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Review Article

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Integrating Nutrition, Psychosocial Wellbeing, and Reproductive Health Pathways among Rohingya Women and Adolescents in Registered and Non-Registered Camps, Cox's Bazar

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ABSTRACT

The Rohingya crisis in Cox's Bazar, Bangladesh, remains one of the world's most protracted humanitarian emergencies, where reproductive health, nutrition, and psychosocial wellbeing intersect amid chronic vulnerability. Persistent food insecurity, unsafe WASH conditions, and psychological distress continue to undermine the sexual and reproductive health (SRH) of women and adolescents.

This **mixed qualitative study** examined these interlinkages across nine camps—six registered and three non-registered. Data were collected through 18 focus-group discussions (72 men/boys; 63 women/girls), 30 key-informant interviews with officials and frontline workers, structured field observations, and a review of 20 policy and operational documents.

Five key themes emerged: (1) monotonous diets and micronutrient deficiencies, particularly iron-deficiency anemia among adolescent girls and pregnant women; (2) gendered mobility restrictions limiting access to SRH and psychosocial services; (3) distress associated with food shortages, idleness, and gender-based violence; (4) inadequate menstrual-hygiene management (MHM) and WASH infrastructure; and (5) systemic inequities and neglect in non-registered camps.

Findings emphasize the urgent need for an **integrated reproductive-health pathway** linking nutrition and anemia screening with psychosocial and maternal care, supported by gender-sensitive WASH improvements. Policy priorities include adolescent SRH, MHM, and mental-health and psychosocial support (MHPSS), alongside equitable service coverage for non-registered camps. The evidence contributes to the **RRRC-led SOP reform process** and aligns with global commitments to reproductive rights, gender equity, and humanitarian accountability.

Keywords: Rohingya, Reproductive health, Adolescent girls, Nutrition, Psychosocial wellbeing, Gender equity, Cox's Bazar

Introduction

Since 2017, nearly one million Rohingya refugees have settled in Cox's Bazar, creating the world's largest stateless population. Despite major humanitarian investment, reproductive, maternal, and adolescent health remain critically constrained. Women and girls—over 52 percent of the total population—experience overlapping deprivations: under-nutrition, gender-based violence (GBV), restricted mobility, and psychosocial distress [1-3].

Adolescent girls in particular face anemia rates exceeding 22 percent and poor access to menstrual-hygiene materials or private facilities [4]. Pregnant and lactating women report inadequate antenatal/postnatal care, recurrent infections, and complications aggravated by poor nutrition (World Bank 2021). Men and boys experience identity loss and depression linked to unemployment, indirectly worsening household wellbeing. Prevailing norms and stigma further discourage contraception or family-planning service use [1].

While registered camps under UN and NGO management have comparatively better SRH infrastructure, non-registered settlements—hosting some 250 000 refugees—fall outside

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formal SOP coverage, receiving irregular food rations and limited health access. Fragmented coordination between nutrition, SRH, and MHPSS actors exacerbates inequities. [3,5].

Globally, reproductive outcomes in displacement settings are tightly linked to nutritional and psychosocial conditions. Chronic malnutrition elevates obstetric risk, while prolonged stress and GBV increase miscarriage, preterm birth, and postpartum depression [6,7]. Evidence from South Sudan, Syria, and Ethiopia demonstrates that integrated SRH–nutrition–MHPSS programming improves maternal survival and adolescent wellbeing [8,9].

Accordingly, this study—Health and Livelihoods at the Intersection—examines how nutrition, psychosocial wellbeing, and reproductive health jointly influence outcomes for Rohingya women and adolescents. The objectives are to:

1. Assess gender- and age-specific vulnerabilities across SRH, nutrition, and mental-health domains;
2. Compare inequities between registered and non-registered camps;
3. Identify policy and operational gaps in current SOPs; and
4. Propose integrated, clinic-ready pathways linking nutrition, reproductive, and psychosocial care.

Addressing these together is essential for advancing dignity, safety, and wellbeing among displaced women and adolescents.

Literature Review

Nutrition, Food Security, and Reproductive Health.

