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Effectiveness of a parenting programme to reduce violence in a cash transfer system in the Philippines: RCT with follow-up

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ABSTRACT

Background: Parenting interventions and conditional cash transfer (CCT) programmes are promising strategies to reduce the risk of violence against children, but evidence of the effectiveness of combining such programmes is lacking for families in low- and middle-income countries with children over two years of age. This study examined the effectiveness of a locally adapted parenting programme delivered as part of a government CCT system to low-income families with children aged two to six years in Metro Manila, Philippines.

Methods: Participants were randomly assigned (1:1) to either a 12-session group-based parenting programme or treatment-as-usual services ($N = 120$). Participation in either service was required among the conditions for receiving cash grants. Baseline assessments were conducted in July 2017 with one-month post-intervention assessments in January–February 2018 and 12-month follow-up in January–February 2019. All assessments were parent-report (ClinicalTrials.gov: NCT03205449).

Findings: One-month post-intervention assessments indicated moderate intervention effects for primary outcomes of reduced overall child maltreatment ($d = -0.50 [-0.86, -0.13]$), emotional abuse ($d = -0.59 [-0.95, -0.22]$), physical abuse ($IRR = 0.51 [0.27, 0.74]$), and neglect ($IRR = 0.52 [0.18, 0.85]$). There were also significant effects for reduced dysfunctional parenting, child behaviour problems, and intimate partner violence, and increased parental efficacy and positive parenting. Reduced overall maltreatment, emotional abuse, and neglect effects were sustained at one-year follow-up.

Interpretation: Findings suggest that a culturally adapted parenting intervention delivered as part of a CCT programme may be effective in sustaining reductions in violence against children in low- and middle-income countries.

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Research in context

Evidence before this study

Approximately one billion children experience violence every year, with estimated incidence rates highest in Asia at 64%. Violence against children is a serious global public health concern given its immediate and long-term adverse consequences. Emerging evidence indicates that parenting programmes and conditional cash transfer interventions may be effective at reducing violence against children, and that parenting interventions may be equally effective when transported from one context to another. However, most studies examining the effect of delivering parenting interventions within conditional cash transfer systems focus on early childhood development outcomes in families with children under two years of age. There are no evaluations of parenting interventions focused on non-violent parenting and reducing child behaviour problems for families with older children that are integrated into conditional cash transfer systems in low- and middle-income countries.

Added value of this study

To our knowledge, this is the first randomised controlled trial to examine the efficacy of a parenting programme, based on principles of social learning theory, delivered as part of a conditional cash transfer system for low-income families with children over the age of two years. Results showed effects on reduced child maltreatment, in comparison to usual family development services, that were sustained one year after the intervention. Immediate post-test improvements on parental efficacy and positive parenting, as well as reductions in dysfunctional parenting and child behaviour problems, are also encouraging. Importantly, the programme also showed reduced intimate partner violence at immediate post-test and one-year follow-up which suggests the potential utility of parenting interventions to improve partner relationships and reduce violence against women.

Implications of all the available evidence

This study adds to a growing body of evidence demonstrating that culturally-adapted parenting interventions, grounded in social learning theory, may be effective in sustaining long-term reductions in violence against children in low- and middle-income countries. It also supports research on the effectiveness of transporting parenting programmes from one context to another, and the importance of conducting pragmatic trials in real-world settings to test programme effectiveness in conditions that are as close to normal service delivery as possible. Providing booster sessions, such as peer-support groups or digital interventions, may be required to maintain effects on other outcomes and would require evaluation.

cost of VAC with estimates ranging from 1.32% to 2.52% of GDP in the East Asia and Pacific Region.⁴

The World Health Organization and other international agencies launched the INSPIRE framework in 2016 to coordinate government initiatives around seven distinct strategies to prevent VAC. Thirty national governments have committed to implementing these strategies as Pathfinder Countries, including the Philippines.⁵ Parenting interventions are one of the INSPIRE strategies with the most promising evidence for reducing the risk of VAC in low- and middle-income countries (LMICs),⁶ including with emerging evidence in East and Southeast Asia from group based programmes.⁷ These programmes, typically grounded in social learning theory principles, aim to strengthen caregiver-child relationships through positive parenting and help parents to manage child behaviour problems using effective, age-appropriate, nonviolent discipline strategies.⁸ There is also emerging evidence of the transportability of parenting interventions across cultures and contexts, suggesting that evidence-based programmes developed in one setting may be equally effective in others.⁹

