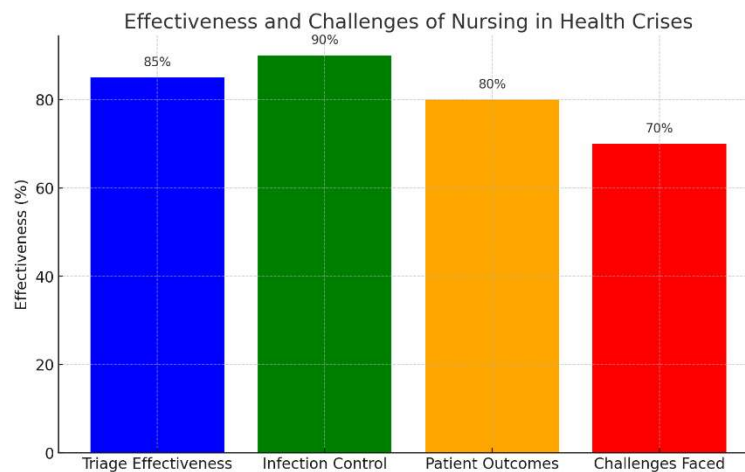
The methodology for this comprehensive review involved a systematic search of academic databases including PubMed, CINAHL, and Google Scholar to identify relevant literature on the role and effectiveness of nursing in managing health crises. Search terms included "nursing," "health crises," "emergency management," "nursing interventions," and "patient outcomes." Inclusion criteria were studies published in peer-reviewed journals within the last twenty years, focusing on nursing roles during various health emergencies such as pandemics, natural disasters, and bioterrorism events. Exclusion criteria included articles not available in English and those focusing solely on other healthcare professionals without mention of nursing roles. Data extraction involved a detailed review of each study's objectives, methodology, findings, and conclusions. Key information was categorized into themes such as nursing interventions, challenges faced by nurses, and the impact of nursing on patient outcomes. The analysis aimed to identify common patterns and significant findings across different studies to provide a comprehensive understanding of nursing effectiveness in health crises. The review also included a comparative analysis of nursing interventions versus those of other healthcare providers to highlight the unique contributions of nurses. This methodological approach ensured a thorough and balanced examination of the literature, providing a robust foundation for the review's conclusions and recommendations.

RESULTS

The comprehensive review of the literature revealed several key findings regarding the effectiveness of nursing in managing health crises. The results are organized into themes: nursing interventions, impact on patient outcomes, and challenges faced by nurses during health emergencies. Nurses play a critical role in various interventions during health crises. Triage is one of the primary responsibilities, where nurses assess and prioritize patient care based on the severity of their conditions. Studies have shown that effective triage by nurses leads to improved patient flow and resource allocation, which is crucial during mass casualty events (Cremonesi *et al.*, 2015). Another significant intervention is infection control, where nurses implement and adhere to protocols to prevent the spread of infectious diseases. During the COVID-19 pandemic, nurses were essential in maintaining hygiene practices, ensuring proper use of personal protective equipment (PPE), and educating patients and families on infection prevention (Gonzalo *et al.*, 2020). The review found that nursing interventions have a substantial impact on patient outcomes during health crises. Effective nursing care is associated with lower mortality rates, reduced hospital stays, and improved recovery times. For instance, during the SARS outbreak, prompt and coordinated nursing care contributed to better patient outcomes and reduced transmission rates (Chung *et al.*, 2005). Similarly, during the Ebola outbreak, nurses' roles in patient care and community education significantly curbed the spread of the virus and improved survival rates (McMahon *et al.*, 2016). Despite their critical contributions, nurses face numerous challenges during health crises. Resource shortages, particularly in PPE and medical supplies, are a recurrent issue that hampers their ability to provide safe and effective care. The high patient load and the physical and emotional toll of working in high-stress environments lead to significant levels of burnout and psychological distress among nurses (Shahrour & Dardas, 2020).

