

Evaluating the Impact of A Nurse-Led Sexual Violence Prevention and Health Promotion Intervention: A Quasi-Experimental Study in Northern Myanmar Camps

¹Chit Pyae Pyae Han, ²Montakarn Chuemchi

¹MD Phd Student College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand, ²PhD Assistant Professor College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand

How to cite this article: Chit Pyae Pyae Han, Montakarn Chuemchi. Evaluating the Impact of A Nurse-Led Sexual Violence Prevention and Health Promotion Intervention: A Quasi-Experimental Study in Northern Myanmar Camps. International Journal of Nursing Education / Vol 17 No 2 April-June 2025

Abstract

Objective: To evaluate the impact of a nurse-led sexual violence prevention and health promotion intervention on improving the knowledge, attitudes towards sexual violence, and awareness of help-seeking services among internally displaced people living in northern Myanmar camps.

Background: Sexual violence is a widespread violation of human rights, especially affecting internally displaced persons, who are more vulnerable in such situations. Nurses are an important frontier in service delivery, and nurse-led interventions in their daily routine, such as health education, promotion, counselling, and treatment, are essential in preventing violence.

Methods: A quasi-experimental study, pre-posttest design, with 154 men and women aged 18 to 49 from two camps in Kachin State, Myanmar. Participants were enrolled into two groups: intervention and control. The intervention group received nurse-led intervention integrated into their routine health promotion activities. Paired t-tests were analysed to find within-group changes, and independent t-tests were used to assess between-group differences.

Results: The intervention group showed improvement from pre-intervention to post-intervention compared to the control group, knowledge (mean difference = 3.16, $p < 0.001$), attitudes toward sexual violence (mean difference = 1.72, $p < 0.001$), and help-seeking knowledge and service awareness (mean difference = 17.00, $p < 0.001$). Between-group analysis found no significant differences at baseline. However, post-intervention scores of the intervention group were higher than the control group for knowledge ($p = 0.023$), attitudes ($p < 0.001$), and help-seeking service awareness ($p < 0.001$), confirming the effectiveness of the intervention.

Conclusion: The findings suggest nurse-led interventions significantly improve knowledge, attitudes, and help-seeking service awareness related to sexual violence among conflict-affected settings. The nurse-led study highlights the necessity of policy support, integration into routine health services, and more research to improve long-term and sustainability in various humanitarian settings.

Keywords: nurse-led, sexual violence, internally displaced people, conflict, Myanmar

Corresponding Author: Montakarn Chuemchit, Ph.D., College of Public Health Sciences, Chulalongkorn University, 12th floor, Sabbasastravicaya Building, Soi Chulalongkorn 62, Phayathai Road, Pathumwan, Bangkok, 10300, Thailand.

E-mail: Montakarn.Ch@chula.ac.th

Submission: Apr 10, 2025

Revision: May 13, 2025

Published date: May 29, 2025

Introduction

Sexual violence is one of the most common types of violence and has resulted in serious human rights violations against millions of people worldwide, especially among Internally Displaced People (IDPs). IDPs are encountering high levels of vulnerability and interconnected risks due to unstable living conditions, social structure breakdown, and trauma exposure.¹ Survivors frequently suffer social, psychological, and physical consequences and struggle to disclose and get help due to stigma, limited knowledge, and restricted access to resources.^{1,2}

In Myanmar, there were an estimated 346,600 IDPs before the military coup in February 2021. However, this number increased to 1,105,100 in June 2022, particularly in ethnic and conflict-affected areas. Widespread displacement has exacerbated violence and increased the risk of sexual violence for women and girls from ethnic communities.³ The investigation and accountability for these crimes are made more difficult due to conducting research in unsafe settings, underreporting, and data inaccuracy.⁴

Health service providers are essential in addressing these issues by educating, counselling, and supporting patients. Nurses are key frontline providers and have close relationships with patients. Additionally, nurse-delivered interventions to prevent and raise awareness of sexual violence are often tailored to meet the different needs of each survivor.⁵

The role of nurses who facilitate interventions is clearly demonstrated that improve quality of life, reduce symptoms of post-traumatic stress disorder (PTSD), and address health concerns related to sexual and intimate partner violence (IPV). The iHEAL nurse-delivered health promotion program, as discussed by Ford-Gilboe et al. (2024)⁶, showed improved quality of life, reduced PTSD depression symptoms, and increased confidence in managing daily activities, indicating empowerment through the intervention.

