Long-term impacts of the Bandebereho programme on violence against women and children, maternal health-seeking, and couple relations in Rwanda: a six-year follow-up of a randomised controlled trial

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Summary

Background Programmes that work with parents to build couple relationship and parenting skills and include critical reflection on gender norms are a promising approach for reducing violence against women and children. However, there is limited evidence of their longer-term impact. In Rwanda, the Bandebereho programme engaged expectant and current parents of children under five years. At 21-months, Bandebereho demonstrated positive impacts on intimate partner violence (IPV), child physical punishment, maternal health-seeking, and couple relations. This study seeks to explore whether those outcomes are sustained six years later.

Methods A six-year follow-up to a two-arm, multi-site randomised controlled trial was conducted in four districts of Rwanda between May and September 2021. At baseline, couples were randomly assigned to either the 15-session intervention (n = 575) or a control group (n = 624). At this follow-up, 1003 men and 1021 women were included in intention to treat analysis. Generalised estimating equations with robust standard errors were used to fit the models. This study was registered with Clinicaltrials.gov (NCT04861870).

Findings Bandebereho has lasting effects on IPV and physical punishment of children, alongside multiple health and relationship outcomes. Compared to the control group: intervention women report less past-year physical (OR = 0.45, 95% CI 0.34–0.60 p < 0.001), sexual (OR = 0.50, 95% CI 0.37–0.67, p < 0.001), economic (OR = 0.47 95% CI 0.34–0.64, p < 0.001), and moderate or severe emotional (OR = 0.40 95% CI 0.29–0.56, p < 0.001) IPV. Intervention couples report less child physical punishment (OR = 0.72, p = 0.009 for men; OR = 0.68, p = 0.017 for women), fewer depressive symptoms (OR = 0.52, p < 0.001 for men; OR = 0.50, p < 0.001 for women), less harmful alcohol use, and improved maternal health-seeking, father engagement, and division of household labour and decision-making.

Interpretation Our study expands the evidence, demonstrating that programmes engaging men and women to promote collaborative and non-violent couple relations can result in sustained reductions in family violence six years later.

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Keywords: Intimate partner violence; Violence against children; Gender-transformative; Men's engagement; Parenting programmes

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Research in context

Evidence before this study

There is limited, but growing, evidence that programmes that works with parents to build relationship negotiation and dialogue skills, and include critical reflection on gender norms, can reduce violence against women and children, namely intimate partner violence (IPV) and the violent discipline of children (which encompasses physical punishment and emotional abuse). A forthcoming rapid global systematic review by Bacchus, Colombini, and colleagues identified promising and/or effective programmes that sought to simultaneously address IPV and child maltreatment (CM) by a parent or caregiver (which included violence to discipline children, emotional abuse, or neglect). The review identified 19 primary prevention programmes with strong evidence of effectiveness—including nine parenting programmes and two couples' programmes designed to prevent IPV, all but one implemented in a low- or middle-income country. Yet, most programmes with trials assessing impact on both outcomes did so within relatively limited time frames—often two years or less.

Added value of this study

Our study expands the available evidence by evaluating the longer-term effectiveness of the Bandebereho programme in Rwanda on IPV and physical punishment of children (one form of violent discipline) after six years. It is the longest trial evaluating these outcomes of which we are aware. The study demonstrates sustained reductions in IPV (physical, sexual, emotional, and economic) and parents' use of physical punishment, alongside improvements in parental mental health, maternal health care-seeking, father engagement, and couple relations.

Implications of all the available evidence

The available evidence underscores the effectiveness of working with parents to build relationship negotiation skills, change attitudes about gender, and shift underlying power dynamics. Effective programmes like Bandebereho should be scaled-up while maintaining quality, fidelity, and impact, and contextually adapted and tested in new settings.

Introduction

Women and children experience the most common forms of violence against them—violence from an intimate partner (IPV) and violent discipline by parents or caregivers—in the family.[1,2] IPV and violent discipline (which includes physical punishment and psychological aggression) often co-occur and have common and compounding consequences for women's and children's physical and mental health, as well as child development.[3] Both types of violence are linked by shared norms and risk factors, underpinned by norms and power dynamics sustaining gender inequality.[3] These shared trajectories have led to demands for programmes to more intentionally work to reduce both violence against women *and* children,[3,4] and there is growing, albeit limited, evidence that programmes can reduce IPV and violent discipline simultaneously.[4–6]

Programmes that work with parents offer unique opportunities for coordinated violence prevention, whether they are parenting programmes primarily aimed at improving parent-child interactions or couples' programmes designed to reduce IPV.[4,5,7,8] Both types of programmes have demonstrated reductions in IPV and violent discipline, although they are often designed to focus on only one type of violence, or address the other in only a limited way.[9] What many effective programmes have in common is that they engage fathers (who are often left out of parenting programmes) alongside mothers and promote more respectful, equitable relationships.[10] They address known risk factors for violence against women and children, such as marital conflict, poor communication, and attitudes condoning violence and gender inequality at the household level.[3,7,8]

Many effective programmes are designed to be gender-transformative—they use critical reflection and experiential learning to challenge harmful gender roles, norms and power imbalances and improve family gender and power dynamics.[5,10,11] They also build *couple relationship skills*, such as communication, joint decision-making, and conflict management, and *parenting skills*, such as responsive caregiving and positive parenting.[7,8,10] Gender-transformative programmes with parents often seek changes in additional outcomes, such as reproductive and maternal health or women's empowerment. Some programmes explicitly seek to break cycles of violence and inequality for future generations by reducing children's exposure to violence, supporting parents to raise children free from gender stereotypes, and fostering more equitable patterns of care.[10]

The Bandebereho programme in context

In Rwanda, the gender-transformative Bandebereho ('role model' in Kinyarwanda) programme, piloted between 2013 and 2015, engaged men and their partners to promote maternal, newborn, and child health, men's caregiving, and healthier couple relations. While Rwanda has a strong policy framework promoting gender equality, deeply entrenched social and gender norms remain a barrier.[12] Research has found that thirty percent of partnered women above 15 years have experienced physical, sexual, or emotional IPV in the past year, and children experience high rates of physical and

emotional violence from their parents or caregivers.[13,14] The Bandebereho programme used fatherhood as an entry-point to promote gender equality and encourage positive changes in men's relationships with their partners and children. Fathers of young children and soon-to-be fathers were invited to 15 small group sessions of critical reflection, discussion, and skills-building, on their own and with their partners. The participatory sessions, led by trained peer facilitators, aimed to transform harmful gender attitudes and promote more equitable, caring, and non-violent couple and family relationships.

A randomised controlled trial assessing the Bandebereho pilot demonstrated effects on both IPV and violent discipline of children. At 21 months, Bandebereho participants reported significantly lower rates of past-year IPV, including physical (OR 0.37, $p < 0.001$), sexual (OR 0.34, $p < 0.001$), emotional (OR 0.35, $p < 0.001$), and economic (OR 0.36, $p < 0.001$), and parents' physical punishment of children (women: OR 0.56, $p = 0.001$; men: OR 0.66, $p = 0.005$) compared to non-participants.[15–17] The trial also demonstrated effects on reproductive and maternal health outcomes (modern contraceptive use and women's antenatal care attendance), father engagement (accompaniment to antenatal care and participation in childcare and household tasks), and couple relations (sharing of household decision-making, childcare and household tasks).[15]

The need for longer-term evidence

Little is known about the long-term effectiveness of gender-transformative programmes over time. Trials measuring IPV and violent discipline typically conduct follow up assessments after 2 years at most, but often considerably less.[6,18] While programmes have demonstrated reductions in IPV and violent discipline within this two-year timeframe, the effect sizes are often smaller than those seen immediately after a programme ends.[6,18] Longer follow-up is critical for building our understanding of what works to prevent violence over the long-term and to make the case for continued investment, as the high costs of programmes is often seen as a barrier to scale.[6,19] Demonstrating longer-term reductions in violence against women and children, as well as other outcomes, could make investment in scaling-up effective programmes more appealing to policy-makers and donors.

