



LUND UNIVERSITY

School of Economics and Management

Master's Programme in Global Development, Population and Economic Change

Protection Awareness and Reported GBV Trends in Rohingya Refugee Camps: Camp-Level Panel Evidence from Bangladesh

by

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This thesis examines the relationship between protection awareness exposure and reported gender-based violence (GBV) in Rohingya refugee camps in Bangladesh between 2023 and 2025. Using a balanced camp-level panel dataset covering 10 camps over 36 months, the study applies fixed-effects regression models to estimate within-camp associations.

The results show a consistent and statistically significant positive association between awareness exposure and reported GBV, while lagged effects are not statistically significant, indicating that the relationship is primarily contemporaneous.

This pattern is interpreted through the distinction between reported violence and underlying incidence. Rather than reflecting increased violence, the findings are more consistent with a reporting effect, whereby awareness reduces stigma and improves access to reporting systems.

The study contributes by demonstrating how awareness shapes the visibility of GBV in administrative data and highlights the importance of distinguishing between reporting and incidence when evaluating interventions in humanitarian settings.

Course code: EKHS21

Master's Thesis (15 credits ECTS)

May 2026

Supervisor: Faustine Perrin

Examiner: Igor Martins

Word Count: 12270

Acknowledgements

I would like to express my sincere gratitude to my supervisor, Faustine Perrin, for her invaluable guidance, constructive feedback, and continuous support throughout the development of this thesis. Her insights and encouragement greatly contributed to shaping both the direction and quality of this work.

I am also deeply thankful to the faculty and staff of the Master's Programme in Global Development, Population and Economic Change at Lund University for providing a stimulating academic environment and for equipping me with the analytical tools necessary to undertake this research.

My appreciation extends to BRAC, particularly the Humanitarian Crisis Management Programme (HCMP), for their support and for facilitating access to data that made this study possible. I am especially grateful to colleagues and mentors who generously shared their knowledge and practical insights from the field.

Having previously worked in the Rohingya refugee camps, this research carries deep personal meaning for me. Witnessing the difficult realities faced by displaced communities, particularly women and survivors of violence, reinforced my commitment to working for vulnerable populations in humanitarian settings. Over time, many survivors have slowly begun to gain greater awareness of their rights and available support systems, although significant barriers and vulnerabilities still remain. This thesis represents a small contribution toward understanding these challenges and highlights the importance of continuing protection efforts so that progress made within these communities is not lost.

I would also like to thank my friends and peers for their encouragement, thoughtful discussions, and support throughout this journey. Their presence made this experience both intellectually enriching and personally meaningful.

Finally, I am deeply grateful to my family for their unwavering support, patience, and belief in me. Their encouragement has been a constant source of strength.

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1. Introduction and Research Aims

1.1 Background and Context

Gender-based violence (GBV) is a major global challenge with serious implications for individual well-being, human capital formation, economic participation, and social welfare. According to widely cited estimates from the World Health Organization (WHO), approximately 27% of ever-married or partnered women aged 15–49 worldwide have experienced physical and/or sexual intimate partner violence at least once in their lifetime, while nearly one in three women globally have experienced either intimate partner or non-partner sexual violence (WHO, 2021, pp. 20, 22, 33, 37). These figures highlight the scale of the problem, but they likely understate its full extent, since GBV is often underreported across both developed and developing contexts (Palermo et al., 2014, p. 602). Underreporting is especially significant because it obscures the true scale of violence, weakens institutional response, and makes it difficult for policymakers and service providers to assess need accurately.

Beyond its immediate physical and psychological harms, GBV has broader socio-economic consequences. It can limit women's participation in education, income-generating activities, and community life, thereby constraining human capital accumulation and long-term development (Lakew et al., 2025, p. 16; Hanmer, Arango and Klugman, 2021, p. 6). Survivors may experience trauma, fear, reduced mobility, and social isolation, all of which can undermine their ability to attend school, participate in labor markets, engage in community decision-making, or benefit from livelihood support. From a development perspective, this is important because violence may act not only as a social outcome, but also as a structural barrier to economic participation and social inclusion. In this sense, GBV can reduce both present welfare and future capabilities.

These risks are significantly intensified in humanitarian and displacement settings. Forced migration disrupts formal institutions, weakens social support networks, and increases economic insecurity. Displacement also changes household relations, often under conditions of overcrowding, restricted livelihoods, dependency on aid, and uncertainty about the future.

A recent meta-analysis reports an estimated pooled prevalence of GBV among displaced women in Africa of approximately 48.2%, substantially higher than global averages (Tadesse et al., 2024, p. 8). However, these figures likely underestimate actual prevalence due to persistent underreporting, stigma, and fear of retaliation (Palermo et al., 2014, p. 603). At the same time, humanitarian crises often create fragmented service environments in which both prevention and response become more difficult (Raftery et al., 2022, p. 2). This means that violence may rise at the same time as institutional capacity to identify and address it becomes weaker.

The Rohingya refugee camps in Cox's Bazar, Bangladesh, provide a particularly important setting in which to examine these dynamics. Hosting approximately 967,000 refugees, the camps constitute one of the largest protracted displacement contexts in the world (Salehin, 2024, p. 7). This is not a short-term emergency, but a prolonged humanitarian setting in which everyday life is structured by legal, economic, and spatial restrictions. Refugees face limited access to formal employment, restricted freedom of movement, dependence on humanitarian assistance, and severe overcrowding. These conditions shape not only material well-being, but also gender relations, power structures, and vulnerability to violence.

Available evidence suggests that reported GBV is widespread within the camps, with intimate partner violence (IPV) accounting for the majority of reported cases (Salehin, 2024, p. 72). These patterns reflect the interaction of entrenched patriarchal norms with structural constraints such as restricted access to formal employment, overcrowding, and economic stress, which may increase household-level vulnerability to violence (Salehin, 2024, pp. 88-89). According to Salehin (2024, pp. 72, 88-89), men's frustration and powerlessness in the camps stem from their inability to act as traditional providers, which generates household tension. Meanwhile, women's dependency and limited mobility reduce their bargaining power and heighten abuse risk. Violence in this setting is therefore not merely an individual problem, but one shaped by social norms, economic strain, and the institutional realities of displacement.

From a development perspective, these conditions are especially significant. GBV can shape the environment in which individuals make decisions about education, work, and social participation. Survivors may withdraw from schooling, labor market activity, and community engagement due to trauma, insecurity, and fear, with broader consequences for welfare and

productivity (Lakew et al., 2025, p. 16; Hanmer, Arango and Klugman, 2021, p. 6). In this sense, GBV can be understood as both a humanitarian protection issue and a development constraint. It affects not only physical safety, but also the extent to which women can build skills, exercise agency, and participate in social and economic life.

This broader framing is important because refugee policy is increasingly concerned not only with emergency assistance, but also with self-reliance, inclusion, and longer-term development outcomes. Hanmer, Arango and Klugman (2021, p. 6) emphasize that gender-based violence can directly undermine these goals by restricting women's participation in livelihoods, mobility, and community life. If women are unable to move safely, access services, or engage in income-generating opportunities, then progress toward self-reliance remains limited. GBV therefore matters not only because it is harmful in itself, but because it creates a wider environment of insecurity that constrains the effectiveness of other humanitarian and development interventions.

1.2 Statement of the Problem

Despite substantial investment in GBV programming in humanitarian contexts, there remains limited rigorous evidence on the effectiveness of primary prevention interventions, particularly in refugee settings. Protection awareness programs and similar prevention initiatives seek to reduce violence through multiple pathways, including reshaping social norms, improving access to information, and increasing awareness of available services. Yet most existing research concentrates on response services or on sexual violence occurring amid active conflict. Consequently, how awareness-based interventions shape broader GBV patterns remains poorly understood (Tappis et al., 2016, p. 1; Ahlenback, 2023, pp. 4–5).

This gap in evidence is significant. Awareness activities are widely used across humanitarian settings because they are practical, scalable, and often integrated into broader protection systems (Raftery et al., 2022; Tappis et al., 2016). They are expected to improve knowledge of rights, inform communities about available support, reduce stigma around disclosure, and contribute to norm change. However, the mechanisms through which such programs affect reported GBV are not straightforward. Awareness may contribute to prevention, but it may

also increase trust in services and reduce barriers to reporting (Palermo et al., 2014). As a result, even successful interventions may be associated with higher reported case numbers in the short run.

A central challenge in evaluating such interventions is therefore that awareness may affect not only the incidence of violence, but also its reporting. Even if actual GBV remains unchanged or declines, reported cases may increase because survivors become more aware of services, face lower stigma, and have greater trust in reporting channels. This creates an important empirical paradox: observed increases in reported GBV may reflect improved visibility and institutional access rather than worsening violence. This problem is closely related to the “tip of the iceberg” framework, in which administrative data capture only a fraction of total violence (Palermo et al., 2014, p. 602). In contexts where underreporting is severe, improved reporting may itself be a meaningful institutional outcome.

In refugee settings this issue takes on added weight. Raftery et al. (2022) show that GBV coordination in humanitarian contexts depends heavily on institutional trust, referral pathways, and awareness of available services. It means that awareness programming serves not only a preventive function but also a reporting and access function. Whether survivors come forward therefore depends as much on their trust in humanitarian actors and knowledge of support systems as on the underlying prevalence of violence.

From a development perspective, correctly interpreting this relationship matters for two reasons: evaluating programs effectively and designing protection policies that promote safer, more inclusive environments in displacement contexts. Misreading reporting increases as evidence of failure could lead to underinvestment in exactly those interventions that reduce silence and connect survivors to support systems.

The problem, then, is not only whether awareness “works,” but also what “working” should mean in a context of hidden violence. If violence is chronically underreported, then better visibility may be an important first step toward effective response and longer-term prevention. This thesis addresses that problem by examining whether changes in awareness exposure are associated with changes in reported GBV over time in Rohingya refugee camps. This distinction between reporting and incidence directly informs the hypotheses developed in this study.

1.3 Research Question and Objectives

This study addresses the following research question:

To what extent is protection awareness exposure associated with changes in reported GBV rates across Rohingya refugee camps between 2023 and 2025?

To answer this question, the study pursues four objectives:

- To estimate the association between protection awareness exposure and reported GBV rates using camp-level panel data and fixed-effects regression models
- To examine patterns in reported GBV across different types of violence using disaggregated descriptive data
- To describe demographic characteristics of reported GBV cases, including gender, age group, and marital status
- To interpret the findings using a conceptual framework that views protection awareness as a form of preventive social infrastructure

These objectives reflect both the strengths and the limits of the available data. The study uses camp-level panel data to estimate within-camp associations over time, while also drawing on descriptive evidence to contextualize the profile of reported violence. Rather than claiming to measure actual incidence directly, it focuses explicitly on reported GBV and on the mechanisms through which awareness may shape what becomes visible in administrative systems.