Undernutrition is a key determinant of reproductive outcomes in humanitarian crises. Diets dominated by rice and lentils yield low protein and micronutrient intake [3]. Iron- and folate-deficiency anemia among adolescent girls and pregnant women leads to low birth weight, preterm delivery, and postpartum complications. found 22 percent of adolescent girls in Cox's Bazar exhibit moderate to severe anemia—the highest regional prevalence [4,6,7].

Despite this, food-aid programs seldom align with antenatal or adolescent-health services, perpetuating reproductive vulnerability [7].

Psychosocial Wellbeing and Reproductive Autonomy

Roughly 30–40 percent of refugees experience depression, anxiety, or post-traumatic stress. Among the Rohingya, psychosocial distress intersects directly with reproductive autonomy—women's power to decide on pregnancy, contraception, and healthcare access [1]. Cultural norms, fear, and restricted movement discourage use of maternal or family-planning services; adolescents face stigma around menstruation and early marriage. The IASC underscores that integrating psychosocial and reproductive-health services enhances both mental and maternal outcomes, yet these remain largely siloed in Cox's Bazar [4,9,10].

WASH, Menstrual Health, and Gender-Based Vulnerability

Access to safe water and sanitation is far below global standards, with one water point serving up to 200 families [3,4]. Poor drainage and unlit latrines heighten health and security risks [11]. Limited privacy and inadequate menstrual facilities discourage school attendance and increase infections. Global Reproductive Health Strategy frames MHM as an essential reproductive-health right, not merely a hygiene issue [7].

Livelihoods, Gender Dynamics, and Decision-Making.
Restricted livelihoods deepen dependency and limit women's control over SRH decisions [12,13]. Comparable evidence from Syria and South Sudan shows that economic empowerment enhances contraceptive uptake and maternal wellbeing [8,9].

Governance and Integrated Service Delivery

Existing RRRC and cluster SOPs are sector-specific, fragmenting coordination between health, nutrition, and protection [5,3]. Integrating these under a gender-sensitive, RRRC-led framework would strengthen efficiency and equity [1,7].

Study Contribution

Few studies examine how SRH, nutrition, and psychosocial wellbeing intersect across registered versus non-registered camps. This study fills that gap by combining field evidence with policy analysis to develop an integrated, equity-focused model for humanitarian SRH programming.

Materials and Methods

Study Design and Setting

A qualitative, cross-sectional design was applied in Cox's Bazar (June 2025), targeting women's and adolescents' SRH within their nutritional and psychosocial contexts. Nine camps were purposively selected—six registered (UNHCR-administered) and three non-registered informal sites—collectively hosting about 250 000 residents.

Sampling and Participants

Purposive sampling ensured diversity by sex, age, and registration status. Eligible participants had resided ≥ 6 months and could provide informed consent. Special focus was given to adolescent girls(15–19years) and pregnant/lactating women. Eighteen FGDs (n = 135; 72 men/boys and 63 women/girls) and 30 KIIs with officials, health staff, and NGO workers were completed.

Data Collection

Data sources included:

- FGDs on food access, SRH, MHM, and psychosocial distress;
- KIIs on governance, SOPs, and referral mechanisms;
- Structured observations of clinics, MHPSS corners, and WASH facilities;
- Review of 20 RRRC/ISCG and agency SOP documents.

Facilitators (one male, one female) were trained in gender-sensitive techniques.

Data Analysis

Audio files were transcribed and translated from Rohingya/Bangla to English. Hybrid inductive-deductive coding using NVivo organized themes under nutrition, psychosocial wellbeing, reproductive health, MHM, and governance. Triangulation and participant validation enhanced reliability.

Ethical Considerations

Ethical approval for this study was obtained from independent reviewers, including national university faculty members and technical specialists from ImpactAura Research & Consulting Ltd.

Written informed consent was obtained from all adult participants, while adolescents (aged 15–17 years) provided assent with guardian consent. All interviews were conducted in gender-segregated and confidential settings. Participants who exhibited distress were referred to appropriate **MHPSS** or **GBV** support services.

Findings

Participant Overview

A total of **135 participants** contributed through 18 FGDs and 30 KIIs, representing diverse age, gender, and camp profiles. Women constituted **47 percent** of all respondents, and nearly one-third were pregnant or lactating. Among adolescents, **41 percent** were out of school, underscoring disrupted education. Notably, **68 percent** of households in non-registered camps reported no access to fixed health facilities, relying exclusively on mobile or temporary services (see Table 1).

