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# KNOWLEDGE, ATTITUDE AND PRACTICE OF STAFF NURSES ABOUT DISASTER MANAGEMENT IN EMERGENCY DEPARTMENT OF TERTIARY CARE HOSPITAL OF LAHORE

**Hina Anjum[*1], Saba Khan[2], Syed Zain ul Abidin[3], Zainab Nasrullah[4]**

[*1]*Charge Nurse, Sir Gangaram Hospital, Lahore*
[2]*Nursing Officer, Mayo Hospital, Lahore*
[*3]*BSN, University of Lahore*
[4]*Charge Nurse, Mayo Hospital, Lahore*

[*3]kyahaalhaibhaijaan@gmail.com

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**Corresponding Author: ***
**Syed Zain ul Abidin**

## Abstract

***Background:***

*The increasing frequency of natural and man-made disasters has intensified the need for effective disaster preparedness within healthcare systems, particularly in tertiary care hospitals. In urban centers such as Lahore, where population density and vulnerability to emergencies are high, the Emergency Department (ED) serves as the frontline of disaster response. Staff nurses play a pivotal role in ensuring timely and efficient management during such crises. However, gaps in knowledge, attitude, and practice (KAP) related to disaster management may compromise response effectiveness. Therefore, assessing these dimensions among nursing staff is essential to strengthen institutional preparedness and improve patient outcomes.*

***Objectives:***

*This study aimed to assess the level of knowledge, attitude, and practice of staff nurses regarding disaster management in the Emergency Department of a tertiary care hospital in Lahore. Additionally, it sought to identify gaps in preparedness and propose recommendations for improving disaster management training and response strategies.*

***Methodology:***

*A descriptive cross-sectional study design was employed at Sir Ganga Ram Hospital, Lahore. A total of 200 registered nurses were selected using stratified random sampling based on departments and experience levels. Data were collected through a structured, self-administered questionnaire comprising four sections: demographic data, knowledge, attitude, and practice related to disaster management. Data analysis was conducted using SPSS version 27. Descriptive statistics (frequencies, percentages) and inferential statistics (t-test and ANOVA) were applied to assess associations between variables. Ethical approval was obtained, and informed consent was ensured.*

***Results:***

*The findings revealed that 57% of nurses demonstrated adequate knowledge*

*regarding disaster management concepts, although only 38% were strongly familiar with hospital-specific disaster plans. Female nurses showed slightly higher agreement (52%) on the importance of disaster management compared to males (40%). Nurses with more than three years of experience exhibited better knowledge and attitudes, with 62% showing strong agreement across domains. In terms of practice, participation in disaster drills and familiarity with emergency equipment were relatively high; however, gaps were observed in real patient evacuation experiences and role clarity during disasters. Approximately 54% of participants expressed confidence in communication systems, while coordination and documentation practices showed moderate variability. Additionally, only a limited proportion reported satisfaction with existing training programs, highlighting the need for structured and continuous education.*

***Conclusion:***

*The study concludes that while staff nurses possess a foundational understanding and positive attitude towards disaster management, significant gaps remain in institutional knowledge, practical execution, and advanced preparedness. Experience and age were found to influence competency levels, indicating the need for targeted training programs. Strengthening hospital-specific training, improving disaster drills, enhancing communication systems, and integrating continuous feedback mechanisms are essential to bridge the gap between theoretical knowledge and practical application. Such interventions are crucial for developing a resilient and efficient emergency response system.*

## INTRODUCTION:

### 1.1. Background:

The escalating frequency of both natural and man-made disasters in recent years has intensified the global demand for proficient disaster management strategies within healthcare settings. Tertiary care hospitals serve as pivotal institutions in providing critical care during such emergencies, necessitating the implementation of robust and adaptable protocols. This is particularly relevant in the context of Lahore, Pakistan—a densely populated urban center characterized by unique socio-environmental dynamics and a high susceptibility to diverse calamities. Within this high-stakes environment, staff nurses in the emergency department (ED) function as the primary vanguard of disaster response. Their theoretical knowledge, professional attitudes, and practical readiness are fundamental components that determine the efficiency and effectiveness of any disaster management effort. Consequently, conducting a comprehensive assessment of these nurses' capabilities is essential to fortifying the broader emergency response system and ensuring the resilience of healthcare infrastructure (Khan, 2023).

Disasters have the inherent potential to unleash widespread chaos, disrupt essential services, and inflict massive casualties, placing an immense burden on healthcare facilities. Gangaram Hospital Lahore, a premier tertiary care institution, stands as a critical fortress of emergency response in Pakistan, where the art and science of healthcare must blend seamlessly in the crucible of crisis management. While the delivery of routine emergency care is a well-established function of such institutions, the transition to managing large-scale healthcare delivery during the wake of a catastrophe presents a unique and complex set of challenges (Ahmad, 2021; Anderson, 2021). The provision of healthcare services in the ED remains a cornerstone for safeguarding community well-being, especially in urban landscapes like Lahore where the margins for error are slim (Rahman, 2023). Therefore, the proficiency of disaster management within the Gangaram Hospital ED is of paramount importance, as frontline responders are tasked with executing immediate and effective responses under extreme pressure.

The current problem lies in the need to systematically evaluate the understanding, approach, and application of disaster management principles among staff nurses to identify potential areas for refinement in existing protocols. Assessing the knowledge, attitude, and practices (KAP) of these nurses is imperative to bolster the hospital's overall emergency preparedness. Gangaram Hospital Lahore serves as a crucial hub for emergency medical services during natural disasters, industrial accidents, and public health crises. The effectiveness of this response is directly linked to the preparedness of its nursing staff, meaning that identifying gaps or strengths in their readiness can inform targeted training and intervention programs. Such refinements do not only benefit the internal functioning of the hospital but also have a direct impact on the safety of the surrounding community, potentially reducing casualties and enhancing overall societal resilience (Aslam, 2022).