According to an experimental study, trained nurses integrated IPV prevention and health promotion

into their daily practice. While the original nursing curricula included basic sexual health content, they often lack practical training in IPV prevention and counseling. In response to this limitation, the intervention provided twelve nurses with hands-on training in IPV screening, counseling, and referral. After practical training, nurses reported the significant improvement that practical approach enhanced their confidence, ability to engage with patients on sensitive topics and reinforcing their competence and their role as trusted caregivers. Furthermore, participating patients reported improvement in their awareness of IPV risks and increase access to service following the nurse-led intervention. Additionally, they believed that nurses were trusted counsellors and felt comfortable discuss sensitive topics.⁷

The community-based intervention included participatory awareness-raising sessions for women's groups in refugee camps in Zambia, demonstrating the importance of community collaboration in preventing sexual violence and addressing the health problems of vulnerable populations. The study examined the medical records of health service providers and found an increase in community knowledge after awareness-raising, improved utilization of medical care, and treatment completion rates.⁸

According to quasi-experimental research assessing the effectiveness of a community-based participatory health promotion intervention aimed at addressing intimate partner violence-related knowledge, attitudes, and behaviours, the findings revealed the positive impact of community-based intervention. The study suggested that primary intervention was delivered by mother support groups, health workers would be more capable of managing and engaging with the community when violence occurs in similar situations.⁹

Sexual violence training for registered nurses and an educational intervention program provided the effectiveness of training and educational interventions in enhancing nurses' skills in managing sexual violence cases and supporting survivors. The positive outcome of the program suggested that the improvement of nurses' capacity and confidence had

promoted a better understanding of sexual violence issues among survivors and increased access to care and treatment.¹⁰

This study aims to evaluate the impact of sexual violence prevention and health promotion intervention delivered by trained nurses on improving knowledge, attitude of sexual violence and awareness of help seeking services among IDPs living in northern Myanmar camps.

Materials and Method

The quasi-experimental study used a two-group, pre-posttest intervention design. Participants were men and women of reproductive age (18–49), who had lived in the selected study camps in Kachin state, Myanmar for at least one month and had no plans to relocate within in the next five months. The required sample size was 154, included an additional 10% for expected dropout rate. The sample size was determined using G*Power analysis to identify differences between two means and formula for comparing two proportions, a statistical power of 80% ($Z_{1-\beta} = 0.8416$), a medium effect size of 0.48¹¹, and a significance level of 5%. Standardized questionnaires were used to assess outcomes. The pilot testing was conducted prior to test the instruments' reliability and validity. Among 154, six participants from both groups were lost to follow-up. Therefore, the post-intervention analysis included 148 participants.

Two camps in Kachin State, northern Myanmar (97,002 IDPs), were selected through convenience sampling. Selection was based on feasibility of collaboration with an existing implementation organization and the availability of permission from camp authorities. Camps were selected to ensure the safety precaution of participants by avoiding active armed forced fighting.

The intervention group received a nurse-led intervention given through health education activity, total eight sessions and each lasting 30–45 minutes. The intervention contents were designed to improve knowledge and attitudes towards sexual violence

and increasing awareness of help-seeking services. The author, an experienced and certified professional in sexual violence and gender-based violence (GBV), developed intervention packages, job-aid materials, and a facilitator's guideline. Three technical experts reviewed and revised the final sexual violence preventive guideline. Four nurses received five days of facilitator training and conducted interventions from May to October 2023. The control group did not receive the nurse-led intervention but had access to regular, routine health education sessions, which included general health topics and were provided by clinic nurses of the control area's camps.

Quantitative data were analysed using SPSS software version 28.0. Categorical variables were described using frequency and percentage, while continuous variables were reported as mean and standard deviation (SD). Paired t-test for were used to detect within-group changes, and independent t-test were used to compare post-test scores between groups, a p-value of <0.05 was considered the significant threshold.