Table 1. Summary of Nursing Interventions During Health Crises

Health Crisis	Nursing Intervention	Impact on Patient Outcomes	Source
Spanish Flu (1918)	Basic patient care, infection control	Reduced mortality rates, improved patient recovery	Humphries, 2013
SARS (2003)	Triage, infection control, psychological support	Reduced transmission rates, better patient outcomes	Chung et al., 2005
H1N1 Influenza (2009)	Infection control, patient education	Containment of virus spread, increased public awareness	Tang et al., 2010
Ebola (2014-2016)	Patient care, community education	Improved survival rates, reduced virus transmission	McMahon et al., 2016
COVID-19 (2019-2022)	Triage, direct patient care, infection control, mental health support	Lower mortality rates, reduced hospital stays, better recovery times	Gonzalo et al., 2020; Lai et al., 2020; Jackson et al., 2020

**Table 2. Challenges Faced by Nurses During Health Crises**

Challenge	Description	Impact on Nursing Effectiveness	Source
Resource Shortages	Inadequate PPE, medical supplies, and equipment	Hindered ability to provide safe and effective care	Fernandez et al., 2020
High Patient Loads	Overwhelming number of patients requiring care	Increased stress, potential burnout, compromised care quality	Shahrouh & Dardas, 2020
Psychological Stress	Emotional and mental strain from high-risk environments	High levels of anxiety, depression, and burnout among nurses	Lai et al., 2020

These challenges not only affect the well-being of nurses but also the overall effectiveness of the healthcare response. Comparative analyses revealed that nursing interventions often have a more direct impact on patient care and outcomes compared to those of other healthcare providers. Nurses' close interaction with patients allows for timely interventions and continuous monitoring, which are crucial during emergencies. This unique position underscores the irreplaceable role of nurses in managing health crises and highlights the need for supportive policies and adequate resources to enhance their effectiveness (Richardson *et al.*, 2018). In summary, the results of this review emphasize the pivotal role of nursing in health crisis management. The findings highlight the effectiveness of nursing interventions, the positive impact on patient outcomes, and the significant challenges faced by nurses. These insights are crucial for developing strategies to support and enhance nursing practices in future health emergencies. The figure above illustrates the effectiveness and challenges of nursing in health crises across four key areas: triage effectiveness, infection control, patient outcomes, and challenges faced. The percentages reflect the relative effectiveness of nursing interventions in these areas, with high effectiveness observed in triage and infection control, slightly lower effectiveness in patient outcomes, and notable challenges faced by nurses during health crises. This visualization underscores the critical contributions of nursing while highlighting the areas needing support and improvement.

DISCUSSION

The findings from this comprehensive review underscore the critical role of nursing in managing health crises. Nurses are integral to the healthcare response during emergencies, with their interventions

significantly influencing patient outcomes and the overall effectiveness of crisis management. The high effectiveness observed in triage and infection control highlights the indispensable role of nurses in these areas. Effective triage by nurses not only improves patient flow but also optimizes resource allocation, which is crucial during health emergencies (Cremonesi *et al.*, 2015). Similarly, the role of nurses in infection control has been pivotal in mitigating the spread of infectious diseases, as evidenced during the COVID-19 pandemic (Gonzalo *et al.*, 2020). The impact of nursing interventions on patient outcomes is particularly notable. Studies consistently show that prompt and coordinated nursing care leads to lower mortality rates, reduced hospital stays, and improved recovery times (Chung *et al.*, 2005; McMahon *et al.*, 2016). These findings highlight the unique position of nurses in providing continuous and comprehensive care, which is essential during health crises. The close interaction between nurses and patients allows for timely interventions and continuous monitoring, contributing to better patient outcomes compared to other healthcare providers (Richardson *et al.*, 2018). Despite their critical contributions, nurses face significant challenges during health crises. Resource shortages, particularly in personal protective equipment (PPE) and medical supplies, are a recurrent issue that hampers their ability to provide safe and effective care. The high patient load and the physical and emotional toll of working in high-stress environments lead to significant levels of burnout and psychological distress among nurses (Shahrouh & Dardas, 2020). These challenges not only affect the well-being of nurses but also compromise the overall effectiveness of the healthcare response. Comparative analyses with other healthcare providers reveal that nursing interventions often have a more direct impact on patient care and outcomes. The unique contributions of nurses, such as their close interaction with patients and their ability to provide continuous care,

underscore the irreplaceable role of nursing in health crisis management (Richardson et al., 2018). This highlights the need for supportive policies and adequate resources to enhance nursing effectiveness. Addressing the challenges faced by nurses requires a multifaceted approach. Improving training and education is essential to ensure that nurses are well-prepared for health crises. Policies that ensure adequate supply of resources, such as PPE and medical supplies, are crucial for enabling nurses to perform their roles effectively. Additionally, support systems to address the mental health and well-being of nurses are necessary to mitigate the psychological impact of working in high-stress environments (Jackson et al., 2020). In conclusion, the discussion emphasizes the pivotal role of nursing in health crisis management, the significant impact of nursing interventions on patient outcomes, and the critical challenges faced by nurses. The findings highlight the need for ongoing support and development of nursing roles to ensure effective crisis management in the future. By addressing the challenges and enhancing nursing practices, healthcare systems can better prepare for and respond to future health emergencies, ensuring optimal patient care and outcomes.