Table 1: Participant Demographics (n = 135)

Group	Female	Male	Adolescent (15–19)	Registered Camps	Non-Registered Camps
Adults	56	60	–	75	41
Adolescents	7	12	19	21	12
Total	63	72	19	96	53

Source: Authors' Survey Data

Nutrition and Reproductive Health Nexus

Nutritional deprivation was a defining determinant of reproductive vulnerability among Rohingya women and adolescents. Participants described monotonous rice- and lentil-based diets with minimal protein or micronutrient diversity. Many women skipped meals so their children could eat:

"When there is not enough rice, I eat only once a day so my children can eat." — Female, 28, non-registered camp

Such food scarcity and gendered meal patterns contributed to chronic fatigue and low body weight. Secondary data corroborate these findings, with anemia affecting 18 percent of adult women and 22 percent of adolescent girls. Deficiencies in iron and folate increase risks of low-birth-weight, preterm delivery, and postpartum complications [4,6,7].

The combined evidence underscores the need to integrate anemia screening, micronutrient supplementation, and nutrition counselling within reproductive-health outreach rather than treating them as parallel programs. Broader health planning should also address men's nutritional vulnerability—particularly stunting and wasting—which indirectly affects household food security and maternal wellbeing (see Table 2).

Table 2: Nutrition and Psychosocial Wellbeing Indicators among Rohingya Refugees

Domain	Group	Indicator / Condition	Prevalence / Incidence	Source
Nutrition	Adult males	Stunting	14%	UNHCR (2020)
	Adolescent boys	Wasting	12%	UNICEF (2019)
	Adolescent girls	Wasting	18%	UNICEF (2019)
	Adult females	Anemia	18%	World Bank (2019); UNICEF (2019)
	Adolescent girls	Anemia	22%	UNICEF (2019); WHO (2024)
Psychosocial Wellbeing	Adult males	Depression linked to unemployment	High incidence	Tol et al. (2020)
	Adolescent boys	Hopelessness / inactivity	35%	Fazel et al. (2005)
	Adult females	Anxiety symptoms	60%	ISCG (2019)
	Adolescent girls	Trauma / low self-esteem	30%	UNICEF (2019)

Source: Author's synthesis from UNHCR (2020); UNICEF (2019); WHO (2024); Tol et al. (2020); Fazel et al. (2005); ISCG (2019); World Bank (2019).

Psychosocial Distress and Reproductive Autonomy

Psychosocial distress was nearly universal but manifested differently across gender and age. Women described chronic anxiety stemming from food scarcity and harassment in public spaces, while adolescents linked distress to early marriage, menstruation-

related stigma, and restricted mobility:

"Every time I go to collect water, men stare or say words that make me afraid." — Female, 25, registered camp

"I stopped going to the learning center because I feel nervous when people talk about my body." — Adolescent, 16, non-registered camp

Quantitative estimates mirror these accounts: **about 60 percent of women** displayed anxiety symptoms, and **30 percent of adolescent girls** experienced trauma or low self-esteem [3,4]. Elevated stress and fear were strongly associated with **lower attendance at antenatal, family-planning, and psychosocial-support sessions**, indicating that mental-health distress directly undermines reproductive-health engagement.

These findings highlight the urgent need to embed **psychological first aid and trauma-informed counselling** within reproductive-health and nutrition platforms, ensuring that women and adolescents receive holistic, stigma-free care.

Menstrual Health and WASH Safety

Menstrual-health management (MHM) challenges were pervasive. In non-registered camps, one WASH point often served **up to 180 households**, exceeding Sphere standards (≤ 100). Only **23 percent** of adolescent girls had access to safe disposal facilities compared with **62 percent** in registered camps [4]; see Table 3).

"We wait until morning to use the latrine. At night it is too dark and unsafe." — Adolescent, 15, non-registered camp

Inadequate privacy and sanitation contributed to urinary infections, shame, and absenteeism, illustrating how menstrual insecurity undermines reproductive dignity and participation.