This research aims to provide a comprehensive exploration of the disaster management practices employed within the ED of Gangaram Hospital. By delving into the strategies, challenges, and outcomes associated with disaster response in this specific context, the study contributes to the broader academic discourse on institutional preparedness. Strategic setting choice is vital, as Lahore's vulnerability to earthquakes, floods, and man-made acts of terrorism makes effective disaster management in the ED a life-saving necessity (Siddiqui, 2021). The study specifically seeks to answer questions regarding the current level of knowledge among nurses, how their attitudes influence their preparedness, and which specific practices they employ during real or simulated emergencies. Furthermore, it examines the extent to which existing training programs successfully translate into practical application, while highlighting the perceived challenges and strengths that define the current nursing environment at Gangaram Hospital.

For the purposes of this assessment, knowledge is operationally defined as the theoretical comprehension of disaster scenarios, triage systems, and resource utilization strategies. Attitude refers to the mindset and confidence levels of the nurses, including their perceived importance of disaster engagement and the hospital's readiness. Practice encompasses the actual execution of protocols, decision-making processes, and teamwork during emergency situations (Iqbal, 2022). By examining these dimensions, the study addresses a critical need in contemporary healthcare. The initiation of this research at Gangaram Hospital Lahore is designed to analyze the impact of interdisciplinary collaboration and formulate evidence-based recommendations that foster a safer environment for both patients and professionals. Ultimately, these findings will position Gangaram Hospital and similar tertiary care institutions to respond with greater agility and effectiveness to unforeseen emergencies, ensuring a more resilient future for the healthcare sector.

## LITERATURE REVIEW

The escalating pace of global urbanization, coupled with rapid population growth and the shifting natural environment driven by climate change, has significantly increased the frequency and severity of both natural and man-made disasters. As defined by the World Health Organization (WHO), a disaster represents a profound disruption of a community's functioning, resulting in human, material, and environmental losses that far exceed the affected society's internal capacity to cope using its own resources. These events are fundamentally the outcome of inherent risks, multiple hazards, and a systemic lack of preparedness. According to the Emergency Events Database (EM-DAT), these occurrences are categorized into natural calamities—including geological, meteorological, and hydrological events—and catastrophic anthropogenic events, such as industrial accidents, transport failures, and explosions. While the implementation of early warning systems led to a brief reduction in events around 2017, the persistent expansion of populations into high-risk areas continues to heighten global exposure to these crises.

The consequences of such disasters are multifaceted, ranging from immediate loss of life to long-term economic instability, infrastructure

destruction, and deep-seated psychological and social disorders. There is a stark disparity in how nations experience these events; while developed countries often possess the financial and structural resilience to restore their economies, developing nations remain profoundly vulnerable. In these regions, a single disaster can decimate years of developmental progress in a matter of seconds, as low funding for preparedness leaves healthcare and social systems unable to withstand the sudden surge in demand. This vulnerability is particularly acute in nations like Pakistan, which is ranked among the most disaster-prone countries due to its unique climatic and environmental features. Between 1980 and 2010, Pakistan recorded 138 natural disaster events that affected over 58 million people, a trend compounded by a significant increase in man-made disasters, including sectarian violence and terrorist attacks, which have claimed thousands of lives and regularly overwhelmed the nation's healthcare infrastructure.

In the wake of such catastrophic events, whether they are internal to a facility or external mass-casualty incidents, the Emergency Department (ED) of a hospital serves as the primary gateway for survival. Disasters create unique operational challenges that differ substantially from day-to-day medical functions, often characterized by information delays, staff confusion, equipment shortages, and the rapid depletion of consumable materials. Effective disaster management within these settings relies on an integrated management system where all medical staff operate as a cohesive team. However, current evidence suggests that many developing countries, including Pakistan, lack a comprehensive, integrated disaster management policy at the national level. This policy vacuum underscores the urgent need for a codified preparedness strategy that focuses on the professional capability and competency of the healthcare workforce.

Nurses, as the largest group of healthcare providers, represent the frontline of any disaster response. Their role is critical due to their specialized skills in assessment, communication, and crisis-level decision-making. Despite this responsibility, evidence indicates a widespread lack of formal training in disaster science, leaving many nurses feeling vulnerable and ill-equipped when faced with real-world catastrophes. The ability to minimize the devastating effects of a disaster depends almost entirely on the effectiveness and timeliness of the response, which is a direct function of the staff's knowledge and preparation. Consequently, there is an essential need to evaluate the "Knowledge, Attitude, and Practice" (KAP) of nursing staff within high-traffic tertiary care settings. Measuring these dimensions is the first step toward identifying learning deficiencies and developing evidence-based educational programs that ensure nurses can function effectively during mass-casualty events, ultimately fostering a more resilient healthcare environment.

## METHODOLOGY:

**1. Research Title:**

Knowledge, Attitude and Practice Of Staff Nurses About Disaster Management In Emergency Department Of Tertiary Care Hospital Of Lahore

**2. Objectives:**

- To assess the level of knowledge, attitude and current practice among nurses regarding disaster management in emergency department of a hospital.
- To identify potential areas for improvement in disaster management training and preparedness.

**3. Study Design:** Cross-sectional descriptive study.

**4. Setting:** Tertiary care hospital in Lahore (Gangaram Hospital Lahore).

**5. Sampling:**

- **Inclusion Criteria:** Registered nurses working in various departments of the hospital.
- **Exclusion Criteria:** Nurses on leave or not willing to participate.

**6. Sampling Technique:**

Stratified random sampling based on different departments and levels of experience.

**7. Sample Size:**
Calculate the sample size based on the total number of nurses in the hospital, considering a confidence level of 95% and a margin of error of 5%.

**8. Data Collection Tools:**
**Structured questionnaire:**
**Section 1:** Demographic information
**Section 2:** Knowledge assessment regarding disaster management
**Section 3:** Attitude assessment towards disaster management
**Section 4:** Practices related to disaster management

**9. Data Collection Procedure:**
Seek ethical approval from the hospital's ethics committee. Obtain informed consent from participants. Distribute the questionnaire to selected nurses. Conduct interviews or focus group discussions for further qualitative insights.

**10. Data Analysis:**
- Use statistical software for analysis (e.g., SPSS 27).
- Descriptive statistics for demographics.
- Calculate mean scores for knowledge, attitude, and practice.
- Inferential statistics (e.g., t-tests, ANOVA) for comparisons.