1.4 Hypotheses

Building on the reporting-incidence distinction outlined above, this study proposes two hypotheses:

H1 (Reporting effect): Higher protection awareness exposure is associated with higher reported GBV rates in the short run, reflecting increased reporting, improved visibility, and reduced barriers to disclosure.

H2 (Incidence effect - weaker expectation): Protection awareness exposure may contribute to reductions in underlying GBV incidence over time, though such effects are less likely to be observable within the short-term administrative data used in this study.

Given the nature of administrative GBV data and the likelihood of substantial underreporting, the empirical analysis focuses primarily on evaluating the short-run reporting-related association rather than attempting to directly measure changes in underlying incidence.

1.5 Contribution and Empirical Approach

This study contributes to the literature in several ways. First, it provides rare quantitative longitudinal camp-level evidence from a large-scale refugee setting. While research on GBV in humanitarian contexts is often cross-sectional or qualitative, this study uses camp-level panel data to examine how variation in protection awareness exposure is associated with changes in reported GBV over time. This temporal perspective is important because awareness may affect reporting immediately even if effects on underlying incidence emerge more slowly.

Second, the study contributes to the reporting-versus-incidence debate by explicitly distinguishing reported GBV from underlying violence. The findings show a positive association between awareness exposure and reported GBV rates, which is interpreted more cautiously as evidence of increased visibility and disclosure rather than necessarily increased violence. In this way, the thesis demonstrates how administrative GBV patterns may reflect institutional access and reporting dynamics as well as actual incidence.

Third, the thesis contributes conceptually by interpreting protection awareness as a form of preventive social infrastructure. Awareness programs may shape the informational and institutional environment in which individuals recognize violence, access services, and engage with reporting systems. This perspective extends discussion beyond narrow questions of case counts toward a broader understanding of how protection systems function in displacement settings.

More broadly, the study contributes to an economic development perspective on GBV by treating violence not only as a humanitarian concern, but also as a constraint on human capital, participation, institutional inclusion, and self-reliance under displacement.

Empirically, the analysis applies fixed-effects panel models, exploiting within-camp variation while controlling for time-invariant differences across camps, such as baseline institutional environments, persistent social norms, and structural risk conditions. The study also combines regression analysis with descriptive evidence on violence type and survivor-perpetrator characteristics to provide broader contextual interpretation of reporting patterns.

The robustness of the findings is assessed through alternative specifications, including clustered standard errors, lagged awareness variables, and additional time controls. Across these models, the main association remains positive and statistically significant. At the same time, the empirical strategy identifies associations rather than causal effects, since unobserved time-varying factors may still influence both awareness exposure and reported GBV.

1.6 Structure of the Thesis

The remainder of the thesis is structured as follows. Section 2 presents the theoretical framework and literature review. Section 3 describes the data and empirical strategy. Section 4 presents the results, including descriptive trends, fixed-effects estimates, and the demographic and compositional profile of reported GBV. Section 5 discusses the implications of the findings for theory, interpretation, and policy. The final section concludes.

2. Theoretical Framework and Literature Review

2.1 Ecological and Intersectionality Models

This study draws on the ecological model to explain the multi-level drivers of gender-based violence (GBV). The ecological model conceptualizes GBV as the outcome of interacting factors operating at multiple levels: individual, relationship, community, and societal (Lakew et al., 2025, p. 2; Raftery et al., 2022, p. 2). Rather than attributing violence to a single cause, this framework emphasizes that GBV emerges from the interaction of personal characteristics, household dynamics, social norms, and institutional environments. At the individual level, factors such as age, education, and past exposure to violence may influence vulnerability. At the relationship level, power imbalances inside households are a key factor, especially within intimate partnerships. At the community level, norms around gender roles, social tolerance of violence, and access to support services shape both behavior and reporting. At the societal level, broader institutional conditions, including legal frameworks, economic opportunities, and displacement policies, influence both the prevalence of violence and the capacity to respond to it.

In the context of the Rohingya refugee camps, these levels interact in particularly complex ways. Patriarchal norms at the household level intersect with structural constraints such as restricted access to formal employment, limited mobility, and long-term displacement. Salehin (2024, pp. 72, 98) shows that men's inability to fulfil expected provider roles under these conditions can generate frustration, loss of status, and feelings of powerlessness. These tensions may be expressed through violence within intimate relationships, particularly in contexts where alternative forms of economic or social empowerment are limited.

At the same time, institutional barriers at the societal level, such as limits on joining the workforce and scarce formal legal recourse, reduce accountability and narrow the pathways survivors can use to seek justice (Raftery et al., 2022, p. 2; Palermo et al., 2014, pp. 602–603). This reinforces the ecological model's emphasis on the interaction between micro-level household dynamics and macro-level institutional conditions.

Intersectionality theory complements this framework by highlighting that the burden of GBV falls unevenly across individuals. Gender does not operate alone, but alongside age, marital status, education, and social position. Together, these dimensions shape who experiences violence and who can obtain support (Lakew et al., 2025, pp. 2, 10–11). Tadesse et al. (2024, pp. 1, 9) find that younger women in displacement settings often face higher risks, reflecting both social norms and unequal access to protection mechanisms.

In refugee settings, intersectionality is especially relevant because displacement can intensify existing inequalities. For example, married women may face higher exposure to intimate partner violence, while younger women may experience different risks related to dependency, mobility restrictions, or early marriage. These overlapping vulnerabilities are not independent. Rather, they interact to shape both the likelihood of experiencing violence and the ability to report it.

Together, the ecological and intersectionality frameworks provide a comprehensive lens for understanding GBV as a multi-dimensional phenomenon. They are particularly useful for interpreting the empirical patterns observed in this study, where reported GBV is concentrated among adult women and strongly associated with intimate partner relationships. These approaches also show that single-level interventions, such as awareness campaigns aimed primarily at individuals, may have limited effects unless they are aligned with broader structural and social conditions.

2.2 GBV as a Barrier to Human Capital and Participation

This study also draws on human capital theory to interpret the broader development implications of GBV. Becker (1964, pp. viii, 45) conceptualizes human capital as investments in education, health, and skills that enhance productivity and economic outcomes. Individuals are expected to invest in such capital when the anticipated benefits exceed the costs.

GBV can disrupt this process in several ways. First, violence directly affects physical and mental health, reducing individuals' capacity to engage in education or work. Second, it increases uncertainty and risk, which may discourage long-term investments in skills or

employment. Third, it can restrict mobility and autonomy, limiting access to opportunities even when they are available. Empirical evidence from refugee settings supports these mechanisms. Lakew et al. (2025, pp. 15–16) show that GBV is associated with psychological distress, reduced social functioning, and lower participation in economic and social activities. Survivors may withdraw from education, avoid public spaces, or reduce engagement in income-generating activities due to fear, stigma, or trauma.

In the Rohingya camps, these effects are compounded by structural constraints. Salehin (2024, pp. 72, 87, 98) highlights that restrictions on formal employment and movement already limit economic participation. When combined with gender norms that constrain women's roles and autonomy, these conditions create a setting in which GBV further reduces already limited opportunities for human capital development.

From a broader theoretical perspective, this dynamic can also be understood through Sen's (1987, pp. 37, 45) framework of cooperative conflicts within households. Sen argues that intra-household bargaining outcomes are shaped by perceived contributions, fallback positions, and social norms. In contexts where women have limited economic opportunities and weak bargaining power, their ability to resist or exit abusive situations may be reduced. GBV can therefore be both a cause and a consequence of unequal power relations within households.

Importantly, this study does not directly measure outcomes such as income, employment, or schooling. However, the human capital framework remains useful for interpreting how violence and fear may shape the broader environment in which women make decisions about work, education, and social engagement. In this sense, GBV is not only a social issue but also a constraint on development outcomes.

2.3 Protection Awareness as Preventive Social Infrastructure

Protection awareness programs are widely used in humanitarian settings as part of GBV prevention strategies. These interventions aim to improve knowledge of rights, increase awareness of available services, and promote behavioral and normative change (Raftery et

al., 2022, p. 17). They are typically implemented through community sessions, outreach activities, and information campaigns targeting both potential survivors and the broader community.

From a theoretical perspective, these programs can influence behavior through multiple channels. First, they reduce informational barriers by increasing knowledge of rights and available services. Second, they may reduce the stigma associated with reporting violence. Third, they can increase trust in institutions and service providers. Fourth, they may alter the perceived costs and benefits of violent behavior, consistent with deterrence-based frameworks such as Becker (1968, p. 19). Finally, they may contribute to gradual changes in social norms, influencing how communities perceive and respond to violence.

Existing intervention literature further suggests that the effects of awareness interventions on reporting behaviour, institutional trust, and social norm change often emerge gradually over time. Evaluated interventions such as SASA! emphasize gradual progression through multiple phases of social and behavioural change over several years rather than immediate reductions in violence (Abramsky et al., 2014, pp. 8, 14). This gradual dynamic is also consistent with institutional theory, which argues that informal norms and social constraints tend to change incrementally over time rather than through immediate transformation (North, 1990, pp. 37, 87, 89).

This study interprets protection awareness as a form of preventive social infrastructure. Drawing on North (1990, pp. 3, 36), institutions can be understood as the rules and structures that shape human interaction by reducing uncertainty and structuring incentives. In this sense, awareness programming can be viewed as part of the informal institutional environment that shapes whether individuals recognize violence, whether they know how to respond, and whether they are able to access support. This perspective shifts the focus from awareness as a narrow informational intervention to awareness as a broader institutional mechanism. It also highlights that awareness does not operate in isolation, but as part of a system that includes social norms, service provision, and reporting mechanisms. Existing research further suggests that awareness interventions are most effective when integrated with broader institutional support, survivor services, and community engagement rather than implemented as standalone activities (Tappis et al., 2016, p. 11; Ahlenback, 2023, pp. 5, 8).

Importantly, this framework suggests that awareness may influence not only the incidence of violence but also its visibility. By reducing informational and social barriers, awareness can increase the likelihood that incidents are reported and recorded in administrative data. As a result, increases in awareness exposure may lead to increases in reported GBV even if actual incidence remains unchanged.

2.4 The Incidence-Reporting Distinction

A central challenge in the study of GBV is the distinction between actual violence and reported violence. Administrative data capture only those cases that are reported to or recorded by service providers. However, a large share of violence remains hidden due to stigma, fear, normalization, and lack of access to services. Palermo et al. (2014, p. 602) describe this as the “tip of the iceberg” problem, where observed cases represent only a small fraction of total incidents. This problem is particularly severe in humanitarian contexts, where barriers to reporting may be even higher due to displacement, insecurity, and weak institutions.