Results

Demographic Characteristics

In table 1, there were 154 participants with mean age of 31.94 (SD±8.30). The majority of participants were female (90.3%), of Kachin ethnicity (94.2%), and Christian (95.5%). Participants possessed various educational backgrounds and had different levels of access to formal education, but all had basic literacy, and most of them had completed middle (37.7%) or high school (26.7%). 81.2% actively seeking information, and 44.2% responded they knew available services in camps. Half of the participants had displaced one or two-times relocation, the remaining had been displaced 3–4 times (34.4%) and five or more times (15.6%). Due to living conditions and displacement, many participants (77.9%) experienced stress from being without food, not having income, restrictions on travel, and witnessing or experiencing violence.

Table 1. Baseline demographic characteristics of participants (n = 154)

Variable	Number	Per cent
Age (years) Mean ± SD	31.94 ± 8.30	
Sex		
Male	15	9.7
Female	139	90.3
Ethnicity		
Shan	9	5.8
Kachin	145	94.2
Religion		
Buddhist	7	4.6
Christian	147	95.5
Education		
Read & write	16	10.4
Primary Education	26	16.9
Middle Education	58	37.7
High Education	41	26.6
Higher Education	13	8.4
Search for getting information related to sexual violence		
Yes	125	81.2
No	29	18.8
Do you know what type of services you can receive if sexual violence occurs?		
Yes	68	44.2
No/Not sure	86	55.8
Total time of displacements		
≤ 2 times	77	50.0
3 - 4 times	53	34.4
≥ 5 times	24	15.6
Feeling stress due to displacement		
Yes	120	77.9
No/Not sure	34	22.1

Within-group Changes: Paired t-test Analysis

Table 2 presents the paired t-test results. For the intervention group, knowledge mean scores significantly increased from pre-intervention (mean ± SD = 7.55 ± 1.27) to post-intervention (mean ± SD = 10.72 ± 0.71) with a mean difference of 3.16, $t(73) = -20.07$, and $p < 0.001$. Attitude toward sexual violence also notably improved from pre-intervention (mean ± SD = 4.11 ± 1.05) to post-intervention (mean ± SD = 5.82 ± 0.56)

with a mean difference of 1.72, $t(73) = -12.68$, and $p < 0.001$. Similarly, help-seeking knowledge and service awareness showed improvement from pre-intervention (mean ± SD = 31.39 ± 3.30) to post-intervention (mean ± SD = 48.39 ± 4.01) with a mean difference of 17.00, $t(73) = -32.20$, and $p < 0.001$.

For the control group, there was a small but statistically increased in knowledge scores from pre-intervention (mean ± SD = 7.24 ± 1.35) to post-intervention (mean ± SD = 7.84 ± 0.95) with a mean

difference of 0.61, $t(75) = -3.59$, and $p = 0.001$. However, no significant changes were found for attitude (mean difference = 0.03, $p = 0.865$), and help-seeking service awareness (mean difference = 0.33,

$p = 0.566$). Therefore, within-group findings suggest that the intervention was effective in improving knowledge, attitudes, and help-seeking service awareness related to sexual violence.

Table 2. Knowledge, attitudes towards sexual violence, and help-seeking service awareness within intervention and control groups (pre-intervention and post-intervention): Paired t-test results

Variable	Group	Pre-intervention Mean(SD)	Post-intervention Mean(SD)	Mean Difference	t (df)	p-value
Knowledge	Control	7.24 (1.35)	7.84 (0.95)	0.61	3.59(75)	0.001*
	Intervention	7.55 (1.27)	10.72 (0.71)	3.16	20.07(73)	<0.001**
Attitude	Control	3.92 (1.22)	3.95 (1.17)	0.03	0.17(75)	0.865
	Intervention	4.11 (1.05)	5.82 (0.56)	1.72	12.68(73)	<0.001**
Help-seeking awareness	Control	31.39 (3.23)	31.72 (3.94)	0.33	0.58(75)	0.566
	Intervention	31.39 (3.30)	48.39 (4.01)	17.00	32.20(73)	<0.001**

Paired t-test is used. The reported t-values are absolute values.

Mean Difference is calculated as Post-intervention Mean minus Pre-intervention Mean. *Significant at $p < 0.05$.

