

Gender Equity and Norms in Health Programs: Learnings from a Drowning Reduction Program in Bangladesh

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Abstract

Background: Community-based health programs implemented in low-and middle-income countries have additional health impacts beyond their targeted outcomes, such as on gender norms, roles and relationships. Programs should measure their effects on gender to respond to any unexpected consequences. Hence, we conducted a gender analysis on a drowning reduction program in rural Bangladesh providing survival swimming classes to children.

Methods: A mixed-methods approach was used. Quantitative program monitoring data was analysed to assess gender differences in program participation and engagement. A qualitative approach using interviews, focus group discussions and observations aimed to find explanations for quantitative findings and additional experiences of the program. The analysis was conducted using Family Health International 360's Gender Integration Framework.

Results: Fewer girls participated in the swimming classes than boys due to cultural perceptions on appropriate activities for girls and their greater involvement in domestic work. Women were not hired in leadership roles in the implementing organisation due to constraints on transport access and perceptions on women's ability to conduct labour-intensive activities. However, the program influenced communities to become more accepting of local women's mobility and involvement in employed work due to their engagement in the program as swim instructors. Women swim instructors were also more satisfied with the pay and part-time nature of the work as men were able to earn more elsewhere, and so women were recruited in higher numbers by the implementing organisation.

Conclusions: Systematised strategies are required to ensure equal participation of girls and boys in swim classes and enable equitable drowning outcomes. Within the implementing organisation, changes to attitudes and the formulation of gender-specific strategies will support women in leadership roles, ensuring that women-specific issues are considered in program delivery. The implementing organisation may also consider strategies to combat perceptions that lower-paying part time work is more suitable for women than men. Addressing these issues would have positive implications for the health and equity of both men and women in these rural communities.

Contributions to literature

- Community-based health programs have impacts on gender norms, roles and relationships within their context of implementation, which in turn affect individuals' health outcomes unexpectedly. These effects are rarely analysed.
- This study describes a novel application of a gender analysis to a drowning reduction program in Bangladesh, using a mixed-methods approach.
- We show that the program had positive impacts on women's mobility and access to employment, but also identify opportunities for this program to actively transform harmful gender norms for equitable health outcomes.

· Implementers of health programs may follow a similar methodology and framework to identify how they are affecting health outcomes through impacts on gendered constraints, norms and relationships.

Background

Community-based health programs are embedded in their social context and inevitably impact and are impacted by their surrounding environment, including on gender norms, roles and relationships (1, 2). Therefore, programs must consider their effect on gender to ensure that in the pursuit of addressing one health outcome, other harms do not occur (3).

Gender roles, relationships and perceptions affect individuals' social environment and hence health outcomes. Gender is a key determinant that influences health outcomes by impacting levels of mobility, access to resources, access to employment, decision-making capacity, levels of social support and inclusion and others (4–7). Community-based health programs often employ women, engage a wide range of stakeholders, and build close relationships with communities, and are able to influence gendered attitudes and norms relating to employment and mobility. These in turn affect health outcomes of individuals (8–11).

There is a lack of differential data and analysis on how health programs impact gender-based factors, including of drowning prevention programs (12, 13). Program effects on gender-based differences in mobility privileges, power relationships between community members and expectations on behaviour need to be measured to understand how they influence these health outcomes (1, 9). For example, previous research has shown that negative perceptions towards women's economic empowerment may lead to higher rates of domestic violence on working women (14), but if programs do not evaluate these outcomes, they will remain invisible. Conversely, greater linkages between women recruited in health programs and communities often lead to better health information sharing and household wellbeing (15). Techniques such as effective engagement and provision of incentives to support women's employment, mobility and involvement in decision making have been effective in improving women's autonomy and hence access to healthcare and information for themselves and their families (9, 10, 16–18).

In this study, we conducted a gender analysis to identify the relationship between a rural drowning reduction program in Bangladesh and contextual gender norms, roles and relationships. We aimed to understand program impacts on gender relationships and related outcomes. The detailed protocol for this paper can be found in Gupta, Rahman (19).

Methods

Study Setting

Bangladesh is a lower-middle income country with clear gender disparities. Labour force participation of women is 36%, much lower than men's 81% (20). Women also have a lower literacy rate of 57%, compared to 61% for men. Almost two thirds of women are married before the legal marriage age of 18,

compared to only one quarter of men (21). Bangladesh ranks 142 out of 167 countries on the Women Peace and Security Index, with low scores on equitable access to education, employment and finances indicators (22).