Income and economic strengthening programmes – another INSPIRE strategy – may also be effective in reducing VAC by addressing social drivers of violence such as poverty and gender inequality.¹⁰ Integrating parenting support within conditional cash transfer (CCT) systems fits with this approach by requiring CCT beneficiaries to attend parenting programmes along with other human capital investments such as child vaccinations and school attendance.¹¹ Apart from potentially increasing parent engagement, embedding parenting interventions in existing CCTs presents an opportunity to scale-up evidence-based programmes, especially in low-resource contexts. However, there is limited evidence of the effectiveness of parenting interventions when delivered within CCTs, and none for families with children over the age of two years.¹² Much of the existing research on parenting programmes delivered within CCTs has focused on early childhood parenting interventions in Latin America and Africa,¹¹ and none on the prevention of VAC in the context of CCTs.⁶

This study used a randomised controlled trial (RCT) design with one-year follow-up to test the effectiveness of a parenting programme for Filipino families with children ages two to six as part of the Philippine Department of Social Welfare and Development (DSWD) CCT programme called the Pantawid Pamilya Pilipino Programme (4Ps). The 4Ps programme provides monthly cash grants (approximately USD\$10 to USD\$30) to low-income families. Beneficiaries must comply with health and education conditions, as well as attend monthly Family Development Sessions (FDS).¹³ We hypothesised that families receiving the parenting programme would report significantly reduced risks of VAC in comparison to those who were allocated to receive regular FDS services, or treatment-as-usual (TAU).

2. Methods**2.1. Study design**

This RCT (1:1 allocation ratio) was conducted from June 2017 to February 2019 in an urban community in the city of Taguig in the National Capital Region in the Philippines (ClinicalTrials.gov #NCT03205449). The study site, where the CCT programme included a sizable number of potentially eligible families, was selected based on the recommendation of regional DSWD and 4Ps personnel. Ethical procedures were approved by the University of Oxford Central University Research Ethics Committee (Reference: R43041/RE001), the Ateneo de Manila University Research Ethics Committee (Reference: AdMUREC_16_014PA), and the University of

1. Introduction

Approximately one billion children experience violence every year, mainly in their homes, with estimated incidence rates at 64% highest in Asia.¹ In the Philippines, a national violence against children (VAC) survey with 3,866 children and youth aged 13 to 24 found 80% lifetime prevalence of experience of violence, with almost 50% experiencing either physical or psychological abuse at home.² VAC is associated with numerous immediate and long-term negative health effects that cut across multiple domains, including physical and mental health.³ There is also a considerable financial

Cape Town Department of Psychology Research Ethics Committee (Reference: PSY2016-041).

2.2. Participants

Adult participants ($N = 120$) were recruited in June 2017 based on targeted sampling using referrals from 4Ps staff. Inclusion criteria for participants included 1) age 18 or older, 2) primary caregiver responsible for the care of a child between the ages of 2 and 6; 3) primary carer had spent at least four nights a week in the same household as the child in the previous month; 4) unemployed parent and recipient of the 4Ps programme; 5) agreement to participate in the parenting programme if allocated to the treatment condition; and 6) provision of consent to participate in the full study. Adults were excluded if they exhibited severe mental health problems or disabilities since the intervention was not designed to address these issues. Screening for exclusion was based on a mental capacity assessment conducted during informed consent procedures at baseline (none excluded). Caregivers who had previously participated in a parenting programme or had been referred to child protection services due to child abuse, were also excluded. Child protection services include medical, legal, and therapy support, and possibly alternative care arrangements, which could have presented confounders in our study. If participating families had more than one child between the ages of two and six years, one child was randomly selected for the parent to report on during the study.