In this paper we explore the longer-term impact of the Bandebereho programme on family violence and a range of health and gender related outcomes. We conducted a six-year follow-up to the Bandebereho trial to assess whether key outcomes seen at 21 months, including IPV and physical punishment of children, were sustained over time. The study was designed in part to inform the ongoing scale-up of Bandebereho through the Rwandan health system. The study is, to our knowledge, the longest follow-up of any programme designed to reduce violence against women and children in a low or middle-income country.

Methods

Study design

The Bandebereho study is a two-arm, multi-site randomised controlled trial (RCT). The six-year follow-up (76 months post-baseline) was conducted between May and September 2021, in 16 sectors of four districts (Karongi, Musanze, Nyaruguru and Rwamagana) of Rwanda where Bandebereho was implemented by the Rwanda Men's Resource Center (RWAMREC) between 2013 and 2015. The study sites were mostly remote, rural communities, but included a few peri-urban settings. Below we present details of the six-year follow-up and a summary of the original study design, which is published in detail elsewhere.[15,17]

Participants, randomisation, and masking

A total of 1199 couples were enrolled in the trial and randomised after baseline to either the intervention group (n = 575) or a control group (n = 624) in 2015. The original study sample size was informed by a power analysis to assess ability to detect intervention effects on selected outcomes.[15] Trained Bandebereho facilitators, assisted by local community health workers, recruited couples via the male partner from 17th February to 19th March 2015 according to the programme's eligibility criteria: aged 21–35 years, married or cohabitating; expectant and/or fathers of children under-five years (based on self-reports); living within accessible distance of the meeting site; and no prior programme participation. Randomisation was conducted by Laterite Ltd., an independent firm collecting the data, using a random number generator in Stata 12; participants were randomised at the individual level due to the existing programme structure. Bandebereho facilitators notified men of their assignment.

The baseline survey was conducted from February to March 2015, after which the intervention group received the 15-session Bandebereho curriculum from March to August 2015. The sessions focused on challenging inequitable gendered attitudes about men's and women's roles within the family, promoting men's engagement in the perinatal period and in caring for children, and building couple communication and relationship skills. Men were invited to all 15 sessions (45 h) and women to 8 (24 h). On average, men attended 14.1 sessions and women 6.8 sessions. Additional programme details can be found in Supplemental File 1 and in previously published papers.[15,17] The control group received no intervention but had access to services as usual. Follow-up data were previously collected at 9 months and 21 months. Men were surveyed at all time points and their partners were surveyed at both follow-ups, but not at baseline due to funding constraints.

At this six-year follow-up, we sought to interview as many men enrolled in the original trial as possible and their current partners. To remain eligible, men had to: have participated in at least one round of data collection (so we had their contact information and could attempt to locate them); be currently partnered (married and/or cohabiting); and still reside in or be willing to travel to a study site. Men's current partners were eligible regardless of any previous study participation, as the programme sought to achieve outcomes primarily through changes in men's behaviour. At six-year follow-up, we also sought to conduct assessments with 800 children (aged between 4 and 7 years) of couples enrolled in the study. Details on the methodology and results from the child assessments are presented in a separate paper. At this follow-up, enumerators were blinded to participant treatment assignment. The study protocol is available at: https://www.equimundo.org/resources/bandebereho-randomized-controlled-trial-a-six-year-follow-up.

Participant tracing and follow-up data collection

Laterite spent more than one month tracing Bandebereho study participants using previously provided contact information, with assistance from RWAMREC staff and the original programme facilitators. Laterite contacted all men with active phone numbers to confirm their identity and eligibility and update their partner contact information. Men's partners were then contacted separately by a female enumerator. Lastly, enumerators conducted house-to-house tracing for individuals who could not be reached by phone, but whose location was known. Enumerators then invited all eligible adult participants to an in-person interview. Participants were dropped from the study if they could not be found after two in-person attempts or if they declined to participate.

Structured questionnaires were administered by trained interviewers from Laterite, and data were collected on password-protected tablets. Interviews were conducted in Kinyarwanda in spaces that offered auditory privacy within central locations, such as local administration offices, churches, or schools (when not in session). All study participants received a 3000 Rwandan franc (about USD $3.00) transportation stipend to facilitate participation.

Ethics statement

The protocol for the six-year follow-up was approved by the Rwanda National Ethics Committee (42/RNEC/2021), the Rwanda National Committee on Science and Technology (NCST/482/223/2021), and the National Institute of Statistics Rwanda (0093/2021/10/NISR). Local authorities in the four districts provided permission to conduct research prior to data collection. All adult participants provided written informed consent; illiterate participants could opt to have the form read to them in the presence of an impartial witness of their choosing. The six-year follow-up was registered with Clinicaltrials.gov (NCT04861870) in April 2021, prior to participant tracing and data collection.

Safety considerations

To prioritise women's safety, we followed international ethical guidelines on researching violence against women.[20] Men were asked about IPV perpetration at baseline, but not at each follow-up, when women were asked about their experiences of IPV. Men were not informed of the inclusion of violence in the women's questionnaire and men and women were interviewed on different days by interviewers of the same sex. As the programme recruited via the male partner, at follow-up men were asked to provide the name and contact of their current partner. This ensured we contacted the right partner and also gave men the opportunity to decline to share such information. By informing them of the intention to interview their partners, we aimed to reduce potential risks to women's study participation, given that it was not possible to conceal women's participation due to the visible nature of data collection in the mostly remote, rural communities.

All study enumerators received gender, ethics, and safety training. A professional female counsellor conducted sessions with female enumerators prior to and during data collection to support their well-being. The latter took place remotely due to COVID-19 travel restrictions in place at the time. Following the interviews, all adult study participants were offered a list of locally available referral services. Any adverse events were reported to the study investigators and the Rwanda National Ethics Committee within 48 h. Nine adverse events (all unrelated to study participation) were reported and followed-up; respondents who requested it were referred to support services.

All efforts were made to ensure the health and safety of study participants and enumerators, following local COVID-19 prevention guidelines. This included physical distancing, the provision/use of face masks, hand sanitizer, and routine testing of enumerators. Data collection in two districts (Musanze, Rwamagana) was interrupted for several weeks because of new COVID restrictions. Enumerators received a refresher training before recommencing data collection.