A survey in Bangladesh reported high rates of drowning in 5–9 year old children, at 23 deaths per 100,000 (23). The SwimSafe program was introduced in 2017 based on the World Health Organization's recommended intervention to train children in swim and rescue skills (24). The program operates across three intervention areas (*upazilas*) in the Barishal Division in southern Bangladesh: Kalapara, Taltali and Betagi. Children aged 6–10 years old are taught a 21-step survival swimming course over 15 days. Children are considered graduated when they can swim for 25 meters, float for 30 seconds and perform land-based rescue. Classes run during the summer months from April to September. Classes are provided by trained men (n = 15) and women (n = 72) Community Swimming Instructors (CSIs) in 65 ponds modified with bamboo structures. Currently, all Supervisors are men (n = 6), managing 15 to 20 CSIs each. See Additional Files 1 and 2 for SwimSafe's organisational chart and logic model.

A wide range of community-level stakeholders are involved in program delivery and oversight. Each site is overseen by a Village Injury Prevention Committee (VIPIC, n = 171) which comprises parents and other influential community members. Union Injury Prevention Committees (UIPC, n = 26) have also been set up at government union level (which oversee a population of between 25,000 to 50,000 people), each with an elected chairman and nine members, one for each administrative ward.

Framework for analysis

We applied a gender lens to identify benefits and effects of SwimSafe beyond the targeted outcome of reducing drowning. The SwimSafe program operates in a rural community affected by cultural gender-based norms and roles. Our analysis aimed to understand how SwimSafe impacted gender roles and relationships within communities, especially those with a potential effect on health outcomes. The impacts to participating children, parents, program staff and other community members were explored.

A mixed methods approach was used in this study. A sequential explanatory design was used where quantitative analysis first identified gender-based differences in participation and outcomes, and qualitative data collection then aimed to explain these. Qualitative analysis also explored additional themes not captured in the program's routine quantitative data, such as effects on CSIs' independence and changes in gender-related community attitudes.

The gender analysis was informed by the Gender Integration Framework by Family Health International (FHI) 360 (1). This framework organises the range of gender-based effects found in the literature to allow for analysis as depicted in Additional File 3. The framework captures a range of possible external and internal effects of the program in community-based settings. It also identifies the effects of each of these domains on program delivery. The framework has been used to conduct gender analyses in community-

based programs addressing HIV, gender-based violence and food insecurity in low-and middle-income countries (LMICs) (25, 26).

Primary and Secondary Data Sources

The framework was applied on data from primary and secondary sources. Secondary data consisted of routine program data collected by program delivery staff via standardised instruments. Qualitative data was collected by trained data collectors in Bengali across all three *upazilas* through observations, in-depth interviews (IDIs) and focus group discussions (FGDs).

Program data was analysed to calculate gender differences in participant attendance, drop out, graduation rates and other metrics. Human resources (HR) data was also analysed to understand gender differences in community staff recruitment and attrition. Table 1 outlines these instruments and the quantitative information available from each.

Table 1
Program/Secondary data sources

Instrument	Data available
Enrolment Form	Gender differences in children enrolled Gender differences in children enrolled for men and women CSIs
Attendance book/ Register	Gender differences in child drop out Gender differences in course completions
HR Data	Differences in course completions between men and women CSIs Gender trends in recruitment and resignation of program staff

Qualitative data collection was guided by the Consolidated criteria for reporting qualitative research (COREQ) guidelines for qualitative research (see Additional File 4 for checklist) (27). Data was collected from a range of stakeholders in contact with the program. The IDIs, FGDs and observations took a semi-structured format using interview and observation tools developed in accordance with the Gender Integration Framework.

Three female and two male data collectors (led by NCD) with backgrounds in anthropology were engaged. Data collectors were recruited by the implementing agency to conduct the data collection and were fluent in both English and Bengali, with previous experience in qualitative data collection. They were provided training from the researchers on the use of the tools and data collection methodologies.