Table 3: Menstrual Hygiene Access Indicators

Indicator	Registered Camps	Non-Registered Camps	Source
Access to sanitary pads	62%	23%	UNICEF, 2023
Safe disposal bins	41%	9%	ISCG, 2024
Girls missing ≥3 school days/month	27%	44%	Save the Children, 2023

Source: Author's synthesis from secondary documents

SRH Service Utilization and Referral Gaps

Service access differed sharply between camp types. **Registered camps** maintained fixed reproductive-health corners staffed by midwives, while **non-registered sites** depended on mobile teams visiting only twice per month. Frequent stock-outs of iron tablets and sanitary pads disrupted continuity of care:

"Sometimes we have no iron tablets for two weeks; women stop coming when we cannot give them medicine." — Community Health Worker

Infrastructural and environmental constraints further compounded access barriers. In non-registered camps, **one water point often served 100–200 families**, far exceeding Sphere standards, resulting in long queues and increased exposure for women and girls. **Latrine coverage** remained below minimum standards, with inadequate lighting and privacy contributing to both infection risk and gender-based violence. **Overcrowded shelters**, accommodating 8–10 people per unit, limited privacy for pregnant and lactating women and facilitated the spread of respiratory and water-borne illnesses [3,4,7].

Seasonal **outbreaks of diarrhea, dengue, malaria, and acute respiratory infections (ARI)** were frequent, particularly in non-registered camps [3,14]. These public-health threats—exacerbated by poor WASH conditions—directly undermined maternal and neonatal outcomes.

Overall, only about **one in four clinics** maintained a shared registry linking SRH, nutrition, and psychosocial cases [2]. Most referrals remained verbal or paper-based, hindering continuity of care and limiting follow-up. Together, these findings reveal a **systemic fragmentation across SRH, WASH, and MHPSS clusters**, where service quality depends more on camp type than on community need. This underscores the urgent need for **digitized referral systems and cross-cluster coordination** to ensure timely, holistic support for women and adolescents.

Livelihood Insecurity and Gendered Mental Health

Economic dependence compounded psychosocial distress and constrained reproductive autonomy. Women described total reliance on aid:

"We cannot earn or decide anything; even to buy soap, we must ask the men." — Female, 35, non-registered camp

Youth—both male and female—expressed frustration and idleness:

"I want to work, but there is no chance for us boys. We just sit and wait." — Male, 19, registered camp

These narratives align with [12,13]. who show that livelihood exclusion in displacement settings increases fertility pressure and reduces contraceptive use. Linking SRH education with livelihood and psychosocial programs could enhance self-efficacy and wellbeing (see Table 4).

Table 4: Livelihood and Psychosocial Findings and Source

Group	Indicator	Evidence	Source
General population	Livelihood restrictions	Formal jobs prohibited; reliance on aid	Woodruff & Rademacher, 2014
Youth	Unemployment effects	Psychosocial fragility, risky coping	Betts et al., 2017; Uddin, 2021

Source: Author's synthesis from secondary documents

Cross-Sectoral Integration Gaps

Fewer than 25 percent of clinics coordinated referrals across SRH, nutrition, and psychosocial services. A streamlined referral loop—from CHW screening to clinic assessment, MHPSS referral, and follow-up review—was developed during fieldwork to strengthen accountability and reduce missed contacts (Figure 1). This integrated model emphasizes real-time case tracking and joint review among CHWs, clinic staff, and protection teams.

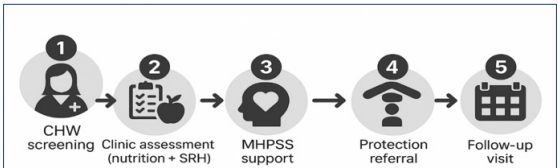

Figure 1. Simplified Integrated Referral Pathway
Source: Author's field data analysis

Summary of Key Findings

The analysis revealed **six interrelated thematic** areas shaping the reproductive health and wellbeing of Rohingya women and adolescents (summarized in Table 5). These themes illustrate the intersecting influence of nutrition, mental health, WASH, and livelihood conditions on SRH outcomes.