Outcome measures

This paper examines several primary, secondary, and additional related outcomes reported by adult respondents across five domains, as described in detail in Table 1. The primary outcomes include women's past-year experience of intimate partner violence by the male partner and parents' past-month physical punishment of children. The secondary outcomes include: a) couples' use of modern contraceptives, b) women's antenatal care (ANC) attendance, c) men's

Outcomes	Respondents	Indicators	Instrument/source	Coding	Original hypothesized direction
Intimate partner violence by male partner				Please see Supplementary File 2 for alternate coding of violence outcomes.	
Experienced physical violence by partner in past 12 months	Women	Women were asked five items regarding how many times in the past 12 months their partner had: 1) slapped them or threw something at them that could hurt them; 2) pushed or shoved them; 3) hit them with a fist or with something else that could hurt them; 4) kicked, dragged, beat, choked or burned them; 5) threatened to use or actually used a knife or stick against them. Responses ranged from 0 = never, 1 = once, 2 = a few times, and 3 = frequently.	Adapted from WHO multi-country study[21] and UN Multi-Country Study on Men and Violence[22]	Binary, coded 1 if responded once or more often to any of the five items listed at left, 0 if never to all. This is standard coding in the IPV field.	Lower
Experienced sexual violence by partner in past 12 months	Women	Women were asked two items regarding how many times in the past 12 months: 1) their partner had forced them to have sex when they did not want to; and 2) they had consented to sex out of fear of what their partner might do if they refused. Responses ranged from 0 = never, 1 = once, 2 = a few times, and 3 = frequently.	Adapted from WHO multi-country study[21] and UN Multi-Country Study on Men and Violence[22]	Binary, coded 1 if responded once or more often to either of the two items listed at left, 0 if never to all. This is standard coding in the IPV field.	Lower
Experienced moderate or severe emotional violence by partner in past 12 months	Women	Women were asked four items regarding how many times in the past 12 months their partner had: 1) insulted them or deliberately made them feel bad about themselves; 2) belittled or humiliated them in front of other people; 3) done things to scare or intimidate them on purpose (e.g., the way he looked at them, or by yelling or smashing things); and 4) threatened to hurt them. Responses ranged from 0 = never, 1 = once, 2 = a few times, and 3 = frequently.	Adapted from WHO multi-country study[21] and UN Multi-Country Study on Men and Violence[22]	Coded into levels of severity according to Chatterji et al. (2023).[16]	Lower
Experienced economic violence by partner in past 12 months	Women	Women were asked five items regarding how many times in the past 12 months their partner had: 1) prohibited them from getting a job, going to work, or trading or earning money; 2) taken their earnings against their will; 3) kept money from his earnings for alcohol, tobacco, or other things for himself when he knew they were finding it hard to afford the household expenses; 4) hidden the purchase of property or land from them, or prohibited them from accessing joint property; and 5) prohibited them from spending the money they earned how they wanted to spend it. Responses ranged from 0 = never, 1 = once, 2 = a few times, and 3 = frequently.	Adapted from WHO multi-country study[21] and UN Multi-Country Study on Men and Violence[22]	Binary, coded 1 if responded once or more often to the items listed at left, 0 if never to all.	Lower
Physical punishment of children					
Parent's use of physical punishment against a child in past month	Women; Men	Men and women were asked seven items including whether or not they: 1) shook the child; 2) spanked, slapped or hit the child on the bottom with a bare hand; 3) hit the child on the bottom or elsewhere on the body with something like a belt, stick or other hard object; 4) hit or slapped the child on the face, head, or ears; 5) hit or slapped the child on the hand, arm, or legs; 6) beat the child up, meaning hit the child over and over as hard as one could; and 7) made the child kneel on the ground for a period of time.	Adapted from the MICS child discipline module (https://mics.unicef.org/tools).	Binary, coded 1 if responded yes to any, 0 if no to all.	Lower

(Table 1 continues on next page)

Outcomes	Respondents	Indicators	Instrument/source	Coding	Original hypothesized direction
(Continued from previous page)					
Reproductive and maternal health behaviour					
% Used modern contraception	Women; Men	Women and men were asked about their or their partner's current use of any modern contraceptive method (e.g., implant, injection, male or female condom, pill, IUD, vasectomy, hysterectomy).	Adapted from DHS[13]	Binary. Coded 1 if using any of the modern contraceptive methods, 0 if answered no to all. Respondents who reported currently expecting a child were not asked about contraceptive use in the 6-year follow up; the measure originally used for the published 21-month data was recoded for this analysis to be comparable.	Higher
Mean number of ANC visits women attended	Women	Women were asked how many ANC visits they attended during their last pregnancy.	Adapted from DHS[13]	Count. Variable was coded to include visits during the last pregnancy. The measure used for the published 21-month data was recoded for this analysis to be comparable.	Higher
Mean number of ANC visits accompanied by man	Women; Men	Women were asked how many times their partner accompanied them to ANC visits during their last pregnancy; men were asked how many times they accompanied their partner. Accompaniment typically meant waiting in the health facility or attending part of the visit with the partner.	Adapted from IMAGES[23]	Count. Variable was coded to include visits during the last pregnancy. The measure used for the published 21-month data was recoded for this analysis to be comparable.	Higher
Mental health & alcohol use					
Symptomatic for depression	Women; Men	Men and women were asked 10 items about their feelings and experiences in the past week using the Centre for Epidemiologic Studies Depression Scale Revised Short Form. For example, "During the past week, I felt that everything I did was an effort." Responses ranged from 0 = Rarely of none of the time (less than 1 day in the week); 1 = Some or a little of the time (1–2 days of the week); 2 = Occasionally or a moderate amount of time (3–4 days of the week); 3 = All of the time (5–7 days of the week).	Centre for Epidemiologic Studies Depression Scale Short Form (CES-D 10)[24]	Binary, coded 1 if additive score across the 10 items (2 reverse coded, possible range 0–30) was ≥10, indicating symptoms of depression.	Lower
Man gets drunk weekly or more often	Women; Men	Women were asked how often in the past year did their partner drink so much that he became drunk; men were asked how often in the past year did they drink so much that they became drunk. Responses ranged from 0 = Never; 1 = A few times in the past year; 2 = Once every two months; 3 = Once a month; 4 = A couple of times a month; 5 = Once or twice a week; 6 = Every day or almost every day.	Adapted from IMAGES[23]	Binary, coded 1 if frequency was once or twice a week (5) or every day (6), 0 if less often.	Lower
Gendered division of household labour and decision-making					
Sharing of childcare and household tasks	Women; Men	Men and women were asked how they divided 6 childcare and household tasks with their partner: 1) washing clothes/laundry; 2) cleaning the house and surroundings; 3) cooking for the household; 4) making the bed; 5) providing daily care of children; and 6) bathing children. Responses ranged from 1 = woman always does the task, 3 = shared equally or done together, 5 = man always does the task.	Adapted from IMAGES[23]	Continuous scale of mean score across the items, ranging from 1 to 5, with 5 indicating men's greater participation.	Higher

(Table 1 continues on next page)

Outcomes	Respondents	Indicators	Instrument/source	Coding	Original hypothesized direction
(Continued from previous page)					
Time spent on childcare and household tasks	Women; Men	This variable represents the number of hours per day that men or women spent on the above 6 childcare and household tasks in the past week. Respondents were asked how many days in the previous week they did each task, and how much time (in hours or fractions of hours) on average they spent on the task on each of those days.	Adapted from EICV4[25] and IMAGES[23]	Continuous, representing hours spent per day: time spent per day for each task was multiplied by the reported days per week. The sum of the total hours per week for all tasks was divided by 7 to produce the hours per day variable. "Not applicable" responses were coded as 0.	Lower for women; higher for men
Man has final say on household's weekly/ monthly income and expenses	Women; Men	Men and women were asked who has the final say in making the decision: self; partner; both have the same say; someone else; don't know.	Adapted from DHS[13]	Binary. Coded 1 if man had final say, 0 if decision made by woman, made jointly, or respondent didn't know.	Lower
Man has final say on how many children to have or spacing of children	Women; Men	Men and women were asked who has the final say in making the decision: self; partner; both have the same say; someone else; don't know.	Adapted from DHS[13]	Binary. Coded 1 if man had final say, 0 if decision made by woman, made jointly, or respondent didn't know.	Lower

Table 1: Outcome measures.

accompaniment to ANC, and d) the gendered division of household labour. Additional outcomes include the gendered division of household decision-making, parents' mental health, and men's alcohol use.