This distinction has important implications for evaluating interventions. Awareness programs may influence reported GBV through two opposing mechanisms. First, they may increase reporting by reducing stigma and improving knowledge of services. Second, they may reduce actual violence over time through norm change and deterrence. The observed level of reported GBV therefore reflects the net effect of these two processes. In the short term, reporting effects may dominate, leading to increases in observed cases. In the longer term, incidence-reducing effects may become more visible.

This distinction is central to the interpretation of the empirical findings in this study. Increases in reported GBV following higher awareness exposure should not automatically be interpreted as evidence of worsening violence. Instead, they may reflect improved visibility and access to reporting systems. For this reason, the study consistently uses the term reported GBV rather than treating administrative data as a direct measure of true incidence.

2.5 Literature Gap and Empirical Contribution

Despite growing attention to GBV in humanitarian contexts, systematic reviews show that rigorous evidence on prevention interventions remains limited (Ahlenback, 2023, pp. 4–5; Tappis et al., 2016, pp. 1, 51). Much of the existing literature relies on cross-sectional or qualitative approaches, which provide valuable insights but limit the ability to analyze changes over time.

Measurement challenges further complicate the evidence base. Underreporting, inconsistent definitions, and variation in data collection practices make it difficult to interpret trends in GBV (Palermo et al., 2014, p. 602). As a result, there is limited quantitative evidence on how interventions are associated with changes in reported GBV over time.

Another limitation of the literature is its focus on violence outcomes rather than reporting systems. While many studies examine levels of violence, fewer analyze how awareness, service access, and institutional trust shape reporting behavior. This creates a gap in understanding how administrative data reflect both underlying violence and the functioning of protection systems.

This study contributes to this gap in several ways. First, it uses camp-level panel data covering the period 2023–2025, allowing for the analysis of within-camp variation over time. Second, it applies fixed-effects regression models, which control for time-invariant differences across camps and provide a more rigorous empirical framework than purely descriptive approaches. Third, and most importantly, the study explicitly incorporates the incidence-reporting distinction into its analytical framework. By doing so, it contributes to a more cautious and theoretically grounded interpretation of GBV trends in administrative data.

Accordingly, the observed positive association between awareness and reported GBV should not be read as evidence of increasing violence. Instead, it is more consistent with enhanced reporting practices and improved visibility of incidents. In this way, the study contributes to the broader debate on how to interpret GBV data in contexts characterized by underreporting and institutional constraints.

3. Data and Methods

3.1 Data Sources

This study draws on administrative data collected by the BRAC Humanitarian Crisis Management Programme (HCMP), Protection Sector. BRAC is one of the main organizations providing protection and gender-based violence (GBV) services in the Rohingya refugee camps in Cox's Bazar. The administrative dataset covers the period from January 2023 to December 2025 and forms the empirical basis of the analysis.

To improve comparability across camps, the BRAC administrative records were merged with camp-level monthly population data obtained from the UNHCR Operational Data Portal. This integration makes it possible to construct population-adjusted indicators so that differences in camp size do not distort comparisons across locations or over time. Specifically, both reported GBV cases and awareness exposure are standardized as rates per 1,000 camp population. This normalization is important because both the volume of reported cases and the scale of awareness activities are likely to vary with population size.

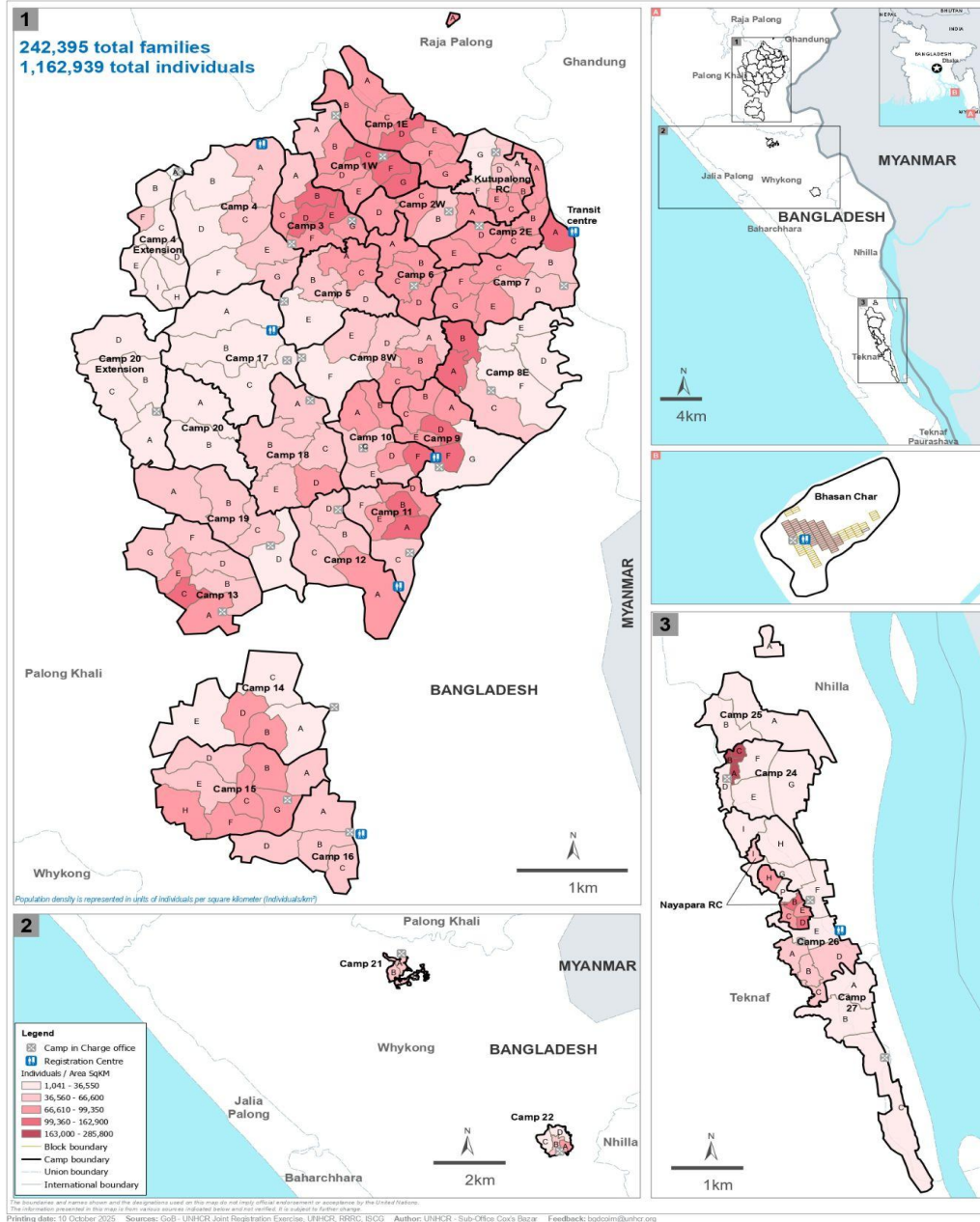


Figure 1. Rohingya refugee camps included in the study area

Notes: The figure shows the Rohingya refugee camps in Cox's Bazar, Bangladesh. Camps included in the empirical analysis are Camp 1E, Camp 3, Camp 4, Camp 4 Extension, Camp 5, Camp 6, Camp 7, Camp 17, Camp 21, and Kutupalong Registered Camp (RC). These camps were selected based on the availability of consistent monthly administrative data on protection awareness exposure and reported GBV between 2023 and 2025.

Source: Adapted from UNHCR Rohingya Refugee Response - Bangladesh Camp/Settlement Map (2025).

The study focuses on ten Rohingya refugee camps located in Cox's Bazar, Bangladesh: Camp 1E, Camp 3, Camp 4, Camp 4 Extension, Camp 5, Camp 6, Camp 7, Camp 17, Camp 21, and Kutupalong Registered Camp (RC). These camps were selected primarily based on the availability of balanced monthly administrative data covering awareness exposure and reported GBV trends between 2023 and 2025. The selected camps vary in size, population density, and institutional environment, allowing the analysis to capture variation in reporting patterns and awareness exposure across different camp contexts.

The dataset contains four main components. First, it includes monthly records of reported GBV incidents. Second, it provides information on protection awareness exposure, measured as the number of individuals reached through awareness-raising and protection messaging activities. Third, it contains descriptive summary information on survivors and alleged perpetrators, including gender, age group, and marital status. Fourth, it includes data on the composition of reported GBV by type, such as physical assault, sexual violence, psychological or emotional abuse, and denial of resources or services.

These data are generated through routine programme monitoring and reporting systems. As with other administrative datasets in humanitarian settings, they reflect reported cases rather than the full underlying prevalence of violence. This distinction is central to the study. The dataset captures patterns of reporting, visibility, and service contact within the protection system rather than providing a complete measure of actual GBV incidence. Accordingly, the empirical analysis focuses on changes in reported GBV rather than attempting to measure true prevalence directly.

3.2 Unit of Analysis and Data Structure

The main unit of analysis in this study is the camp-month observation. The dataset is structured as a balanced panel covering 10 refugee camps from January 2023 to December 2025, yielding a total of 360 observations. Each observation represents one camp in one month.

The primary outcome variable is the reported GBV rate, defined as the number of reported GBV cases per 1,000 camp population. The main explanatory variable is protection awareness exposure, measured as the number of individuals reached through awareness activities per 1,000 camp population. These standardized measures allow for meaningful comparison across camps and over time, despite variation in population size and programme scale.

In addition to these core variables, the analysis includes month indicators to capture common seasonal or time-specific effects in reporting patterns. In some robustness checks, year indicators are also included to account for broader shifts across 2023, 2024, and 2025. Descriptive demographic summaries and GBV-type distributions are used to complement the panel analysis, although they are not included as full camp-month covariates in the regression models because the available data do not provide comparable monthly camp-level measures for these characteristics.

The use of panel data is particularly important in this context. By observing the same camps repeatedly over time, the analysis can exploit within-camp variation rather than relying only on cross-sectional differences between camps. This helps reduce bias from unobserved differences across camps. Structural factors such as geography, entrenched social norms, camp layout, and baseline institutional capacity may vary across camps but are likely to remain relatively stable over the study period. The panel structure therefore makes it possible to compare changes in awareness exposure and reported GBV within camps while accounting for persistent differences between them.

3.3 Empirical Strategy

The empirical strategy combines descriptive analysis with panel regression techniques to examine whether variation in protection awareness exposure is associated with changes in reported GBV rates over time.

The analysis proceeds in two stages. The first stage is descriptive. It examines how awareness exposure and reported GBV evolve over the study period and whether the two series move together over time. Additional descriptive analysis is used to examine the composition of

reported GBV by type and the demographic profile of survivors and alleged perpetrators. These descriptive patterns provide important context for interpreting the regression results.