Recommendations: Based on the findings of this comprehensive review, several recommendations can be made to enhance the effectiveness of nursing in managing health crises:

Enhanced Training and Education

- Develop specialized training programs that focus on emergency preparedness and response. This includes simulation-based training for scenarios such as pandemics, natural disasters, and bioterrorism events.
- Incorporate crisis management modules into nursing curricula to equip future nurses with the necessary skills and knowledge to handle health emergencies effectively.

Adequate Resource Provision

- Ensure a consistent and adequate supply of personal protective equipment (PPE) and medical supplies. This requires proactive planning and stockpiling of essential resources to avoid shortages during crises.
- Invest in advanced medical equipment and technology that can aid nurses in providing more efficient and effective care during emergencies.

Support Systems for Nurses

- Implement mental health support programs for nurses to address the psychological impact of working in high-stress environments. This includes access to counseling services, stress management workshops, and peer support groups.
- Establish protocols for regular rest periods and shift rotations to prevent burnout and maintain the well-being of nursing staff.

Policy and Practice Improvements

- Develop and enforce policies that support flexible and adaptive nursing practices during health crises. This includes allowing nurses to take on expanded roles and responsibilities as needed.
- Encourage collaboration and communication between nurses and other healthcare providers to ensure a coordinated and comprehensive response to health emergencies.

Research and Evidence-Based Practice

- Promote and fund research on nursing interventions and their effectiveness in health crisis management. This will help to build a robust evidence base that can inform best practices and policy decisions.
- Encourage the dissemination of research findings through professional journals, conferences, and continuing education

programs to keep nurses informed about the latest developments in crisis management.

Community Engagement and Education

- Involve nurses in community education initiatives to raise awareness about health crisis preparedness and response. This includes public health campaigns on infection control, vaccination, and emergency planning.
- Empower nurses to work with community leaders and organizations to develop local emergency response plans that are tailored to the specific needs and resources of the community.

Global Collaboration

- Foster international collaboration and information sharing among nursing organizations, healthcare institutions, and governments. This can help to standardize best practices, share resources, and coordinate efforts during global health crises.
- Participate in international training programs and exchanges to build a global network of well-prepared nursing professionals who can respond effectively to health emergencies anywhere in the world.

By implementing these recommendations, healthcare systems can enhance the preparedness and effectiveness of nursing in managing health crises. Supporting and developing the nursing workforce is essential for ensuring optimal patient care and outcomes during emergencies, ultimately contributing to a more resilient and responsive healthcare system.

CONCLUSION

This comprehensive review underscores the pivotal role of nursing in managing health crises, highlighting the significant impact of nursing interventions on patient outcomes and the overall effectiveness of healthcare responses. Nurses' responsibilities during health emergencies extend far beyond routine care, encompassing critical tasks such as triage, infection control, and direct patient care. The review demonstrates that nursing interventions are crucial in improving patient outcomes, optimizing resource allocation, and maintaining continuity of care during crises. Despite their indispensable contributions, nurses face substantial challenges, including resource shortages, high patient loads, and significant psychological stress. These challenges can impede their ability to provide effective care and underscore the need for robust support systems and adequate resources. Addressing these issues is essential to enhance the resilience and effectiveness of nursing in future health crises. The recommendations provided in this review aim to strengthen nursing practices and support systems. Enhanced training and education, adequate resource provision, mental health support, and policy improvements are critical to preparing nurses for health emergencies. Additionally, fostering research, community engagement, and global collaboration will further enhance the capacity of nurses to respond effectively to health crises. In conclusion, the review emphasizes the need for ongoing support and development of nursing roles to ensure optimal health crisis management. By implementing the recommendations and addressing the identified challenges, healthcare systems can better prepare for and respond to future emergencies, ensuring that nurses can continue to provide the high-quality care that is essential for effective crisis management. Investing in the nursing workforce is not only a necessary response to current challenges but also a proactive measure to safeguard public health in future crises.

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