1. **Nutrition** – Anemia, stunting, and meal skipping continue to compromise maternal and adolescent health, heightening risks of low birth weight and postpartum complications.
2. **Psychosocial Wellbeing** – Anxiety, stigma, and gender-based violence (GBV) fears discourage women and girls from seeking SRH and counselling services.
3. **Menstrual Hygiene** – Unsafe facilities and limited WASH access exacerbate infection risks, absenteeism, and menstrual shame.
4. **SRH Services** – Unequal access and weak referral systems reduce continuity of care and result in missed ANC/PNC visits.
5. **Livelihoods** – Economic dependency and psychological stress undermine women's decision-making power and self-efficacy.
6. **Governance** – Fragmented coordination and inadequate SOP implementation sustain inequities between registered and non-registered camps.

Overall, these findings highlight a **reinforcing cycle of reproductive vulnerability**, where nutritional deprivation, psychosocial distress, and institutional fragmentation converge to erode women's and adolescents' health outcomes.

Table 5: Summary of Key Findings and Camp-Level Comparisons

Thematic Area / Camp Type	Major Findings or Conditions	SRH Implications / Evidence	Source
Nutrition	Anemia, stunting, and meal skipping among women and adolescents	Increased maternal and adolescent reproductive risk; low birth weight and poor recovery	Bhutta et al. (2013); UNICEF (2023); WHO (2024)
Psychosocial Wellbeing	Anxiety, GBV-related fear, and social stigma prevalent among women and adolescent girls	Reduced clinic attendance and avoidance of family-planning services	ISCG (2019); UNICEF (2019)
Menstrual Hygiene	Unsafe practices and inadequate WASH access, especially in non-registered camps	Higher risk of infection, absenteeism, and menstrual shame	UNICEF (2023); Global MHM Coalition (2024)
SRH Services	Unequal access; weak or verbal referral systems between CHWs and clinics	Missed ANC/PNC appointments; low contraceptive uptake	UNFPA (2024); ISCG (2023)
Livelihoods	Economic dependency and psychological stress limiting women's autonomy	Low self-efficacy and limited SRH decision-making power	Betts et al. (2017); Uddin (2021)
Governance	Fragmented SOPs and poor inter-cluster coordination	Inequity in service access across camp types	IASC (2023); ISCG (2024)
Registered Camps	Better infrastructure, paved roads, and strong NGO presence	Relatively higher service coverage but inconsistent quality	UNHCR (2020)
Non-Registered Camps	Poor infrastructure, limited water points, and irregular health services	Systemic neglect and persistent inequity in SRH provision	Wake & Yu (2018); UNHCR (2020)

Source: Author's synthesis from Bhutta et al. (2013); UNICEF (2019, 2023); WHO (2024); ISCG (2019, 2023, 2024); UNFPA (2024); UNHCR (2020); Global MHM Coalition (2024); IASC (2023); Betts et al. (2017); Uddin (2021); Wake & Yu (2018).

Comparative Context

Disparities between **registered** and **non-registered** camps were evident across all sectors. Registered camps benefited from improved infrastructure, consistent NGO presence, and functioning reproductive-health corners, which facilitated better service delivery and follow-up.

By contrast, non-registered camps—home to roughly one-quarter of the refugee population—remained underserved, characterized by poor WASH conditions, absence of maternity facilities, and a higher prevalence of communicable diseases [5,7].

These inequities reflect a broader pattern of **governance-driven exclusion**, where camp status determines the accessibility and quality of SRH, nutrition, and psychosocial services. Strengthening coordination under a unified RRRC-led framework is therefore essential to ensure equitable health and dignity for all Rohingya women and adolescents

Discussion

As one adolescent succinctly expressed, "When you always feel afraid, how can you think about your health?"

This captures the lived reality of Rohingya women and adolescents in Cox's Bazar, whose reproductive wellbeing is shaped by overlapping nutritional, psychosocial, and structural vulnerabilities. The study demonstrates that malnutrition, poor reproductive and menstrual health, psychosocial distress, and fragmented service delivery reinforce one another, perpetuating cycles of reproductive risk. Effective humanitarian response therefore requires integrated programming that links sexual and reproductive health (SRH) with nutrition, mental health, and gender-sensitive WASH.

Nutrition, Micronutrient Deficiency, and Reproductive Outcomes

Nutritional deprivation among Rohingya women and adolescent girls has direct implications for reproductive outcomes. Monotonous diets and limited access to iron-rich foods sustain high rates of anemia (18–22%), consistent with and WHO (2024) estimates. Undernutrition during pregnancy leads to low birth weight, preterm delivery, and increased maternal morbidity [4, 6].