The second stage estimates camp fixed-effects regression models. The fixed-effects approach exploits within-camp variation over time while controlling for time-invariant camp characteristics that may otherwise bias comparisons across camps. Such characteristics may include relatively stable differences in social norms, camp infrastructure, local reporting environments, and baseline risk conditions.

The fixed-effects specification is preferred over pooled ordinary least squares (OLS) because it reduces omitted variable bias arising from unobserved camp-level characteristics that are constant over time but correlated with both awareness exposure and GBV reporting. In addition, a Hausman test supports the use of fixed effects over random effects, indicating that unobserved camp-specific factors are systematically related to the explanatory variable. This strengthens the case for treating the fixed-effects model as the main empirical specification.

Three main model specifications are estimated. The first is a baseline fixed-effects model that relates awareness exposure to reported GBV rates within camps over time. The second extends this model by including month fixed effects to account for seasonality and common shocks affecting all camps simultaneously, such as reporting cycles, administrative changes, or broader contextual events. The third model includes a one-month lag of awareness exposure to assess whether the relationship is delayed rather than contemporaneous.

The main empirical model can be written as:

$$GBV_rate(ct) = \beta Awareness_rate(ct) + \alpha_c + \delta_t + \varepsilon_ct$$

where c indexes camps and t indexes months, α_c represents camp fixed effects, δ_t represents time (month) fixed effects where included, and ε_ct is the error term.

The inclusion of a lagged awareness variable is motivated by the possibility that awareness may affect violence and reporting through different time horizons. Reporting effects may occur relatively quickly, while norm change or incidence-reducing effects may take longer to emerge. For this reason, additional robustness checks also estimate models including two-month and three-month lags of awareness exposure. These checks help assess whether

the main relationship is primarily contemporaneous or whether delayed effects become visible over a somewhat longer time horizon.

To strengthen inference, robustness checks are also estimated using standard errors clustered at the camp level. Because observations within the same camp may be correlated over time, clustered standard errors provide a more conservative assessment of statistical significance. However, with only 10 clusters, conventional cluster-robust standard errors may not fully account for within-camp serial correlation, as reliable cluster-robust inference typically requires a substantially larger number of clusters. A wild-cluster bootstrap procedure would provide more conservative inference in this small-cluster setting. Further checks include year fixed effects, a log-transformed awareness measure, and camp-specific linear trends. These additional specifications are not treated as separate main models, but they help assess whether the core finding is sensitive to alternative assumptions about time structure, functional form, or camp-level trends.

All regression results are interpreted as associations rather than causal effects. The study does not rely on a clearly exogenous source of variation in awareness exposure, creating potential endogeneity concerns. In particular, awareness programming may be targeted toward camps with higher underlying GBV risk or stronger protection needs, raising the possibility of reverse causality. As a result, the estimated positive association may partly reflect program placement rather than the independent effect of awareness on reporting.

Measurement limitations also affect interpretation. Awareness exposure is measured through programme reach rather than actual engagement, comprehension, or behavioural change. Similarly, reported GBV reflects variation in reporting behaviour, institutional trust, and service access rather than only variation in underlying violence. The fixed-effects approach helps reduce bias from time-invariant differences across camps, but it does not eliminate bias from unobserved time-varying factors. Accordingly, the empirical strategy is intended to provide a careful and transparent assessment of patterns in the available data rather than a definitive estimate of programme impact.

3.4 Interpretation Strategy

A central challenge in this study is that the dependent variable measures reported GBV rather than actual underlying incidence. Protection awareness may influence reported cases through two opposing mechanisms.

First, awareness may increase reporting. By reducing stigma, improving knowledge of rights and services, and strengthening trust in reporting systems, awareness activities may encourage survivors to disclose incidents that would otherwise remain hidden. In this case, higher reported GBV reflects improved visibility and access to services rather than an increase in actual violence.

Second, awareness may reduce actual violence over time. If awareness contributes to norm change, deterrence, or stronger community accountability, it could lead to reductions in underlying GBV incidence. In that case, reported GBV may decline, particularly if such effects emerge with some delay.

Observed administrative data therefore reflect the net effect of these two mechanisms. In the short run, reporting effects may dominate, producing higher observed case rates. Over a longer period, incidence-reducing effects may become more visible if awareness contributes to behavioural or normative change.

To address this interpretive challenge, the study adopts a cautious strategy. Descriptive trends, fixed-effects estimates, lagged models, and robustness checks are considered jointly in order to assess whether the observed patterns are more consistent with reporting effects or with immediate reductions in violence. In practice, the empirical findings are interpreted in relation to both statistical patterns and the broader theoretical framework outlined in Chapter 2. Throughout the analysis, the term reported GBV is used deliberately to avoid equating administrative counts with true prevalence. This distinction is fundamental to the interpretation of the results.

3.5 Limitations

Several limitations should be acknowledged. First, the dataset is based on reported cases and therefore does not capture the full extent of GBV in the camps. Underreporting is likely to be substantial, and reporting behaviour may itself change in response to awareness interventions. This makes it difficult to distinguish clearly between changes in reporting and changes in actual incidence.

Second, the data are derived primarily from one major implementing organization, BRAC. Although BRAC is a key service provider in the camps, the dataset may not capture all GBV-related incidents or awareness activities across the broader humanitarian response. This limits the generalizability of the findings and means that the observed patterns should be interpreted as reflecting an important part, but not the entirety, of the protection environment.

Third, causal inference remains limited. Although the panel structure and fixed-effects approach improve the rigor of the analysis, they do not fully resolve endogeneity concerns. In particular, awareness programming may be targeted toward higher-risk camps, creating the possibility of reverse causality and selection bias. The robustness checks strengthen confidence that the main relationship is not driven only by a narrow model choice, but they do not convert the analysis into a causal design.

Fourth, measurement limitations affect both key variables. Awareness exposure is measured through programme reach rather than quality of participation or behavioural change, and reported GBV may reflect differences in reporting systems, referral mechanisms, staffing, or institutional trust rather than only differences in actual violence. Measurement error in awareness exposure may therefore attenuate the estimated coefficients and bias the results toward zero, implying that the observed association may represent a conservative estimate of the true relationship.

Finally, a conceptual limitation concerns the human capital framework introduced in Chapter 2. While this framework motivates the broader development relevance of GBV by connecting violence to constraints on education, employment, and economic participation, the empirical analysis does not directly observe any of these outcomes. Schooling, income, labour market

activity, and capability measures are not available in the administrative dataset used here. The human capital framing should therefore be understood as establishing the conceptual stakes of the research question. It explains why GBV visibility matters for development, rather than serving as a hypothesis tested directly within this study. Similarly, the interpretation of protection awareness as preventive social infrastructure remains conceptual rather than empirically demonstrated through observable development outcomes. Future research linking protection data to individual-level development outcomes would allow these mechanisms to be evaluated more directly.

Taken together, these limitations mean that the study should be interpreted as providing evidence on patterns and associations in reported GBV rather than definitive conclusions about causal programme impacts.

4. Results

4.1 Descriptive Overview of the Panel Dataset

The empirical analysis is based on a balanced camp-level panel covering 10 Rohingya refugee camps from January 2023 to December 2025. The dataset contains 360 observations, with each observation representing one camp in one month. This panel structure allows the analysis to focus on changes within camps over time rather than relying only on cross-sectional differences between camps.

To ensure comparability, both reported GBV cases and awareness exposure are standardized using camp-level monthly population data. Specifically, both variables are expressed as rates per 1,000 camp population. This adjustment is important because camp populations vary substantially, and raw counts would otherwise distort comparisons across locations and over time.

The balanced nature of the panel ensures that each camp is observed in every month of the study period. This avoids complications related to missing observations and strengthens the

reliability of within-camp comparisons. In particular, it allows the empirical strategy to control for time-invariant camp characteristics such as baseline risk environments, institutional capacity, and persistent social norms.

Overall, the dataset is well suited to examining whether variation in protection awareness exposure is associated with changes in reported GBV over time within camps

4.2 Trends in Awareness Exposure and Reported GBV

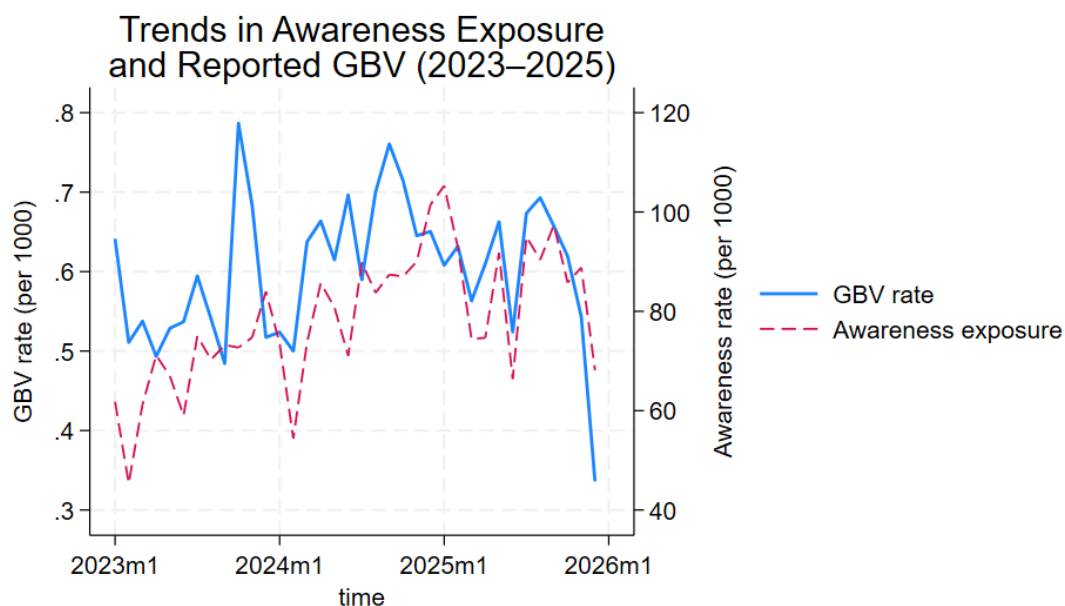


Figure 2: Trends in awareness exposure and reported GBV rates (2023–2025)

Notes: The figure shows monthly average awareness exposure rates and reported GBV rates across 10 camps from January 2023 to December 2025. Awareness exposure is measured as individuals reached per 1,000 camp population. Reported GBV is measured as reported cases per 1,000 camp population. The horizontal axis shows months, and the vertical axes show rates per 1,000 population.

Figure 2 presents the average monthly awareness exposure rate and reported GBV rate across all camps over the study period. It provides an initial descriptive overview before the regression analysis.