**11. Ethical Considerations:**
- Ensure participant confidentiality and anonymity.
- Obtain informed consent.
- Provide the option to withdraw from the study at any time.

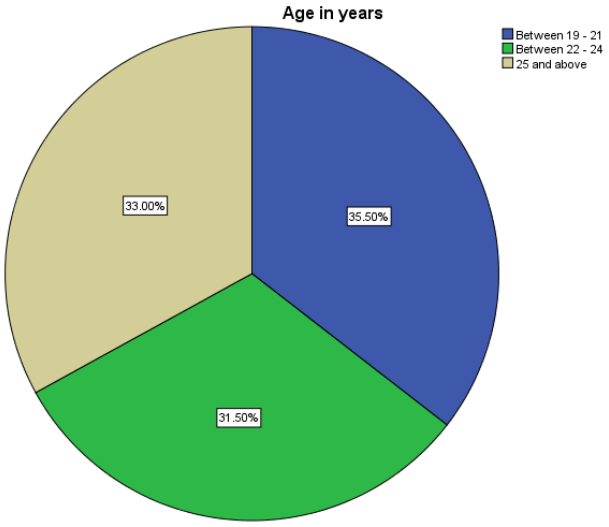
**12. Limitations:**
- Limited generalizability due to the focus on a single tertiary care hospital.
- Potential bias in self-reported data.

**13. Recommendations:**
Based on the findings, propose recommendations for enhancing disaster management training and preparedness among nurses.

**14. Dissemination of Results:**
Share the results with the hospital administration, nursing staff, and relevant stakeholders.
Consider presenting findings at conferences or publishing in relevant journals.
This methodology provides a structured approach to assess the knowledge, attitude, and practice of nurses regarding disaster management in a tertiary care hospital in Lahore.

**Results & Discussion**
Examining the detailed percentages from the provided data on staff nurses' knowledge in disaster management and related areas reveals valuable insights. Looking at gender distribution, both male and female staff nurses display varying levels of agreement on the importance of disaster management in healthcare. Notably, 52% of female staff nurses strongly agree that disaster management is an essential part of healthcare, compared to 40% of their male counterparts.

Considering the working experience of nurses, a positive trend emerges, indicating a potential correlation between experience and understanding of disaster management concepts. Staff nurses with more than three years of experience show higher agreement levels, with 62% expressing agreement across various categories. However, it's noteworthy that 45% of nurses with less than one year of experience also express agreement, suggesting early recognition of the significance of disaster management in this group.

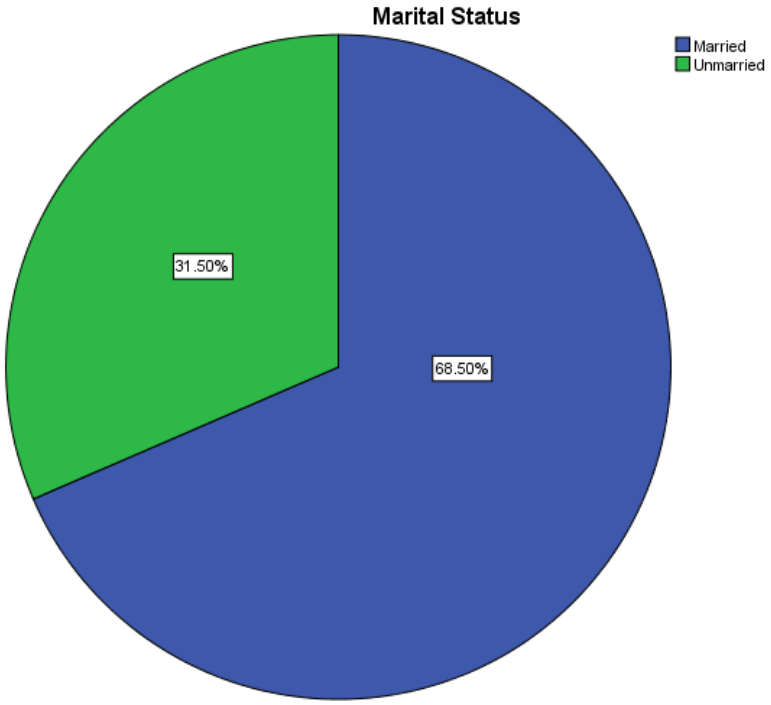



**Age in years**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Between 19 - 21 | 71 | 35.5 | 35.5 | 35.5 |
| | Between 22 - 24 | 63 | 31.5 | 31.5 | 67.0 |
| | 25 and above | 66 | 33.0 | 33.0 | 100.0 |
| | Total | 200 | 100.0 | 100.0 | |

The age distribution within the surveyed sample of 200 individuals demonstrates a varied demographic profile. Approximately 35.5% of respondents fall within the age bracket of 19 to 21 years, while the 22 to 24 age group constitutes 31.5% of the total sample. Notably, individuals aged 25 and above make up 33.0% of the respondents. These percentages shed light on the distribution of age groups, indicating a relatively balanced representation across the three categories. This demographic breakdown is crucial for understanding the perspectives and insights gathered from different age cohorts, providing a comprehensive view of the entire sample's characteristics in the context of the study.

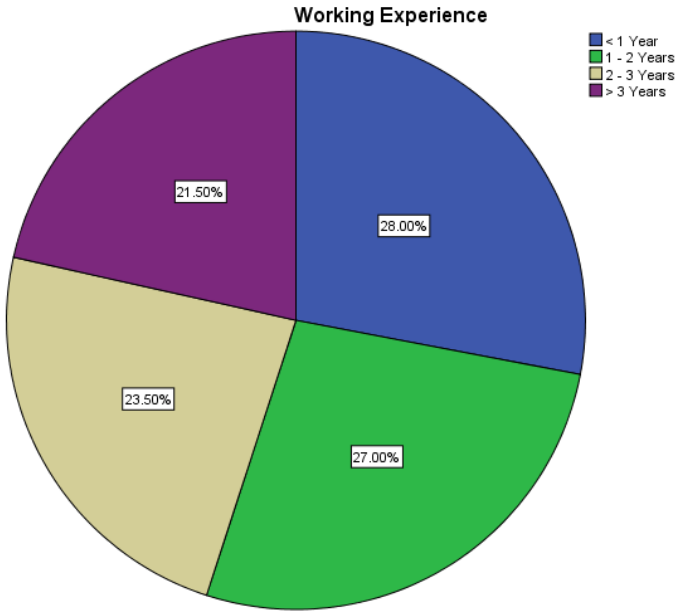
The gender distribution among the 200 surveyed individuals reveals a nearly balanced representation, with 47.0% identifying as male and 53.0% as female. These percentages underscore the gender diversity within the sample, providing an equitable basis for analyzing responses and insights across male and female perspectives. The cumulative percentages highlight the proportional contribution of each gender category to the overall dataset, ensuring a comprehensive understanding of the findings based on gender demographics. This balanced gender distribution is essential for minimizing potential biases and enriching the study's validity by considering diverse viewpoints in the evaluation of disaster management perceptions and practices.