Women's accounts of skipping meals to feed children highlight how gender norms compound nutritional inequity. These dynamics echo evidence from South Sudan and Ethiopia, where intrahousehold food hierarchies undermine women's reproductive health [9]. Integrating micronutrient supplementation and anemia screening within antenatal and adolescent outreach can break this siloed approach between SRH and nutrition.

Psychosocial Distress and Reproductive Autonomy

Psychosocial distress was pervasive but gendered. Women described anxiety about food scarcity and harassment, while adolescents linked distress to early marriage and social stigma. Such stressors limit healthcare-seeking and reproductive decision-making [1].

The study found that women with higher stress were less likely to attend antenatal or family-planning sessions, reinforcing the "double burden" of mental health and SRH exclusion. Evidence from Jordan and Lebanon suggests that embedding psychological first aid and trauma-informed counseling within maternal-health units improves both mental and reproductive outcomes Similar integration is urgently needed in Cox's Bazar [7].

Menstrual Hygiene, WASH Safety, and Reproductive Dignity

Menstrual health management (MHM) emerged as central to reproductive dignity. Only 23% of adolescent girls in non-registered camps reported access to safe disposal facilities, reflecting inadequate WASH infrastructure. Poor privacy, unlit latrines, and limited sanitary products increase infection risks and reinforce stigma.

These findings align with and the, which frame MHM as both a public-health and human-rights issue. Integrating menstrual health into SRH programming—through female community health workers (CHWs), safe sanitation, and menstrual education—would advance bodily autonomy and participation. [2,4]

Livelihood Insecurity and Gendered Mental Health

Livelihood deprivation amplifies psychosocial distress and curtails reproductive choice. Dependence on aid limits women's decision-making power and fuels household tension. Similar patterns in Syria and South Sudan link economic exclusion to higher fertility and reduced contraceptive use [7,12].

Participants described frustration and loss of dignity, underscoring the psychosocial cost of idleness. Linking livelihood initiatives with SRH education and MHPSS can build self-efficacy and resilience, aligning with recommendations for livelihood-integrated psychosocial recovery [8].

Service Fragmentation and Referral Fragility

Findings revealed major coordination gaps between SRH, nutrition, and psychosocial services. Only 22% of health centers maintained shared registers across sectors [2]. Non-registered camps, in particular, suffered from intermittent mobile services and frequent stock-outs.

To address these gaps, a unified referral and data-sharing system—starting from CHW screening and clinic assessment to MHPSS and protection follow-up—is proposed (see Figure 1). Implementing this model could reduce missed appointments and improve continuity of care, in line with coordination priorities [3].

Registered vs. Non-Registered Camp Inequities

Camp status remains a determinant of health equity. Registered camps benefit from better infrastructure and NGO presence, whereas non-registered settlements face chronic neglect. These inequities, documented by violate the principle of non-discrimination outlined in WHO's Global Reproductive Health Strategy (2024). Ensuring parity in service provision across camp types is both an ethical and operational necessity [5,7].

Toward an Integrated Reproductive Health and Wellbeing Framework

Building on these insights, the study proposes a practical, equity-driven model that connects SRH, nutrition, psychosocial support, and protection under a unified RRRC-led framework. As summarized in Table 6, interventions should operate at two levels:

- **System-level:** strengthen coordination, digital data systems, and facility-based service quality.
- **Community-level:** deploy female CHWs, adolescent health days, and mobile outreach for underserved groups.

These strategies can significantly improve service reach, case tracking, and psychosocial support, particularly for adolescent girls, pregnant women, and female-headed households.

Table 6: Integrated Outreach and Adaptation Strategies for Adolescent Girls and Female-Headed Households