A clear upward trend is visible in awareness exposure. Starting from relatively low levels in early 2023, the average awareness rate increases through 2024 and reaches its highest levels in 2025. This pattern is consistent with the expansion of protection awareness programming over time.

In contrast, reported GBV rates fluctuate within a relatively narrow range. Periods of increase are followed by declines, suggesting that reported GBV is shaped by several factors beyond underlying incidence alone.

The figure also shows several periods, especially during 2024 and early 2025, in which rising awareness exposure coincides with comparatively higher reported GBV rates. This co-movement is descriptively consistent with a reporting effect. If awareness improves knowledge of services, reduces stigma, and strengthens trust in reporting mechanisms, it may lead to greater disclosure of incidents that would otherwise remain hidden.

At the same time, the figure does not show a clear pattern in which increases in awareness are followed by immediate declines in reported GBV. This does not rule out longer-term preventive effects, but it suggests that such effects are not strongly visible in the short-run descriptive trends.

Awareness exposure rates are also substantially larger in magnitude than reported GBV rates. This is expected, as awareness activities reach large segments of the population, while reported GBV cases remain relatively rare. As a result, even modest increases in reporting can appear meaningful in the GBV series.

Overall, the descriptive evidence is more consistent with increased visibility of GBV through reporting than with an immediate reduction in underlying violence. However, descriptive patterns alone are insufficient, and the next section formally evaluates this relationship.

4.3 Fixed-Effects Regression Results

To formally assess the relationship suggested by the descriptive trends, this section presents fixed-effects regression results.

	(1) Baseline FE	(2) FE + Month Controls	(3) FE + Lagged Awareness
Awareness exposure rate (per 1,000)	0.00254*** (0.000514)	0.00258*** (0.000551)	0.00314*** (0.000698)
2.month_num		-0.00218 (0.0470)	0.0529 (0.0538)
3.month_num		0.0153 (0.0465)	0.0572 (0.0542)
4.month_num		0.00575 (0.0462)	0.0471 (0.0533)
5.month_num		0.0119 (0.0461)	0.0563 (0.0524)
6.month_num		0.0327 (0.0468)	0.0869 (0.0535)
7.month_num		0.0117 (0.0463)	0.0450 (0.0545)
8.month_num		0.0503 (0.0461)	0.0998* (0.0519)
9.month_num		0.0281 (0.0462)	0.0719 (0.0521)
10.month_num		0.112** (0.0461)	0.160*** (0.0519)
11.month_num		0.0216 (0.0462)	0.0664 (0.0520)
12.month_num		-0.101** (0.0462)	-0.0544 (0.0519)
Lagged awareness exposure rate (t-1)			-0.000630 (0.000676)
_cons	0.403*** (0.0414)	0.384*** (0.0549)	0.344*** (0.0719)
N	360	360	350
Within R-squared	0.065	0.127	0.135
Camp fixed effects	Yes	Yes	Yes
Month fixed effects	No	Yes	Yes
Number of camps	10	10	10

Table 1. Association between awareness exposure and reported GBV rates, fixed-effects models

Notes: The dependent variable is the reported GBV rate per 1,000 camp population. Awareness exposure is measured as the number of individuals reached through awareness activities per 1,000 camp population. All models include camp fixed effects. Models (2) and (3) include month fixed effects. Model (3) includes a one-month lag of awareness exposure. Standard errors are shown in parentheses. Number of camps = 10. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 1 reports the results of three fixed-effects models estimating the association between protection awareness exposure and reported GBV rates. All models exploit within-camp variation over time and therefore control for time-invariant differences across camps.

Column (1) presents the baseline specification. The coefficient on awareness exposure is positive, at 0.00254, and statistically significant at the 1 percent level. This indicates that, within a given camp, higher awareness exposure is associated with higher reported GBV rates. Substantively, an increase of 100 individuals reached per 1,000 population is associated with approximately 0.25 additional reported GBV cases per 1,000 population. Although modest in absolute terms, this is meaningful given the relatively low baseline level of reported GBV. Given that the average reported GBV rate in the sample is approximately 0.60 cases per 1,000 population, an increase of 0.25 cases represents roughly a 42 percent increase relative to the baseline mean. This suggests that even modest absolute increases in reporting may be substantively important in a low-incidence administrative reporting environment.

Column (2) adds month fixed effects to account for common seasonal or time-specific influences affecting all camps simultaneously. The coefficient remains positive, at 0.00258, and highly statistically significant. This suggests that the relationship is not driven by common monthly shocks or broad seasonal reporting patterns. Most month indicators are not statistically significant, although October shows a positive and significant effect while December is negative and significant. These effects may reflect variation in reporting practices, programme activity, or service access rather than structural changes in underlying violence.

Column (3) introduces a one-month lag of awareness exposure. The contemporaneous awareness coefficient remains positive, at 0.00314, and statistically significant, while the lagged term is not statistically significant. This indicates that the observed relationship is

primarily contemporaneous rather than delayed. In substantive terms, this pattern is more consistent with an immediate reporting response than with a lagged reduction in underlying violence.

The within R-squared values remain relatively modest, ranging from 0.065 to 0.135. This suggests that awareness exposure explains only part of the variation in reported GBV. This is expected, as reporting outcomes are influenced by multiple time-varying factors such as service accessibility, case management capacity, staffing, referral pathways, and changes in institutional trust. In this context, model fit is less informative than coefficient stability and theoretical consistency, since the objective is to identify within-camp associations rather than to maximize predictive accuracy.

Taken together, the results show a stable positive association between awareness exposure and reported GBV across specifications. However, this association should be interpreted cautiously. Awareness programming may partly respond to underlying camp-level risk conditions, meaning that camps with greater perceived GBV vulnerability may also receive more intensive awareness interventions. As a result, the observed relationship may reflect both reporting dynamics and program placement decisions rather than the independent effect of awareness exposure alone.

4.4 Robustness Checks

Model	Main awareness estimate	Robustness conclusion
FE with clustered SE	0.00254***	Main result holds
FE + month controls, clustered SE	0.00258***	Main result holds
Wild cluster bootstrap test	p = 0.014	Association remains significant with small-cluster correction
Lag 1	0.00314***	Contemporaneous effect remains
Lag 2	0.00293***	Contemporaneous effect remains
Lag 3	0.00272***	Contemporaneous effect remains

Lagged terms, t-1, t-2, t-3	Not significant	No measurable delayed effect
FE + month + year controls	0.00268**	Result remains positive
FE + log awareness	0.11668***	Result robust to functional form
FE + camp-specific trends	0.00269*	Result weakens slightly but remains positive
Hausman test	$\chi^2 = 39.95$, $p = 0.0001$	FE preferred over RE

Table 2. Robustness checks on the association between awareness exposure and reported GBV

Notes: The table reports robustness checks for the association between awareness exposure and reported GBV rates. The dependent variable is reported GBV rate per 1,000 camp population. All models include camp fixed effects. Clustered models use standard errors clustered at the camp level. Number of camps = 10. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Additional robustness checks further support the main findings. First, clustering standard errors at the camp level does not alter the substantive result. The awareness coefficient remains positive and statistically significant, indicating that the finding is not driven by within-camp correlation in the error terms.

Second, the analysis includes only 10 camp clusters, statistical inference was further assessed using wild cluster bootstrap procedures. The positive association between awareness exposure and reported GBV remained statistically significant ($p = 0.014$), suggesting that the main finding is not driven by small-cluster bias.

Third, models including one-, two-, and three-month lags of awareness exposure produce a consistent pattern. In all cases, the contemporaneous awareness coefficient remains positive and statistically significant, while the lagged terms are not statistically significant. This reinforces the conclusion that the observed relationship is concentrated in the same period rather than emerging with a measurable delay.

Moreover, a Hausman test strongly favors the fixed-effects specification over the random-effects alternative, with $\chi^2 = 39.95$ and $p = 0.0001$. This indicates that unobserved

camp-level characteristics are correlated with awareness exposure, supporting the use of fixed effects as the safer modelling strategy.

Additional specifications, including models with year fixed effects, log-transformed awareness exposure, and camp-specific time trends, yield broadly similar results. Although the magnitude varies somewhat, the direction of the association remains consistently positive. In the camp-specific trend model, the estimate becomes weaker and only marginally significant. This suggests that part of the relationship may reflect differential trends across camps over time. However, the coefficient remains positive, which supports the overall interpretation of a positive within-camp association between awareness exposure and reported GBV.

Overall, the robustness checks show that the main result is not dependent on a single specification. The association remains positive across alternative models, although the findings should still be interpreted cautiously as evidence of association rather than causality.

4.5 Composition of Reported GBV by Type

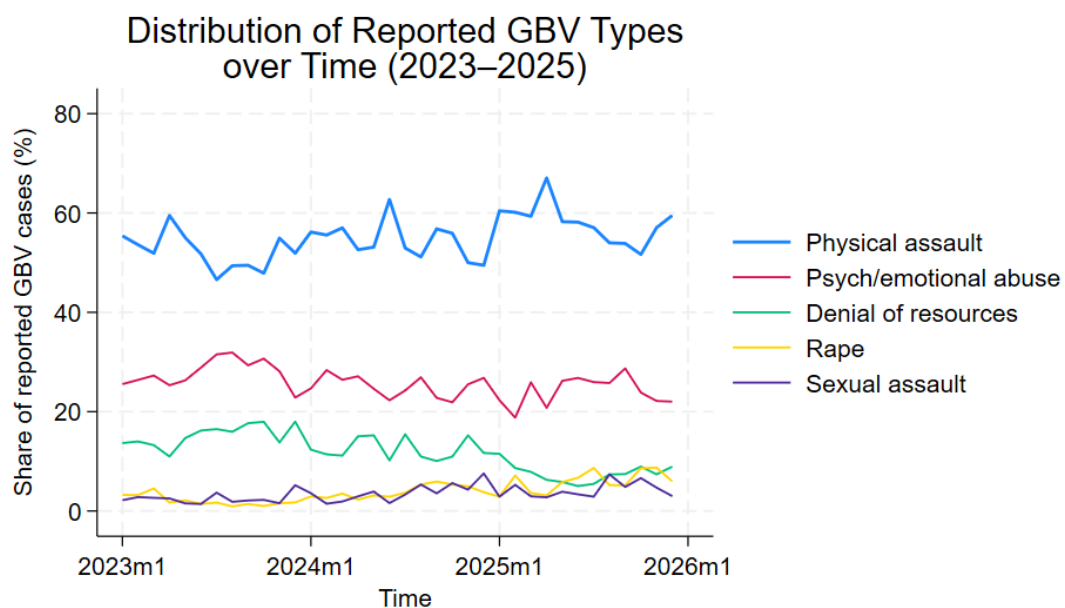


Figure 3. Distribution of reported GBV types over time (2023–2025)

Notes: The figure shows the monthly percentage distribution of reported GBV cases by type from 2023 to 2025. Categories include physical assault, psychological or emotional abuse, denial of resources or services, rape, and sexual assault. The horizontal axis shows months, and the vertical axis shows the percentage share of total reported GBV cases.