2.3. Interventions

2.3.1. Intervention group

The Masayang Pamilya Para Sa Batang Pilipino Parenting Programme ("Happy Family for Filipino Children" in Filipino, or MaPa) is an adaptation of the Parenting for Lifelong Health for Young Children (PLH-YC) programme, a group-based parenting intervention originally developed and tested in Cape Town, South Africa.^{14,15} Grounded in social learning principles, it is based on the Hanf two-stage model in which positive parent-child relationships are strengthened prior to learning child behaviour management and nonviolent discipline skills.⁸ Adaptation to the Filipino context took place from January 2016 to February 2017 using community-based participatory approaches and then pilot-testing in a feasibility evaluation.^{16,17} The resulting programme includes the following content delivered over 12 sessions: 1) spending one-on-one time with children; 2) describing actions and feelings for cognitive and socio-emotional development; 3) positive reinforcement of positive behaviour; 4) establishing limits through effective instruction giving and consistent household rules; 5) nonviolent discipline such as ignoring negative attention seeking behaviour, consequences for non-compliance and rule-breaking, and cool-down for aggressive behaviour; 6) problem solving with children; and 7) mindfulness-based stress reduction activities for caregivers delivered throughout the programme. Programme materials are freely available and can be accessed on the WHO website: <https://www.who.int/teams/social-determinants-of-health/parenting-for-lifelong-health>.

The programme was delivered every other week to four groups of 15 participants in community centres. Core activities included group discussions, illustrated stories, practicing skills during the sessions, collaborative problem solving, and practicing skills at home. The programme also included five SMS booster messages and one 10-minute telephone consultation with a facilitator between each session with each participant. Eight facilitators received 30 hours of training prior to delivering the programme in pairs and a 2-hour supervision session following each parenting session (see Fig. 1). Facilitators needed to have prior experience

of leading group-based programmes, at least a high school-level of education, be fluent in Tagalog, and agree to participate in facilitator training.

2.3.2. Comparison arm: Treatment-as-usual

The treatment-as-usual received Family Development Sessions (FDS) as part of the 4Ps CCT programme. The FDS component aims to enhance positive attitudes and behaviours of caregivers on various aspects of family and community life. Six FDS sessions were delivered to groups of 30 to 60 participants once a month (2-4 hours each) by the local City Links (CL), the personnel who monitor beneficiaries' engagement and compliance with the CCT programme. Each session focuses on one topic, determined by the CL according to the needs of the community. In the period of the study, FDS topics included health and nutrition, child rights and child protection, gender, solid waste management, and positive parenting. Sessions are delivered via lecture format, discussions, and structured learning activities, guided by standard modules in the FDS Manual.¹³

2.4. Outcomes and Measures

All measures were culturally adapted and tested during initial piloting of the intervention in 2016.¹⁶

2.4.1. Primary outcome

Child maltreatment was measured using the *ISPCAN Child Abuse Screening Tool - Trial Caregiver* scale adapted for families with children ages 2-9 (ICAST-TC, 12 items).¹⁸ Parents reported on the overall frequency of maltreatment during the past month. The scale includes physical abuse (4 items), emotional abuse (5 items), and neglect (3 items) subscales.

2.4.2. Proximal outcomes

Positive parenting was assessed using parent-report of the *Parenting of Young Children Scale* (PARYC, 21 items). *Dysfunctional parenting* was assessed using parent-report on the *Parenting Scale* (PS, 30 items). *Parental attitudes supporting corporal punishment* was assessed using the *ICAST-TC-Attitudes Subscale* (4 items) and 1 item from the *UNICEF Multiple Indicator Cluster Survey* (MICS). Finally, an adapted version of *Parent Daily Report Checklist* (PDR) was used to assess occurrences of *parenting behaviour and efficacy* in the past 24 hours (9 items).

2.4.3. Secondary outcomes

Secondary outcomes for parents included *parenting efficacy* (*Parenting Sense of Competence Scale-Efficacy Subscale*, PSOC-ES; 8 items), *parenting inefficacy* (*ICAST-TC: Efficacy Subscale*, 2 items), *parenting stress* (*Parenting Stress Index*, PSI; 24 items), *parental mental health problems* (*Depression, Anxiety, and Stress Scale*, DASS; 21 items), *parental psychological well-being* (*WHO-5 Well-Being Scale*, WHO-5; 5 items), and *parental dependency on alcohol* during the past month (1 item). *Intimate partner violence victimhood* and *partner negotiation* were assessed using an adapted version of the *Revised Conflict Tactics Scale Short Form* (CTS2S; 8 items), while *marital satisfaction* was assessed using the *Kansas Marital Satisfaction Scale* (KMSS; 3 items). We also planned to assess parent alcohol consumption in the past month, but this was dropped from analyses due to low levels of reporting at baseline.

