Girl Empower Impact Evaluation

Mentoring and Cash Transfer Intervention to Promote Adolescent Wellbeing in Liberia

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Photo Credit: IRC / Sarah Grile

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Acronyms

CCS	Caring for Child Survivor[1]
CCSAS	Clinical Care for Sexual Assault Survivors
COMPASS	Creating Opportunities through Mentoring, Parental Involvement and Safe Spaces
CRIES	Children's Revised Impact of Event Scale
IRC	International Rescue Committee
GBV	Gender Based Violence
GE	Girl Empower program variation in Liberia; no participation incentive
GE+	Girl Empower program variation in Liberia; included participation incentive
HIV	Human Immunodeficiency Virus
HSV-2	Herpes Simplex Virus – 2
IPA	Innovations for Poverty Action
IPV	Intimate Partner Violence
ITT	Intent to Treat
LISGIC	Liberia Institute of Statistics and Geo-Information Services
PTSD	Post-Traumatic Stress Disorder
SRH	Sexual and Reproductive Health
STIs	Sexually Transmitted Infections
SV	Sexual Violence
VAC	Violence Against Children
VACS	Violence Against Children Survey
VAW	Violence Against Women

[1] http://gbvresponders.org/response/caring-child-survivors/

Contents

Executive Summary

The Girl Empower program was implemented by the International Rescue Committee (IRC) in 56 communities in Nimba County, Liberia from February to November 2016. 772 girls aged 13-14 years old participated in a mentorship program during which groups of 6 to 20 girls met on a weekly basis. Young female mentors from the community facilitated these weekly sessions and guided the girl participants through a 32-week life skills curriculum. The Girl Empower program aimed to equip adolescent girls with the skills and experiences necessary to make healthy, strategic life choices and to stay safe from sexual violence. It also tested the additional impact of a conditional cash transfer paid to families, based on a girl's attendance at mentorship sessions.

This rigorous impact evaluation of the Girl Empower program demonstrates that:

1. Adolescent girls in Nimba County, Liberia, are exposed to staggeringly high rates of sexual violence.
2. The Girl Empower program filled a need in the community. Attendance rates of girls and their parents, even outside of the group that received the conditional cash transfer, were high over a period of 32 weekly sessions.
3. Girl Empower reduced rates of child marriage and risky sexual behaviors, all of which were sustained one year after the end of the program.
4. Girl Empower plus the cash incentive for participation (conditional cash transfer) reduced the likelihood of marriage and the number of sexual partners in the past 12 months and increased the sexual abstinence and condom use in the past 12 months by more than 50% compared to Girl Empower alone.
5. Girl Empower equipped adolescent females with important life skills and positively influenced gender attitudes.

Adolescent girls in Nimba County, Liberia, are exposed to staggeringly high rates of sexual violence and experience traumatic stress. Already at baseline, when most of the girls were aged 13-14 years old, 37% reported having ever experienced sexual violence. At endline, two years later, that number increased to 85%. It indicates that **it is critical to target programming at adolescent girls 13-14 years old**, since it is in the subsequent two years that these girls are not only are at higher risk of dropping out of school and early pregnancy, but also for exposure to sexual violence. Of the girls who reported experiencing sexual violence, 53% said they had sought help to cope with these experiences. Of those who sought help, the majority (67%) went to family members. Of those who did not seek help, 25% said it was because they were ashamed and 29% said that they did not think that it was a problem that required help. Moreover, at endline, over half (55%) of the respondents who reported having experienced sexual or physical violence met or exceeded the threshold for post-traumatic stress. This points to **urgent need for more specialized services and psychosocial support of those who have experienced violence.**

Considering the context in which the Girl Empower program was implemented and the high levels of exposure to sexual violence, it may not be surprising that the Girl Empower program alone was not able was to reduce the incidence of sexual violence experienced by adolescent

girls. In addition, the IRC recognizes that multi-sector, multi-system interventions are required to effectively tackle violence against women and girls. At the same time, this impact evaluation shows that the Girl Empower program can effectively help girls make progress along pathways which can promote reduction of violence in the longer term. **Girl Empower equipped adolescent females with important life skills, positively influenced gender attitudes, and, perhaps most importantly, reduced rates of child marriage and risky sexual behaviors, all of which were sustained one year after the end of the program.**

Small cash transfers, given to caregivers and tied to the girls' attendance in the GE+ variation, were effective in enhancing the impact of the program on SRH and Family Formation. **Girl Empower plus the cash incentive for participation (conditional cash transfer) reduced the likelihood of marriage, the number of sexual partners in the past 12 months and increased sexual abstinence and condom use in the past 12 months by more than 50% compared to Girl Empower alone.** Future research is needed to also understand the impact of cash alone.

While effects on schooling were positive, the effect sizes were small and not statistically non-significant. It is possible that the barriers girls face in the rural context of Nimba County (e.g., distance to school, need for children to work at home and for pay, attitudes of rural families about the importance of and returns to education for girls) could not have been changed by the Girl Empower curriculum or the small amounts of cash combined with skills in the GE+ variation of the program.

Girl Empower (GE) was implemented in two treatment variations, called "GE" and "GE+". In the GE+ variation, the IRC added a participation incentive payment paid to parents for the girls' attendance in the program sessions (conditional cash transfer). Attendance in Girl Empower sessions was high in both GE and GE+, with the girls attending an average of 86% of the 32 sessions. Attendance rates for caregivers to these sessions were also high, with an average attendance rate of 89% over the eight monthly sessions. The level of interest and attendance in the program indicates that these types of programs are in demand, are feasible and are acceptable to both girls and their caregivers.

Summary Results

Impact Domains	Girl Empower Program Impact (Standard Deviations)
Sexual & Reproductive Health and Family Formation	Moderate, positive and statistically significant impacts. Impacts for GE+ are approximately 50% larger.
Girls' Gender Norms	Moderate, positive and statistically significant impacts, similar across GE and GE+
Life Skills	Moderate, positive and statistically significant impacts, similar across GE and GE+
Schooling	Mostly positive impacts, but small and not statistically significant
Psychological wellbeing	Mostly positive impacts, but small and not statistically significant
Protective Factors	Mostly positive impacts, but small and not statistically significant
Sexual Violence	No impact.

Why is this research important?

Violence against women (VAW) and violence against children (VAC) are global epidemics that have lifelong impacts on the health and welfare of individuals, families and communities. The epidemics are closely linked; VAW and VAC tend co-occur within households and exposure to VAC predicts female experience and male perpetration of intimate partner violence during adulthood [1]. Because of their age, however, adolescents may not have access to preventive interventions, most of which are aimed at supporting either adult females or young girls and boys [2].