Qualitative data was collected in two phases from September to October 2018 and February to March 2019. Phase 1 data was analysed and informed key themes for exploration in Phase 2. Each phase involved approximately the same number of IDIs and FGDs. In both phases, program staff were recruited

purposively to provide insights on gender-related program delivery challenges and community responses. Program staff were introduced to data collectors through headquarter staff and Supervisors. Program staff included: CSIs, CSI trainers, VIPC and UIPC members, and staff employed to monitor and manage the program including Supervisors and program headquarter staff. Teachers who were sometimes involved in facilitating participation of school children were also interviewed. CSIs, VIPC and UIPC members detailed community responses to gender-based roles and norms challenged or adhered to by the program. Both men and women were interviewed. Supervisory staff provided insights into how gender roles and norms shaped attitudes and uptake of the program. All Supervisory staff were men, except two female CSI trainers. Key staff from the implementing organisation were interviewed for a second time in Phase 2 to follow up specific findings from Phase 1 that required further explanation.

To understand participant experiences, parents and children in communities were recruited through convenience sampling based on age, gender and location from program lists. Beneficiary participants included children who were enrolled in or had completed the program, parents of children enrolled in the program, parents of children who had enrolled but then dropped out, and parents who had been approached by SwimSafe staff but refused to enroll. Both mothers and fathers were engaged to identify differences in perspectives by gender.

All tools were field tested before finalisation. Tools were updated in Phase 2 to reflect themes that required further exploration after Phase 1. Snowball sampling was used to reach community-level participants to form focus groups.

All participants were recruited and interviewed face to face for the study, except two program headquarters staff who were recruited and interviewed over the phone. All IDIs and FGDs were audio recorded and held in private locations appropriate for participants, such as their home, the local school or a cyclone shelter. Field notes of main findings were taken. Only the interviewer and a note taker were present at IDIs and FGDs. IDIs and FGDs took between 30 to 90 minutes. Data collection ceased once main findings became saturated, as assessed with the field notes.

Two SwimSafe classes in session were observed.

Consent

Informed written consent was sought from all participants. Where literacy was a barrier, consent was taken verbally, and participants provided fingerprints. All participants were informed that the data would be used to improve the delivery of the SwimSafe program, and that data collectors were acting independently from the program implementers. Written consent for child participants was obtained from their parents or guardian.

Analysis

Quantitative data was analysed using SPSS to identify differences between genders in recruitment, class enrolment, drop out and graduation rates (28). Differences in rates and proportions between groups in program data was analysed using bivariate Pearson Chi-squared tests and trends analysed using Chi-square linear-by-linear associations.

All qualitative data was transcribed in Bengali and translated into English for analysis by professional services. A fluent Bengali and English speaker completed a quality check on all documents to ensure accuracy. Transcripts were not returned to participants due to logistical difficulties in finding rural participants and low literacy.

Analysis of the transcribed qualitative data was assisted by NVivo 12 software (29). Thematic analysis was guided by the Gender Integration Framework (1). The framework was used to generate codes and incorporate both deductive (pre-determined) and inductive (emergent) thematic analysis. This approach allowed for the exploration of specific themes (e.g. gender-based barriers and facilitators of implementation) while not restricting the identification of unanticipated themes. Two independent teams of researchers, each with 3 coders (lead by MG, SP and NCD), initially coded the data before discussing discrepancies and identifying final themes.

Our analysis identified where the SwimSafe program may be categorised along the Gender Integration Continuum (1), which describes whether the program is gender exploitative, accommodative or transformative. Exploitative programs take advantage of and perpetuate harmful gender norms to meet outcomes, while accommodative programs may acknowledge or cater to gender norms. Transformative programs actively seek to change gender norms to improve health and other outcomes for men and women where they are disadvantaged.

Results

We found insights into how involvement in the SwimSafe program as a CSI, parent, child or wider community member affected gender roles, norms and attitudes and opened new opportunities for women. The quantitative and qualitative results are presented using the Gender Integration Framework domains. No data was reported against the framework domain of *Legal rights and status* as this referred to the impacts of men and women's legal status in the wider context of Bangladesh.

Quantitative data from enrolment forms was available for 11,563 children, and data from graduation forms was available for 11,577 children from February to December 2018. Data from the recruitment of 229 CSIs was also included from January 2017 to December 2018. Missing data from all sources was less than 3%.

Twenty IDIs and three FGDs were conducted with program beneficiaries covering mothers, fathers and enrolled children. Thirty seven IDIs were held with program providers including CSIs, Supervisors, and program headquarter staff. Four of these were repeat interviews of area and project coordinators. One FGD was held with women CSIs to understand organisational and community-level perspectives. Two

SwimSafe classes were observed to understand program engagement and participation. Less than 10% of potential participants approached refused to participate.