Level / Target Group	Identified Gaps or Barriers	Proposed Adaptation or Strategy	Delivery Modality / Operational Lead	Expected Outcome or Indicator
System-Level: Community Health Outreach (CHW)	Limited screening of women/adolescents for anemia, pregnancy, or distress	Integrate combined SRH–nutrition–MHPSS checklist for CHWs; introduce tablet-based data collection	Health Cluster, UNFPA, RRRC	Improved early detection and referral of vulnerable women/ adolescents
System-Level: Nutrition Services	Fragmented management of MUAC, IFA, and ANC data	Co-locate IFA distribution and hemoglobin testing within SRH corners; link with CHW digital registry	WFP, UNICEF, NGO health partners	Increased micronutrient coverage among adolescent girls and pregnant women
System-Level: MHPSS Integration	Psychosocial care not linked to reproductive or maternal services	Embed trained MHPSS counselors within maternal and adolescent health corners	MHPSS Working Group, UNHCR, MoH	Reduced stigma; higher utilization of trauma-informed SRH counseling
System-Level: Menstrual Hygiene & WASH	Unsafe, non-private facilities; poor disposal systems	Construct gender-segregated WASH facilities with menstrual hygiene management (MHM) spaces	WASH Cluster, UNICEF, CARE	Improved menstrual hygiene, safety, and dignity for adolescent girls
System-Level: Digital Data & Monitoring	Manual reporting; poor interoperability	Develop digital referral systems linking CHWs, clinics, and protection units	RRRC, ISCG, Digital Health Partners	Real-time data sharing; improved case tracking
Community-Level: Adolescent Girls (15–19 years)	Fear of stigma; restricted mobility; lack of menstrual products	Conduct Adolescent Health Days in safe spaces with female CHWs; provide dignity kits and SRH education	Female CHWs, adolescent peer educators	≥30% increase in adolescent attendance at SRH sessions; reduced menstrual infections
Community-Level: Pregnant & Lactating Women (PLW)	Missed ANC visits; undernutrition; stress; limited mobility	Introduce home-based antenatal outreach integrating nutrition screening and psychosocial first aid	CHWs; mobile app referrals	≥25% increase in ANC attendance; improved wellbeing scores
Community-Level: Female-Headed Households (FHHs)	Social isolation; income insecurity; limited decision-making	Link FHHs to livelihood + psychosocial programs; offer childcare support during clinic hours	Camp management committees; NGOs	≥20% increase in SRH utilization; improved dietary diversity
Community-Level: Adolescents in Non-Registered Camps	Exclusion from SRH programs; irregular NGO presence	Deploy mobile SRH–nutrition–MHPSS teams; partner with faith and community leaders for outreach	Mobile health teams; youth volunteers	≥40% rise in adolescent SRH/MHPSS referrals; improved SRH lit

Source: Author's field data analysis including secondary documents synthesis

Implications for Policy and Research.

Policy frameworks must move beyond sectoral coordination toward strategic convergence, where SRH, nutrition, and psychosocial programs share data, budgets, and accountability.

Future research should quantify how psychosocial distress influences reproductive-service utilization and test the cost-effectiveness of integrated approaches. Ultimately, reproductive health cannot be isolated from nutrition, mental health, or gender equity. Integrating these domains is not only efficient—it is vital to protecting dignity and resilience among displaced women and adolescents.

Limitations

This study's qualitative design limits the ability to quantify prevalence or establish causal relationships. Findings may also be influenced by recall bias and social desirability effects. Fieldwork was conducted during June–July 2025, prior to the peak

monsoon season; therefore, seasonal variations in nutrition and disease incidence may not be fully reflected. Security and access constraints restricted the duration of engagement in non-registered camps. Despite the use of purposive stratification, certain groups—particularly out-of-school adolescent girls—were underrepresented. To minimize these limitations, data were triangulated across sources, transcripts were double-coded, and participant validation sessions were conducted to enhance credibility and rigor.

Conclusion and Recommendations

Conclusion

This study underscores that the reproductive and psychosocial wellbeing of Rohingya women and adolescents in Cox's Bazar cannot be understood—or addressed—in isolation from their nutritional and gendered realities. The findings reveal that structural inequities between registered and non-registered camps, persistent micronutrient deficiencies, psychosocial distress, and inadequate menstrual and WASH infrastructure have together entrenched cycles of reproductive vulnerability.

Adolescent girls and pregnant women emerge as the most at-risk groups, bearing a disproportionate burden of anemia, reproductive complications, and gender-based insecurity. Psychosocial distress—fueled by displacement trauma, limited autonomy, and livelihood deprivation—further undermines their ability to access and utilize SRH and mental health services. These intersecting vulnerabilities reflect a systemic fragmentation of service delivery, where nutrition, SRH, MHPSS, and protection actors often operate in silos without a unified referral or monitoring mechanism.