Liberia, the setting for this study, has a history of armed conflict during which women suffered greatly [3]; high levels of interpersonal and sexual violence (SV) continue to occur, particularly in areas that saw high conflict events and fatalities during the civil war [4]. Across conflict and post-conflict settings sexual violence (SV) against women and girls is the most common form of violence, but there are few evaluations of preventive interventions in such settings for adolescent girls [5]. Within such contexts, violence by humanitarian workers or armed militia groups dominates media reports, yet the home is where most acts of SV against girls are believed to be committed, often perpetrated by intimate partners, caregivers or family friends [6]. Because of its widespread occurrence and acceptance, however, SV that occurs within homes and families receives much less attention [7].

Programs designed to work specifically with adolescent girls as a unique subpopulation began to appear in the early 2000s. Some of these (reviewed by [8] and [9]) have shown favorable impacts on sexual health behaviors, HIV and other sexually transmitted infections (STIs), as well as on child marriage. Few, however, have focused specifically on SV experienced by adolescent girls, particularly those younger than 15 years of age. Existing interventions that have measured the SV experienced by adolescent girls have tended to employ non-rigorous research designs, short follow-up durations, and low or non-reported retention rates. Moreover, until very recently, few interventions aimed at preventing SV among adolescent girls have taken place in the humanitarian space [5].

Girl-focused interventions designed to reduce SV mainly attempt to address the accepted drivers of female disadvantage and victimization: poverty, low earning power, social isolation, and/or harmful social norms around gender. Although different categorizations have been employed in recent reviews [9-11], such programs tend to include either: (a) a cash transfer, frequently conditioned on income status or a behavior; (b) economic skills strengthening without a cash transfer (vocational skills, financial education, savings, and/or microcredit); or (c) gender transformative content, usually delivered to girls by a mentor in a safe space, to guardians or community members, or occasionally to both girls and adults.

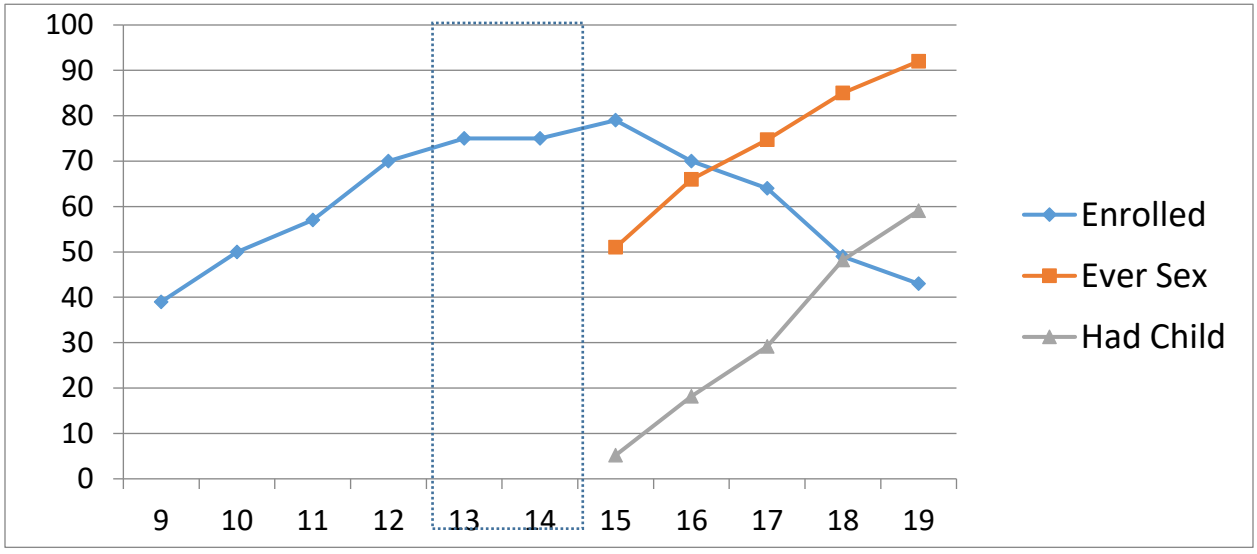
Several cash (or in-kind) transfer schemes have assessed impacts on adolescent sexual behaviors [12-17]; and/or HIV, HSV-2, or other STIs [18-23]. While the impacts on child marriage and teen pregnancy are promising, especially in the short-term, only a couple of studies found reductions of HIV or STI risk, and one of those studies with a longer term follow up revealed that the impacts of unconditional cash transfers on pregnancy, marriage, and HIV

largely evaporated after the transfers ceased [24]. Cash transfer programs have also been demonstrated to reduce IPV (including male partner controlling behaviors and emotional, physical and sexual violence) reported by adult women [10,25]. To date, however, there are no evaluated cash transfer programs that assess SV experienced by adolescent girls [10].

Another stream of interventions for adolescent girls couples economic strengthening and gender transformative content. This combination was inspired by an earlier wave of programs that found economic strengthening alone may put adolescent girls at greater risk for experiencing SV [26,27] . These combined interventions have demonstrated some favorable impacts on SRH behaviors [28-32], depression [33], IPV and SV [26,28,29,31,32,34], but many of these focus on older adolescent girls and often include young women up to age 24 years, most of whom are already in sexual relationships.

No intervention to date has examined the potential of adding a cash transfer component to a combined economic strengthening and gender transformative intervention for very young adolescent girls. We report on the impacts of a program implemented by the International Rescue Committee in rural Liberia aimed at girls aged 13-14 years at baseline. This specific target age range was chosen based on the high rates of sexual debut, pregnancy, school dropout and marriage that were already being experienced by females aged 15-17 in the region at the time of study commencement, as reported by the Demographic and Health Surveys [35] (Figure 1). The intervention's goal was to reach rural girls with a preventive intervention before this densely packed transition to adulthood began.

Figure 1: Liberia Demographic and Health Survey, 2007: % of girls reporting (vertical axis) and age (horizontal axis).



The Girl Empower Program

Figure 2: Girl Empower intervention area

The Girl Empower program was implemented by the International Rescue Committee (IRC) in 56 communities in Nimba County, Liberia from February to November 2016. 772 girls aged 13-14 years old participated in a mentorship program during which groups of six to 20 girls met on a weekly basis. Young female mentors from the community facilitated these weekly sessions and guided the girls through a 32-week life skills curriculum. The Girl Empower program aimed to equip adolescent girls with the skills and experiences necessary to make healthy, strategic life choices and to stay safe from sexual violence.

Girl Empower was implemented in two treatment variations, called "GE" and "GE+". Both GE and GE+ consisted of 1) Girl Empower life skills curriculum, 2) facilitated by young female mentors from the community in safe spaces; 3) Caregiver discussion groups, facilitated by IRC staff; 4) Individual savings start-up for the girls; and 5) Capacity building for local health and psychosocial service providers. In the GE+ variation, the IRC added a participation incentive payment for the girls' attendance in the program sessions, paid to their parents (conditional cash transfer).

