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Empowering Adolescents in Bangladesh: A Mixed-Methods Evaluation of Adolescent Clubs' Impact on Reproductive Health Awareness and Early Marriage Prevention

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ABSTRACT: *Adolescents in Bangladesh face multiple interrelated challenges related to reproductive health and early marriage, both of which have long-term implications for gender equality, educational attainment, and health outcomes. In response, Adolescent Clubs (ACs) have been introduced across various districts to provide structured, participatory platforms that offer reproductive health education, promote critical life skills, and create opportunities for community engagement. This study evaluates the effectiveness of these clubs using a mixed-methods approach, combining quantitative survey data from 1,200 adolescents with qualitative insights from focus group discussions and key informant interviews. Findings demonstrate that AC participation significantly improves reproductive health knowledge, increases utilization of adolescent-friendly health services, and shifts community attitudes toward delaying marriage. The study applies the Socio-Ecological Model (SEM) to understand how change is facilitated across individual, interpersonal, community, and policy levels. These results offer policy-relevant evidence supporting the expansion of adolescent-focused, community-based interventions as a strategy for achieving Bangladesh's SDG targets related to health, education, and gender equality.*

I. INTRODUCTION

Adolescence is a critical life phase marked by rapid physiological, cognitive, and psychosocial development. For many adolescents, this transition can determine future opportunities and vulnerabilities. In Bangladesh, where over 36 million people are aged 10–19 (UNICEF, 2023), adolescence is a period deeply shaped by structural inequalities, limited access to health services, gender norms, and socio-cultural practices—including early marriage.

Reproductive Health and Gendered Vulnerabilities

Bangladeshi adolescents, particularly girls, often face barriers to accessing reproductive health information and services. Prevailing taboos surrounding menstruation, sexual health, and bodily autonomy restrict open discussion and perpetuate misinformation. For instance, only 26% of adolescent girls report learning about menstruation from a health professional; most rely on family or peers, who may lack correct information (UNICEF, 2023). This information gap increases their vulnerability to health complications, poor menstrual hygiene management, and limited agency in sexual and reproductive decision-making (Ahmed & Khan, 2023).

The Persisting Challenge of Early Marriage

Bangladesh has one of the highest rates of child marriage globally, despite legislation such as the Child Marriage Restraint Act (2017), which sets the legal age of marriage at 18 for girls and 21 for boys. As of 2023, 51% of women aged 20–24 had been married before turning 18 (UNICEF, 2023). Early marriage often results in school dropout, early pregnancy, and long-term socioeconomic disadvantages for girls (Pathfinder International, 2023). It is also closely linked to cycles of poverty and gender-based violence.

Community-Based Interventions: The Role of Adolescent Clubs

Recognizing the limitations of health-system-based outreach alone, several development partners and government bodies have adopted community-based strategies like Adolescent Clubs (ACs). These clubs serve as safe spaces where adolescents gather regularly to receive education on reproductive health, gender equality, and legal rights, and to engage in peer-led discussions and community mobilization activities. The theoretical foundation of ACs aligns with the Socio-Ecological Model (SEM), which emphasizes the interaction between personal, relational, community, and societal factors in shaping behavior (Bronfenbrenner, 1979; Glanz et al., 2015).

II. RESEARCH OBJECTIVE

This study seeks to assess the effectiveness of Adolescent Clubs in promoting reproductive health awareness and preventing early marriage among adolescents in Bangladesh. Specifically, it aims to:
Compare knowledge, attitudes, and practices between AC members and non-members;

Explore the role of community engagement in challenging norms around early marriage;

Provide evidence for integrating community-based adolescent programs into broader policy frameworks.

The findings contribute to the growing body of literature on adolescent development in South Asia and offer actionable insights for stakeholders working toward achieving Bangladesh's national adolescent health and empowerment goals.

A. Methodology

This study employed a convergent parallel mixed-methods approach, integrating quantitative and qualitative data to evaluate the impact of Adolescent Clubs (ACs) in enhancing reproductive health knowledge and reducing early marriage among adolescents in Bangladesh. This design was selected to triangulate findings, enrich interpretation, and address both breadth and depth of understanding (Creswell & Plano Clark, 2018).

1) Conceptual Framework

The study was guided by the Socio-Ecological Model (SEM), which posits that behavior is shaped by multiple levels of influence—individual, interpersonal, organizational, community, and policy (Bronfenbrenner, 1979; Glanz et al., 2015). The SEM informed both the development of data collection tools and the interpretation of findings, ensuring that adolescent experiences were contextualized within broader relational and structural environments.

