

Comprehensive Framework for Community Nursing in Disaster Management: From Mitigation to Recovery

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The Critical Role of Community Nursing in the Disaster Landscape

In the contemporary era of increasing environmental instability and urbanization, the intersection of community nursing and disaster management has become a focal point for public health resilience. Community nursing, unlike clinical nursing which focuses on individual acute care, operates on a population-based level. When applied to disaster management, this discipline seeks to minimize the impact of catastrophic events through proactive planning, rapid response, and sustainable recovery strategies. The integration of **Asuhan Keperawatan Komunitas** (Community Nursing Care) into the disaster cycle is not merely a logistical necessity but a clinical imperative to reduce morbidity and mortality rates among vulnerable populations.

Disaster nursing is defined as the systematic application of nursing knowledge and skills to minimize the health impacts of disasters. It involves a multi-dimensional approach that spans the entire disaster management cycle, including mitigation, preparedness, response, and recovery. By leveraging technical assessment tools like the Windshield Survey and clinical frameworks such as the START triage method, community nurses serve as the primary link between formal healthcare systems and the localized needs of the population. This article provides an in-depth technical analysis of these frameworks, procedural executions, and the strategic education required to build resilient communities.

Theoretical Frameworks and the Disaster Management Cycle

The foundation of effective disaster nursing lies in understanding the **Siklus Penanggulangan Bencana** (Disaster Management Cycle). This cycle provides a structured timeline for interventions, ensuring that nursing actions are aligned with the specific needs of the community at different stages of a crisis.

1. Mitigation and Prevention Phase

Mitigation involves long-term measures designed to either prevent the occurrence of a disaster or reduce its damaging effects. In community nursing, this phase focuses on risk assessment and structural/non-structural improvements. Nurses analyze the geographical and social vulnerabilities of a specific area—for example, a *kelurahan* (village) located on a fault line. Activities include identifying hazardous materials in the environment, advocating for safer building codes, and mapping out areas with the highest density of high-risk individuals (the elderly, children, and those with chronic illnesses).

2. Preparedness Phase

Preparedness is the state of readiness to respond to a disaster. This is where **Pemberian Edukasi Kesiapsiagaan Bencana** (Disaster Preparedness Education) plays a pivotal role. Community nurses organize simulations (*simulasi siaga bencana*) and training sessions for First Aid (P3K). The goal is to enhance the community's capacity to act as first responders before professional help arrives. Key technical outputs of this phase include the creation of disaster kits, evacuation route mapping, and the establishment of community-based communication networks.

3. Response Phase

The response phase occurs immediately after the disaster strikes. The primary nursing focus shifts to triage, life-saving interventions, and the management of mass casualties. Technical proficiency in the **START (Simple Triage and Rapid Treatment)** method is essential here. Nurses must make split-second decisions to categorize victims based on the severity of their condition to optimize the allocation of limited medical resources.

4. Recovery and Rehabilitation Phase

Recovery involves restoring the community to its pre-disaster state or, ideally, a better state of resilience (Build Back Better). Community nurses manage long-term health consequences, such as infectious disease outbreaks in shelters, nutritional deficiencies, and Post-Traumatic Stress Disorder (PTSD). The **Asuhan Keperawatan Agregat Komunitas** focuses on rehabilitating the social fabric and health infrastructure of the affected region.

Technical Assessment in Community Nursing

Before implementing any intervention, a community nurse must conduct a comprehensive assessment. This process is structured using the **Community as Partner** model or the **Epidemiological Triangle**. The assessment process involves several technical layers:

- **Windshield Survey:** An objective observation technique where the nurse traverses the community to identify physical signs of vulnerability, such as poor drainage (flood risk), dilapidated structures (earthquake risk), and the proximity of healthcare facilities.
- **Key Informant Interviews:** Gathering qualitative data from community leaders, local healers, or government officials to understand the social dynamics and existing local wisdom regarding disaster response.
- **Vital Statistics Analysis:** Reviewing morbidity and mortality data to identify prevalent health conditions that could be exacerbated by a disaster, such as respiratory issues or diabetes.

The integration of these data points allows for the formulation of a **Diagnosa Keperawatan Komunitas** (Community Nursing Diagnosis). Common diagnoses in disaster-prone areas include "Risk for Injury related to lack of disaster preparedness knowledge" or "Ineffective Community Coping related to inadequate resources for emergency response."

The START Triage Method: A Technical Breakdown

In the chaos of a disaster, the **START (Simple Triage and Rapid Treatment)** method is the gold standard for prioritizing patient care. This algorithm allows a nurse to assess a victim in 60 seconds or less based on three primary physiological parameters: Respiration, Perfusion, and Mental Status (RPM).

Triage Category	Color Code	Clinical Criteria (RPM)	Action Priority
Immediate	Red	Respiration > 30 bpm, Capillary Refill > 2 sec (or no radial pulse), Unable to follow simple commands.	Priority 1: Immediate life-saving intervention needed.
Delayed	Yellow	Respiratory/Perfusion/Mental status are stable but the patient cannot walk and has serious injuries.	Priority 2: Can wait 45-60 minutes for treatment.
Minor	Green	The "walking wounded." Minor injuries, stable vitals, can follow commands and move independently.	Priority 3: Can wait several hours; may assist in care.
Deceased	Black	No spontaneous breathing after airway repositioning.	Priority 4: No active intervention; focus on those with a chance of survival.