	Girl Empower curriculum	Mentorship from young females & Safe Spaces	Caregiver sessions	Individual cash savings	Capacity building for service providers	Participation incentive payment
GE	√	√	√	√	√	
GE+	√	√	√	√	√	√

Life Skills Curriculum (GE and GE+)

Girl Empower centered on a mentorship program where 772 adolescent girls (65 groups of six to 20 adolescent girls), aged 13-14 years old, met weekly with local trained female mentors, aged 20 to 35 years old, for a total of 39 weeks. The meetings took place in safe spaces located in, and designated by, community leaders, caregivers and the girls themselves. Two mentors were assigned to each group to facilitate the 32 weekly sessions based on a life skills curriculum, which covered:

- Sense of self
- Feelings and emotions
- Social networks
- Protection and safety
- Financial literacy
- Reproductive health
- Leadership and empowerment
- Setting life goals

The participating girls and their mentors met for an additional seven weeks to prepare a community action event, to engage community members and promote their rights and opportunities which the girls prioritized as most important to them. Attendance in Girl Empower sessions was high in both GE and GE+, with an 86% average attendance rate over the 32 sessions.

Female and Male Caregiver Sessions (GE and GE+)

IRC staff facilitated eight monthly sessions with 759 parents and caregivers of the adolescent girls participating in Girl Empower. These monthly sessions aimed at familiarizing the parents and caregivers with the curriculum content, supporting them in reinforcing the skills that the girls learned during the life skills sessions, and encouraging them to support and protect girls. The caregiver session curriculum covered:

- Introduction to Girl Empower
- Building Essential Life Skills for Adolescent Girls
- Parenting/Caring for Adolescent Girls
- Health and Overall Well-Being of Adolescent Girls
- Her Safety & Protection
- Savings and Financial Growth
- Building a Healthy Family at the Right Time
- Keeping Girls Healthy and Whole
- The Impact of Sexual Violence
- Building Gender Equality
- The Girl Empower Community Event

Similar to the attendance rates for adolescent girls, attendance rates for caregivers to these sessions were high, with an average attendance rate of 89% over the eight monthly sessions.

Individual Savings Start-Up (GE and GE+)

All participating girls received cash to help start their own savings account, an identification card, a savings book and a cash box. Each girl received $2 per month for a total of $16 during the 8-month implementation period.

To develop the cash component, the IRC conducted an assessment to determine the feasibility of cash transfers in rural Liberia where the program was implemented. Because of the lack of formal banking in these rural areas and poor mobile phone coverage, the IRC determined that cash transfers via a mobile cash system or deposited to a bank account would not be viable for the Girl Empower intervention. Therefore, the savings were given directly as cash (in envelopes) to the participating girls. Immediately after the first round of payments, the girls began implementing financial plans with support from IRC's Girl Empower Officers and assigned mentors.

Participation Incentive Payment (GE+ only)

In the GE+ variation of the Girl Empower program, caregivers of participating adolescent girls received of a payment of $1.25 for each session that the adolescent girl attended during the first 32 sessions of the program, for a maximum of $40 for each participating GE+ beneficiary over the course of the program. On average, caregivers received $37 in participation incentive payments. Due again to challenges in finding the most efficient and appropriate disbursement mechanism, these cash payments were not made until July 2016.

Safe Spaces

After engagement by the WPE team, the female and male village leaders in each implementation site were guided on how to select safe spaces where young women mentors and adolescent girls could regularly meet in all 56 villages. This represented the communities' contribution and support to the work with adolescent girls, as well as to ensure that communities felt ownership of the Girl Empower project. Safe spaces were selected from local schools, community and women's group centers. Leaders of these communities and influential persons formed part of an steering committee to ensure safe spaces were physically and emotionally safe at all times for girls to meet and freely discuss during their sessions. Many safe spaces were decorated with messages and artwork the girls created.

Mentors

IRC Girl Empower officers trained the 130 young female mentors and provided monthly coaching visits during the Girl Empower sessions. Additionally, the female mentors received a manual covering facilitation techniques and the life skills curriculum, as well as attitudes and beliefs of mentors and facilitators. Mentors were trained on core GBV concepts, basic psychosocial skills, making referrals, the role of a mentor, life skills content, Monitoring and Evaluation (M&E) tools and mobile phone management for attendance tracking

Service Provider Trainings

The IRC identified 56 local female psychosocial focal points, one for each of the Girl Empower selected intervention communities. These service providers were trained on GBV core concepts, psychological first aid and the local GBV referral pathway protocol to support girls in who experience GBV and other forms of abuse. Local psychosocial focal points were linked with Girl Empower female mentors and health facilities to strengthen coordination and increase the

likelihood of timely referrals to be made for girls to access clinical care. Girl Empower girls who experienced safety and protection issues in their homes were provided with basic counselling and given information and support to access other services if they gave informed consent.

In order to support girls' access to appropriate health services, a total of 15 female health facility staff around Nimba County were trained on Clinical Care for Sexual Assault Survivors (CCSAS), as well as Caring for Child Survivors (CCS). The facilities where staff were selected and trained included three government referral facilities for sexual assault survivors' clinical management. During the training, a local referral system was established. Psychosocial service providers and health facilities were also brought together for a training to strengthen referrals.

Research Methods

Research Questions

The main research questions for the Girl Empower program were as follows:

- What impact does the Girl Empower program have on reducing adolescent girls' experiences of sexual violence?
- Does the effectiveness of the Girl Empower program improve when a cash transfer component conditional on program attendance is added to it?

More specifically, does the participation of adolescent girls and their caregivers in Girl Empower:

- Decrease experiences of sexual violence?
- Reduce teen pregnancies and early marriages?
- Decrease social isolation and deepen social networks (e.g. number and diversity of friends)?
- Increase school participation?
- Increase self-esteem, self-confidence, and self-efficacy?
- Increase girls' capacity for crucial life skills (decision-making, communication, negotiation, self-protection, understanding and awareness of violence, financial literacy)
- Increase the protective factor of family/home life through increased attention to their wellbeing by their caregivers?

Research Design

The research design was a cluster-randomized controlled trial with three study arms: control, GE, and GE+, clustered at the village-level. The control villages did not receive the Girl Empower program. The GE and GE+ received the program; GE+ added a participation incentive payment based on the girls' attendance and provided to their caregivers. The research design aimed to test 1) the overall impact of the program, compared to a counterfactual (the control group); and 2) the effectiveness of adding a participation incentive payment (in GE+), specifically to measure if giving cash incentives to girls has a protective and empowering benefit, which reduces risk of sexual violence, possibly mediated through increasing the girl's attendance at program sessions.