Figure 3 shows the distribution of reported GBV cases by type over time. This descriptive evidence helps contextualize the regression findings by showing which forms of violence dominate the reporting profile.

Physical assault consistently accounts for the largest share of reported cases, typically between 50 and 65 percent. Psychological and emotional abuse represents the second largest category, generally accounting for around 20 to 30 percent of reported cases. Other categories, including denial of resources, rape, and sexual assault, remain present but represent smaller shares.

Importantly, the overall composition of reported GBV remains relatively stable across the study period. This stability suggests that the positive association between awareness exposure and reported GBV is not driven by a sudden shift toward one specific category of violence. Rather, it appears to reflect broader changes in reporting across multiple categories of GBV. This pattern supports the interpretation that awareness exposure may be increasing the visibility of GBV within the reporting system, rather than simply changing the type of violence being recorded.

4.6 Demographic Profile of Survivors and Perpetrators

Category	Group	Percentage
Survivor sex	Female	98%
	Male	2%
Survivor age group	Under 18	8%
	18 and above	92%
Marital status	Married / Cohabiting	81%
	Single	10%

	Divorced / Separated / Widowed	9%
Previous GBV incidents	Yes	76%
	No	24%
Incident time	Evening / Night	51%
	Daytime (morning + afternoon)	48%
	Unknown	1%
Number of perpetrators	One perpetrator	74%
	Multiple perpetrators	24%
	Unknown	2%
Perpetrator age group	Age 26–40	73%
	Age 18–25	11%
	Age 41–60	11%
	Other / Unknown	5%
Relationship with survivor	Intimate partner / former partner	69%
	Other known persons	20%
	Unknown / no relation	11%
Perpetrator occupation	Unemployed	34.46%
	Laborer	29.29%
	Armed group	19.29%
	Other occupations	16.96%

Table 3. Demographic profile of reported survivors and alleged perpetrators

Table 3 highlights several consistent patterns in the demographic characteristics of reported survivors and alleged perpetrators. Reported survivors are overwhelmingly female, accounting for 98 percent of cases, and predominantly adults, with 92 percent aged 18 and above. Most survivors are married or cohabiting, representing 81 percent of reported cases. This indicates that reported GBV is strongly concentrated within intimate and household relationships.

A large majority of survivors, 76 percent, report previous incidents of violence. This suggests that repeated or ongoing abuse is common. The data therefore capture not only first-time reporting, but also continued exposure to violence over time.

The timing of incidents shows a slight concentration in evening and night hours, at 51 percent, compared with 48 percent during daytime hours. Although the difference is modest, it may reflect greater vulnerability in private or less visible settings.

The perpetrator profile further reinforces the centrality of intimate partner violence. Most perpetrators are aged 26-40, and 69 percent are identified as intimate partners or former partners. This pattern supports the interpretation that much of the reported GBV is embedded in household-level power relations rather than occurring randomly across the camp population.

In terms of occupation, the largest groups are unemployed individuals, at 34.46 percent, and laborers, at 29.29 percent. A notable share, 19.29 percent, is associated with armed groups. These patterns should be interpreted cautiously, as occupation categories may be affected by reporting bias and classification limitations in administrative data. Nevertheless, they suggest that economic insecurity, unstable livelihoods, and broader social stress may be important features of the reporting context.

Overall, the demographic evidence indicates that reported GBV is highly gendered, strongly concentrated among adult women, and closely linked to intimate partner relationships. These patterns are consistent with the ecological framework discussed earlier, which emphasizes the interaction between household power relations, community norms, and broader structural constraints.

4.7 Summary of Findings

The results yield three main findings. First, awareness exposure increased substantially between 2023 and 2025, reflecting the expansion of protection awareness programming across the camps.

Second, higher awareness exposure is consistently associated with higher reported GBV rates across the fixed-effects models. This relationship remains positive across multiple robustness checks, including clustered standard errors, alternative lag structures, year controls, log-transformed awareness exposure, and camp-specific time trends.

Third, the reporting profile is dominated by intimate partner violence affecting adult women. Physical assault and psychological or emotional abuse account for the largest shares of reported cases, while the demographic profile shows that survivors are overwhelmingly female, mostly adults, and commonly married or cohabiting.

Importantly, the absence of statistically significant lagged effects suggests that the relationship between awareness exposure and reported GBV is primarily immediate rather than delayed. Combined with the descriptive evidence, this pattern is more consistent with a short-run reporting effect than with an immediate reduction in underlying violence.

These findings suggest that increased awareness exposure is associated with improved visibility of GBV within reporting systems, likely through reduced stigma, increased knowledge of services, and greater trust in reporting mechanisms. At the same time, the results should be interpreted cautiously. They reflect patterns in reported GBV rather than direct measures of underlying incidence and do not establish causal effects. Taken together, the findings highlight the importance of distinguishing between changes in reported violence and changes in underlying incidence when evaluating awareness-based interventions in humanitarian settings.

5. Discussion

5.1 Main Findings and Hypothesis Assessment

The central finding of this study provides strongest support for the first hypothesis, which proposed that higher protection awareness exposure is consistently associated with higher reported GBV rates across Rohingya refugee camps over time. This positive relationship remains statistically significant across the main fixed-effects specifications and across a wide range of robustness checks, including clustered standard errors at the camp level, alternative lag structures, year controls, and a log-transformed awareness measure. Although the coefficient becomes weaker in the specification with camp-specific time trends, it remains positive and marginally significant. Taken together, these results suggest that the association is not driven by a single model choice and is reasonably robust within the limits of the available data.

At first glance, the result may seem counterintuitive. Protection awareness interventions are generally intended to prevent violence, strengthen community knowledge, and improve safety. A positive association between awareness exposure and reported GBV may therefore appear inconsistent with the purpose of such programming. However, this apparent contradiction becomes much more understandable when interpreted through the distinction between reported violence and underlying incidence. The administrative data used in this study do not measure the total prevalence of violence. Rather, they capture those incidents that become visible within institutional reporting systems. In this context, a rise in reported GBV does not necessarily imply that violence itself has increased. It may instead indicate that more survivors are disclosing violence that previously remained hidden.

This interpretation is central to the argument of the thesis. Protection awareness may affect reported GBV through several mechanisms that are related not to incidence directly, but to visibility and disclosure. Awareness activities may reduce stigma, improve knowledge of rights and services, strengthen familiarity with referral pathways, and increase trust in humanitarian actors. In a setting where underreporting is likely severe, any intervention that lowers the informational, social, or practical barriers to disclosure may increase the number

of incidents that enter administrative systems. The positive association identified in the regression analysis is therefore more plausibly interpreted as evidence of a short-run reporting effect than as evidence of worsening violence.

The lagged models strengthen this interpretation. Across the one-, two-, and three-month lag specifications, the contemporaneous awareness coefficient remains positive and statistically significant, while the lagged awareness terms are not statistically significant. This suggests that the strongest relationship is immediate rather than delayed. If awareness were producing a rapid reduction in actual violence, one might expect some evidence of negative lagged effects to appear over subsequent months. That pattern is not visible here. Instead, the data suggest that awareness exposure is associated with a same-period increase in reported GBV, without evidence of a measurable short-term decline later. This is more consistent with improved disclosure and reporting than with an immediate incidence-reducing effect.

At the same time, although the empirical findings provide limited support for the second hypothesis in the short run, the absence of significant lagged effects should not be interpreted as evidence that awareness has no preventive value. It is entirely possible that preventive effects exist but take longer to emerge, operate through indirect channels, or are difficult to detect using short-run administrative data. Norm change, household bargaining shifts, and community-level behavioral adjustments are unlikely to occur immediately. In protracted displacement settings marked by entrenched social norms and structural stress, preventive effects may require longer time horizons and stronger institutional support than can be captured in a monthly camp-level panel. The results therefore do not refute the possibility of prevention. Rather, they indicate that the most visible short-run effect in the available data is on reporting.

5.2 Reporting Visibility and the Incidence-Reporting Distinction

The descriptive evidence on the composition of reported GBV supports the reporting interpretation. Physical assault remains the dominant category throughout the period, followed by psychological and emotional abuse, while other categories such as denial of resources, rape, and sexual assault remain present but smaller. The overall composition

appears relatively stable over time. This stability suggests that awareness exposure is not producing a dramatic shift in the kinds of violence captured by the administrative system. Instead, the evidence suggests that awareness works within a pre-existing reporting environment. Within that context, some forms of violence (especially physical assault and intimate partner violence) are already more visible to the reporting system than others. That pattern is consistent with the argument that awareness expands the visibility of existing violence rather than fundamentally transforming the composition of reported GBV.

An additional insight from the descriptive evidence further reinforces this interpretation. A substantial share of reported survivors experienced prior incidents of violence, indicating that GBV in the camps is often repeated rather than isolated. This suggests that the administrative data capture not only new cases, but also ongoing patterns of abuse within households. In this context, increased awareness may not necessarily generate new incidents of violence, but rather enable survivors who have previously experienced violence to disclose it more readily. This dynamic is consistent with the reporting interpretation advanced in this study and helps explain why the observed effect appears contemporaneous rather than delayed.

Overall, the results suggest that protection awareness exposure is associated with greater visibility of GBV in administrative reporting systems, especially in the short run. Rather than treating this as evidence that awareness fails, it may be more accurate to understand it as evidence that awareness helps reduce silence and improve access to institutional response. In a setting where underreporting is a fundamental challenge, that is itself a meaningful contribution. The findings therefore support a cautious but important interpretation of awareness programming as part of the social infrastructure of protection, even if its direct preventive effects on underlying violence cannot be firmly established within this study. Importantly, these findings challenge a common assumption in policy evaluation that rising reported GBV necessarily reflects worsening conditions. Instead, increases in reported cases may indicate improved institutional access and reduced barriers to disclosure, with important implications for how GBV interventions are monitored and evaluated in displacement settings.

5.3 Interpretation Through the Theoretical Framework

The demographic profile of survivors and perpetrators reinforces this interpretation and connects the results back to the theoretical framework. Reported survivors are overwhelmingly female, mostly adults, and largely married or cohabiting. Most perpetrators are intimate partners or former partners, and many are unemployed or engaged in low-income labor. These patterns strongly suggest that the reported GBV profile is concentrated in intimate and household settings rather than spread randomly across the camp population. This is consistent with the ecological framework developed earlier in the thesis, which emphasizes the interaction between household power relations, gender norms, community context, and institutional conditions. It is also consistent with the broader literature linking intimate partner violence to economic stress, limited livelihood opportunities, constrained mobility, and unequal bargaining power.

