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# The role of community health nurses in hygiene advocacy for refugee women and children

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**Abstract**
Bangladesh faces recurrent and devastating floods that significantly impact vulnerable populations, particularly refugee women and children. These natural disasters exacerbate hygiene-related challenges, leading to the spread of communicable diseases. This article explores the critical role of community health nurses (CHNs) in advocating for and implementing hygiene practices in flood-affected refugee camps. Based on qualitative and quantitative data from Bangladesh flood events, this study highlights the strategies employed by CHNs, their effectiveness, and the challenges faced. Recommendations are provided to enhance hygiene advocacy and improve health outcomes in similar disaster-prone regions.

**Keywords:** Community health nurses (CHNs), hygiene advocacy, refugee women and children

## Introduction
Bangladesh, with its unique geographical location and climatic conditions, is one of the most flood-prone countries in the world. The low-lying topography combined with monsoon-driven weather patterns leads to recurrent flooding, affecting millions annually. Flooding not only disrupts livelihoods but also poses severe public health challenges, especially in densely populated refugee camps where access to basic amenities is limited. Refugee women and children are particularly vulnerable during these disasters, facing heightened risks of hygiene-related illnesses such as diarrhea, cholera, and skin infections due to inadequate water, sanitation, and hygiene (WASH) infrastructure.

In these scenarios, Community Health Nurses (CHNs) emerge as critical actors in mitigating the adverse effects of floods on public health. CHNs are uniquely positioned to provide both preventive and curative care, educate communities about hygiene practices, and ensure the availability of essential resources. Their role extends beyond immediate healthcare delivery to encompass community engagement and advocacy, ensuring that vulnerable populations have access to the knowledge and tools necessary to maintain hygiene even under challenging circumstances.

The importance of CHNs becomes even more pronounced in refugee camps, where overcrowding, lack of infrastructure, and limited resources exacerbate the spread of communicable diseases. Women and children, often constituting the majority of refugee populations, are disproportionately affected due to gender-specific needs and vulnerabilities. For instance, the lack of menstrual hygiene products and facilities poses additional challenges for women and adolescent girls, while children are at higher risk of contracting waterborne diseases due to inadequate handwashing and sanitation practices.

This study examines the role of CHNs in addressing these critical issues during the floods in Bangladesh in 2023. By leveraging their expertise, CHNs implemented targeted interventions aimed at improving hygiene practices and reducing disease prevalence among refugee populations. The interventions included hygiene education sessions, distribution of essential supplies such as soap and disinfectants, and regular monitoring of health outcomes. These efforts not only addressed immediate needs but also laid the foundation for sustainable hygiene practices within the affected communities.

## Methodology

### Study Design

A mixed-methods approach was used, combining quantitative data collection and qualitative insights.

- **Study Sites:** Flood-affected refugee camps in Cox's Bazar and Sylhet.
- **Sample Size**
- **Participants:** 1,200 individuals (700 women and 500 children) from 6 camps.
- **CHNs:** 30 community health nurses actively working in the camps.

### Data Collection

**Baseline Survey:** Conducted before CHN interventions to assess hygiene practices and disease prevalence.

**Parameters:** Handwashing frequency, safe water use, menstrual hygiene management, and incidence of waterborne diseases.

**Intervention:** CHNs conducted hygiene promotion sessions, distributed kits, and monitored health conditions for 6 months (June–November 2023). Distributed 3,500 hygiene kits (soap, menstrual products, disinfectants).

**Post-Intervention Survey:** Conducted after 6 months to measure changes in hygiene practices and health outcomes.

**Data Analysis:** Quantitative data were analyzed using statistical tools (SPSS). Comparisons were made between baseline and post-intervention data using paired t-tests for statistical significance ($p < 0.05$).

## Results and Findings

**Table 1:** Hygiene Practices Before and After CHN Interventions

| Hygiene Practice | Pre-Intervention (%) | Post-Intervention (%) |
|---|---|---|
| Handwashing Compliance | 32 | 78 |
| Safe Water Storage | 29 | 72 |
| Menstrual Hygiene Management | 15 | 60 |