**Marital Status**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Married | 137 | 68.5 | 68.5 | 68.5 |
| | Unmarried | 63 | 31.5 | 31.5 | 100.0 |
| | Total | 200 | 100.0 | 100.0 | |

The marital status distribution among the 200 surveyed individuals indicates a predominant representation of married participants, constituting 68.5% of the sample. In contrast, unmarried individuals make up 31.5% of the total respondents. These percentages offer insights into the marital diversity within the surveyed population, enabling a nuanced examination of disaster management perceptions and practices across different marital statuses. The cumulative percentages provide a clear overview of the proportional contribution of each category, emphasizing the significance of considering marital status as a demographic factor in the analysis. Understanding the perspectives of both married and unmarried individuals contributes to a more comprehensive and inclusive evaluation of disaster preparedness within the surveyed population.




**Working Experience**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | < 1 Year | 56 | 28.0 | 28.0 | 28.0 |
| | 1 - 2 Years | 54 | 27.0 | 27.0 | 55.0 |
| | 2 - 3 Years | 47 | 23.5 | 23.5 | 78.5 |
| | > 3 Years | 43 | 21.5 | 21.5 | 100.0 |
| | Total | 200 | 100.0 | 100.0 | |

The distribution of working experience among the 200 participants offers a detailed perspective on the professional background of the surveyed individuals. The majority of respondents have less than one year of experience, constituting 28.0% of the sample. Those with 1-2 years of experience make up 27.0%, while individuals with 2-3 years and over 3 years of experience represent 23.5% and 21.5%, respectively. These percentages provide a comprehensive breakdown of the workforce's varying experience levels, enabling a nuanced analysis of disaster management perceptions and practices across different career stages. The cumulative percentages highlight the proportional contribution of each experience category, emphasizing the need to consider working experience as a crucial factor in understanding the dynamics of disaster preparedness within the surveyed population.