The research team aimed to reach a sample of 2,000 girls. In order to reach the estimated required sample size, the research team used village population data from the Liberia Institute of Statistics and Geo-Information Services (LISGIS) [36] to develop a list of 100 villages likely to have at least five eligible girls. Listing of these 100 villages was conducted between July and September 2015 with 10,930 households. Sixteen of the 100 study villages surveyed at baseline were found to have fewer than five girls who were eligible for the program, i.e. aged 13-14.

Since Girl Empower mentorship groups required a minimum of five girls, these 16 villages were removed from the study sample prior to randomization.

The 84 remaining villages were randomly assigned to either control, GE or GE+. Before randomization, villages were categorized into one of six strata, based on the number of eligible girls and the mean level of school enrollment in each village. A total of 399 girls (375 caregivers) in 28 villages were randomized to the control group; 402 girls (378 caregivers) in 28 villages to GE; and 415 girls (383 caregivers) in 28 villages to GE+.

The IRC team conducted registration for Girl Empower in the 56 intervention villages in late 2015, during which 376 of the 402 girls in GE communities and 396 of 415 girls in GE+ communities were found, all of whom consented and registered to participate in the program (see Figure 3). The IRC then created groups of six to 20 girls in each treatment village for the Girl Empower program. In nine of the 56 treatment villages, the total number of girls registered exceeded twenty (the maximum number of girls in a group deemed manageable for the mentors by the IRC staff), and therefore two groups were created in those villages, for a total of 65 Girl Empower groups in 56 villages. Each of the groups was led by two female mentors, who had been identified, vetted and trained by the IRC.

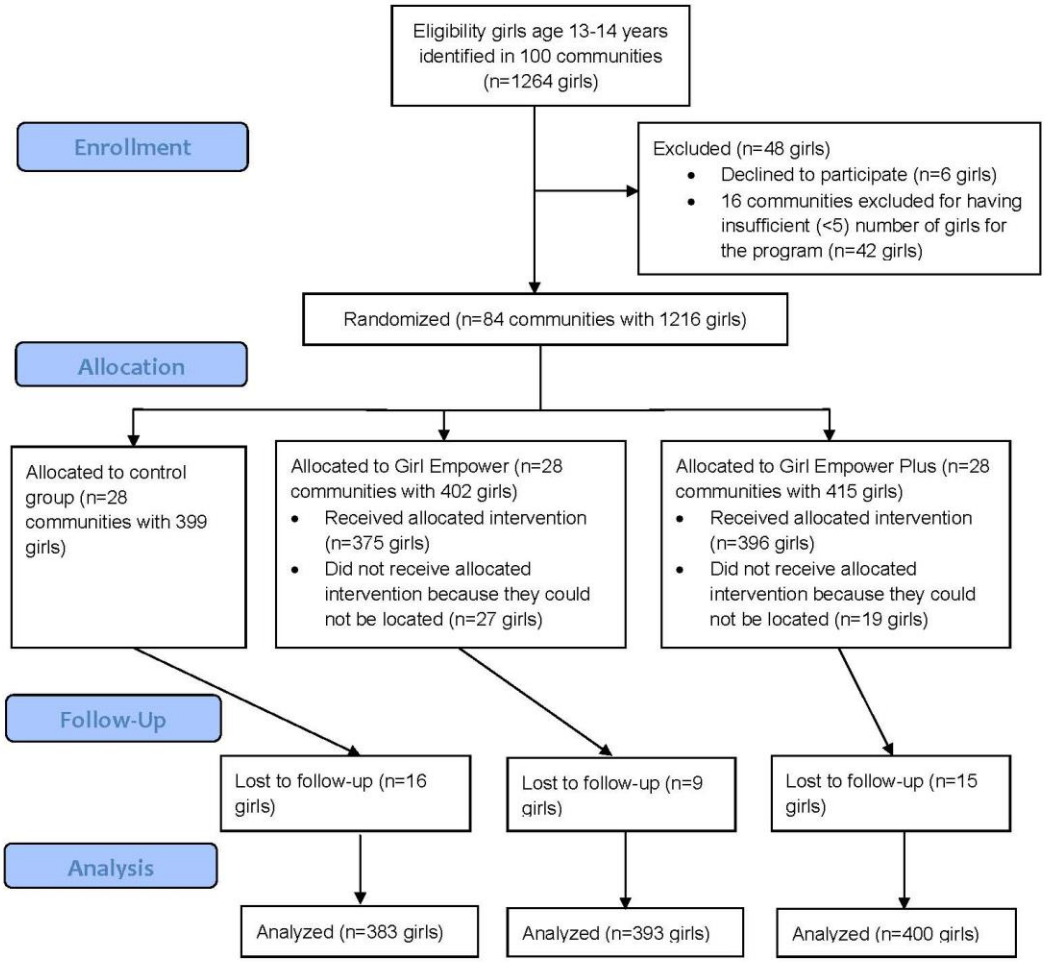
Institutional Review Boards at the Population Council and the University of Liberia approved the study procedures. We obtained informed assent from all girls and informed consent from all caregivers prior to enrollment in the study.

Data Collection

The baseline data collection was completed by Innovations for Poverty Action (IPA) Liberia between July and September 2015. IPA surveyed 1,216 adolescent girls aged 13-14 years old and 1,132 caregivers in the 84 study villages in Nimba County. IPA organized four teams of enumerators, each with four enumerators and one team leader. Given the sensitive nature of the subject matter, all enumerators were female. Enumerators were responsible for interviewing respondents, while team leaders were responsible for enumerator supervision and spot-checking interviews. In each village, the team leader met with the village chief to explain the purpose of the assessment, emphasizing the fact that participation was voluntary and that respondents would not receive any material benefits. All questions were administered by trained enumerators fluent in all local languages; responses were recorded on tablets.

The endline data collection started in August 2017, nine months after the end of the Girl Empower program, and continued through February 2018 with an extensive tracking effort to minimize loss-to-follow-up (girls who could not be interviewed at follow-up because they relocated, for example). Overall, out of the 1,216 girls interviewed at baseline, 1,176 girls were interviewed at the 24-month follow-up, indicating a high follow-up rate of 96.7%. Of the 1,136 caregivers interviewed at baseline, 1,082 (95.9%) were successfully interviewed at the 24-month follow-up.