We present both women's and men's reports for all outcomes except for IPV (women only), and include both the 21-month results (most previously published) and the six-year follow-up results for ease of comparison. We recoded and reanalysed the 21-month contraceptive use and ANC outcome measures to facilitate comparability; details provided in Table 1. We also include several previously unpublished outcomes, including women's and men's mental health and men's harmful alcohol use, given the strong associations between alcohol, poor mental health and women's experience and men's perpetration of IPV, as well as evidence that IPV perpetration is a risk factor for men's future depression in Rwanda.[26–28] In addition, in response to calls for more nuanced outcome variables beyond the standard binary measures of IPV experience,[15] we provide Supplemental File 2, which examines the impact of Bandebereho on severity of violence. Several other outcomes, including primary outcomes related to child development and all data gathered directly from children, are reported in a separate paper.

Statistical analysis

For the six-year follow-up, we replicated our 21-month analysis strategy. We conducted intention-to-treat analysis using regression models with normal, Bernoulli, and Poisson response distributions and identity, logistic, and log link functions to estimate the effects of the programme on the outcomes measured. We used generalised estimating equations to fit the models and used robust standard errors with clustering by facilitator for hypothesis testing and confidence interval construction. Intraclass correlation coefficients for the six-year binary and continuous outcome measures ranged from 0.01 to 0.10 for women's reports and from 0.00 to 0.07 for men's reports. For each outcome we fit both unadjusted and adjusted models; the latter included controls for age, education, and baseline socio-economic status (defined as having basic needs met). We also conducted attrition analysis using logistic regression adjusting for age, employment status, and experience of economic hardship to examine whether treatment status predicted drop-out and to test for differential loss to follow-up across several primary outcomes. All analyses were conducted using Stata/SE 16.

Role of funding source

The study funders had no role in the study design, data collection, data analysis, data interpretation, or writing of the paper. All authors had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

Laterite began contacting study participants to confirm eligibility for this six-year follow-up on 4 May 2021 and data collection began on 14 June 2021. At six-year follow-up, 1003 men and 1021 women were surveyed (83.7% and 85.2% of the original sample, respectively) (See Fig. 1). Twenty-nine women surveyed at six-year follow-up were not the same partners reported by men at baseline (16 intervention, 13 control); twenty-six of them became partnered after the 21-month follow-up.

Attrition was low despite the time elapsed since baseline; it was identical for men in the intervention and control groups (16.3%), but slightly higher for women in the control group (15.5%) than in the intervention group (14.1%). The primary reasons for loss to follow-up were: unable to locate (41%); relocated outside of a study site and unable to travel to an interview (33%); and couple no longer partnered/cohabiting (17%). Compared to men who remained in the study, men who dropped out were more likely at baseline to be younger ($p = 0.0264$), wage-employed ($p = 0.001$), more educated (completed primary school or higher) ($p = 0.009$), and cohabiting but not legally married ($p < 0.001$). As women were not interviewed at baseline, we defined dropout for women as those who were surveyed at 9 months but lost-to-follow up at six years. Women who dropped out of the study were more likely to be slightly younger ($p = 0.0005$) and slightly more likely to be wage-employed ($p = 0.001$) at 9 months compared to women who remained in the study. No other socio-demographic variables predicted loss to follow-up.

Our analysis found that treatment status was not a predictor of dropout. However, men who reported perpetrating physical IPV at baseline were more likely to be lost-to-follow-up at six years (OR = 1.44, CI = 1.09–1.89; $p = 0.010$). The men who dropped out were however more likely to be in the control group, which may contribute to underestimation of the programme effects. Women who dropped out were more likely to have reported experiencing physical (OR = 1.51; CI = 1.02–2.26; $p = 0.043$), economic (OR = 1.95; CI = 1.28–2.96; $p = 0.002$), and any emotional (OR = 1.47; CI = 1.03–2.11; $p = 0.036$) IPV at 9 months. This could contribute to overestimating the programme's effect on IPV, however the differential attrition rate, i.e., rates of attribution by treatment status, was less than 2 percentage points and substantially smaller than the intervention effect sizes. All available data were included in the follow-up analyses.

Table 2 presents men's baseline demographic characteristics, which have been previously published.[15] Independent samples t-tests and chi-squared tests of association, as appropriate, showed no statistically significant differences in baseline characteristics between the intervention and control group respondents. Table 3 presents the demographic characteristics of men and women at six-year follow-up to contextualise the findings. At this follow-up, men reported a mean age of 34.8 years and women a mean age of 33.0 years. Nearly all men and women were employed, most of them self-employed. Less than a quarter of men and a third of women reported always being able to afford basic items. Men and women reported a mean of about 2.8 children, and about ten percent were expecting a child at this follow-up. Men in the intervention group were less likely than the control group to report 'never or sometimes' being able to afford basic items. Bandebereho participants may have faced less economic hardship compared to the control group as a result of the intervention, through improved couple communication around financial decision-making, transportation stipends provided during the programme (in 2015), and social support fostered among group members. Anecdotally, some Bandebereho participants pooled their resources to create informal savings and lending groups.

Tables 4 and 5 present the intervention effects on the outcomes of interest for this paper, as reported by women and men respectively at 21 months and at six years, to enable comparisons. The tables include both unadjusted and adjusted estimates, but the results presented in the text are from analyses adjusted for age, level of education, and socio-economic status and are statistically significant at $p < 0.05$ unless otherwise specified.

At six-year follow-up, women in the intervention group were significantly less likely to report experiencing physical, sexual, economic, and emotional IPV in the past year compared to the control group. Similarly, both men and women in the intervention group were less likely to use physical punishment with their children in the past month.

Men in the intervention group reported greater use of modern contraception compared to the control group; women's reports trended in the same direction but were not statistically significant. Women in the intervention group reported attending slightly more antenatal care (ANC) visits, and both women and men in the intervention group reported higher mean rates of men's accompaniment to ANC visits, compared to those in the control group. Both women and men in the intervention group reported lower rates of depressive symptoms, compared to those in the control group, and lower frequency of men drinking until drunk.

Both men and women in the intervention group reported greater sharing of childcare and household tasks between partners compared to the control group. While men in the intervention group reported spending more time on these tasks compared to the control group, the differences in women's time spent on these tasks were not statistically significant. Regarding decisions on the household's income and expenses, men and women in the intervention group were less likely to report that men had the final say. Men in the intervention group were also less likely to report that men had the final say