2) Study Setting and Population

The research was conducted in six districts across Bangladesh, selected based on the presence of active ACs and representation of rural, peri-urban, and urban contexts. The population included adolescents aged 14–19 years, categorized into:

Intervention group: Adolescents enrolled in Adolescent Clubs under programs like the Accelerating Protection for Children (APC) initiative and UNICEF adolescent empowerment strategies.

Control group: Adolescents from nearby communities without AC exposure but with similar demographic and socio-economic profiles.

3) Sampling and Recruitment

a) Quantitative Component

A stratified random sampling technique was employed to select a representative sample of 600 adolescents—300 from ACs and 300 from matched control communities. Stratification ensured proportional representation by district, gender, and rural-urban settings. Sample size was calculated using G*Power software to detect a minimum effect size (Cohen's d = 0.3) with 80% power at a 95% confidence level.

b) Qualitative Component

Purposive sampling was used to conduct:

16 Focus Group Discussions (FGDs) with adolescents (AC members, teachers, fathers, mothers, non-members, teachers, fathers, mothers);

6 Key Informant Interviews (KIIs) with INGO representative, government official, media personality.

Participant diversity in age, gender, and educational background was ensured to capture varied perspectives.

4) Data Collection Procedures

a) Quantitative Tools and Process

Data were collected through a structured questionnaire based on instruments adapted from the Bangladesh Demographic and Health Survey (BDHS), the Global Early Adolescent Study (GEAS), and UNICEF's MICS tools. The survey included sections on:

Reproductive health knowledge (e.g., menstruation, contraception, STIs)

Attitudes toward early marriage and gender roles

Reported behaviours (e.g., discussion with parents, service-seeking, peer education)

Enumerators were trained extensively on research ethics, adolescent-friendly communication, and digital data entry using Kobo Toolbox.

b) Qualitative Tools and Process

Semi-structured guides for FGDs and KIIs explored:

Personal experiences with the AC or comparable environments

Perceptions of reproductive rights, early marriage, and social norms

Reflections on family, school, and community engagement

FGDs and KIIs were conducted in Bangla by experienced researchers, audio-recorded with consent, transcribed verbatim, and translated into English for thematic analysis.

5) Data Analysis

a) Quantitative Analysis

Descriptive statistics were used to summarize demographics and outcome indicators. Chi-square tests and logistic regression models were applied to examine associations between AC participation and:

Knowledge of reproductive health topics

Opposition to early marriage

Engagement in awareness and service utilization activities

Statistical significance was set at $p < 0.05$. Analyses were conducted in SPSS (version 26).

b) Qualitative Analysis

Transcripts were analyzed using thematic analysis following Braun and Clarke's (2006) six-step framework. An inductive coding approach was adopted, with themes categorized under SEM domains (e.g., individual-level knowledge, interpersonal dynamics, community norms). Coding was done using NVivo 12 software, and inter-coder reliability was ensured through cross-validation among team members.

6) Ethical Considerations

This study received ethical clearance from the Bangladesh University of Professionals(BUP). Written informed consent was obtained from all participants aged 18 and older. For minors, both adolescent assent and parental consent were obtained. Confidentiality and anonymity were strictly maintained, and participants were assured of their right to withdraw at any stage without consequence.

III. RESULTS

This section presents the comparative outcomes between adolescents who participated in Adolescent Clubs (ACs) and those in the control group across four thematic domains: reproductive health knowledge, early marriage awareness, behavior and service use, and community engagement. Findings are interpreted within the Socio-Ecological Model (SEM), addressing the individual, interpersonal, and community levels of influence.

Improved Reproductive Health Knowledge (Individual Level)

Quantitative Findings:

AC members demonstrated significantly greater reproductive health knowledge:

Menstrual health understanding: 82% of AC members correctly identified menstruation as a normal biological process compared to 58% of non-AC adolescents ($\chi^2 = 45.67$, $p < 0.001$).

Contraceptive awareness: 76% of AC members could identify at least two modern contraceptive methods, versus 49% of non-AC peers ($\chi^2 = 38.45$, $p < 0.001$).

Knowledge of STIs: 68% of AC adolescents reported awareness of at least one STI, compared to only 42% among non-members ($\chi^2 = 36.12$, $p < 0.001$).

Qualitative Insights:

FGDs revealed that adolescents often began AC sessions with limited knowledge and misconceptions about menstruation and sexual health. However, over time, many reported increased comfort and confidence:

"Before, I was ashamed to talk about periods. Now, I even help my younger cousins understand what is happening to their bodies," — 16-year-old female AC participant.

These outcomes confirm that ACs serve as critical knowledge platforms, addressing gaps that schools and families often leave unaddressed due to cultural taboos (Ahmed & Khan, 2023).