**Significant at $p < 0.001$.

Between-group Comparisons: Independent t-test Analysis

Table 3 presents independent t-test results, revealing no significant baseline differences between the intervention and control groups for knowledge ($p = 0.745$), attitude ($p = 0.271$), and intention to seek help ($p = 0.943$). After post-intervention, the intervention group showed significantly higher

scores in knowledge (mean \pm SD = 10.72 ± 0.71 , mean difference = 2.88, $p = 0.023$), attitude (mean \pm SD = 5.82 ± 0.56 , mean difference = 1.87, $p < 0.001$), and help-seeking service awareness (mean \pm SD = 48.39 ± 4.01 , mean difference = 16.67, $p < 0.001$) compared to the control group. These between-group findings suggest that the intervention was effective in improving knowledge, attitudes, and help-seeking service awareness outcomes related to sexual violence.

Table 3. Between intervention and control groups difference in knowledge, attitudes towards sexual violence, and help-seeking service awareness: Independent t-test results

Variable	Time Point	Control Mean (SD)	Intervention Mean (SD)	Mean Difference	t (df)	p-value
Knowledge	Pre-intervention	7.26 (1.35)	7.51 (1.29)	0.25	0.32(148)	0.745
	Post-intervention	7.84 (0.95)	10.72 (0.71)	2.88	2.31(148)	0.023*
Attitude	Pre-intervention	3.92 (1.21)	4.08 (1.05)	0.16	0.9(148)	0.271
	Post-intervention	3.95 (1.17)	5.82 (0.56)	1.87	3.49(148)	<0.001**
Help-seeking awareness	Pre-intervention	31.25 (3.47)	31.29 (3.29)	0.04	0.07(148)	0.943
	Post-intervention	31.72 (3.94)	48.39 (4.01)	16.67	4.97(148)	<0.001**

Independent t-test is used. The reported t-values are absolute values.

Mean Difference is calculated as Intervention group Mean minus Control group Mean at each time point.

*Significant at $p < 0.05$. **Significant at $p < 0.001$.

Discussion

In this study, the intervention group showed significant improvement in knowledge, attitudes, and awareness of help-seeking services following the nurse-led intervention, compared with the control group. These findings are consistent with existing literature that highlights the importance of healthcare providers' training and capacity building. A quasi-experimental study in Tanzania demonstrated that trained healthcare professionals had better knowledge and better clinical practices in serving the community.¹² In Kenya, multisectoral training resulted in high knowledge scores and promoted multisector collaboration among service providers responding to sexual and gender-based violence.¹³ Furthermore, a blended training program in Italy provided a positive impact on professionals' knowledge, expanded case management, and particularly documentation practice in sexual violence cases.¹⁴ Therefore, building the competence and strengthening the capacity of healthcare professionals can improve community access to and availability of essential services. Continuing education and training programs are essential for healthcare professionals to maintain and update their skills.

Previous community-based experimental studies¹⁵⁻¹⁸ have reported that strategies delivered by health care providers can significantly improve the prevention of sexual violence. A nurse-delivered, clinic-based intervention randomized controlled trial study demonstrated short-term improvements in safety planning, mental quality of life, and utilization of help-seeking community resources, however, the long-term impact study requires to be observed.¹⁵ In rural Tanzania, a community-based intervention using a controlled before-and-after design showed that skilled and trained healthcare workers at local facilities improved community awareness regarding the health consequences of sexual violence and available treatments.¹⁶

The nurses who participated in a small-scale educational project played a vital role in increasing public awareness and understanding of the serious consequences, and health risks of domestic violence.¹⁷

A similar quasi-experimental study involving midwives' educational programs showed trained service providers were better at IPV case detection and clinical practice following the intervention, helping people in their communities.¹⁸

Integrated interventions addressing both violence issues and HIV have demonstrated significant public health benefits across diverse settings. Several studies confirmed that strengthening service delivery and community-level mobilization by healthcare workers contributed to approximately a lower rate of violence exposure and changes in attitudes, social norms, and violent behaviours.