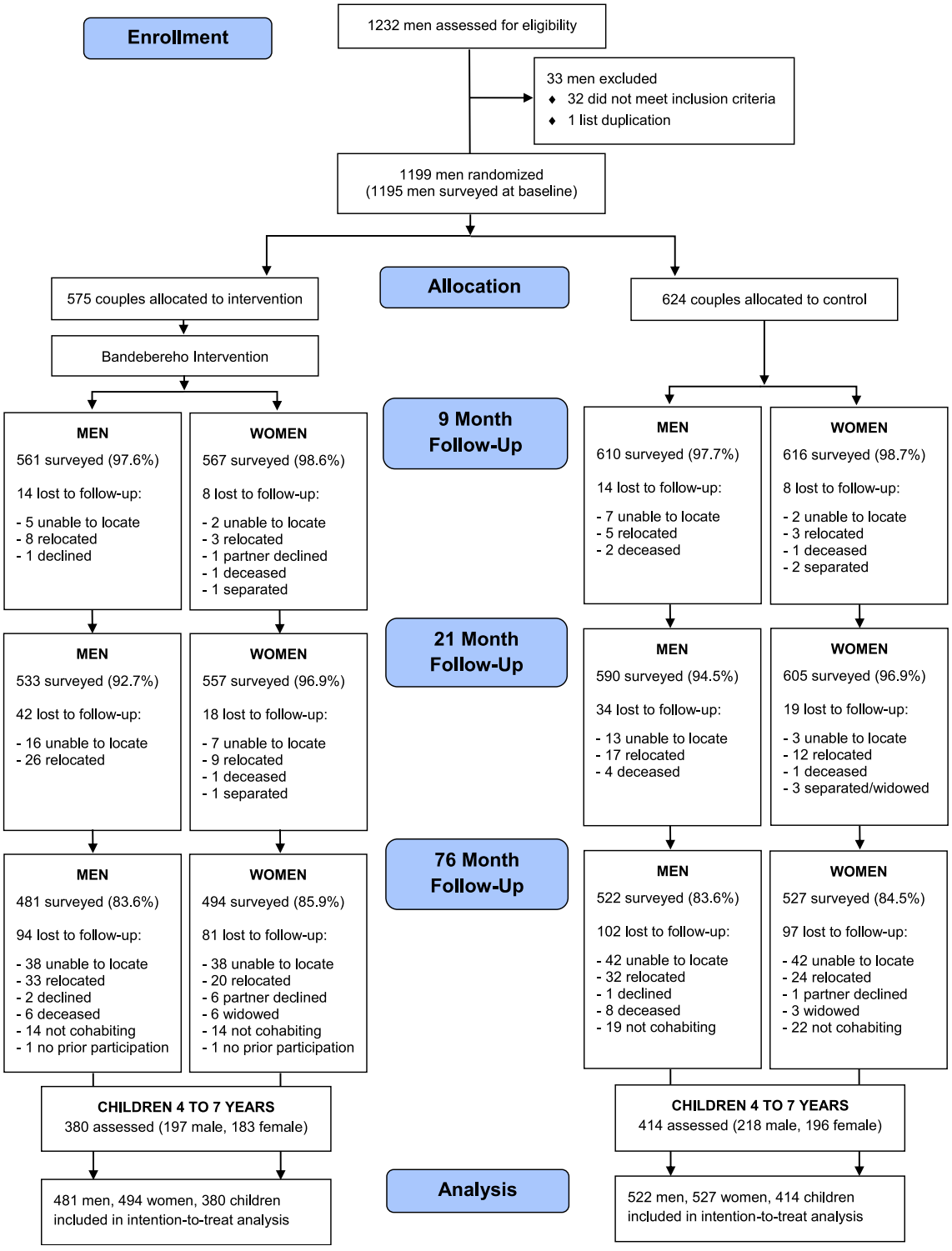

Fig. 1: **Study flow diagram.**

	Control Group (n = 624)	Intervention Group (n = 571)	All (n = 1195)	p-value
Age				
Age (years): mean (SD)	28.62 (3.76)	28.70 (3.58)	28.65 (3.68)	0.70
Age of partner (men's reports)	26.53 (4.05)	26.72 (4.14)	26.62 (4.09)	0.42
Level of education				0.45
None	63 (10.10)	49 (8.58)	112 (9.37)	
Some primary	321 (51.44)	318 (55.69)	639 (53.47)	
Primary complete	147 (23.56)	130 (22.77)	277 (23.18)	
Secondary, vocational or higher	93 (14.90)	74 (12.96)	167 (13.97)	
Employment status				0.21
Employed/earning a wage	54 (8.65)	65 (11.38)	119 (9.96)	
Self-employed	564 (90.38)	503 (88.09)	1067 (89.29)	
Out of work and looking for work	6 (0.96)	3 (0.53)	9 (0.75)	
Household can afford basic items				0.91
Never or sometimes	245 (39.26)	218 (38.18)	463 (38.74)	
Often	185 (29.65)	175 (30.65)	360 (30.13)	
Always	194 (31.09)	178 (31.17)	372 (31.13)	
Children				
Has biological children	474 (75.96)	434 (76.01)	908 (75.98)	0.99
Number of children, mean (SD)	1.45 (0.67)	1.52 (0.75)	1.48 (0.71)	0.17
Expecting a child at baseline	399 (64.15)	372 (65.15)	771 (64.63)	0.72
Men's participation in reproductive and maternal health				
# antenatal care visits accompanied by men during last pregnancy, mean (SD)	1.95 (1.05)	1.85 (1.00)	1.90 (1.03)	0.17
% currently using modern contraception	150 (67.26)	129 (64.82)	279 (66.11)	0.60
Gendered division of childcare and household tasks				
Sharing of tasks, mean (SD)	1.83 (0.43)	1.85 (0.43)	1.84 (0.43)	0.53
Household decision-making				
Man has final say on household weekly/monthly income and expenses	361 (58.04)	338 (59.19)	699 (58.59)	0.69
Man has final say in how many children to have or spacing of children	271 (43.57)	234 (41.34)	505 (42.51)	0.44

Notes: Questions related to physical punishment against children were not asked at baseline, and questions related to the frequency of tasks were measured differently at baseline compared to follow-up and are therefore not included. This table was previously published, but we updated the antenatal care and % using contraception based on new coding for comparability (see Table 1). All statistics are n (%) unless otherwise specified.

Table 2: **Men's characteristics at baseline.**

in decisions about having children or the spacing of children; women's reports trended in the same direction but were not statistically significant.

Discussion

Our study demonstrates lasting effects of the Bandebereho programme on IPV and physical punishment of children, alongside multiple health and relationship outcomes at six-year follow-up. Most, but not all, of the positive effects seen at last follow-up (21 months) remain. At this follow-up, our study also demonstrates positive impacts on women's and men's mental health and men's harmful alcohol use, outcomes not previously published. We had hypothesised that some, but not all, of the 21-month effects would be maintained at six-years, but likely with smaller effects. In fact, the findings suggest that despite its relatively short duration, the Bandebereho programme led to fundamental and enduring changes in participants' behaviour, particularly regarding their couple and family relationships. It expands the existing evidence to demonstrate that reductions in IPV and violent discipline can be sustained after six years—longer than any existing studies examining these outcomes.

We found substantial long-term impacts on women's experience of physical, sexual, emotional, and economic IPV, with women in the intervention group reporting rates 16 (sexual) to 21 (emotional) percentage points lower than those reported by the control group. Notably, the magnitude of the differences between intervention and control participants is smaller than at 21 months though this appears to be a result of lower rates of violence among the control group, suggesting the programme's earlier impacts on violence have not substantially diminished with time.[15] However, this paper does not explore changes in individual women's experiences of IPV over time, an area for further analysis. The long-term effects seen on emotional and economic violence are also encouraging. These forms of violence are less often researched or explicitly targeted by