These findings also fit the human capital perspective outlined in the theoretical chapter. Although the study does not directly measure outcomes such as employment, schooling, or income, the concentration of violence among adult women in intimate relationships suggests broader consequences for participation and well-being. Violence that is repeated, normalized, or embedded in household life is likely to affect women's mobility, confidence, mental health, and social engagement. In that sense, the study's descriptive results are consistent with the claim that GBV is not only a protection concern, but also a barrier to social and economic participation.

The results also speak directly to the thesis's concept of protection awareness as preventive social infrastructure. This study cannot directly test whether awareness improves broader development outcomes. However, the empirical findings are compatible with the idea that awareness strengthens the informational and institutional environment in which violence is recognized and addressed. If awareness makes it easier for survivors to identify violence, seek support, and enter reporting systems, then it performs an infrastructural role even without immediate reductions in reported violence. In this sense, awareness should not be understood only as a narrow messaging activity. It may also function as part of the wider system that shapes whether violence remains hidden or becomes visible to institutions capable of responding.

5.4 Robustness Checks and Alternative Explanations

The robustness checks add important nuance. Clustering standard errors at the camp level does not alter the substantive finding: the awareness coefficient remains positive and statistically significant. This is important because it suggests that the main result is not simply an artifact of within-camp serial correlation. The Hausman test strongly supports fixed effects over random effects, which indicates that unobserved camp-level characteristics are correlated with awareness exposure. In practical terms, this means that camps differ in ways that matter for the relationship being studied, and that the fixed-effects approach is better suited to account for these differences. This strengthens confidence in the main modelling strategy.

The additional specifications also help refine interpretation. When year fixed effects are added, the coefficient on awareness remains positive and statistically significant, although somewhat smaller. This suggests that the result is not simply driven by broad differences across 2023, 2024, and 2025. Likewise, the log-transformed awareness specification produces a positive and statistically significant coefficient, indicating that the finding is not dependent on the linear scale of the awareness variable. These results strengthen confidence that the observed association is not driven by specific modelling choices or functional form assumptions, but instead reflects a consistent and robust empirical pattern across specifications.

The modest within R-squared values also support a cautious interpretation. Awareness exposure explains only part of the within-camp variation in reported GBV, which is expected given that reporting is influenced by a range of additional factors, including staffing levels, service availability, referral pathways, case management capacity, and institutional trust. Therefore, the positive association should be understood as one contributing factor within a broader reporting environment rather than as a complete explanation of reported GBV trends.

The camp-specific trend model deserves more careful attention. In that specification, the awareness coefficient remains positive but weakens and becomes only marginally significant.

This matters because it suggests that part of the main association may reflect the fact that some camps experienced upward trends in both awareness exposure and reported GBV over time. In other words, the result may partly capture parallel camp-level trajectories rather than only short-term changes within camps. This does not overturn the main finding, but it does imply that the relationship should be interpreted cautiously. The result is robust, but not immune to the possibility that differential camp-level trends are playing some role.

It is also important to acknowledge alternative explanations for the observed association. Camps with more intensive awareness programming may also have better staffing, stronger referral systems, improved case detection, or more active outreach by protection actors. Similarly, awareness programming may be strategically targeted toward camps already perceived by humanitarian actors as higher-risk or more vulnerable. In this case, higher awareness exposure would partly reflect underlying protection conditions rather than only the independent effect of awareness itself. These possibilities do not invalidate the findings, but they do limit causal interpretation. The positive coefficient should not be read mechanically as the causal effect of awareness alone. Rather, it should be read as evidence of a robust within-camp association that is most plausibly interpreted in relation to reporting visibility and institutional access.

These caveats underscore the study's limitations. The dependent variable is based on reported cases rather than true prevalence. The data are derived mainly from one major implementing organization rather than the full protection response. And although fixed effects improve the empirical strategy by controlling for time-invariant camp characteristics, they do not eliminate endogeneity or omitted-variable concerns. The findings should therefore be interpreted as associative rather than causal. Even so, the panel structure, the descriptive evidence, and the robustness checks provide a considerably stronger basis for interpretation than would be possible with purely cross-sectional or anecdotal data.

The study also contributes to the literature in several ways. First, it provides quantitative longitudinal evidence from a large-scale refugee setting, whereas much of the existing research on GBV in humanitarian contexts remains cross-sectional or qualitative. Second, it highlights the importance of interpreting administrative GBV data through the incidence-reporting distinction. Third, it shows empirically that increases in reported GBV

may coincide with stronger awareness programming, not necessarily because violence is worsening, but because violence is becoming more visible to institutional systems.

5.5 Policy Implications

At the same time, the findings highlight the limits of awareness programming on its own. The lack of significant lagged effects and the persistence of reported GBV suggest that awareness alone is unlikely to be sufficient to generate measurable short-term declines in violence. This is unsurprising in a context marked by protracted displacement, overcrowding, restricted legal access to livelihoods, economic precarity, and deeply rooted patriarchal norms. Under such conditions, violence is sustained by structural forces that awareness campaigns alone cannot resolve. Awareness may therefore be necessary, but not sufficient. Its effectiveness is likely to depend on whether survivors also have access to safe reporting channels, functioning referral pathways, psychosocial support, case management, legal assistance, and broader interventions that reduce household stress and vulnerability.

A broader implication is that GBV prevention in refugee settings may need to be understood as sequential rather than immediate. In the short run, awareness may increase disclosure, reporting, and trust in services. In the medium run, stronger reporting may improve institutional learning, targeting, and case response. Only over a longer horizon, and in combination with structural support, might these changes contribute to reductions in violence itself. This sequential interpretation is more realistic for protracted humanitarian settings than expecting immediate declines in reported GBV following awareness expansion.

From a policy perspective, the implications are important. Short-term increases in reported GBV following awareness interventions should not automatically be interpreted as evidence of program failure. In contexts of chronic underreporting, higher reported case numbers may reflect lower barriers to disclosure, stronger trust in services, and improved institutional access. Awareness programming should therefore not be evaluated solely on whether reported GBV declines in the short run. Doing so risks penalizing interventions that are actually helping to reveal hidden violence.

A related implication is that monitoring and evaluation systems should distinguish more clearly between reporting outcomes and incidence outcomes. Increased case reporting may be a positive sign of improved access and trust, while reductions in actual violence may require longer time horizons and broader structural interventions. Treating these outcomes as identical can lead to misleading assessments of program effectiveness. A more appropriate monitoring framework would therefore include indicators not only of case counts, but also of referral completion, service uptake, repeated service contact, and survivor engagement with support systems.

The findings also suggest that awareness interventions are most likely to be effective when integrated into a broader protection architecture. Awareness can reduce informational barriers, but it cannot by itself resolve the structural conditions that sustain GBV. Where survivors lack safe reporting channels, economic alternatives, psychosocial support, or confidence in service quality, the preventive potential of awareness is likely to remain limited. Awareness efforts, therefore, should be integrated with survivor-centered services and community-based protection. Where possible, they should also be paired with programs addressing economic stress and vulnerability within households.

5.6 Limitations and Future Research

From a methodological standpoint, future research should address two limitations of the current design. First, applying a wild-cluster bootstrap procedure would provide more reliable inference than conventional cluster-robust standard errors in settings with few clusters. Second, causal identification would be considerably strengthened by quasi-experimental approaches such as difference-in-differences or event-study designs. This is especially the case if awareness programming is introduced at different times across camps. Instrumental-variable strategies or phased intervention rollouts could also help address endogeneity concerns more directly. Although randomized implementation may be difficult in humanitarian settings for ethical and operational reasons, stronger causal designs would help distinguish reporting effects from program placement dynamics more clearly. Longer time horizons would make it possible to test whether gains in reporting are followed by eventual declines in violence. Future research linking protection data to social and economic

outcomes could also help evaluate more directly whether awareness operates as preventive social infrastructure with broader development implications.

6. Conclusion

This thesis examined the relationship between protection awareness exposure and reported gender-based violence (GBV) in Rohingya refugee camps between 2023 and 2025. Using a balanced camp-level panel dataset and fixed-effects regression models, the study analyzed whether changes in awareness exposure are associated with variation in reported GBV over time. The analysis was guided by a conceptual framework that interprets protection awareness not only as an informational intervention, but also as a component of preventive social infrastructure in humanitarian settings.

The empirical results show a consistent and statistically significant positive association between awareness exposure and reported GBV rates across multiple model specifications. This relationship remains robust when accounting for time effects, alternative lag structures, and different model assumptions. Importantly, the lagged models indicate that this relationship is primarily contemporaneous rather than delayed, suggesting that the observed pattern is unlikely to reflect immediate reductions in underlying violence.

These findings are most plausibly interpreted through the distinction between reported violence and actual incidence. In contexts characterized by substantial underreporting, awareness activities may reduce stigma, improve knowledge of available services, and strengthen trust in reporting systems. As a result, increases in reported GBV are more consistent with improved disclosure and institutional visibility than with worsening conditions. This highlights the importance of interpreting administrative GBV data with caution, particularly in humanitarian settings where reporting barriers are significant.

From a broader perspective, the findings suggest that protection awareness plays an important role in strengthening reporting access and institutional visibility in humanitarian settings. Even without immediate reductions in reported GBV, awareness interventions may help survivors recognize violence, seek support, and engage with protection systems. In this sense,

awareness can be understood as part of the wider social infrastructure of protection, influencing not only behavior but also visibility and access. This insight extends beyond the Rohingya context, as similar reporting dynamics are likely to exist in other humanitarian and low-resource settings where institutional trust and access to services remain uneven. Understanding this relationship is therefore critical for interpreting GBV trends in a wider global context.

At the same time, the results indicate that awareness alone is unlikely to generate short-term declines in violence. Structural factors such as economic insecurity, restricted mobility, and entrenched gender norms continue to shape GBV risk in displacement settings. This implies that awareness interventions are most effective when integrated into broader protection systems that include survivor support services, referral mechanisms, and interventions addressing underlying vulnerabilities.

This study contributes to the literature by providing quantitative longitudinal evidence from a large-scale refugee context and by emphasizing the importance of the incidence-reporting distinction in interpreting GBV trends. It shows that increases in reported GBV may reflect improvements in reporting systems rather than increases in violence itself, an insight that has important implications for both research and policy.

Several limitations remain. The analysis relies on reported cases rather than true prevalence, does not establish causal effects, and is based on data from a single implementing organization. Future research could build on this work by incorporating multi-agency data, applying stronger identification strategies, and examining longer-term outcomes. In particular, linking protection data to social and economic indicators would help assess whether awareness interventions contribute to broader development outcomes.