Access to resources

We found that employment in SwimSafe granted women CSIs with greater access to resources such as education and material goods including mobile phones and clothing, as well as greater mobility. Many women CSIs and CSI trainers were previously unable to move beyond their community and were now travelling within their *upazila* for training and child enrolment. This increased community acceptance of women CSI movement for non-SwimSafe related activities, such as visiting markets in farther areas.

“Earlier her movement was confined within a few houses. How she has travelled to faraway places to teach swimming. Now people respect her.” [Supervisory staff, Male]

CSIs of both genders gained financial independence from their salary. The impact of this was higher for women as they had few other employment opportunities in rural communities, while males often worked other jobs. Male CSIs often spent money on their personal entertainment such as eating in local markets with friends, while women often spent their income on their families or own education.

“It feels good that I can spend the money as I want. I can give something to my parents when I get money...and spend on my studies.” [CSI, Female]

Both male and women CSIs were able to develop new communication skills that made them more employable. However, this was valued by women CSIs due to lack of other capacity-building opportunities. Their involvement also broke down family perceptions around women’s working ability, making employment more acceptable.

“If I speak truly, earlier I was not even be able to talk with people properly. I could not communicate properly even with my family members, I felt very uneasy. And I was very introverted.” [CSI Trainer, Female]

Knowledge, beliefs and perceptions

We found that beliefs and perceptions around culturally appropriate gender roles and capabilities impacted the hiring of staff within the implementing organisation because of which no women Supervisors were hired.

Field supervision staff believed that women Supervisors would have difficulty with mobility. Male Supervisors rode their own motorbikes; it was perceived as culturally inappropriate for women to do the same. The implementing organisation was also concerned for women’s safety at night due to the lack of secure public transportation options.

“She will not get any transportation in the evening to get back to your place. It becomes risky for a lady to travel alone at night.” [Supervisory staff, Male]

The pond structures required regular maintenance, considered as a “man’s job”. It was believed that women Supervisors could not manage the transportation of building materials, lifting and helping with material movement. It was considered inappropriate to engage women in labour work.

“Supervisors need to help the labourers when transporting bamboo - we also lift the bamboo and push the van. The work we are doing is not possible for women.” [Supervisory staff, Male]

A similar comment about the perceived inability of women to manage the bamboo structure was made about women CSIs by both supervisory staff and CSIs of both genders. There were varying levels of confidence among women CSIs on platform repair – some women CSIs conducted minor repairs, but others were not working with the structure at all. Many women CSIs used their male family members for maintenance work, and the implementing organisation was required to hire more labour to repair platforms of women CSIs. This had implications for cost and time.

“I told a woman CSI to tie a bamboo but she didn't do it. In that case, the work must be done by hiring people. As she is a woman she can't do this work. We [Supervisors] have to wait there while the repair work is done.” [Supervisory staff, Male]

We also found that some women CSIs and CSI trainers faced negativity from community members for travelling and interacting with male supervisory staff and VIPC members, as such interactions were considered unsuitable. This negativity had less of an effect when CSIs received family support for the work.

“At first I had faced some problems...with comments from the community. My mother supports me a lot. I have a sister, she also supports me a lot. So, I have no problem in doing this work.” [CSI, Female]

Women CSIs used the program’s social purpose to respond to community negativity. Work involving children and community betterment was considered appropriate for women, given their inherent gender-based role as child carers. Participants reported that over time, negative attitudes towards women’s work and mobility were changing as the community was exposed to the program.

“They [the community] say the girl has reached the age of marriage, so why don't you marry her off rather than let her travel to cities [with the program]. So, to manage them I say that this is social work. Then they understand that their children are saved from drowning because of us, and they support us wholeheartedly.” [CSI Trainer, Female]

Perhaps due to the small sample size of men CSIs, there were no statistical differences found between the rate of drop out for men and women CSIs. However, all Supervisors reported that men CSIs were more difficult to recruit and retain. Men CSIs found the part-time, lower pay nature of work to be less prestigious, especially for the educational qualifications required. They were also more likely to seek full

time work, given their roles as primary bread-winners of the family. Entering the water was also seen by some as more appropriate to lower socio-economic groups, and hence offensive.