Variable	Men			Women		
	Control group (n = 522)	Intervention group (n = 481)	p-value	Control group (n = 527)	Intervention group (n = 494)	p-value
Age (years): mean (SD)	34.81 (3.90)	34.83 (3.53)	0.93	32.98 (4.28)	33.11 (4.35)	0.62
Level of education						
None	53 (10.15)	44 (9.15)	0.66	43 (8.16)	28 (5.67)	0.08
Some primary	278 (53.26)	256 (53.22)		254 (48.2)	243 (49.19)	
Primary complete	118 (22.61)	122 (25.36)		121 (22.96)	139 (28.14)	
Secondary, vocational or higher	73 (13.98)	59 (12.27)		109 (20.68)	84 (17.00)	
Employment status						
Employed/earning a wage	166 (31.86)	164 (34.17)	0.3	162 (30.92)	130 (26.42)	0.29
Self-employed	332 (63.72)	303 (63.13)		355 (67.75)	355 (72.15)	
Out of work and looking for work	23 (4.41)	13 (2.71)		7 (1.34)	7 (1.42)	
Household can afford basic items						
Never or sometimes	355 (68.01)	282 (58.63)	0.008	306 (58.06)	256 (51.82)	0.052
Often	64 (12.26)	79 (16.42)		86 (16.32)	78 (15.79)	
Always	103 (19.73)	120 (24.95)		135 (25.62)	160 (32.39)	
Children	–	–				
Number of children, mean (SD)	2.81 (1.05)	2.87 (1.17)	0.42	2.84 (1.05)	2.85 (1.15)	0.91
Age of children (years), mean (SD) (range: 0 to 22)[a]	5.83 (2.35)	6.03 (2.45)	0.18	–	–	–
Expecting a child at this follow-up	49 (9.39)	59 (12.27)	0.14	47 (8.92)	48 (9.74)	0.65
Relationship status						
Legally married	372 (71.26)	342 (71.10)	0.96	386 (73.24)	351 (71.05)	0.44
Cohabiting as if married	150 (28.74)	139 (28.9)		141 (26.76)	143 (28.95)	

Notes: All statistics are n (%) unless otherwise specified. All p-values reported for two-sided t-tests or chi-square tests, as appropriate. [a]The children's age data presented here were collected from the male partner, using a child roster during field preparation. The roster was then confirmed by both partners individually during the interview.

Table 3: **Men's and women's characteristics at six-year follow-up.**

interventions but have significant consequences for women's health and well-being, separate and distinct from those of physical and/or sexual IPV.[29,30] Bandebereho has also contributed to long-term reductions in both parents' use of violent discipline with their children, but with slightly smaller percentage point differences (and odds ratios) than seen at 21 months.

Our findings suggest that gender-transformative programmes with parents can contribute to long-term reductions in IPV and violent discipline of children, even with relatively limited content designed to address the latter. We believe the programme's holistic focus on strengthening couple and parent–child relationships and addressing gender and power dynamics is critical to the violence reductions achieved. Earlier analysis identified improved relationship quality (communication and emotional closeness), men's attitudes about gender and violence, and men's alcohol consumption as key mechanisms responsible for Bandebereho's effects on physical and sexual IPV.[17] Reductions in violent discipline likely operate through similar mechanisms, in addition to improved mental health, strengthened parent–child relationships, reduced stress, and increased parental awareness of violence and its consequences.[7] Although the programme had limited content on positive parenting, parents may have applied some of the couple relationship skills they learned in Bandebereho when interacting with their children.[31]

Despite the lasting effects seen, violence—both by male partners against women and by parents against children—remains high even in the intervention group. High rates of violence were similarly found in another couples' programme in Rwanda at 24 months post-intervention, where a quarter of intervention participants compared to one third of control participants reported IPV in the past year.[32] That said, the long-term effects on family violence seen in our study are notable considering data were collected at the height of the COVID-19 pandemic. A related study found that Bandebereho participants reported increased financial strain in the early months of the pandemic, which may exacerbate violence.[33] While the lasting effects seen are encouraging, the high rates of violence confirm the need for additional understanding and programming to further reduce violence.

At this follow-up, we also found long-term impacts on maternal health care-seeking. Women in the intervention group reported attending more antenatal care (ANC) visits during their last pregnancy compared to the control group, although the intervention effect size is slightly smaller than at last follow-up. Couples in the intervention group also continue to report greater

Outcome	21-month follow-up[a]				6-year follow-up			
	Summary statistics		Intervention effect		Summary statistics		Intervention effect	
	Control[b] (n = 605)	Intervention (n = 557)	Unadjusted	Adjusted[c]	Control (n = 527)	Intervention (n = 494)	Unadjusted	Adjusted
Intimate partner violence								
Experienced physical violence by partner in past year	342 (56.53)	186 (33.33)	OR = 0.38 (0.29–0.50) p < 0.001	OR = 0.37 (0.28–0.49) p < 0.001	287 (54.46)	174 (35.22)	OR = 0.46 (0.35–0.62) p < 0.001	OR = 0.45 (0.34–0.60) p < 0.001
Experienced sexual violence by partner in past year	364 (60.17)	195 (35.01)	OR = 0.36 (0.25–0.50) p < 0.001	OR = 0.34 (0.25–0.48) p < 0.001	275 (52.18)	174 (35.22)	OR = 0.50 (0.37–0.68) p < 0.001	OR = 0.50 (0.37–0.67) p < 0.001
Experienced moderate or severe emotional violence by partner in past year (vs. low or none)	334 (55.21)	172 (30.94)	OR = 0.36 (0.27–0.49) p < 0.001	OR = 0.35 (0.26–0.48) p < 0.001	263 (49.91)	141 (28.54)	OR = 0.41 (0.30–0.56) p < 0.001	OR = 0.40 (0.29–0.56) p < 0.001
Experienced economic violence by partner in past year	436 (73.40)	275 (50.93)	OR = 0.38 (0.27–0.52) p < 0.001	OR = 0.36 (0.27–0.49) p < 0.001	349 (66.22)	234 (47.46)	OR = 0.47 (0.34–0.63) p < 0.001	OR = 0.47 (0.34–0.64) p < 0.001
Physical punishment of children								
Use of physical punishment of children	467 (79.15)	374 (68.25)	OR = 0.56 (0.40–0.79) p = 0.001	OR = 0.56 (0.41–0.79) p = 0.001	389 (73.95)	321 (65.24)	OR = 0.67 (0.49–0.91) p = 0.011	OR = 0.68 (0.49–0.93) p = 0.017
Reproductive and maternal health behaviour								
Couple currently using modern contraception[d]	353 (70.74)	379 (77.35)	OR = 1.38 (0.99–1.92) p = 0.056	OR = 1.39 (1.00–1.95) p = 0.052	388 (80.83)	378 (84.75)	OR = 1.32 (0.96–1.81) p = 0.089	OR = 1.38 (0.98–1.95) p = 0.063
# antenatal care visits attended, mean (SD)[d]	3.48 (0.90)	3.68 (0.68)	IRR = 1.06 (1.02–1.09) p = 0.001	IRR = 1.06 (1.03–1.09) p < 0.001	3.60 (0.71)	3.70 (0.65)	IRR = 1.03 (1.00–1.05) p = 0.030	IRR = 1.03 (1.00–1.05) p = 0.029
# antenatal care visits accompanied by male partner, mean (SD)[d]	1.18 (0.71)	1.73 (1.01)	IRR = 1.46 (1.33–1.60) p < 0.001	IRR = 1.47 (1.34–1.61) p < 0.001	1.18 (0.78)	1.54 (0.89)	IRR = 1.29 (1.19–1.40) p < 0.001	IRR = 1.29 (1.19–1.40) p < 0.001
Mental health and harmful alcohol use								
Symptomatic for depression[e]	313 (51.74)	210 (37.77)	OR = 0.57 (0.44–0.73) p < 0.001	OR = 0.56 (0.43–0.73) p < 0.001	233 (44.21)	140 (28.34)	OR = 0.50 (0.39–0.64) p < 0.001	OR = 0.50 (0.39–0.65) p < 0.001
Partner gets drunk weekly or more often[e]	145 (24.01)	58 (10.47)	OR = 0.37 (0.27–0.50) p < 0.001	OR = 0.36 (0.26–0.50) p < 0.001	138 (26.19)	71 (14.43)	OR = 0.48 (0.33–0.68) p < 0.001	OR = 0.47 (0.33–0.68) p < 0.001
Gendered division of household labour and decision-making								
Sharing of childcare and household tasks with partner, mean (SD)	1.65 (0.48)	2.04 (0.51)	Beta = 0.39 (0.31–0.47) p < 0.001	Beta = 0.39 (0.31–0.47) p < 0.001	1.71 (0.43)	2.01 (0.50)	Beta = 0.28 (0.22–0.34) p < 0.001	Beta = 0.28 (0.22–0.34) p < 0.001
Time spent on childcare and household tasks (hours per day)	8.34 (5.30)	8.34 (5.05)	Beta = 0.002 (−0.60–0.61) p = 0.99	Beta = 0.07 (−0.53–0.68) p = 0.81	5.52 (2.68)	5.73 (3.20)	Beta = 0.21 (−0.15–0.57) p = 0.246	Beta = 0.21 (−0.15–0.56) p = 0.263
Man has final say on weekly/ monthly income and expenses	474 (78.74)	309 (56.08)	OR = 0.35 (0.26–0.46) p < 0.001	OR = 0.31 (0.24–0.42) p < 0.001	241 (45.73)	189 (38.26)	OR = 0.74 (0.59–0.91) p = 0.005	OR = 0.73 (0.59–0.90) p = 0.004
Man has final say in how many children to have or spacing of children	284 (47.81)	192 (34.91)	OR = 0.59 (0.47–0.73) p < 0.001	OR = 0.57 (0.45–0.72) p < 0.001	116 (22.01)	85 (17.21)	OR = 0.74 (0.53–1.02) p = 0.067	OR = 0.74 (0.53–1.04) p = 0.082