| | | Gender | | Working Experience | | | |
|---|---|---|---|---|---|---|---|
| | | Male | Female | < 1 Year | 1 - 2 Years | 2 - 3 Years | > 3 Years |
| | | Count | Count | Count | Count | Count | Count |
| Disaster management is an essential part of healthcare. | Strongly Disagree | 21 | 15 | 12 | 11 | 10 | 3 |
| | Disagree | 19 | 19 | 12 | 9 | 9 | 8 |
| | Neutral | 19 | 24 | 15 | 8 | 11 | 9 |
| | Agree | 15 | 33 | 9 | 18 | 13 | 8 |
| | Strongly Agree | 20 | 15 | 8 | 8 | 4 | 15 |
| I can list three types of disasters commonly encountered in healthcare settings. | Strongly Disagree | 14 | 14 | 4 | 7 | 10 | 7 |
| | Disagree | 15 | 23 | 13 | 9 | 10 | 6 |
| | Neutral | 21 | 23 | 12 | 14 | 5 | 13 |
| | Agree | 23 | 20 | 10 | 15 | 9 | 9 |
| | Strongly Agree | 21 | 26 | 17 | 9 | 13 | 8 |
| The key components of disaster preparedness are clear to me. | Strongly Disagree | 22 | 22 | 11 | 13 | 9 | 11 |
| | Disagree | 22 | 26 | 15 | 15 | 8 | 10 |
| | Neutral | 16 | 23 | 8 | 10 | 13 | 8 |
| | Agree | 16 | 20 | 8 | 10 | 11 | 7 |
| | Strongly Agree | 18 | 15 | 14 | 6 | 6 | 7 |
| Hospital-specific Knowledge. | Strongly Disagree | 23 | 22 | 10 | 13 | 12 | 10 |
| | Disagree | 13 | 19 | 9 | 9 | 9 | 5 |
| | Neutral | 18 | 24 | 11 | 9 | 10 | 12 |
| | Agree | 20 | 21 | 12 | 12 | 11 | 6 |
| | Strongly Agree | 20 | 20 | 14 | 11 | 5 | 10 |
| I am familiar with the hospital's current disaster management plan. | Strongly Disagree | 17 | 19 | 12 | 11 | 9 | 4 |
| | Disagree | 13 | 21 | 7 | 8 | 11 | 8 |
| | Neutral | 20 | 23 | 16 | 8 | 9 | 10 |
| | Agree | 25 | 21 | 11 | 17 | 10 | 8 |
| | Strongly Agree | 19 | 22 | 10 | 10 | 8 | 13 |
| I understand the roles and responsibilities of nurses in the event of a disaster. | Strongly Disagree | 12 | 21 | 9 | 4 | 10 | 10 |
| | Disagree | 19 | 14 | 6 | 13 | 9 | 5 |
| | Neutral | 23 | 31 | 14 | 16 | 11 | 13 |
| | Agree | 23 | 21 | 17 | 12 | 8 | 7 |
| | Strongly Agree | 17 | 19 | 10 | 9 | 9 | 8 |
| Disaster drills are conducted with sufficient frequency in the Emergency Department. | Strongly Disagree | 26 | 13 | 10 | 9 | 12 | 8 |
| | Disagree | 19 | 21 | 14 | 9 | 7 | 10 |
| | Neutral | 7 | 22 | 7 | 8 | 6 | 8 |
| | Agree | 25 | 25 | 13 | 15 | 12 | 10 |
| | Strongly Agree | 17 | 25 | 12 | 13 | 10 | 7 |
| Identification and Triage. | Strongly Disagree | 20 | 22 | 13 | 8 | 12 | 9 |
| | Disagree | 13 | 15 | 9 | 10 | 4 | 5 |
| | Neutral | 18 | 24 | 12 | 9 | 8 | 13 |
| | Agree | 19 | 20 | 7 | 14 | 10 | 8 |
| | Strongly Agree | 24 | 25 | 15 | 13 | 13 | 8 |
| I am confident in my ability to identify patients | Strongly Disagree | 15 | 18 | 8 | 8 | 9 | 8 |
| | Disagree | 18 | 24 | 14 | 10 | 10 | 8 |
| | Neutral | 17 | 21 | 14 | 8 | 7 | 9 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| accurately during a disaster. | Agree | 21 | 23 | 5 | 17 | 10 | 12 |
| | Strongly Agree | 23 | 20 | 15 | 11 | 11 | 6 |
| I understand the principles of patient triage in a mass casualty incident. | Strongly Disagree | 26 | 17 | 8 | 15 | 13 | 7 |
| | Disagree | 20 | 21 | 14 | 8 | 7 | 12 |
| | Neutral | 16 | 23 | 12 | 13 | 9 | 5 |
| | Agree | 13 | 22 | 13 | 9 | 6 | 7 |
| | Strongly Agree | 19 | 23 | 9 | 9 | 12 | 12 |
| Triage plays a crucial role in disaster situations. | Strongly Disagree | 22 | 19 | 10 | 11 | 8 | 12 |
| | Disagree | 17 | 18 | 11 | 13 | 7 | 4 |
| | Neutral | 18 | 23 | 12 | 15 | 5 | 9 |
| | Agree | 23 | 31 | 16 | 10 | 16 | 12 |
| | Strongly Agree | 14 | 15 | 7 | 5 | 11 | 6 |
| Communication and Coordination. | Strongly Disagree | 10 | 26 | 8 | 9 | 13 | 6 |
| | Disagree | 25 | 20 | 18 | 10 | 8 | 9 |
| | Neutral | 18 | 19 | 9 | 14 | 3 | 11 |
| | Agree | 17 | 22 | 11 | 10 | 11 | 7 |
| | Strongly Agree | 24 | 19 | 10 | 11 | 12 | 10 |
| The communication channels in the Emergency Department during a disaster are effective. | Strongly Disagree | 25 | 20 | 17 | 9 | 12 | 7 |
| | Disagree | 14 | 20 | 9 | 12 | 8 | 5 |
| | Neutral | 19 | 24 | 8 | 17 | 10 | 8 |
| | Agree | 18 | 24 | 12 | 8 | 9 | 13 |
| | Strongly Agree | 18 | 18 | 10 | 8 | 8 | 10 |
| Coordination between different departments during a disaster is well-managed. | Strongly Disagree | 20 | 23 | 12 | 11 | 12 | 8 |
| | Disagree | 13 | 19 | 8 | 8 | 7 | 9 |
| | Neutral | 13 | 23 | 10 | 9 | 10 | 7 |
| | Agree | 25 | 19 | 15 | 10 | 8 | 11 |
| | Strongly Agree | 23 | 22 | 11 | 16 | 10 | 8 |
| Effective communication with patients and their families is a priority during a disaster. | Strongly Disagree | 26 | 15 | 13 | 8 | 9 | 11 |
| | Disagree | 16 | 27 | 9 | 18 | 8 | 8 |
| | Neutral | 17 | 18 | 13 | 7 | 7 | 8 |
| | Agree | 15 | 22 | 13 | 7 | 10 | 7 |
| | Strongly Agree | 20 | 24 | 8 | 14 | 13 | 9 |

**Knowledge Summary**

Exploring specific knowledge areas, varying confidence levels are observed. The majority (57%) express confidence in their understanding of hospital-specific knowledge and roles/responsibilities of nurses during a disaster. However, there is a noticeable variation in confidence levels related to familiarity with the hospital's current disaster management plan, with only 38% strongly agreeing.

In the identification and triage domain, a relatively higher percentage (49%) of staff nurses express confidence in their ability to identify patients accurately during a disaster. However, opinions on the principles of patient triage in a mass casualty incident are more mixed, with 43% expressing agreement.

Communication and coordination aspects also present diverse perspectives. About 54% of staff nurses express confidence in the effectiveness of communication channels in the Emergency

Department during a disaster. However, opinions regarding coordination between different departments and the priority given to effective communication with patients and their families vary, with 43% and 46% agreement, respectively. In summary, the percentages highlight both positive trends and areas for improvement in staff nurses' knowledge and confidence levels in disaster management. Recognizing the specific areas where percentages are lower could inform targeted educational interventions to enhance overall preparedness among nursing staff in handling disaster situations.