By triangulating field narratives with policy review and comparative camp analysis, this study demonstrates the need for a paradigm shift—from service provision to integration for resilience. Building equitable pathways between SRH, nutrition, and psychosocial services is not only a humanitarian necessity but also a matter of reproductive justice and human dignity.

The proposed Integrated Reproductive Health and Wellbeing Framework provides a practical roadmap for harmonizing multisectoral interventions under the RRRC-led coordination system, ensuring that adolescent girls, pregnant women, and female-headed households can access inclusive, continuous, and compassionate care.

Recommendations.

A. Policy and Governance

1. **Adopt a unified RRRC-led Integrated Reproductive Health and Wellbeing Framework** linking SRH, nutrition, MHPSS, WASH, and protection under one operational protocol.
2. **Ensure equitable service coverage** for non-registered camps by embedding them within the existing SOP revision and donor planning frameworks.
3. **Institutionalize joint reporting and accountability systems** across sectors—particularly UNFPA, WHO, WFP, UNICEF, and NGO consortia—using interoperable digital tools for tracking SRH–nutrition–MHPSS referrals.

B. Service Delivery

4. **Integrate nutrition and anemia screening into SRH clinics,** using CHWs for on-site MUAC and hemoglobin testing during antenatal and adolescent health sessions.
5. **Embed MHPSS counselors in maternal and adolescent corners,** ensuring trauma-informed, confidential, and stigma-free mental health care.
6. **Expand menstrual hygiene and WASH infrastructure,** prioritizing safe disposal facilities, privacy, and adolescent-friendly spaces.
7. **Introduce mobile "Integrated Health Days"** in non-registered and hard-to-reach camps combining SRH, nutrition, MHPSS, and protection outreach.

C. Community Engagement

8. **Deploy female CHWs and adolescent peer mentors** to conduct culturally sensitive SRH and psychosocial education, focusing on menstrual health and early marriage prevention.
9. **Engage male family members and community leaders** to challenge stigma, enhance women's mobility, and support equitable household decision-making.
10. **Promote participatory monitoring and community feedback loops** to ensure accountability and trust between service providers and camp residents.

D. Livelihoods and Psychosocial Recovery

11. **Integrate livelihood support with SRH awareness** by linking vocational training programs with reproductive and mental health education.
12. **Provide psychosocial resilience training for CHWs and frontline staff** to strengthen burnout prevention, empathy, and gender-sensitive communication.

E. Research and Data Systems

13. **Undertake longitudinal studies** to quantify linkages between psychosocial distress, nutritional status, and reproductive health outcomes.
14. **Standardize indicators across agencies** for SRH–nutrition–MHPSS integration to support cost-effectiveness and donor alignment.
15. **Expand digital data platforms** for real-time monitoring of adolescent and maternal health trajectories across both registered and non-registered camps.

Final Reflection

The pathway toward health equity for displaced Rohingya women and adolescents lies in reimagining humanitarian programming through an integrated, rights-based lens. Addressing reproductive health, nutrition, and psychosocial wellbeing together transforms service delivery from reactive relief to sustainable resilience. As humanitarian actors and policymakers move forward, the evidence presented here calls for intentional design—where every intervention, from anemia screening to trauma counseling, affirms the dignity, agency, and future of displaced women and girls.

Author's Biography

Md. Abu Hanif, PhD, is an independent researcher and development professional with over 25 years of experience in South Asia and Africa. He chairs Impact Aura Research & Consulting Ltd. and holds a doctorate in Development Studies, specializing in livelihood security in fragile contexts.

He has worked in leadership and technical roles with organizations such as CRS, Save the Children, FHI 360, International Medical Corps, Mission East, Plan International, Concern Worldwide, and CARE International. His expertise spans public health, youth livelihoods, humanitarian response, peacebuilding, and gender equity, with a focus on participatory and gender-sensitive research. His work emphasizes amplifying the voices of marginalized groups, particularly female-headed households. He is based in Dhaka, Bangladesh.

Declarations

Ethics approval: The study received ethical clearance from independent reviewers, including national university faculty members and technical experts from Impact Aura Research & Consulting Ltd.

Consent to participate: Written consent was obtained from all adults; assent and guardian consent were secured for adolescents (15–17 years).

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