The technical execution of START requires nurses to ignore non-life-threatening injuries (like simple fractures) during the initial sweep to focus on those who will die without immediate intervention. This objective, albeit difficult, decision-making process is a core competency in **Asuhan Keperawatan Manajemen Bencana**.

Educational Strategies for Community Resilience

Education is the most effective tool for long-term disaster mitigation. As highlighted in the research by **Prandika (2019)** and **Rika (2020)**, targeted simulations significantly improve the knowledge and attitudes of vulnerable groups, particularly children and the elderly. Effective education must be culturally sensitive and age-appropriate.

Simulasi Siaga Bencana (Disaster Preparedness Simulations)

For pediatric populations, simulations should use gamification and simplified instructions (e.g., "Drop, Cover, and Hold On" for earthquakes). For adult learners, particularly **Kader Siaga** (Community Health Volunteers), the focus should be on technical skills such as **P3K (First Aid)**, including wound care, splinting, and basic life support. Education programs should be evaluated using pre-test and post-test methodologies to ensure a measurable increase in disaster literacy.

The Role of Family Resilience (Ketangguhan Keluarga)

As noted by **Susanto (2022)**, the family is the smallest unit of disaster management. Nursing interventions should aim to increase "Ketangguhan Keluarga" by encouraging each household to have an emergency plan. This includes a 72-hour survival kit, a designated meeting point, and a clear understanding of each family member's medical needs (e.g., stockpiling insulin for a diabetic family member).

Managing Vulnerable Populations and Aggregates

A critical component of **Keperawatan Agregat Komunitas** is the identification and protection of vulnerable groups. During a disaster, the standard protocols often fail to account for individuals with limited mobility or cognitive impairments.

1. Pediatric Populations

Children are at higher risk for dehydration, hypothermia, and psychological trauma. Nursing interventions must include pediatric-specific triage and the establishment of "child-friendly spaces" in evacuation centers to mitigate long-term developmental impact.

2. The Elderly and Disabled

These groups may require specialized transportation during evacuation and continuous access to chronic medications. Community nurses must maintain a registry of these individuals within their assigned areas to ensure no one is left behind during a rapid evacuation.

3. Pregnant and Postpartum Women

The stress of a disaster can trigger premature labor. Nurses must be prepared to manage emergency deliveries in sub-optimal conditions and ensure that nutritional support is available for lactating mothers to prevent infant malnutrition.

Procedural Guide: Implementing a Community Disaster Program

For senior technical writers and health strategists, implementing a community-based disaster nursing program requires a systematic approach. The following step-by-step guide outlines the integration of nursing care into local disaster frameworks:

1. Formation of a Task Force: Collaborate with the BPBD (Regional Disaster Management Agency) and local health clinics (Puskesmas).
2. Hazard Mapping: Use GIS (Geographic Information Systems) data combined with windshield surveys to identify "hot zones."
3. Capacity Building: Conduct training of trainers (ToT) for community volunteers on basic triage and first aid.
4. Infrastructure Verification: Audit local shelters for sanitation, ventilation, and accessibility.
5. Communication Protocol: Establish a redundant communication system (e.g., radio, mobile apps, and manual sirens) that functions when the power grid fails.
6. Regular Drills: Execute quarterly simulations to keep the community's response muscle memory sharp.

Case Study: Earthquake Preparedness in Urban Communities

In high-density urban areas, an earthquake presents unique challenges such as building collapse and fire. Research into **Asuhan Keperawatan Komunitas pada Bencana Gempa Bumi** shows that the majority of injuries are caused by falling debris rather than the seismic activity itself. By implementing **Edukasi Kesiapsiagaan**, community nurses can reduce these injuries by 40-60%. For instance, teaching residents to secure heavy furniture and clear exit paths is a clinical nursing intervention in the context of community health, as it directly prevents trauma.

Technical analysis of urban disaster response also highlights the "Golden Hour"—the first 60 minutes after the event where medical intervention is most effective. Since professional ambulances may be blocked by debris, the community's ability to perform **P3K** and **START Triage** locally determines the survival rate of the population.

Future Implications for Nursing Professionalism

The evolution of community nursing into a specialized disaster management role signifies a shift toward proactive public health. Modern nurses must be more than clinicians; they must be strategists, educators, and leaders in emergency management. The integration of technology, such as using AI for predictive vulnerability modeling and mobile health (mHealth) for real-time disaster reporting, represents the next frontier in this field.

To achieve the goals of the **Karya Ilmiah Akhir Ners (KIA-N)** and other professional benchmarks, nursing curricula must continue to emphasize the **Siklus Penanggulangan Bencana**. By mastering the technicalities of community assessment, triage algorithms, and educational psychology, nurses ensure that when the next disaster strikes, the community is not just a group of victims, but a coordinated force of survivors. The synthesis of clinical expertise with community-based advocacy remains the most potent weapon in the arsenal of modern disaster management.

Ultimately, the effectiveness of community nursing in disasters is measured not by the speed of the response alone, but by the strength of the community's resilience before the event ever occurs. Through meticulous planning, data-driven assessment, and relentless education, the community nurse builds a foundation of health security that can withstand the most rigorous of environmental challenges.

Baca Juga (Artikel Terkait)

- [Maternal and Child Health Nursing: A Comprehensive Guide to Family-Centered Care and Clinical Excellence](http://alaskawriters.com/maternal-child-health-nursing-comprehensive-guide.pdf)

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Tags: #Community Nursing #Disaster Management #START Triage #Nursing Education #Emergency Preparedness