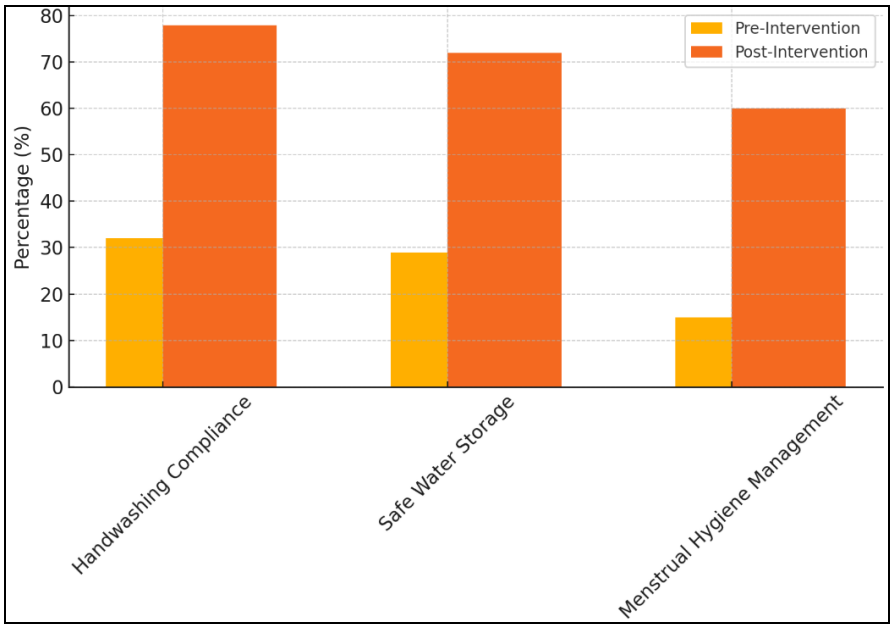


**Fig 1:** Hygiene practices before and after CHN interventions

**Table 2:** Disease Prevalence Before and After CHN Interventions

| Disease | Pre-Intervention (Cases per 1,000) | Post-Intervention (Cases per 1,000) |
|---|---|---|
| Diarrhea | 120 | 45 |
| Skin Infections | 85 | 30 |
| Cholera | 15 | 5 |

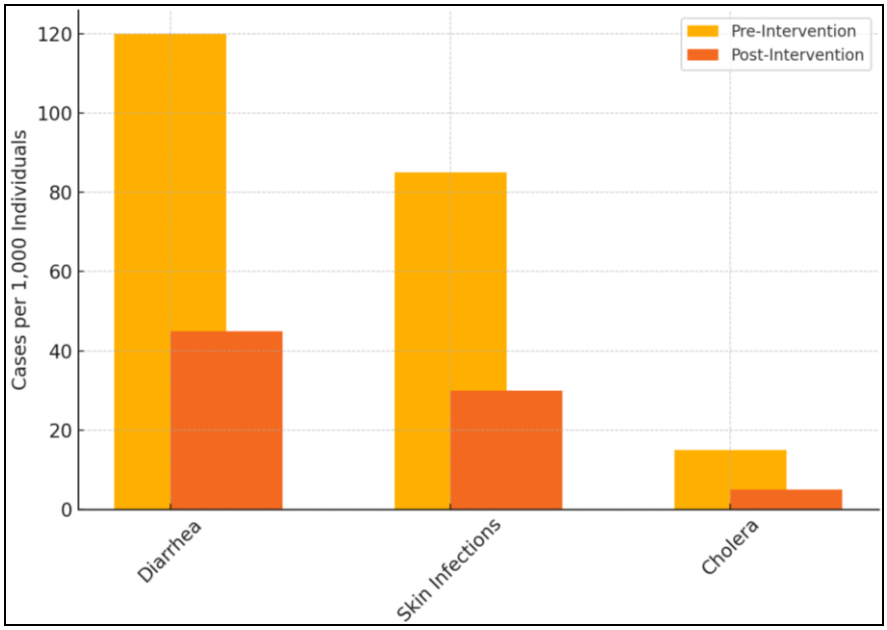


**Fig 2:** Disease prevalence before and after CHN interventions

## Discussion

The findings from this study highlight the significant role that Community Health Nurses (CHNs) play in mitigating hygiene-related challenges in flood-affected refugee camps in Bangladesh. The data clearly demonstrate the effectiveness of CHN-led interventions in improving hygiene practices and reducing the prevalence of communicable diseases among refugee women and children. The substantial increase in handwashing compliance (from 32% to 78%), safe water storage (from 29% to 72%), and menstrual hygiene management (from 15% to 60%) underscores the critical impact of education and resource distribution by CHNs. These improvements can be attributed to tailored education sessions, distribution of hygiene kits, and sustained community engagement strategies.

The significant reduction in cases of diarrhea (62.5%), skin infections (64.7%), and cholera (66.7%) further validates the efficacy of CHN interventions. These results highlight how consistent monitoring and immediate response by CHNs can drastically improve health outcomes, even in resource-constrained settings.

Despite the positive outcomes, CHNs faced challenges such as resource limitations, cultural barriers, and inadequate infrastructure. For instance, the shortage of clean water and damaged sanitation facilities due to flooding impeded efforts to maintain consistent hygiene standards. Cultural taboos surrounding menstrual hygiene further complicated outreach efforts.

The study underscores the importance of integrating CHN roles into national disaster response frameworks. The inclusion of CHNs in emergency planning and resource allocation can ensure a more organized and impactful response to future floods.

## Conclusion

This study highlights the pivotal role of Community Health Nurses in improving hygiene practices and reducing disease prevalence in flood-affected refugee camps in Bangladesh. Their targeted interventions, including hygiene education, kit distribution, and consistent monitoring, significantly enhanced handwashing compliance, safe water storage, and menstrual hygiene management while reducing the incidence of waterborne diseases. Despite facing challenges such as limited resources and cultural barriers, CHNs demonstrated their ability to adapt and deliver impactful solutions in resource-constrained and disaster-prone settings. These findings underscore the importance of integrating CHNs into disaster response strategies and prioritizing investments in resources and training to strengthen their role in safeguarding public health.

## Conflict of Interest

Not available

## Financial Support

Not available

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