Figure 3. Study Flow Diagram



The research team proposed to employ two modes of data collection that would allow the girls to answer certain sensitive questions in a way that masks the answer to the interviewer. Specifically, we used (1) a list experiment and (2) a random response method in administering certain questions on the Girl Empower endline girl's survey. These strategies are ways to ask sensitive questions without the enumerator knowing their answers directly, which would, hopefully, make the girls more confident in the confidentiality of their responses and therefore respond more accurately. For the list experiment, enumerators provided a number of statements and asked the girl to answer with a count of the number of statements that were true for her. In the randomized response method, the respondent rolled a dice and added the number to their response (for example, add the value on the dice to the number of sexual partner she has had). These strategies were piloted prior to the survey to test their implementation.

As the endline was being conducted, some inconsistencies in the data were identified around the girls' responses to questions about sexual violence that were key to addressing some of the a priori aims of this study. Therefore, the research team decided to conduct a second round of the endline survey, focusing on questions related to sexual violence, in order to ensure that the responses were correct and not due to misunderstanding of the questions due to language barriers (i.e. if the interviewer was not as fluent in some of the local languages as necessary, or if the girl did not indicate she was having trouble understanding the question when asked in Liberian English so the interviewer did not know to switch to the local language). For this second round, all the questions were pre-recorded in the each local language and the girl listened to the audio recording of each question in the language of her choice before responding.

Full data collection implementation details are available in reports written by IPA, which can be shared upon request.

Measures

The research team collected data in seven domains of measures at baseline and the 24-month follow-up: 1) schooling, 2) psychological wellbeing, 3) gender norms, 4) life skills, 5) sexual and reproductive health (SRH) and family formation, 6) protective factors, and 7) sexual violence.

1) The **schooling domain** contains questions regarding school enrollment, regular attendance, and highest grade completed.
2) The **psychological wellbeing domain** consists of:

- The *Rosenberg self-esteem* scale [37], which consists of ten questions and was developed for adolescents.
- The *Short Mood and Feelings Questionnaire*, child version, which consists of 13 questions to assess depression [38]
- The *Children's Revised Impact of Event Scale* (CRIES) which consists of eight questions to measure post-traumatic stress disorder (PTSD) [39].

3) The **gender norms index** has two components: the gender equity score and an index of attitudes towards intimate partner violence (IPV). The gender equity index is made up of five statements, with each of which the respondent must agree or disagree. The violence unjustified index (i.e. attitudes towards IPV) is comprised of six statements asking the respondent whether the husband is justified in beating his wife in different hypothetical scenarios.
4) The **life skills** index has five components: HIV knowledge, health knowledge, financial literacy, knowledge of condom effectiveness, and healthy intimate (heterosexual) relationships.
5) The **sexual & reproductive health and family formation** consists of five components: three indicator variables for: never married, never had sex and never pregnant, a discrete variable for the number of partners in the past 12 months, and a safe sex index regarding condom use.
6) The **protective factors** index includes questions both from the individual primary respondent survey and from the caregiver survey. It has three components: a social capital score, a caregiver gender norms score and a caregiver child rearing score.
7) And finally, the **sexual violence** includes questions on whether the individual has experienced each of the following traumatic events: non-consensual touching, pressure to have sex, attempted rape, and rape.

Since multiple sub-outcomes were measured in each domain, the research team constructed standardized indexes for each of the seven domains listed above. This was done in order to avoid the risk of selectively choosing positive results from each domain rather than looking at the domain as a whole. The research team constructed each index using a weighted average of the standardized index components, where the weights are determined by the inverse covariance matrix of the components [40].

Data Analysis

We compared the baseline characteristics of the girls, including age and seven outcomes across the three study arms to ensure that the randomization worked to equalize the distribution of these variables as expected. Overall, there was no significant difference in the joint distribution of the eight variables (age and the seven domains) examined between the three groups. When examining each variable alone, the only significant difference found was a significantly higher score on the social capital index for the girls randomized to GE+ compared to those in GE and the control group. The rate of loss-to-follow-up did not differ significantly by study arm (4.0% in the control group, 2.2% in the GE group and 3.6% in the GE+ group), nor were there differences in the characteristics of those lost to follow-up between study arms.

To assess program impacts on each domain (and its components), we conducted standard intent-to-treat (ITT) analysis using linear regression of the following form for outcomes

measured at the 24-month follow-up[2]. All the regression specifications include controls for the variables on which we blocked the random assignment to intervention group or control, which were the number of eligible girls and the mean level of school enrollment in each village. For each outcome domain and its components, we ran two regression specifications: one without and one with a lagged dependent variable and age, which accounts for the girl's outcome status before the program began.

Research Results

Description of Study Participants at Baseline

Demographics

Liberia ranks 177 out of 188 countries in the Human Development Index [41]. The baseline survey found levels of household deprivation consistent with such a low ranking. Just under 60% of households in the study had a cell phone, 59% had a radio, 8% had a generator, 14% had a motorcycle or motorbike and just 3% had access to electricity from the grid. The most common water source in the caregivers' homes was a dug well with a hand pump in the yard/plot (49%), and 48% reported that people in their homes did not use toilet facilities, instead practicing open defection.

At baseline, a larger proportion of girls lived with their biological mother than with their biological father (75% with mothers vs. 59% with fathers). Among girls who did not live with their mothers, the most common reasons reported were that the girl went away for school (42%), that the mother had remarried (17%) or that the mother had died (13%). Among girls who did not live with their fathers, the most common reasons reported were that the father had died (27%), the father had remarried (20%) or the girl was sent away to school (19%).

Safety

A baseline, most (52%) girls reported that they did not have a place where they could go to sleep in an emergency situation. Among those who reported that there was such a place, 80% indicated that place was a relative's home. Most girls (93%) who attended school indicated that they felt safe there. Most (91%) also reported that they felt safe traveling to school.

Social Networks

Just 35% of girls reported that there was a woman in the community outside of their own household who they could usually go to with problems. 96% of girls reported that they had girl friends around their age (outside their own household). The median number of friends reported was three.

[2] $Y_{ij} = \alpha + \gamma^2 T_j^2 + \gamma^3 T_j^3 + \beta X_{ij} + \varepsilon_{ij}$,
where Y_{ij} is an outcome variable for individual *i* in cluster *j*; T_j^2 and T_j^3 are binary indicators for cluster-level interventions GE and GE+, respectively; and $X_{ij}$is a vector of baseline covariates consisting only of the lagged dependent variable and age of the individual in years. The regressions also absorb the strata used for random assignment. The standard errors ε_{ij}, clustered at the village level, account for both the design effect of the cluster-level treatment and heteroskedasticity inherent in the regression model.

Schooling

Nearly 98% of all survey participants at baseline indicated ever having attended school; of those, the largest proportion (nearly 21%) indicated second grade as their highest level of schooling reached. Typical for the overall setting, 85% of study participants reported having been enrolled in school during the academic year prior to the survey (in this case, the 2014-2015 school year) and before the Ebola outbreak.