All statistics are n (%) unless otherwise specified. [a]Most 21-month outcomes were previously published and reproduced here to facilitate comparison. New or recoded outcomes are noted. [b]Overall number of respondents. Exact number varies by outcome. [c]Analyses adjusted for women's self-reported current age and level of education, and men's reports of socio-economic status at baseline (defined as having basic needs met). [d]Updated coding at 21 months for comparability. [e]Outcomes at 21 months not previously published.

Table 4: **Women's outcomes at 21-month and six-year follow-ups.**

Outcome	21-month follow-up[a]				6-year follow-up			
	Summary statistics		Intervention effect		Summary statistics		Intervention effect	
	Control[b] (n = 590)	Intervention (n = 533)	Unadjusted	Adjusted[c]	Control (n = 522)	Intervention (n = 481)	Unadjusted	Adjusted
Physical punishment of children								
Use of physical punishment of children	387 (67.30)	303 (57.71)	OR = 0.66 (0.50–0.89) p = 0.006	OR = 0.66 (0.50–0.88) p = 0.005	270 (52.02)	209 (43.72)	OR = 0.71 (0.56–0.91) p = 0.007	OR = 0.72 (0.57–0.92) p = 0.009
Reproductive and maternal health behaviour								
Couple currently using modern contraception[d]	341 (71.19)	378 (80.60)	OR = 1.67 (1.22–2.27) p < 0.001	OR = 1.68 (1.23–2.28) p < 0.001	387 (81.82)	374 (88.63)	OR = 1.73 (1.28–2.34) p < 0.001	OR = 1.72 (1.27–2.33) p < 0.001
# antenatal care visits accompanied partner to, mean (SD)[d]	1.77 (0.93)	2.20 (0.97)	IRR = 1.28 (1.18–1.38) p < 0.001	IRR = 1.28 (1.18–1.39) p < 0.001	1.82 (0.89)	2.29 (0.96)	IRR = 1.26 (1.18–1.33) p < 0.001	IRR = 1.26 (1.18–1.33) p < 0.001
Mental health								
Symptomatic for depression[e]	Not measured	Not measured	Not measured	Not measured	167 (31.99)	95 (19.75)	OR = 0.52 (0.40–0.69) p < 0.001	OR = 0.52 (0.40–0.69) p < 0.001
Drinks until he gets drunk weekly or more often[e]	71 (12.07)	18 (3.38)	OR = 0.26 (1.15–0.46) p < 0.001	OR = 0.25 (0.14–2.28) p < 0.001	71 (12.07)	18 (3.38)	OR = 0.26 (0.15–0.46) p < 0.001	OR = 0.25 (0.14–0.46) p < 0.001
Gendered division of household labour and decision-making								
Sharing of childcare and household tasks with partner, mean (SD)	1.77 (0.48)	2.10 (0.50)	Beta = 0.33 (0.26–0.41) p < 0.001	Beta = 0.33 (0.26–0.41) p < 0.001	1.83 (0.45)	2.08 (0.44)	Beta = 0.25 (0.18–0.32) p < 0.001	Beta = 0.25 (0.18–0.32) p < 0.001
Time spent on childcare and household tasks (hours per day)	1.40 (2.09)	2.26 (2.38)	Beta = 0.86 (0.49–1.23) p < 0.001	Beta = 0.86 (0.50–1.22) p < 0.001	1.27 (1.47)	1.82 (1.76)	Beta = 0.55 (0.36–0.74) p < 0.001	Beta = 0.55 (0.36–0.74) p < 0.001
Man has final say on weekly/ monthly income and expenses	409 (70.27)	241 (45.47)	OR = 0.35 (0.26–0.49) p < 0.001	OR = 0.35 (0.25–0.48) p < 0.001	309 (59.31)	206 (42.83)	OR = 0.51 (0.38–0.69) p < 0.001	OR = 0.51 (0.37–0.69) p < 0.001
Man has final say in how many children to have or spacing of children	278 (49.03)	168 (31.94)	OR = 0.49 (0.37–0.64) p < 0.001	OR = 0.48 (0.36–0.63) p < 0.001	184 (35.94)	132 (27.79)	OR = 0.69 (0.54–0.88) p = 0.003	OR = 0.68 (0.53–0.87) p = 0.003

All statistics are n (%) unless otherwise specified. [a]Most 21-month outcomes were previously published and reproduced here to facilitate comparison. New or recoded outcomes are noted. [b]Overall number of respondents. Exact number varies by outcome. [c]Analyses adjusted for men's self-reported current age and level of education, and men's reports of socio-economic status at baseline (defined as having basic needs met). [d]Updated coding at 21 months for comparability. [e]Outcomes at 21 months not previously published.

Table 5: **Men's outcomes at 21-month and six-year follow-ups.**

accompaniment by men to ANC visits compared to the control group, similarly with smaller effect sizes. These findings contribute to the growing evidence that programmes engaging men, particularly those that take a gender-transformative approach, can increase men's participation and support improved health-seeking in the perinatal period.[34] Engaging fathers in the perinatal period (the core content of the programme) also provides concrete reasons for men to talk to their partners and show them care and support,[35,36] which can enable incremental steps towards broader changes in couple relations.

While men in the intervention group continue to report higher rates of contraceptive use than the control group at the six-year follow up, there are no statistically significant differences in women's reports. A reanalysis of the 21-month data to exclude respondents who reported expecting a child at the time of the survey (in contrast to our original analysis that included the full sample) also shows no significant difference in women's reports of contraceptive use. The discordance between men's and women's reports on contraceptive use is consistent with other research in the region.[37]

Encouragingly, we also found some lasting changes in the gendered division of household labour and decision-making. Compared to the control group, Bandebereho couples report greater participation of women in household financial decisions at the six-year follow up, with men less likely to make these decisions alone. Bandebereho couples are also more likely to report partners sharing six primary childcare and household tasks (as opposed to one partner, almost always the woman, doing them alone). Men who participated in Bandebereho also report spending about 30 min more per day on these tasks than the control group, albeit less time than reported at last follow-up. While these findings indicate effects of Bandebereho on improving couple gender and power dynamics, more can be done to foster equitable relationships.