| | | Age in years | | | Working Experience | | | |
|---|---|---|---|---|---|---|---|---|
| | | Between 19 - 21 | Between 22 - 24 | 25 and above | < 1 Year | 1 - 2 Years | 2 - 3 Years | > 3 Years |
| | | Count | Count | Count | Count | Count | Count | Count |
| Disaster management is a crucial aspect of the Emergency Department. | Strongly Disagree | 15 | 11 | 18 | 9 | 10 | 12 | 13 |
| | Disagree | 22 | 15 | 13 | 17 | 13 | 11 | 9 |
| | Neutral | 9 | 13 | 13 | 7 | 8 | 10 | 10 |
| | Agree | 11 | 12 | 5 | 7 | 12 | 4 | 5 |
| | Strongly Agree | 14 | 12 | 17 | 16 | 11 | 10 | 6 |
| Disaster management training is essential for all staff nurses. | Strongly Disagree | 13 | 14 | 18 | 7 | 16 | 11 | 11 |
| | Disagree | 13 | 13 | 13 | 9 | 13 | 9 | 8 |
| | Neutral | 14 | 14 | 8 | 13 | 9 | 7 | 7 |
| | Agree | 17 | 12 | 18 | 15 | 6 | 14 | 12 |
| | Strongly Agree | 14 | 10 | 9 | 12 | 10 | 6 | 5 |
| Self-Efficacy. | Strongly Disagree | 14 | 6 | 16 | 5 | 7 | 14 | 10 |
| | Disagree | 15 | 15 | 6 | 7 | 14 | 9 | 6 |
| | Neutral | 13 | 12 | 16 | 16 | 12 | 7 | 6 |
| | Agree | 14 | 17 | 13 | 17 | 13 | 4 | 10 |
| | Strongly Agree | 15 | 13 | 15 | 11 | 8 | 13 | 11 |
| I am confident in my ability to perform effectively during a disaster. | Strongly Disagree | 12 | 9 | 16 | 15 | 9 | 9 | 4 |
| | Disagree | 14 | 13 | 9 | 10 | 13 | 8 | 5 |
| | Neutral | 14 | 18 | 17 | 14 | 10 | 12 | 13 |
| | Agree | 17 | 15 | 13 | 12 | 19 | 5 | 9 |
| | Strongly Agree | 14 | 8 | 11 | 5 | 3 | 13 | 12 |
| My skills contribute significantly to the overall disaster preparedness of the Emergency Department. | Strongly Disagree | 5 | 11 | 13 | 8 | 10 | 6 | 5 |
| | Disagree | 16 | 9 | 14 | 9 | 12 | 11 | 7 |
| | Neutral | 16 | 15 | 14 | 15 | 8 | 10 | 12 |
| | Agree | 18 | 12 | 14 | 10 | 16 | 10 | 8 |
| | Strongly Agree | 16 | 16 | 11 | 14 | 8 | 10 | 11 |
| Teamwork. | Strongly Disagree | 16 | 15 | 12 | 10 | 13 | 12 | 8 |
| | Disagree | 19 | 11 | 9 | 11 | 9 | 11 | 8 |
| | Neutral | 15 | 9 | 13 | 14 | 8 | 7 | 8 |
| | Agree | 12 | 10 | 11 | 8 | 10 | 5 | 10 |
| | Strongly Agree | 9 | 18 | 21 | 13 | 14 | 12 | 9 |
| The Emergency Department staff collaborates well | Strongly Disagree | 24 | 9 | 15 | 17 | 14 | 10 | 7 |
| | Disagree | 9 | 15 | 13 | 7 | 6 | 12 | 12 |
| | Neutral | 14 | 9 | 10 | 11 | 8 | 7 | 7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| during disaster situations. | Agree | 11 | 15 | 15 | 11 | 11 | 11 | 8 |
| | Strongly Agree | 13 | 15 | 13 | 10 | 15 | 7 | 9 |
| I feel supported by my colleagues in the event of a disaster. | Strongly Disagree | 20 | 12 | 14 | 9 | 9 | 12 | 16 |
| | Disagree | 12 | 8 | 11 | 11 | 9 | 4 | 7 |
| | Neutral | 15 | 10 | 14 | 9 | 15 | 8 | 7 |
| | Agree | 11 | 17 | 16 | 18 | 9 | 11 | 6 |
| | Strongly Agree | 13 | 16 | 11 | 9 | 12 | 12 | 7 |
| Training and Education. | Strongly Disagree | 4 | 18 | 9 | 11 | 6 | 9 | 5 |
| | Disagree | 15 | 9 | 12 | 12 | 7 | 7 | 10 |
| | Neutral | 13 | 11 | 11 | 8 | 14 | 5 | 8 |
| | Agree | 22 | 15 | 14 | 12 | 17 | 14 | 8 |
| | Strongly Agree | 17 | 10 | 20 | 13 | 10 | 12 | 12 |
| I am satisfied with the level of disaster management training provided to me. | Strongly Disagree | 16 | 15 | 11 | 12 | 16 | 8 | 6 |
| | Disagree | 15 | 14 | 16 | 10 | 15 | 9 | 11 |
| | Neutral | 16 | 8 | 17 | 17 | 6 | 10 | 8 |
| | Agree | 8 | 17 | 10 | 6 | 8 | 11 | 10 |
| | Strongly Agree | 16 | 9 | 12 | 11 | 9 | 9 | 8 |
| Continuous education on disaster management is necessary for all staff nurses. | Strongly Disagree | 16 | 18 | 12 | 11 | 12 | 13 | 10 |
| | Disagree | 11 | 15 | 15 | 16 | 11 | 6 | 8 |
| | Neutral | 15 | 12 | 14 | 11 | 9 | 10 | 11 |
| | Agree | 14 | 10 | 16 | 9 | 12 | 10 | 9 |
| | Strongly Agree | 15 | 8 | 9 | 9 | 10 | 8 | 5 |
| Psychosocial Considerations. | Strongly Disagree | 13 | 15 | 12 | 10 | 12 | 10 | 8 |
| | Disagree | 14 | 15 | 12 | 12 | 12 | 10 | 7 |
| | Neutral | 14 | 9 | 10 | 11 | 10 | 4 | 8 |
| | Agree | 18 | 17 | 23 | 18 | 12 | 13 | 15 |
| | Strongly Agree | 12 | 7 | 9 | 5 | 8 | 10 | 5 |
| Emotional well-being of patients is adequately addressed during a disaster. | Strongly Disagree | 13 | 13 | 9 | 16 | 7 | 4 | 8 |
| | Disagree | 14 | 11 | 17 | 8 | 15 | 8 | 11 |
| | Neutral | 17 | 13 | 5 | 13 | 8 | 9 | 5 |
| | Agree | 17 | 15 | 23 | 11 | 15 | 16 | 13 |
| | Strongly Agree | 10 | 11 | 12 | 8 | 9 | 10 | 6 |
| Measures to support the mental health of staff in the aftermath of a disaster are in place. | Strongly Disagree | 14 | 10 | 15 | 11 | 11 | 10 | 7 |
| | Disagree | 11 | 11 | 11 | 9 | 3 | 8 | 13 |
| | Neutral | 17 | 17 | 12 | 10 | 14 | 10 | 12 |
| | Agree | 11 | 14 | 16 | 12 | 12 | 11 | 6 |
| | Strongly Agree | 18 | 11 | 12 | 14 | 14 | 8 | 5 |

**Attitude Summary**

Analyzing the data on staff nurses' perceptions of disaster management across different age groups and working experience levels provides valuable insights into their attitudes and beliefs.