Sexual and Reproductive Health

Overall, 20.7% of girls reported that they had had sex at baseline (either consensual or non-consensual). This was not noticeably different than available comparable statistics for girls the same age from the region [42]. Almost eight percent of girls had ever been pregnant, but almost none (<1%) were currently married or living with a partner.

Aspirations

Girls were asked about their hopes and plans for the future. Most of the girls indicated that they would like to reach a high educational level: 56% said they hoped to reach grade 12 and 29% said they hoped to have some level of formal post-secondary education. The average age at which girls hoped to get married was 25.77 years old (the median was 25) and the average age at which girls hoped to have their first baby was slightly lower, at 25.55 years old (the median was 24). The majority (82%) reported that they hope to get a job outside of the home.

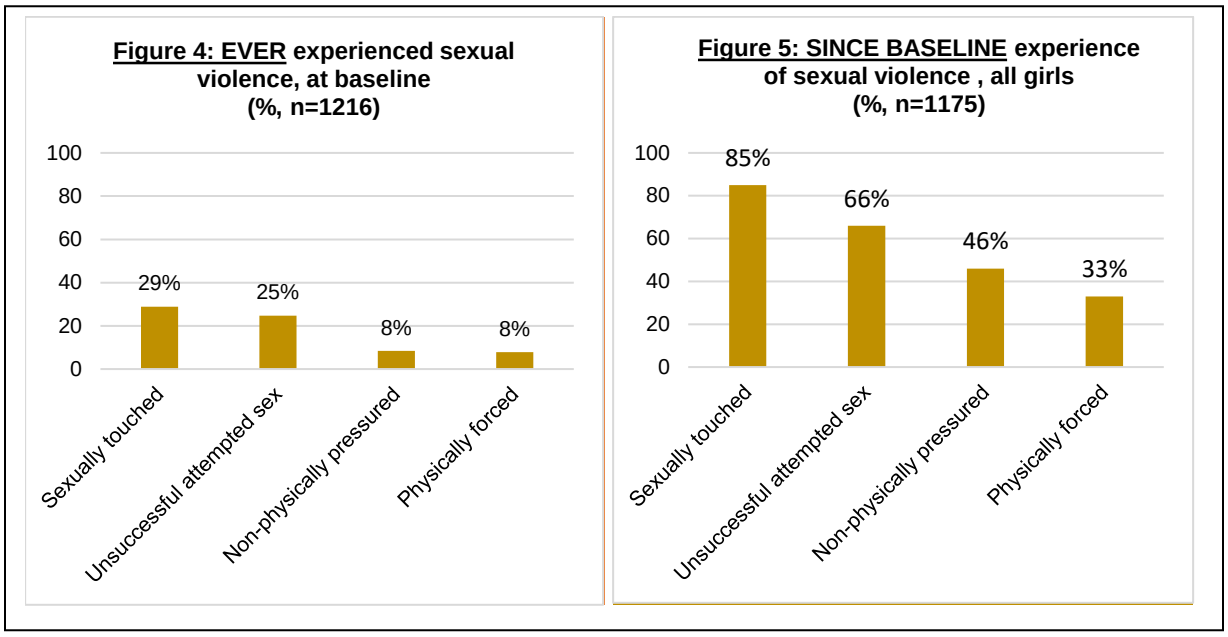
Gender Norms

At baseline, a relatively high percentage of girls gave answers to the gender relations scale questions indicating agreement with unequal roles between men and women: 52% agreed that it is a woman's duty not to get pregnant, 55% agreed that women should accept violence to keep the family together and 35% agreed that a man can beat his wife if she does not agree to have sex with him. The majority (84%) of girls did, however, believe that a husband and wife should agree if they want to have children.

Experiences of Sexual Violence, Reported at Baseline and Endline

At baseline, when most of the girls were aged 13-14 years old, 37% report having ever experienced sexual violence (any type). Eight percent had been physically forced to have sex, 8% had been non-physically pressured (coerced/persuaded) to have sex (see figure 4).

Two years later, at endline, when the majority of study girls were now aged 15-16 years old, the study participants were asked again if they experienced sexual violence since baseline. The percentage of girls reporting having ever experienced sexual violence of any type more than doubled since baseline, from 37% to 85%. At endline, 33% had been physically forced to have



sex, 46% had been non-physically pressured (coerced/persuaded) to have sex (see figure 5). This again highlights that the program accurately chose a critical age in girls' development – though a concerning number of girls at the age of 13 had already been assaulted or raped, the number dramatically increases 2 years later. For programs that want to prevent this violence, early intervention is key.

Of the girls who reported experiencing sexual violence, 53% said they had sought help to cope with these experiences. Of those who sought help, the majority (67%) went to family members. Of those who did not seek help, 25% said they were ashamed and so they did not seek help and 29% said that they did not think that it was a problem that required help.

Girls were also asked about practices of female genital mutilation (FGM, known as "bush school" in Nimba County). At endline, the research team added questions to better understand girls' knowledge and attitudes towards "bush school". 77% (N=1176) of girls in the study reported knowing of at least one girl in their communities who "went to bush school" and 49% said that they believed that girls are expected to "go to bush school" in their villages. Seventy-five percent of the girls said that they believed the practice should be stopped.

Though FGM was a challenging topic due to the tradition and cultural practices in the communities where Girl Empower was implemented, IRC staff trained and supported mentors to use creative ways to facilitate sessions around FGM. Emphasis was placed on the importance of going to formal school rather than "bush school". The female Girl Empower mentors' one-on-one and group supervision, supported and supervised by IRC Girl Empower officers, strengthened their facilitation and mentors bonding with girls. Girls began to demonstrate

increased self-confidence and were even able to open up and discuss issues that were taboo to talk about (known in Liberia and by the girls as 'sticky topics'). For example, FGM was openly discussed during their community advocacy events after the girls had first talked about them with their mentors and felt ready and able to bring the issues up in the wider community

At endline, over half (55%, 650/1159) of the respondents who reported having experienced sexual or physical violence met or exceeded the threshold for post-traumatic stress. This points to urgent need for more specialized services and psychosocial support of those who have experienced violence.

Results from the Girl Empower Study

We assessed the effects of GE and GE+ on seven domains. Figure 6 below provides a summary of research results on the impact of the Girl Empower program.

Figure 6: Summary of Girl Empower Program Impacts

Impact Domains	Girl Empower Program Impact (Standard Deviations)
Sexual & Reproductive Health and Family Formation	Moderate, positive and statistically significant impacts. Impacts for GE+ are approximately 50% larger.
Girls' Gender Norms	Moderate, positive and statistically significant impacts, similar across GE and GE+
Life Skills	Moderate, positive and statistically significant impacts, similar across GE and GE+
Schooling	Mostly positive impacts, but small and not statistically significant
Psychological wellbeing	Mostly positive impacts, but small and not statistically significant
Protective Factors	Mostly positive impacts, but small and not statistically significant
Sexual Violence	No impact. Girls in the GE+ arm had slightly, but statistically significant, greater chances of experiencing nonconsensual touching.