Women in the intervention group continue to perform the bulk of the childcare and household tasks—spending nearly four more hours per day on them than their partners. Despite men's greater participation in these tasks, women in the intervention group spend as much time on them as women in the control group, similar to our 21-month findings. The findings from the last follow-up prompted adaptations to the curriculum to strengthen the programme's focus on redistributing unpaid care work between partners, which is currently being scaled up through the health system. At the six-year follow-up, we also found that about two-fifths of women in the intervention group still report men making household financial decisions alone. These findings suggest more work is needed to change deeply entrenched norms—which position men as the decision-makers and women as the caregivers within the home—to transform household patterns of labour and decision-making.[17,38]

Only one outcome did not see sustained differences between the intervention and control group over time. While men in Bandebereho continue to report less dominance in deciding the number, timing, and spacing of children compared to the control group, women's reports are no longer statistically significant. At this follow-up, women across both study arms report substantially less dominance of men in making these decisions (18–26 percentage points lower) than they did at 21 months, potentially reflecting fewer salient decisions as couples complete their planned childbearing.

In this analysis we also found that women and men in the intervention group report substantially fewer depressive symptoms, as well as less harmful alcohol use among men, compared to the control group. Our findings add to recent evidence that violence prevention programmes can reduce women's anxiety and depression as well as men's alcohol use even without being designed to do so or including only limited content on the topic.[28] Bandebereho's focus on strengthening couple relationships is likely a critical pathway to improved mental health. We hypothesise that Bandebereho improves women's mental health by reducing IPV, improving relationship quality, and increasing partner support. Similarly, we hypothesise that strengthening men's relationships with their partners and children and reducing their stress and alcohol consumption likely improve men's mental health. The programme's focus on creating space for and encouraging couples to discuss freely with each other (and their peers) in a society where that is not the norm, is likely fundamental to such changes. Couple communication may facilitate trust and support and enable partners to find solutions to common problems. We are encouraged by the findings on mental health given the high prevalence of mental health problems, the enduring stigma, and limited services available in Rwanda, although the programme cannot replace clinical or other psychosocial interventions for those who need it.[26] Future research could explore the mechanisms through which Bandebereho improves women's and men's mental health and provide insights for other community-based programmes reaching parents in Rwanda.

While our study has many strengths, including its longer follow-up time and high retention rates, it is not without limitations. Our analysis does not model individual trajectories of change; rather, we compare the intervention and control group participants independently at 21 months and six years. We were unable to collect baseline data from women. Like many behavioural programmes assessing violence, our outcomes are self-reported, and programme participants may be more likely to report what they presume are desirable answers. However, we believe some of these concerns are mitigated by collecting data from both partners (including women's reports about men's behaviour) at

multiple time points over a six-year period—with remarkably consistent findings. Our findings may slightly overestimate the programme's impact on IPV given women's differential loss to follow-up in our sample. However, the sizable difference in IPV rates between the control and the intervention groups (16–21 percentage points) exceeds any potential bias resulting from the slight difference in attrition observed (less than 2 percentage points). Finally, our findings are not generalizable to the Rwandan population. It is also worth noting that some implementation features unique to the Rwandan context (i.e., high programme attendance and retention) were likely critical to Bandebereho's success.[36] Thus, those considering adapting Bandebereho, or similar programmes, to new settings must carefully consider fit to the context.[39]

Our findings present several avenues for further research, including examining the trajectories of programme participants over time. Further analysis could assess changes in individual experiences of violence over time and explore for whom the programme is more or less effective. Concordance between men's and women's responses, including about the division of household labour and decision-making and contraceptive use, could also be explored. While we examined the mechanisms related to IPV in previous analyses,[17] the mechanisms through which the programme worked on other outcomes, for example to impact parents' use of violence against children and their mental health, could yield actionable insights. Future research could also explore the role of the programme's focus on fatherhood and putting children at the centre of the conversation in its relevance and resonance with men.

In conclusion, our study demonstrates that a gender-transformative programme with parents can result in lasting differences in family violence, alongside multiple health and relationship outcomes, six years later—far longer than any existing trials to our knowledge. The findings underscore the importance of working with both men and women to challenge inequitable norms, to build skills, and to improve relationship quality, for lasting change. Further, Bandebereho's focus on the transition to fatherhood and its emphasis on the benefits change can bring for their children, likely contribute to its positive and lasting effects by working with couples at a time when they may be more open and motivated to change.[17,36] Taken together with existing evidence, the findings highlight the potential for scaling up effective programmes like Bandebereho and contextually adapting and testing them in new settings.[7,8,11] We hope our findings of longer-term effectiveness can generate further interest and investment in gender transformative programmes that promote more equitable and nonviolent family relations.

Contributors

KD conceptualised the study with RGL and GB, raised funds with RGL, GB, and FR, codesigned the methodology with RGL, oversaw field work and project administration with RGL and EK, participated in data analysis, verified the data and contributed to interpretation of the findings, and wrote the first draft of the manuscript with input from RL and DR. **RGL** conceptualised the study with KD and GB, raised funds with KD, GB, and FR, codesigned the methodology with KD, oversaw field work with KD and EK, led the statistical analysis, verified the data and contributed to interpretation of the findings, and cowrote the manuscript. **EK** oversaw the field work and project administration with KD and RGL, contributed to the interpretation of the findings, and reviewed and provided input to the manuscript. **DR** supported data management, contributed to the statistical analysis, verified the data and contributed to the interpretation of the findings, and cowrote the manuscript. **SK** supported field work, contributed to interpretation of the findings, and reviewed and provided input to the manuscript. **FS** contributed to interpretation of the findings, reviewed and provided input to the manuscript, and provided supervision. **HS** contributed to the interpretation of the findings, reviewed and provided input to the manuscript, and provided supervision. **SN** contributed to the interpretation of the findings, and reviewed and provided input to the manuscript. **FR** raised funds with KD, RGL, and GB, contributed to interpretation of the findings, and reviewed and provided input to the manuscript. **GB** conceptualised the study with KD and RGL, raised funds with KD, RGL, and FR, reviewed and provided input to the manuscript, and provided supervision. All authors had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Data sharing statement

Data are available from the authors upon request for secondary analyses after approval of a proposal and with a signed data access agreement. Priority will be given to Rwandan researchers. Individuals can contact KD by email (K.doyle@equimundo.org) to request data.

Declaration of interests

Three authors participated in the development of the Bandebereho curriculum (**KD, SK, EK**). Two authors monitored the implementation of the programme pilot in 2015 assessed in this study (**SK, EK**); **EK** was involved in the supervision of data collection of this six-year follow-up but did not directly collect any data. Eight authors' involvement in the study was funded (salaries or consulting fees) via grants from Echidna Giving Fund, Wellspring Philanthropic, the Oak Foundation, and Grand Challenges Canada to RWAMREC or Equimundo (**KD, RGL, DR, SK, GB, EK, FR, SN**); three authors were funded to travel to present study findings (**KD, EK, FR**). Eight authors are currently involved in the scale-up of Bandebereho through the Rwandan health system **(KD, EK, SK, FR, FS, SN, GB, HS**), including as members of a technical advisory group.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.eclinm.2023.102233.

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