“They [male CSIs] don’t take it positively to teach children swimming by getting down into the water. They think that it is lower class work.” [Supervisory staff, Male]

Working as a CSI was more acceptable to women, who had lower expectations from both themselves and the wider community to work in lucrative and respected occupations. They were also more accepting of the part-time nature of the work, as most were also responsible for household work and were expected to be at home more frequently than men. Women CSIs reported dissatisfaction with the pay less often, even if they had the same educational qualifications as male CSIs.

“Because if males work part time anywhere they expect more than the girls, even if his skill and educational qualification are not high. In some cases, women are more qualified than the men candidates. Male candidates are less interested in this job because of the mismatch between the payment and their expectations.” [Supervisory staff, Male]

Supervisory staff also reported that women CSIs were better able to engage with mothers to send their children to SwimSafe classes as it was more appropriate for women to speak with them. Women CSIs were also considered more sincere and hardworking.

“The benefit is that women CSIs can move from house to house and talk with children’s mothers.” [Supervisory staff, Male]

Practices and Participation

Enrolment data showed that fewer girls (43.5%; 95% CI: 42.6–44.4%) enrolled in the SwimSafe program compared to boys. Qualitative analysis of men and women’s practices and participation found that this was due to cultural barriers where it was considered less appropriate for girls to enter water in public spaces. Parents were also concerned for their girls’ reputation and safety, and were even less likely to enrol older girls when the CSI was male. While 45.2% (95% CI: 44.2–46.2%) of enrolments were girls for women CSIs, this proportion dropped down 32.6% (95% CI: 30.3–34.9%) for men CSIs (Fig. 1). To cater for this issue of girls’ participation, the implementing organisation hired a larger number of women CSIs in its second year of operation.

“Parents feel comfortable when their girls learn swimming from a women trainer, because they do not want to hand over a growing girl to a male trainer. There are some social barriers, some familial barriers...” [Supervisory staff, Male]

The results showed that the proportion of girls enrolled in SwimSafe classes significantly decreased as age increased ($p = 0.021$), again due to perceptions around inappropriate exposure of older girls in front

of men (Fig. 2). Older girls also reported feeling shy to attend classes, especially in front of male CSIs or if the pond was near a road or other public area such as community courtyards or health centres.

“Now I think they [girls] don’t attend because of the presence of males or because everyone comes [to the pond] to see them. Maybe they would’ve gone down to learn if everybody there was a woman.” [CSI, Male]

Gender-based roles and responsibilities also reduced the likelihood of girls finishing the program. Girls were 55.5% (95% CI: 52.6–58.5%) of children who dropped out of the program part way. Analysis of gender-based practices revealed that girls often assisted with care of younger siblings or household work. The same roles were not prescribed to boys. It was also less acceptable for girls to move around the community alone and regularly access the pond.

“She has a little sibling. She has to keep her sibling with her. Besides this, she has to do the household work.” [Dropout child’s parent, Female]

“In villages they do not care much about boys and about where they are going. But for girls the rules are strict.” [CSI, Female]

Norms around appropriate practices for girls also affected the approach to clothing. Older girls took into consideration cultural concerns around modesty by wearing long tunics, although this extra material was cumbersome while learning. Older girls adapted by tying a cloth around their waist to better hold down their tunics. Some women CSIs provided private areas where girls could change from their wet clothes before travelling home to ensure comfort.

“It is not possible [to wear leggings] for older girls. They have to wear extra clothes. They tie the extra loose cloth to their waist with a belt.” [Graduated child’s parent, Female]

At the village level, VIPCs had more men than women members. Women often faced barriers to attend VIPC meetings due to the *parda* (veil) system in some communities where women were not allowed to communicate directly with men. Some men from VIPCs reported that women were less preferred since they weren’t able to travel around communities to manage implementation.

“No, I think It’s better to engage two men in those empty positions [of the VIPC committee]. Two women are enough for us... Men can go everywhere.” [VIPC Member, Male]

Conversely, women VIPC members appeared to have more time and motivation to engage the community and make monitoring visits to ponds. Many VIPC participants agreed that an equal number of men and women were required in the VIPC, but this was not actively implemented during VIPC formation.

“The VIPC members are mostly men, but they have a lot of work and they are busy...But when we want help, the women members always try.” [Supervisory staff, Male]

Power

Women CSIs appeared to have less power than male CSIs to make decisions on their career, such as participating in the program as CSIs. In particular, married CSIs were often at the bottom of the hierarchy in their homes and were more difficult to recruit, as they needed permission from both in-laws and husbands. Women CSIs gathered support from their families by bringing them to the field offices at the time of recruitment to meet the implementing team and assuage their concerns.