In summary, of these seven domains, we found GE had statistically significant impact on three: (a) Gender Norms, (b) Life Skills, and (c) SRH and Family Formation. The size of the effects

were moderate[3] and statistically significant in both GE and GE+ program variations.[4] The effects on the remaining four domains, (d) schooling, (e) psychosocial wellbeing, (f) protective factors, and (g) sexual violence, although almost all in the beneficial direction, were small (≤ 0.11) and not statistically significant at the 95% level of confidence.

Gender norms: We found that girls in both GE and GE+ programs had more equitable gender norms (in other words, had significantly higher index scores on Gender Norms) compared to girls in the control group[5]. This includes: (i) girls' views on gender equity (attitudes about the importance of girls versus boys) and (ii) their attitudes towards IPV (whether they agreed that a wife deserves to be beaten within different sets of scenarios). The results were similar between girls in GE and GE+ (no statistically significant differences in impacts).

Life Skills Index: Girls in both GE and GE+ programs had significantly higher scores on the Life Skills Index[6]. Girls in GE and GE+ had higher (i) knowledge of HIV, (ii) financial literacy and behaviors (which consisted of whether the girl was saving money, applying financial planning skills, or attempting to start a business), and (iii) knowledge of condom effectiveness. However, Girl Empower girls did not score significantly higher than control girls on the remaining two components, (iv) non-HIV health knowledge (facts about menstruation, the effects of FGM, and contraception methods) and (v) attributes about a healthy intimate relationship[7].

There was no significant difference between treatment and control girls on whether a girl reported ever having been pregnant. At baseline, almost eight percent of girls reported having ever been pregnant; at endline, the percentage of respondents reporting having ever been pregnant increased to 16%.

Sexual & Reproductive Health and Family Formation: Girl Empower participants had significantly higher scores on the SRH and Family Formation Index[8]. Girl Empower participants were less likely to have ever been married, less likely to have ever had sex, had a lower number of sexual partners in the past 12 months, and more likely to have used condoms in the last 12 months and the last time they had sex. There was no significant impact on whether a girl was ever pregnant. The impact for these variables was about 50% higher for GE+, where a participation incentive cash payment was provided to caregivers based on the girls' attendance, compared to GE. It is possible that the cash infusion combined with the skills acquired through the life skills and mentoring programming may have given girls the opportunity to delay marriage longer, refrain from engaging in sexual relationships, and for those that did have sex, to not feel

[3] Ranging from 0.21 to 0.37 SD above the control group.
[4] The False Discovery Rate–adjusted (FDR) q-values, which adjusts for the likelihood of finding a statistically significant effect by chance for any one of the seven individual outcomes compared between the combined GE programs and the control group, were also statistically significant for these three indexes (Gender Norms: FDR q =0.014, Life Skills: FDR q =0.014, SRH and Family Formation: FDR q =0.004).
[5] GE: 0.206 standard deviations [SDs], p<0.05; GE+: 0.228 SDs, p<0.05; F-test for GE=GE+: p=0.773
[6] GE: 0.224 SDs, p<0.05; GE+: 0.289 SDs, p<0.01; F-test for GE=GE+: p=0.478.
[7] In this set of questions, the respondent would describe on her own to the enumerator what she perceives as a healthy intimate relationship (and not based on a scale for which they were prompted to agree or disagree with items in a list)
[8] Both GE programs resulted in higher scores of the SRH and Family Formation Index (GE: 0.244 SDs, p<0.01; GE+: 0.372 SDs, p<0.01; F-test for GE=GE+: p=0.075)

as pressured to have additional sexual partners and to have more power to use condoms during sexual encounters.

The impact of the Girl Empower program on early marriage, safer sex, sexual debut (age at first sex), and number of sexual partners was about 50% higher for GE+, where a participation incentive cash payment was provided to caregivers based on the girls' attendance, compared to GE. Because there was no difference in attendance rates between the GE and GE+ groups, our original hypothesis, that girls who attended more of the Girl Empower sessions would experience larger program benefits, is incorrect. While the cash incentives increased the likelihood of caregivers attending the monthly sessions, we do not think that the modest increase[9] in caregiver attendance can explain this difference. As mentioned above, the program had no effect on caregiver attitudes on gender norms or aspirations for their daughters, which were measured under the protective factors domain. So, what explains the higher impacts on SRH and Family Formation in GE+ than GE?

A likely mechanism is a pure income effect. Previous studies have shown that positive income shocks can reduce early marriages and teen pregnancies in both developing [18,45,46] and developed countries [47]. GE+ participants received US$1.25 per session attended, in monthly installments, or, for a regular program participant, approximately $6/month. This amount constitutes more than 10% of per capita consumption in Liberia [48], and likely more as Nimba is a poorer than average rural county in Liberia. However, the fact that the 24-month follow-up data was collected, on average, 12 months after the last cash transfer payment also raises the possibility of an indirect effect: perhaps, the additional income provided the space for the GE+ participants to better internalize the lessons from the mentoring program and to reinforce their newly obtained knowledge and skills towards sustained behavior change. In this scenario, the combination of the mentoring program and cash transfers would produce a larger effect than either mentoring or cash transfers alone.

However, since we did not include a study arm providing cash transfers alone, we cannot fully test these hypotheses. An important avenue for future research would be to comparing Girl Empower with cash transfer alone, in addition to Girl Empower plus cash as we have done here.

It is also important to note that the delay in marriage we observed for both programs (but especially for GE+) was not through the pathway of keeping girls in school longer, as is assumed by most child marriage prevention initiatives. Here it appears that even though program girls are not staying in school longer than control girls, they are more able to avoid both marriage and sexual relationships – especially those in GE+, who received skills and cash.

Our results did not show any sizable or significant impact on the **Schooling Index**[10], and neither did the Girl Empower program cause any improvement in scores for the **Psychosocial Index**[11] (only measured for girls who reported having experienced at least one form of physical or

[9] 6.80 vs. 7.45 out of a total of eight sessions

[10] GE: 0.054 SDs, p=0.070; GE+: 0.054 SDs, p=0.057; F-test for GE=GE+: p=1.000.