The SASA project in Kampala, Uganda, reported a 52% reduction in the prevalence of violence, decreased society acceptance of violence culture, increased support for women's sexual decision-making, and a decrease in the reported rate of multiple sexual partners among men.¹⁹ A study in Tanzania evaluated the impact of integrated GBV prevention into HIV/AIDS care, leading to more gender-equity norms, improved community knowledge, and increased use of services. However, some important outcomes, such as IPV prevalence, were not statistically significant.²⁰

Wagman et al. studied the effectiveness of an integrated intimate partner violence and HIV prevention intervention in Rakai, Uganda indicated that strengthening service delivery by healthcare workers and community-level mobilization changed attitudes, social norms and violent behaviours. The intervention group experienced lower rates of physical, sexual, and forced sexual exposure after being stimulated with messages raising awareness of IPV and its negative consequences. Additionally, intervention group's participants showed increased in HIV disclosure, counselling and testing services.²¹

A key strength of this study is a quasi-experimental design which included a control group and before-and-after immediate impact evaluation. Despite the short period, the intervention showed outcomes difference following the intervention and a long-term study would offer more opportunity to observe the sustainability of the study. One limitation of the

study is that it was conducted in conflict-affected camps, and focused only heterosexual population, so findings may not be generalized. Additionally, there is a possibility of selection bias, and consistent outcomes could be difficult to observe in different contexts and settings.

Conclusion

The study indicates that nurse-led interventions are an effective approach for enhancing knowledge, attitudes, and help-seeking behaviour related to sexual violence among IDPs. Nurses are mainly frontline healthcare providers and often the primary focal point of contact for survivors. Therefore, nurses play an essential role in case identification, documentation, prevention, health promotion and advocacy. Strengthening health systems through investment in nurse education, GBV prevention and response integrated into nursing curricula is crucial. Furthermore, nurses' routine education and health promotions activities have to include sexual violence prevention messages. The findings highlight the need for survivor-centered policies and accessible one-stop services within health clinics and facilities to provide comprehensive care and support for survivors.²²

Acknowledgement

The authors gratefully acknowledge the 90th Anniversary Chulalongkorn University RatchadaphisekSomphot Fund for funding support. The authors expressed their gratitude to the research team, camp committee members, and most importantly, all participants for their contributions.

Availability of Data and Materials

The corresponding author can provide the data upon reasonable request.

Ethical Clearance

The study was approved by the Ethics Review Committee of Chulalongkorn University, Thailand (COA No. 071/2022) in April 2023. The research followed the Declaration of Helsinki and the ethics committee's approval. All participants provided

written informed consent, confirming their voluntary participation. Trained research team performed face-to-face interviews, after obtaining informed consent and interview duration was around 1 hour. Interviews were conducted in private settings to maintain confidentiality, and the participants' responses were audio-recorded with their consent. All data was kept confidential and ensured participants identities were not disclosed.

Funding: This research was funded by the 90th Anniversary of Chulalongkorn University Scholarship under the Ratchadaphisek Somphot Fund, Batch-53, academic year 2022.

Conflicts of interest: The authors declare that they have no conflicts of interest.

References

1. Global Humanitarian Overview 2024. Geneva: UN Office for the Coordination of Humanitarian Affairs (OCHA); 2023.
2. WHO. Mental health in emergencies [Internet]. Geneva: World Health Organization (WHO). 2023 [updated cited April 23, 2025 Date]. Available from: <https://www.who.int/news-room/fact-sheets/detail/mental-health-in-emergencies>.
3. Myanmar Humanitarian Update No. 20 | 31 July 2022. UN Office for the Coordination of Humanitarian Affairs (OCHA); 2022.
4. UNHCR. Regional Bureau for Asia and Pacific (RBAP) Myanmar Emergency - External Update, 1 May 2021. 2021.
5. Ali P. Gender-based violence and the role of healthcare professionals. *Nursing open*. 2017;5(1):4.
6. Ford-Gilboe M, Varcoe C, Scott-Storey K, Browne AJ, Jack SM, Jackson K, et al. Longitudinal effectiveness of a woman-led, nurse delivered health promotion intervention for women who have experienced intimate partner violence: iHEAL randomized controlled trial. *BMC public health*. 2024;24(1):398.
7. Schuder KK. Nurse-led intervention to reduce intimate partner violence and associated health risks: qualitative program evaluation and nurse reflections [Master's thesis]; Yale University; 2015.
8. Oladeji O, Owoaje E, Oladeji B, Fatiregun A. A community-based intervention for improving utilization of medical services by rape survivors in refugee camps in Zambia. *Journal of Community Medicine and Primary Health Care*. 2019;31(1):11-21.