"I took them [my family] to show my new office. I introduced them to my Supervisor ... So, I convinced my family members through him." [CSI, Female]

Other findings

While women CSIs gained in mobility and financial independence, their access to gender-specific information that affected job performance was limited, including menstruation management. Training did not provide guidance on how women CSIs should manage classes during this time. Some CSIs were teaching children from the shore when they were menstruating, which may have presented a safety hazard. Some CSIs were also confused about possible health impacts of running classes in water while menstruating. As all Supervisors are men, women CSIs are unable to be transparent about menstruation and would feign illness.

"I tell him [Supervisor] "I am feeling cold, I won't get down in water today. I will stay above the structure..." We do not explain exactly what is wrong, we manage it by ourselves." [CSI, Female]

Categorisation of SwimSafe on the Gender Integration Continuum

The SwimSafe program is a gender accommodating program. The program identified gender-based constraints and catered to them so that the program was implementable in communities. For example, SwimSafe preferentially hired more women CSIs in 2018 after identifying they were easier to retain and that girl children were more comfortable.

However, opportunities to systematically address gender-based constraints were missed. Some CSIs identified lower participation of girls in classes and introduced adaptations to increase girl attendance. They taught children in gender-segregated groups both to appease parents and due to the belief that girls required more attention to teach swimming than boys. However, these strategies were not systemised across all classes.

"It's good to teach them separately. Girls need time and boys learn faster. Boys can learn faster what I teach them. But girls need extra care." [CSI, Male]

Discussion

The SwimSafe program was found to have a range of impacts on gender norms, roles and relationships. The program was a gender accommodating program as it adapted implementation to gender perceptions and expectations (1). However, the analysis revealed opportunities for SwimSafe to become more gender transformative in order to address negative gender-related impacts to health.

Firstly, gender transformative activities are required to ensure girls and boys are equally represented in swimming classes. Lower attendance of girls not only increases in their risk of drowning, but may be reflective of the global trend of keeping girls at home to complete domestic work, reducing their ability to play and engage in physical exercise. This has negative implications for girls' development (30). Our results also paralleled findings that show families become more restrictive of girls as they grow to protect their honour (31). Activities that encourage families to change their perceptions around girls' and boys' roles on housework and mobility may be considered by SwimSafe. For example, women CSIs have benefited from increased mobility and financial independence. Showcasing these benefits to families may change attitudes around girls' movement and employment. The program can also identify adaptations of some CSIs that improve girls' participation and implement these systematically across the program, such as providing private changing spaces. Communication of the differences in participation to communities may also enable a more supportive environment for girls. Programs in Bangladesh that engage girls' wider ecosystem for support to make changes have had greater success in changing norms (32).

Equal access to employment for women has health benefits for all genders. Earning women are able to efficiently access resources such as medicines without depending on others, and men may experience a reduction in stress and take on less risky work if they are not the sole breadwinner (11, 18, 33, 34). The SwimSafe program is already moving towards improving the health of families by providing employment to local women.

The SwimSafe program could go further in changing norms around women's employment by hiring women Supervisors. Women in supervision roles could contribute to changing organisational and community perceptions around women's leadership capabilities. The lack of women Supervisors deprives communities of women leader role models and reinforces beliefs about appropriate work for women. Additionally, excluding women because of less access to transport devalues women, as men are then able to access a wider range of resources and opportunities (35). The SwimSafe program should consider employing strategies to support women where they face barriers at work, such as in transport and bamboo management. To cater for cultural concerns, specific transport providers may be engaged for women Supervisors, or they may be allocated communities closer to home (36). Increased participation of women in leadership roles has been associated with greater focus on public health initiatives, and taking steps towards normalising women in these positions may have positive health outcomes for communities in the long run (37–39). For example, women local government leaders in India are more likely to promote immunisation programs, girls' education and women's employment (40).

Women CSIs low involvement in bamboo management reinforces women's lack of confidence and perceptions of incapability in performing labour-related work. Specifically, upskilling women CSIs in bamboo management may change limiting internalised and externalised beliefs. This will not only reduce program costs but may also contribute to widening of opportunities for women by encouraging them to engage in other physically demanding employment (41, 42). Gendered constraints around physical activity more generally prevent women from engaging in healthy behaviours, and should be challenged to reduce the burden of non-communicable diseases (43).