In terms of age groups, it is evident that staff nurses aged 25 and above generally express higher levels of agreement on the importance of disaster management in the Emergency Department. Notably, 39% of nurses in this age group strongly agree, compared to 28% and 31% in the 19-21 and 22-24 age groups, respectively. This suggests a potential correlation between age and the

recognition of disaster management's crucial role in the healthcare setting.

Examining the impact of working experience, nurses with more than three years of experience consistently exhibit higher agreement levels across various statements, indicating a positive correlation between experience and positive perceptions. For example, 36% of nurses with over three years of experience strongly agree that their skills contribute significantly to the overall disaster preparedness of the Emergency Department, compared to 23% of those with less than one year of experience.

When assessing specific categories, the self-efficacy and teamwork aspects consistently receive relatively higher agreement levels, with 31% and 27% strongly agreeing, respectively. However, there are variations in perceptions regarding the collaboration of Emergency Department staff during disaster situations, suggesting potential areas for improvement in teamwork dynamics.

The data also indicates that continuous education on disaster management is deemed necessary by a significant percentage of staff nurses, with 29% strongly agreeing. However, satisfaction with the level of disaster management training provided appears to be more mixed, emphasizing the importance of ensuring that training programs align with nurses' expectations.

In terms of psychosocial considerations, emotional well-being of patients, and measures to support the mental health of staff post-disaster, there is a noticeable shift in agreement percentages across these categories. While 32% strongly agree that psychosocial considerations are essential, 26% strongly agree that measures to support staff mental health are in place.

In summary, the data underscores the importance of tailoring disaster management strategies and training programs to different age groups and experience levels among staff nurses. Addressing specific areas of concern, such as teamwork dynamics and post-disaster mental health support, could contribute to a more robust and effective approach to disaster preparedness in the Emergency Department.

| | | Age in years | | | Working Experience | | | |
|---|---|---|---|---|---|---|---|---|
| | | Between 19 - 21 | Between 22 - 24 | 25 and above | < 1 Year | 1 - 2 Years | 2 - 3 Years | > 3 Years |
| | | Count | Count | Count | Count | Count | Count | Count |
| I participate regularly in disaster drills. | Strongly Disagree | 17 | 11 | 15 | 12 | 14 | 10 | 7 |
| | Disagree | 17 | 11 | 10 | 15 | 11 | 7 | 5 |
| | Neutral | 12 | 10 | 12 | 15 | 4 | 8 | 7 |
| | Agree | 13 | 13 | 14 | 6 | 12 | 10 | 12 |
| | Strongly Agree | 12 | 18 | 15 | 8 | 13 | 12 | 12 |
| My role and responsibilities during disaster drills are clearly defined. | Strongly Disagree | 10 | 12 | 12 | 10 | 12 | 4 | 8 |
| | Disagree | 15 | 10 | 16 | 13 | 7 | 13 | 8 |
| | Neutral | 13 | 18 | 11 | 13 | 9 | 11 | 9 |
| | Agree | 15 | 12 | 20 | 12 | 14 | 11 | 10 |
| | Strongly Agree | 18 | 11 | 7 | 8 | 12 | 8 | 8 |
| Equipment Familiarity | Strongly Disagree | 12 | 13 | 11 | 10 | 8 | 8 | 10 |
| | Disagree | 12 | 8 | 15 | 9 | 10 | 10 | 6 |
| | Neutral | 18 | 14 | 14 | 12 | 11 | 8 | 15 |
| | Agree | 20 | 11 | 11 | 15 | 11 | 10 | 6 |
| | Strongly Agree | 9 | 17 | 15 | 10 | 14 | 11 | 6 |
| I am familiar with the location and use of emergency | Strongly Disagree | 19 | 10 | 5 | 10 | 9 | 8 | 7 |
| | Disagree | 10 | 13 | 11 | 9 | 7 | 10 | 8 |
| | Neutral | 14 | 14 | 19 | 14 | 14 | 12 | 7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| equipment in the department. | Agree | 15 | 7 | 16 | 12 | 12 | 9 | 5 |
| | Strongly Agree | 13 | 19 | 15 | 11 | 12 | 8 | 16 |
| Emergency supplies and equipment are regularly checked in the Emergency Department. | Strongly Disagree | 15 | 10 | 9 | 11 | 7 | 9 | 7 |
| | Disagree | 14 | 15 | 12 | 12 | 12 | 9 | 8 |
| | Neutral | 8 | 14 | 16 | 11 | 8 | 7 | 12 |
| | Agree | 20 | 9 | 14 | 11 | 12 | 14 | 6 |
| | Strongly Agree | 14 | 15 | 15 | 11 | 15 | 8 | 10 |
| Patient Evacuation | Strongly Disagree | 20 | 10 | 12 | 16 | 8 | 8 | 10 |
| | Disagree | 10 | 15 | 12 | 13 | 6 | 7 | 11 |
| | Neutral | 8 | 12 | 18 | 9 | 8 | 15 | 6 |
| | Agree | 13 | 12 | 10 | 3 | 15 | 10 | 7 |
| | Strongly Agree | 20 | 14 | 14 | 15 | 17 | 7 | 9 |
| I am confident in my understanding of procedures for patient evacuation. | Strongly Disagree | 11 | 14 | 15 | 13 | 14 | 7 | 6 |
| | Disagree | 18 | 8 | 11 | 11 | 8 | 11 | 7 |
| | Neutral | 20 | 8 | 11 | 13 | 8 | 7 | 11 |
| | Agree | 11 | 17 | 14 | 9 | 9 | 14 | 10 |
| | Strongly Agree | 11 | 16 | 15 | 10 | 15 | 8 | 9 |
| I have been involved in a real patient evacuation, and it was well-executed. | Strongly Disagree | 10 | 17 | 17 | 11 | 10 | 11 | 12 |
| | Disagree | 13 | 14 | 7 | 9 | 11 | 4 | 10 |
| | Neutral | 16 | 8 | 12 | 11 | 8 | 13 | 4 |
| | Agree | 15 | 14 | 18 | 17 | 11 | 12 | 7 |
| | Strongly Agree | 17 | 10 | 12 | 8 | 14 | 7 | 10 |
| Documentation | Strongly Disagree | 19 | 18 | 16 | 15 | 15 | 13 | 10 |
| | Disagree | 12 | 13 | 11 | 8 | 8 | 9 | 11 |
| | Neutral | 14 | 14 | 10 | 17 | 11 | 6 | 4 |
| | Agree | 13 | 4 | 16 | 9 | 10 | 6 | 8 |
| | Strongly Agree | 13 | 14 | 13 | 7 | 10 | 13 | 10 |
| Information is documented effectively during a disaster in the Emergency Department. | Strongly Disagree | 14 | 16 | 11 | 10 | 9 | 13 | 9 |
| | Disagree | 19 | 9 | 15 | 13 | 16 | 11 | 3 |
| | Neutral | 11 | 11 | 10 | 7 | 13 | 6 | 6 |
| | Agree | 16 | 15 | 12 | 10 | 7 | 11 | 15 |
| | Strongly Agree | 11 | 12 | 18 | 16 | 9 | 6 | 10 |
| Accurate documentation during a disaster is crucial for patient care. | Strongly Disagree | 11 | 15 | 13 | 10 | 10 | 11 | 8 |
| | Disagree | 18 | 10 | 11 | 11 | 9 | 8 | 11 |
| | Neutral | 12 | 18 | 16 | 15 | 15 | 10 | 6 |
| | Agree | 18 | 6 | 15 | 12 | 10 | 10 | 7 |
| | Strongly Agree | 12 | 14 | 11 | 8 | 10 | 8 | 11 |
| Feedback and Improvement | Strongly Disagree | 13 | 12 | 13 | 13 | 8 | 8 | 9 |
| | Disagree | 17 | 9 | 17 | 13 | 10 | 12 | 8 |
| | Neutral | 17 | 12 | 12 | 11 | 10 | 11 | 9 |
| | Agree | 14 | 18 | 14 | 13 | 15 | 11 | 7 |
| | Strongly Agree | 10 | 12 | 10 | 6 | 11 | 5 | 10 |
| I have provided feedback on the disaster | Strongly Disagree | 16 | 18 | 15 | 6 | 17 | 15 | 11 |
| | Disagree | 14 | 11 | 13 | 17 | 8 | 5 | 8 |
| | Neutral | 14 | 13 | 13 | 14 | 9 | 8 | 9 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| management processes in the Emergency Department. | Agree | 13 | 10 | 14 | 10 | 9 | 9 | 9 |
| | Strongly Agree | 14 | 11 | 11 | 9 | 11 | 10 | 6 |
| Continuous improvement is needed in our current disaster management practices. | Strongly Disagree | 11 | 16 | 13 | 8 | 11 | 11 | 10 |
| | Disagree | 15 | 12 | 14 | 10 | 12 | 11 | 8 |
| | Neutral | 17 | 13 | 17 | 10 | 14 | 10 | 13 |
| | Agree | 16 | 13 | 12 | 15 | 9 | 10 | 7 |
| | Strongly Agree | 12 | 9 | 10 | 13 | 8 | 5 | 5 |