In conclusion, this thesis demonstrates that protection awareness exposure is closely associated with increased reporting of GBV in Rohingya refugee camps. While this does not provide evidence of reduced underlying violence, it highlights an important mechanism through which awareness strengthens protection systems: by making violence more visible and more accessible to institutional response. In contexts where underreporting is pervasive, this increased visibility represents a critical step toward more effective protection and

longer-term prevention. Recognizing this distinction is essential for designing, evaluating, and scaling GBV interventions in humanitarian settings.

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Appendix

Appendix A. Variable Definitions

Table A1. Variable Definitions

Variable	Definition	Measurement
Reported GBV cases	Number of GBV incidents recorded	Monthly camp-level count
Reported GBV rate	GBV cases normalized by population	Cases per 1,000 people
Awareness reach	Number of individuals reached by awareness programs	Monthly count
Awareness exposure rate	Awareness reach normalized by population	Individuals per 1,000 people
Total population	Camp population size	Monthly
Lagged awareness (t-1, t-2, t-3)	Awareness exposure in previous months	Lagged variables
Camp fixed effects	Controls for time-invariant camp characteristics	Included in FE model
Month controls	Seasonal variation controls	Month dummies
Year controls	Time trend across years	Year dummies
Camp-specific trend	Linear trend per camp	camp $\times$ time interaction

Appendix B. Descriptive Statistics

Table B1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Reported GBV rate	360	0.602	0.375	0.000	1.989
Awareness exposure rate	360	78.472	36.599	7.342	207.508
GBV cases	360	14.522	7.286	0	46
Awareness reach	360	1,971.967	798.813	138	4,161
Total population	360	28,542.32	11,662.40	8,728	52,976

Appendix C. Correlation Matrix

Table C1 Correlation Matrix

Variable	GBV rate	Awareness rate	GBV cases	Awareness reach
GBV rate	1.000			
Awareness rate	0.762***	1.000		
GBV cases	0.476***	0.187***	1.000	
Awareness reach	0.007	0.243***	0.610***	1.000

Notes: *** $p < 0.01$

Appendix D. Robustness Checks

Table D1. Robustness checks on the association between awareness exposure and reported GBV

Model	Awareness estimate	Standard error	Significance	Interpretation
FE with clustered SE	0.00254	0.00041	***	Main result holds
FE + month controls, clustered SE	0.00258	0.00046	***	Main result holds
Lag 1 model	0.00314	0.00063	***	Contemporaneous effect remains
Lag 2 model	0.00293	0.00071	***	Contemporaneous effect remains
Lag 3 model	0.00272	0.00044	***	Contemporaneous effect remains
FE + month + year controls	0.00268	0.00100	**	Result remains positive
Log awareness specification	0.11668	0.02464	***	Robust to functional form
Camp-specific trends	0.00269	0.00126	*	Positive but weaker

Notes: The dependent variable is reported GBV rate per 1,000 camp population. Standard errors are clustered at the camp level where applicable. The log awareness model uses the natural log of awareness exposure rate plus one. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Lagged awareness terms were not statistically significant in the one-, two-, or three-month lag models. This supports the interpretation that the relationship between awareness exposure and reported GBV is mainly contemporaneous rather than delayed.

Appendix E. GBV Type Distribution (2023–2025)

Variables included:

- Physical assault
- Psychological/emotional abuse
- Denial of resources/services
- Sexual assault
- Rape

All variables are expressed as percentage share of total reported GBV cases.

Finding:

- Physical assault is the dominant category
- Psychological/emotional abuse and denial of resources are also substantial
- Sexual violence categories (rape, sexual assault) are comparatively lower but persistent

Appendix F. Hausman Test

Table F1. Hausman test comparing fixed effects and random effects

Test	Result
Chi-square statistic	39.95
Degrees of freedom	12
p-value	0.0001
Preferred model	Fixed effects

Interpretation:

The Hausman test rejects the null hypothesis that the random-effects estimator is consistent. This indicates that unobserved camp-level characteristics are systematically correlated with awareness exposure. Therefore, the fixed-effects model is preferred because it controls for time-invariant differences across camps.

Appendix G. Stata Commands and Replication Code

G.1 Main Panel Dataset Preparation

```
cd "C:\Users\Admin\Documents\thesis\data\thesis stata"

import excel "master_dataset", firstrow clear

destring total_population, replace

gen time = ym(year, month_num)
format time %tm

encode camp, gen(camp_id)

xtset camp_id time

gen gbv_rate = (gbv_cases / total_population) * 1000
gen awareness_rate = (awareness_reach / total_population) * 1000
```

G.2 Main Fixed-Effects Models

```
* Baseline fixed-effects model
xtreg gbv_rate awareness_rate, fe
estimates store model1

* Fixed-effects model with month controls
xtreg gbv_rate awareness_rate i.month_num, fe
estimates store model2

* Fixed-effects model with one-month lagged awareness
gen L1_awareness_rate = L.awareness_rate
```

```
xtreg gbv_rate awareness_rate L1_awareness_rate i.month_num, fe
estimates store model3
```

G.3 Exporting Main Regression Table

```
esttab model1 model2 model3 using table1.rtf, ///
replace se star(* 0.1 ** 0.05 *** 0.01) ///
drop(1.month_num) ///
mtitles("Baseline FE" "FE + Month Controls" "FE + Lagged Awareness") ///
title("Association between awareness exposure and reported GBV rates") ///
varlabels(awareness_rate "Awareness exposure rate (per 1,000)" ///
L1_awareness_rate "Lagged awareness exposure rate (t-1)")
```

G.4 Figure 1: Trends in Awareness Exposure and Reported GBV

```
preserve

collapse (mean) gbv_rate awareness_rate, by(time)

twoway ///
(line gbv_rate time, yaxis(1) lwidth(medthick)) ///
(line awareness_rate time, yaxis(2) lpattern(dash)), ///
legend(label(1 "GBV rate") label(2 "Awareness exposure")) ///
title("Trends in Awareness Exposure" "and Reported GBV (2023–2025)") ///
yttitle("GBV rate (per 1000)", axis(1)) ///
yttitle("Awareness rate (per 1000)", axis(2)) ///
graphregion(margin(large)) ///
plotregion(margin(medium))

restore

graph export "figure1_awareness_gbv_trends.png", replace
```

G.5 Robustness Checks

* Fixed-effects model with clustered standard errors

```
xtreg gbv_rate awareness_rate, fe vce(cluster camp_id)
estimates store c_model1
```

* Fixed-effects model with month controls and clustered standard errors

```
xtreg gbv_rate awareness_rate i.month_num, fe vce(cluster camp_id)
estimates store c_model2
```

* Additional lag variables

```
gen L2_awareness_rate = L2.awareness_rate
gen L3_awareness_rate = L3.awareness_rate
```

* Lag 1 model with clustered standard errors

```
xtreg gbv_rate awareness_rate L1_awareness_rate i.month_num, fe vce(cluster camp_id)
estimates store c_model3
```

* Lag 2 model with clustered standard errors

```
xtreg gbv_rate awareness_rate L2_awareness_rate i.month_num, fe vce(cluster camp_id)
estimates store c_model4
```

* Lag 3 model with clustered standard errors

```
xtreg gbv_rate awareness_rate L3_awareness_rate i.month_num, fe vce(cluster camp_id)
estimates store c_model5
```

G.6 Additional Robustness Specifications

* Year fixed effects

```
xtreg gbv_rate awareness_rate i.month_num i.year, fe vce(cluster camp_id)
```

* Log-transformed awareness exposure

```
gen ln_awareness_rate = ln(awareness_rate + 1)
```

```
xtreg gbv_rate ln_awareness_rate i.month_num, fe vce(cluster camp_id)
```

* Camp-specific linear trends

```
bysort camp_id (time): gen trend = _n
```

```
xtreg gbv_rate awareness_rate i.month_num c.trend#i.camp_id, fe vce(cluster camp_id)
```

G.7 Hausman Test

* Random-effects model

```
xtreg gbv_rate awareness_rate i.month_num, re
estimates store re_model
```

* Fixed-effects model

```
xtreg gbv_rate awareness_rate i.month_num, fe
estimates store fe_model
```

* Hausman test

```
hausman fe_model re_model
```

G.8 Descriptive Statistics and Correlations

summarize gbv_rate awareness_rate gbv_cases awareness_reach total_population, detail

pwcorr gbv_rate awareness_rate gbv_cases awareness_reach, sig

G.9 GBV Type Dataset and Figure 2

```
import excel "gbv_types.xlsx", firstrow clear
```

```
gen month_num = .
replace month_num = 1 if month=="January"
replace month_num = 2 if month=="February"
replace month_num = 3 if month=="March"
replace month_num = 4 if month=="April"
replace month_num = 5 if month=="May"
replace month_num = 6 if month=="June"
replace month_num = 7 if month=="July"
replace month_num = 8 if month=="August"
replace month_num = 9 if month=="September"
replace month_num = 10 if month=="October"
replace month_num = 11 if month=="November"
replace month_num = 12 if month=="December"
```

```
gen time = ym(year, month_num)
format time %tm
sort time
```

```
gen rape_pct = Rape * 100
gen sexual_pct = sexual_assault * 100
gen physical_pct = physical_assault * 100
gen denial_pct = denial_resources * 100
gen psych_pct = psych_emotional * 100
```

```
twoway ///
(line physical_pct time, sort lwidth(medthick)) ///
(line psych_pct time, sort) ///
(line denial_pct time, sort) ///
(line rape_pct time, sort) ///
(line sexual_pct time, sort), ///
title("Distribution of Reported GBV Types" "over Time (2023–2025)") ///
ytitle("Share of reported GBV cases (%)") ///
xtitle("Time") ///
legend(order(1 "Physical assault" 2 "Psychological/emotional abuse" ///
3 "Denial of resources" 4 "Rape" 5 "Sexual assault")) ///
graphregion(margin(large)) ///
```

```
plotregion(margin(medium))
```

```
graph export "figure2_gbv_types.png", replace
```

G.10 Notes on Replication

The main panel dataset was used for the fixed-effects regression analysis, robustness checks, descriptive statistics, and correlation matrix. The separate GBV type dataset was used only to produce the descriptive figure on the distribution of reported GBV types over time. Both datasets were transformed into monthly time-series format using the year and month variables.

Appendix H. AI Declaration

Artificial intelligence tools, including ChatGPT, were used in a limited and supportive capacity during the preparation of this thesis. Specifically, these tools were used for language editing, grammar correction, and improving clarity of expression, as well as for minor assistance in structuring text and refining phrasing. AI tools were occasionally used to support Stata coding, primarily to verify or recall syntax.

No AI tools were used to generate original research ideas, conduct independent data analysis, interpret empirical results, or produce substantive academic arguments. All econometric analysis, interpretation of findings, and theoretical reasoning are the author's own work.