The acceptability of part-time work for women CSIs reflects wider standards in LMICs of treating community health workers as volunteers. Because community health workers are primarily women, institutions are more likely to manage these workers less formally because gender roles allow them to. Women are also more likely to accept this situation given that formal work is not considered a woman's primary role (8, 11, 44). In many contexts globally, men working the same roles have not accepted the pay and type of roles that women have accepted (11). Similarly, in SwimSafe, men CSIs were less satisfied with the hours and pay as it was below what they may earn elsewhere. The program should consider strategies to reduce rather than reinforce these beliefs around the standards to which men and women are remunerated and treated in the workplace, such as ensuring market-rate pay that men would also be satisfied with and findings avenues for career growth (11).

The importance of women's involvement in program-level decision making was made clear by the lack of consideration given to menstrual hygiene, which was not addressed in training by the men Supervisory staff. Menstruation may also be a reason why older girls were not enrolling in the SwimSafe program. In South Asian countries, social taboos and lack of representation of women in decision making lead to menstruation being ignored in health and sanitation programs (45), and specific strategies such as training women CSIs to have these conversations when engaging with girls and their mothers may be required. CSIs should also re-engage drop out girls to ascertain whether they are leaving the program for this reason and encourage them to join the next batch. Women Supervisors should be recruited to support men CSIs in these talks. To ensure equitable reach of the program to girls and tailored support to women workers, women's leadership and involvement in program design and implementation is essential (43, 46).

Methodological challenges

No findings were reported for the *Legal rights and status* framework domain. To identify impacts of the policy and law environment on gender, a longer study period with participation of local government-level key informants may be required. In addition, findings on the impact of gender norms on menstruation management did not fit in any of the Gender Integration Framework domains. The framework may benefit from another domain assessing the effect of gender on interpersonal interactions.

Another limitation of this study was that Phase 2 data collection occurred after the end of the SwimSafe season, and some respondents may have forgotten their initial experiences of the program. In addition, a

focus group discussion with male CSIs was not possible due to the small numbers, which reduced our understanding of group-based perceptions of male workers in this context. Lastly, there were no women Supervisors who could provide a women's perspective on the possible gender-based constraints of the role.

Conclusions

While the SwimSafe program is changing some community-wide perceptions around women's mobility and work, further opportunities exist to challenge gender-based norms and relationships to improve health outcomes for both genders. The program may consider how activities are re-enforcing certain norms, such as expectations around women's formal work, and find strategies to challenge these norms instead. Systemised strategies are also required to ensure equal participation of girls and boys in classes to ensure equitable protection from drowning. The methods and findings may be useful for other community-based programs to assess the wider impacts of their programs on gender and address health outcomes beyond targeted ones.

List Of Abbreviations

CIPRB Centre for Injury Prevention and Research, Bangladesh

COREQ Consolidated criteria for reporting qualitative research

CSIs Community Swimming Instructors

FGD Focus group discussions

FHI Family Health International

HR Human Resources

IDI In-depth interview

LMIC Low-and middle-income country

UIPC Union Injury Prevention Committee

VIPC Village Injury Prevention Committee

Declarations

Ethics approval and consent to participate

Local ethical approval from the Centre for Injury Prevention and Research, Bangladesh was granted (Memo no: CIPRB/ERC/2017/24). Ethical approval was also obtained from the University of New South Wales Human Research Ethics Committee (HC: 180608). All participants were informed on study objectives and freely provided verbal or written consent to participate and be audio recorded (as depending on participant's literacy). Participant Information Statements were provided in Bangla where required.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

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Author contributions

AR, JJ, RI, DN and MG conceptualised research questions and methods. MG and NCD developed tools with support from SP, AR, DN and JJ. MG, SP and NCD led analysis of results. MG drafted and edited publication with inputs from AR, JJ, RI, DN, SP, MSH and NCD.