Child behaviour problems were assessed using the *Eyberg Child Behaviour Inventory Intensity and Problem Scales* (36 items) and the PDR (36 items). Child developmental outcomes included *communication skills* (*Ages and Stages Questionnaires, Version 3 Communication Subscale*, ASQ-3, 6 items) and *socio-emotional development* (*Ages and Stages Questionnaires: Social-*

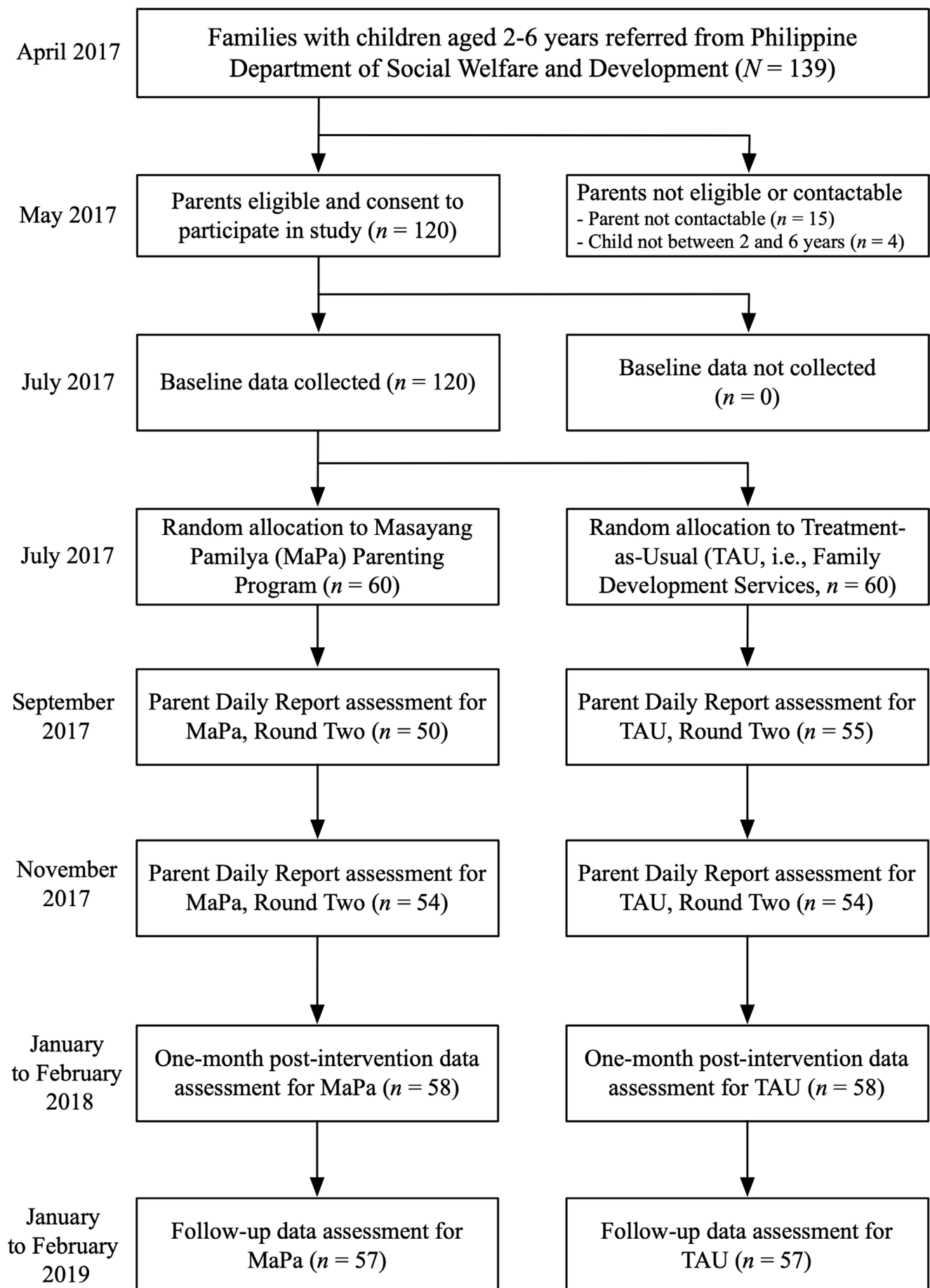


Fig. 1. Conceptual Model of the Masayang Pamilya Programme.

Emotional, Version 2, ASQ-SE2; 16 to 36 items depending on the age of the child). *Child sleep* was assessed by asking parents to report average daily number of hours the parent and child slept in the previous five days (See Supplementary File for references of secondary and demographic outcomes).