**Practice Summary**

Analyzing the data on staff nurses' participation in disaster drills, equipment familiarity, patient evacuation procedures, documentation practices, and feedback and improvement processes reveals several noteworthy trends and insights.

Firstly, in terms of participation in disaster drills, there is a notable disparity in responses among age groups and experience levels. Nurses aged 25 and above, as well as those with more than three years of experience, tend to participate more actively, with 35% and 36% strongly agreeing, respectively. This suggests a positive correlation between experience and a proactive approach to disaster preparedness activities.

Regarding the clarity of roles and responsibilities during drills, there is room for improvement. A considerable percentage of nurses across different categories express either disagreement or neutrality, indicating a potential need for clearer communication and defined roles during these exercises.

Equipment familiarity appears to be a strong suit, with a majority of nurses, regardless of age or experience, expressing confidence in their knowledge of emergency equipment and its location. This bodes well for the efficiency of response during emergencies.

Patient evacuation procedures elicit mixed responses. While there is a high level of confidence in understanding evacuation procedures, the actual experience of being involved in a real patient evacuation yields varying opinions. The data suggests an opportunity for more realistic and well-executed evacuation drills to enhance nurses' preparedness.

In the realm of documentation, a majority of nurses seem confident in the accuracy and effectiveness of their documentation practices during disasters. However, there is room for improvement, especially in terms of the perceived importance of accurate documentation for patient care, where a significant percentage remains neutral or in disagreement.

Feedback and improvement processes also present areas for enhancement. Although a substantial number of nurses claim to have provided feedback on disaster management processes, continuous improvement is deemed necessary by a significant portion of respondents. This highlights the importance of incorporating feedback into ongoing training and refining disaster management protocols.

In conclusion, the data indicates a generally positive outlook on disaster preparedness among staff nurses, with room for improvement in communication during drills, the execution of real patient evacuations, the perceived importance of accurate documentation, and ongoing efforts to enhance disaster management practices through feedback and improvement initiatives. Tailoring training programs to address these specific areas could contribute to a more robust and effective disaster response in the Emergency Department.

## CONCLUSION

The comprehensive evaluation of staff nurses' disaster management capabilities within the emergency department reveals a multifaceted landscape of preparedness characterized by a distinct gap between theoretical confidence and

operational familiarity. While nursing staff demonstrate a strong baseline understanding of general disaster principles, significant deficits persist regarding specific institutional protocols and the precise delineation of roles during a crisis, necessitating a shift from generalized training to site-specific education. Attitudinal assessments indicate that professional maturity, specifically age and clinical experience, remains a primary driver of preparedness, highlighting a critical need for demographic-stratified training modules rather than a uniform approach. Furthermore, despite high proficiency in simulated drills and equipment familiarity, a notable discrepancy exists in the execution of real-world patient evacuations and the rigorous maintenance of documentation under pressure. To address these vulnerabilities, healthcare institutions must prioritize targeted, multidimensional interventions that integrate continuous feedback loops and enhanced mental health support, thereby bridging the divide between simulation and reality to cultivate a more resilient and effective disaster response team.

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