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Figures

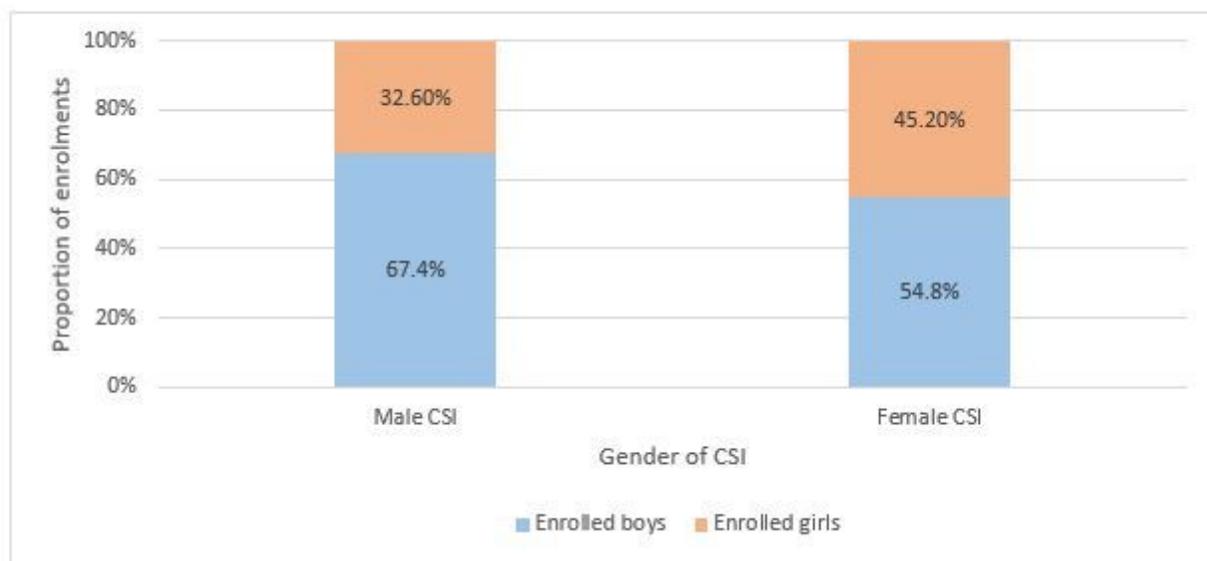


Figure 1

Enrolments of children by Community Swimming Instructor (CSI) gender (N=11,564)

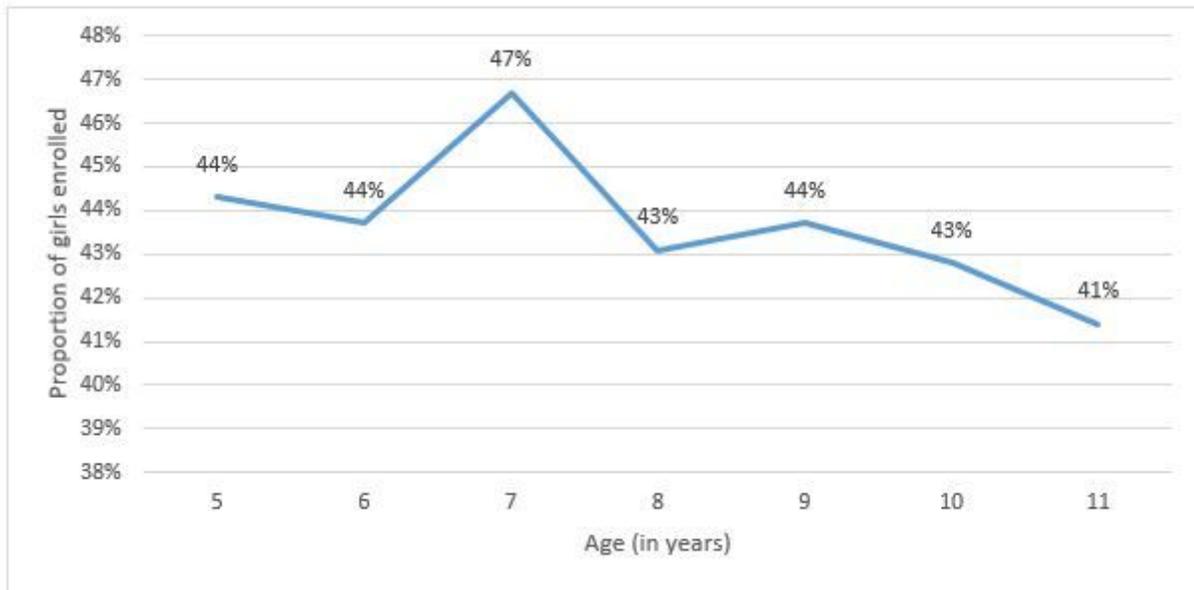


Figure 2

Proportion of girl enrolment by age

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