Shifting Perceptions of Early Marriage (Individual + Interpersonal Levels)

Quantitative Findings:
Opposition to early marriage: 89% of AC adolescents disagreed with the statement "girls should marry before 18," compared to 62% of non-AC adolescents ($\chi^2 = 52.78$, $p < 0.001$).
Marriage timing preferences: 74% of AC adolescents expressed intent to marry only after completing secondary or tertiary education, compared to 48% of non-members ($\chi^2 = 40.23$, $p < 0.001$).

Qualitative Insights:
Among AC adolescents, especially girls, there was a clear shift in agency. Participants articulated aspirations for education and economic independence. Parents of AC members also reported being influenced:
"She told me child marriage is illegal and harmful. I listened. Now I want her to be a teacher before marriage," — Mother of a 17-year-old AC girl.

These attitudinal shifts reflect a disruption of dominant gender and marriage norms at the interpersonal level (CARE &icddr,b, 2022).

Behavioral Change and Service Utilization (Individual + Organizational Levels)

Quantitative Findings:

Health service use: 65% of AC members reported using adolescent-friendly health services (AFHS) in the last year, compared to 38% of non-members ($\chi^2 = 30.56$, $p < 0.001$).

Peer education participation: 58% of AC adolescents reported sharing reproductive health knowledge with peers, compared to only 29% in the control group ($\chi^2 = 35.89$, $p < 0.001$).

Parent–child discussion: 76% of AC adolescents reported discussing early marriage risks with a parent, compared to 18% of non-AC adolescents.

Qualitative Insights:
Peer educators emerged as critical enablers of change:
"I learned to speak up. Now I organize sessions in my school. Some parents even come and ask me questions!" — 15-year-old male AC peer leader.

The data underscore that ACs not only educate but also empower adolescents to act as multipliers of information and change, reflecting SEM's organizational level impact.

Community Engagement and Norm Shifting (Community Level)

Quantitative Findings:
72% of AC members reported participating in at least one community awareness event (e.g., street theatre, health fairs).

68% said that one or more parents had attended a club-organized event on early marriage.

Qualitative Insights: Teachers, religious leaders, and parents described how AC-organized campaigns challenged dominant narratives:

"We used to think talking about puberty was shameful. Now our girls are leading rallies with megaphones!" — School teacher, Rajshahi.

Stakeholders also noted that the clubs helped bridge intergenerational gaps and made previously "taboo" topics acceptable in public discourse (Pathfinder International, 2023).

Summary Table of Key Outcomes

IV. DISCUSSION

This study examined the influence of Adolescent Clubs (ACs) on adolescents' reproductive health knowledge, behavior, and attitudes toward early marriage in Bangladesh. Guided by the Socio-Ecological Model (SEM), findings demonstrate that ACs operate across multiple layers of influence—from the individual adolescent to their community—and create enabling environments for positive change. These results align with global evidence indicating that multi-level, community-based interventions are essential for improving adolescent sexual and reproductive health outcomes (Glanz et al., 2015; WHO, 2022).

1. Empowerment through Knowledge at the Individual Level

The statistically significant increase in reproductive health knowledge among AC participants affirms the efficacy of structured, adolescent-centered education. These gains reflect not only the accuracy of the content delivered but also the participatory pedagogy that ACs employ. Peer-led discussions and group activities enabled adolescents to internalize information and challenge misinformation—outcomes that conventional school curricula often fail to achieve due to stigma or curriculum gaps (Ahmed & Khan, 2023; Biswas et al., 2022).

The improvement in self-confidence and articulation of reproductive health topics also indicates increased self-efficacy, a key construct of social cognitive theory (Bandura, 1997). By normalizing conversation around menstruation, contraception, and bodily autonomy, ACs created a safe space for adolescents to practice agency and prepare for future decision-making.

2. Attitudinal Shifts and Resistance to Early Marriage (Interpersonal Level)

The divergence in attitudes toward early marriage between AC and non-AC groups reflects the clubs' success in shifting social norms. While early marriage remains deeply entrenched in many Bangladeshi communities—driven by economic insecurity, patriarchy, and concerns over female chastity—ACs empowered adolescents to view education and autonomy as legitimate alternatives (Pathfinder International, 2023).

The fact that over 70% of AC adolescents reported discussing marriage timing with their parents suggests that clubs not only changed individual attitudes but also strengthened parent-adolescent communication, a known protective factor against early marriage (UNFPA, 2022). These findings reinforce the importance of engaging families and caregivers in adolescent-focused interventions.

3. Behavior and Social Mobilization (Organizational and Community Levels)

Participation in peer education and community campaigns by AC members highlights how individual transformation can scale to collective impact. Adolescents acted as community mobilizers, bridging the gap between policy awareness and social practice. Such diffusion of knowledge, where adolescents influence their peers and parents, exemplifies the "positive deviance" pathway—where empowered individuals lead behavior change in traditionally resistant settings (Pascale et al., 2010).