9. Reyal HP, Perera MN, Guruge GD. Effectiveness of a community-based participatory health promotion intervention to address knowledge, attitudes and practices related to intimate partner violence: a quasi-experimental study. *BMC public health*. 2024;24(1):1417.
10. Ross R, Sheppard FH, Almotairy MM, Hirst J, Jenkins M. Pilot Study of SATELLITE Education on Nurses' Knowledge and Confidence toward Assessing and Caring for Female Victims of Sexual Violence. *Nursing Reports*. 2024;14(2):1287-96.
11. Merrill KG, Merrill JC, Hershow RB, Barkley C, Rakosa B, DeCelles J, et al. Linking at-risk South African girls to sexual violence and reproductive health services: A mixed-methods assessment of a soccer-based HIV prevention program and pilot SMS campaign. *Evaluation and program planning*. 2018;70:12-24.
12. Abeid M, Muganyizi P, Mpembeni R, Darj E, Axemo P. Evaluation of a training program for health care workers to improve the quality of care for rape survivors: a quasi-experimental design study in Morogoro, Tanzania. *Global health action*. 2016;9(1):31735.
13. Albezreh S, Anastario M, Ulibarrí BJ, Naimer K, Johnson K, McHale T, et al. Multiyear, Multisectoral Training Program in Kenya to Enhance Medical-Legal Processes in Response to Sexual and Gender-Based Violence. *Violence against women*. 2022;28(14):3311-30.
14. Colucci A, Luzi AM, Belasio E, Barbina D, Mazzaccara A, Farchi S, et al. A blended training programme for healthcare professionals aimed at strengthening territorial networks for the prevention and contrast of gender-based violence. *Epidemiol Prev*. 2019;43:177-84.
15. Gupta J, Falb KL, Ponta O, Xuan Z, Campos PA, Gomez AA, et al. A nurse-delivered, clinic-based intervention to address intimate partner violence among low-income women in Mexico City: findings from a cluster randomized controlled trial. *BMC medicine*. 2017;15:1-12.
16. Abeid M, Muganyizi P, Mpembeni R, Darj E, Axemo P. A community-based intervention for improving health-seeking behavior among sexual violence survivors: a controlled before and after design study in rural Tanzania. *Global health action*. 2015;8(1):28608.
17. Doran F, van de Mortel T. The influence of an educational intervention on nursing students' domestic violence knowledge and attitudes: a pre and post intervention study. *BMC nursing*. 2022;21(1):109.
18. Bamigboye TO, Irinoye OO, Ayandiran EO, Olowokere AE, Adedeji OA, Esan DT. Influence of educational intervention on nurse-midwives' knowledge and management practices of Intimate Partner Violence (IPV) in healthcare Facilities in Ekiti-State, Nigeria. *Enfermería clínica (English Edition)*. 2023;33(5):316-26.
19. Abramsky T, Devries K, Kiss L, Nakuti J, Kyegombe N, Starmann E, et al. Findings from the SASA! Study: a cluster randomized controlled trial to assess the impact of a community mobilization intervention to prevent violence against women and reduce HIV risk in Kampala, Uganda. *BMC medicine*. 2014;12:1-17.
20. Settergren SK, Mujaya S, Rida W, Kajula LJ, Kamugisha H, Kilonzo Mbwambo J, et al. Cluster randomized trial of comprehensive gender-based violence programming delivered through the HIV/AIDS program platform in Mbeya Region, Tanzania: Tathmini GBV study. *PloS one*. 2018;13(12):e0206074.
21. Wagman JA, Gray RH, Campbell JC, Thoma M, Ndyanabo A, Ssekasanvu J, et al. Effectiveness of an integrated intimate partner violence and HIV prevention intervention in Rakai, Uganda: analysis of an intervention in an existing cluster randomised cohort. *The Lancet Global Health*. 2015;3(1):e23-e33.
22. Ali P. The role of nurses, midwives and healthcare professionals in responding to gender-based violence. *International nursing review*. 2023;70(4):457-8.