[11] GE: 0.113 SDs, p=0.072; GE+: 0.102 SDs, p=0.071; F-test for GE=GE+: p=0.853. Components of this index were not significantly changed either. These consisted of (i) the Rosenberg Self-Esteem Scale [37], (ii) the Short Moods and Feelings Questionnaire (SMFQ) Scale to assess depression [38], and (iii) the Children's Revised Impact of Events (CRIES8) Scale [39] which is a measure of PTSD.

sexual violence). We also assessed the impact of the Girl Empower program on a **Protective Factors Index**, but did not find any sizable or significant changes[12]. The Protective Factors Index included a mixture of girl and caregiver outcomes: (i) a girl's Social Capital Index (having access to people for different needs, such as discussing problems, having a mentor, and an alternative place to sleep if there is trouble at home); (ii) Caregiver (Gender) Norms Index [43]; and (iii) a caregiver Childrearing Index which asked about aspirations for their daughters.

Finally, we measured the effect of the Girl Empower program on girls' reported experiences of **sexual violence** during the period since the baseline survey. There were no significant impacts on the Sexual Violence Index for either the GE or GE+ program variations[13]. This included: (i) nonconsensual sexual touching, (ii) attempted rape, (iii) pressured (coerced psychologically, not physically) for sex, and (iv) rape (physically forced sex). The only outcome in which we observed changes was that girls in the GE+ arm had slightly, but statistically significant, greater chances of experiencing nonconsensual touching. The IRC recognizes that multi-sector, multi-system interventions are required to effectively tackle violence against women and girls.

Limitations

The study had some limitations. At baseline, the enumerators asked all questions to girls face-to-face and verbally. The same procedure was used at endline with the exception of questions pertaining to violence, which were pre-recorded in the every local language so that the respondents could listen to (with the tablet held to the ear, as if listening to a phone call) an audio recording of each question in the language of her choice, after which her response was indicated to the female enumerator who entered it in the tablet.

[12] GE: 0.019 SDs, p=0.101; GE+: 0.099 SDs, p=0.106; F-test for GE=GE+: p=0.421.
[13] GE: -0.069 SDs, p=0.069; GE+: -0.031 SDs, p=0.060; F-test for GE=GE+: p=1.000.

Discussion and Conclusion: Programmatic and Policy Implications

The Girl Empower program aimed to equip adolescent girls with the skills, attitudes, and experiences necessary to make healthy, strategic life choices and to stay safe from sexual violence. Based on the results of a rigorous impact evaluation, we offer programmatic and policy conclusions and discussion:

These types of programs are in demand, are feasible and are acceptable to both girls and their caregivers living in rural areas in Liberia. Attendance of both girls and their parents over the course of 32 sessions was above 85%, regardless of whether they received a cash incentive to attend or not. Despite rainy season, competing demands on time, and opportunity costs of attending meetings rather than going to work, girls and their parents attended this program.

Girl Empower is an effective long-term prevention program for young girls. Girl Empower reduced rates of child marriage and risky sexual behaviors for girls age 13-14. All of these impacts endured one year after the end of the program.

Data continue to demonstrate the power of cash transfers to achieve a variety of outcomes, as well as the particular risks that come to delivering cash to women or girls in contexts of violence and inequality. Girl Empower plus the cash incentive reduced the likelihood of marriage and the number of sexual partners in the past 12 months by more than 50% compared to Girl Empower alone, even one year after the cash transfers stopped.

Girls in the GE+ arm had slightly, but statistically significant, greater chances of experiencing nonconsensual touching. Although we are not sure of what explains these results, these results are consistent with those of Dunbar et al [27] and Austrian and Muthengi [26] which indicate that adolescent girls who are known to others in the community to be participating in interventions that include a cash transfer element may be more subject to sexual harassment. This highlights the need to ensure that cash transfers are conducted with careful protection considerations.

Considering the context in which the Girl Empower program was implemented and the high levels of exposure to sexual violence, prevention programs should be paired with response services that are designed for adolescent girls. Girl Empower did not reduce the amount of sexual violence adolescent girls experienced. At the endline of Girl Empower, reported rates were much higher across all types of sexual violence: 33% of girls reported that they had been physically forced to have sex, 46% had been non-physically pressured (coerced/persuaded) to have sex, 66% experienced attempted sex and 85% experienced sexual touching. At endline, over half (55%) of the respondents who reported having experienced sexual or physical violence met or exceeded the threshold for post-traumatic stress. This points to urgent need for more specialized services and psychosocial support for adolescent girls who have experienced violence.

Prevention programs need to be timed correctly to have maximum impact. Young girls in Nimba County, Liberia are exposed to staggeringly high rates of sexual violence. Girl Empower chose to try and prevent violence amongst 13-14 year olds specifically because we suspected

that this was an age at which girls had started experiencing some violence, but it was not yet widespread. Already at baseline, 16% of girls reported being raped, with half of these girls reporting being physically forced, while the other half were pressured. These numbers were at the high end of, the range of those reported by the UNICEF Violence against Children Surveys (VACS) in Swaziland, Tanzania, Kenya and Zimbabwe [42]. Girl Empower study respondents at baseline also reported much higher levels of attempted sex (25%) and sexual touching (29%) than in the four countries included in the VACS study. A rigorous impact evaluation of IRC's COMPASS program for 13-14 years old girls in Democratic Republic of Congo and Ethiopia, based on a similar (although contextually-adapted) curriculum to Girl Empower, also found very high rates of reported sexual violence, with 26.67% of girls at baseline having experienced unwanted sexual touching, forced sex, and/or sexual coercion [6]. As mentioned above, at the endline of Girl Empower, reported rates were much higher across all types of sexual violence, with over half of survivors demonstrating an urgent need for response services.

Girl Empower does not appear to have a broad protective effect. Instead, the Girl Empower program's impact were limited to changes with the girls themselves. The Girl Empower program did not decrease experiences of sexual violence, it did not increase the protective factors surrounding adolescent girls – the social network of program beneficiaries was not affected, nor were attitudes of the caregivers with respect to gender norms and their aspirations for the girl children [44], and though the effects on schooling were positive, the effect sizes were small and not statistically non-significant.

Yet, the Girl Empower program had no specific content in parent or caregiver sessions or other programmatic support that would have been able to significantly change these outcomes. For example, the caregiver curriculum and sessions aimed to informing parents of the Girl Empower curriculum and helping them discuss the materials with girl participants but was not aimed to be gender transformative, hence the lack of change in the caregivers' gender norms.

Girl Empower did not address any of the barriers to education faced by girls in rural Nimba, such as the distance to school, the need for children to work at home, or the attitudes of rural families about the importance of and returns to education for girls. It is also the case that most such barriers could not have been changed by the GE curriculum or the small amounts of cash combined with skills in GE+.

Annexes:

1. Results tables
2. Girl Empower girls curriculum outline
3. Girl Empower caregiver curriculum outline
4. Survey Questionnaires
5. Analysis Plan

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