The increase in use of adolescent-friendly health services among AC members further suggests that awareness alone is insufficient—supportive structures and referrals are crucial. ACs functioned as intermediaries that linked adolescents with health services, echoing the "whole-system approach" advocated by the WHO Global Accelerated Action for the Health of Adolescents (AA-HA!) framework (WHO, 2022).

4. Multi-Level Intervention as a Policy Imperative

From a policy perspective, this study validates the approach outlined in Bangladesh's National Strategy for Adolescent Health (2017–2030), which emphasizes the need for gender-transformative, participatory programming. ACs embody these principles and offer a model for scalable intervention—particularly in low-resource, rural settings where formal health and education systems are limited.

However, sustainability remains a critical concern. Current ACs rely heavily on donor and INGO support. Long-term integration into local government budgets, school systems, and community-based organizations is necessary to institutionalize gains and avoid program attrition (UNICEF, 2023).

5. Limitations and Future Research

This study had several limitations. The cross-sectional design limits causal inference, and self-reported data may be subject to recall and social desirability biases. While triangulation with qualitative data mitigates some of these issues, future research should include longitudinal impact evaluations to assess sustainability and long-term behavioral change.

Additionally, more in-depth analysis is needed to understand differential impacts by gender, disability, and other intersectional identities. Finally, the role of digital platforms, social media, and male engagement remains under-explored and offers rich avenues for further inquiry.

V. CONCLUSION AND POLICY RECOMMENDATIONS

Conclusion

This study provides strong empirical support for the effectiveness of Adolescent Clubs (ACs) in improving reproductive health knowledge, transforming attitudes about early marriage, and fostering behavior change among adolescents in Bangladesh. Drawing on a mixed-methods approach and framed by the Socio-Ecological Model (SEM), the findings demonstrate how ACs operate across individual, interpersonal, and community levels to catalyze meaningful change.

At the individual level, AC members reported significantly greater awareness of menstruation, contraception, and sexually transmitted infections (STIs). These knowledge gains were accompanied by enhanced confidence and self-efficacy—key enablers of informed decision-making in adolescence (Bandura, 1997). At the interpersonal level, adolescents engaged in more open conversations with parents and peers, a critical shift in settings where reproductive health remains taboo. At the community level, ACs fostered public dialogue and youth-led mobilization, challenging entrenched norms around gender roles and early marriage.

Importantly, this research contributes to a growing body of evidence that supports participatory, community-based approaches to adolescent development. The AC model demonstrates that adolescents, when given the tools and safe spaces to engage, can act not only as beneficiaries but also as agents of change in their own communities (UNICEF, 2023).

However, the study also reveals challenges that must be addressed to sustain and scale these gains. These include ensuring equitable access to clubs in remote and underserved regions, securing consistent funding, and embedding ACs into formal institutional structures such as schools and local government frameworks.

Policy Recommendations

Based on the findings, the following policy recommendations are proposed to strengthen the AC model and ensure long-term sustainability and impact:

a) 1. Institutionalize Adolescent Clubs through National Programming

Integrate ACs into Bangladesh's national adolescent health and education strategies. This includes funding ACs through public-sector budgets and aligning club curricula with national life-skills and health education frameworks.

b) 2. Expand Coverage to Underserved Populations

Prioritize expansion of ACs in remote, high-risk, and marginalized communities. Special efforts should target adolescent girls, ethnic minorities, adolescents with disabilities, and those out of school.

c) 3. Strengthen Capacity of Facilitators and Peer Educators

Provide continuous training, mentoring, and certification for AC facilitators and peer educators. This enhances quality, ensures accurate information dissemination, and builds youth leadership pathways.

d) 4. Enhance Parental and Community Engagement

Involve parents, teachers, and local leaders through orientation programs, dialogue sessions, and community forums. Their support is vital in reinforcing behavior change beyond the club environment.

e) 5. Leverage Digital Platforms and Media Campaigns

Use mobile phones, social media, and community radio to extend the reach of club messages, particularly in areas where in-person attendance may be limited due to gender norms or safety concerns.

f) 6. Establish Monitoring and Evaluation Frameworks

Develop a national M&E dashboard with standardized indicators on adolescent knowledge, behavior, and community engagement. This allows real-time tracking and accountability for interventions.

7) Final Reflection

Bangladesh stands at a critical juncture in addressing the needs and aspirations of its youth. With over one-fifth of the population in adolescence, the country has a unique opportunity to invest in a future that is healthier, more equitable, and gender-transformative. If scaled with vision and supported with evidence-based policy, Adolescent Clubs can serve as a cornerstone of this national agenda.

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