All outcomes were parent-report and measured at baseline (July 2017), immediate post-intervention (i.e., January-February 2018, six months post-baseline), and 12 months post-intervention (i.e., January-February 2019, 18 months post-baseline), except for the PDR which was also collected two- and four-months post-baseline (i.e., September and November 2017).

2.4.4. Sociodemographic variables

The following variables were assessed at baseline only: basic caregiver and child age and gender, caregiver general health, household assets, household hunger, food consumption, and parental history of maltreatment during childhood.

2.4.5. Programme adherence

Enrolment rates were based on the ratio of those allocated to the MaPa programme and those who attend at least one session. Mean attendance rates for enrolled MaPa participants were based on the ratio of number of attended sessions to the total number of sessions delivered ($N = 12$ sessions). Dropout was defined as the percentage of participants who failed to attend at least three consecutive sessions and did not subsequently attend any sessions at a later stage. Programme completion rates were determined based on a participant having attended at least 66% of the programme.

2.5. Power calculations

Due to funding constraints, the sample size of this study was limited to 120 participants. Nonetheless, this study used a G*Power 3 calculator with a sensitivity power analysis to calculate the Cohen's D effect size necessary to obtain a significant intervention effect. Using two-tailed independent t-tests based on the study's primary outcome, ICAST-TC, we assumed a Type I error of 0.05, and 80% power. Given the intention-to-treat design using Full Information Maximum Likelihood (FIML) estimation to account for missing data due to study dropout, we did not reduce the final estimated sample size at post-intervention assessments. Thus, this sample size had sufficient power to detect significant intervention effects at $d = 0.52$, or a moderate treatment effect.

2.6. Randomisation and blinding

Participants were randomly assigned to either the MaPa or TAU arms with a 1:1 allocation using concealed computer-generated codes stratified by site and child gender. An external researcher not directly involved in the study performed the random sequence generation of participants. To ensure that participants were blind to allocation during the initial assessment the implementing partner notified the participating families of their allocation status after baseline data collection was completed. Data collectors and statisticians were also blind to allocation, with different researchers employed for either outcome assessments or process monitoring to minimise assessment bias. Blinding was not possible for programme implementers and participants after baseline.

2.7. Data collection

We used e-tablets to administer consent forms and questionnaires with Computer-Assisted Self-Interviewing ('CASI') methods for sensitive items regarding child maltreatment and intimate partner violence to increase response rates. Questionnaires were translated into Tagalog (the local language) by bilingual researchers and

the checked by back-translation. Data collectors ($N = 10$) who were fluent in Tagalog and had prior experience working with vulnerable families explained the CASI procedures, read out questions, and assisted participants to key in responses on their tablets. Parent daily report surveys were administered at T2 and T4 via telephone or in-person if the respondent did not own a device. Programme adherence data was collected using attendance registers administered by research assistants assigned to the process evaluation.

Participants were offered a gift check (Php 500 or £8) after the baseline, immediate post-intervention assessment, and 12-month post-intervention assessment points. Participants also received a token as well as a certificate of completion at the end of the PLH-YC programme. Participants who attended all or only missed one session also received a small gift pack (approximately Php 500 or £8 value) as an incentive for attendance in PLH-YC. Participation in the parenting programme also counted towards the fulfilment of the condition that was otherwise met by attending FDS sessions for 4Ps beneficiary families.

2.8. Analyses

The following procedures were conducted to examine differences between intervention and TAU arms at one-month post-intervention and 12-month follow-up using an intention-to-treat design with FIML estimation to account for missing data. First, we conducted t-tests or Chi-square tests to assess whether there were significant differences between groups at baseline despite randomisation due to the small sample size. Second, intraclass correlation coefficients (ICCs) and design effect estimates were computed for each outcome variable using SPSS 26 to determine whether a nested analysis was necessary to account for participant groupings in the intervention arm. Multilevel models were not conducted because of low ICCs and design effect estimates under 2.0 for all outcomes except for child sleep hours. Third, outcomes were examined for normal distribution, with skewed data treated using log transformations. Fourth, linear regression analyses on MPlus 8 were conducted controlling for baseline scores, child age, and child gender. Child age and sex were controlled because randomisation was stratified according to these variables. Fifth, if the z-score for skew after transformations remained significant (i.e., z-score > 2.0), negative binomial models were used. Sixth, Cohen's d effect sizes were produced for normally distributed outcomes, and incident risk ratios (IRRs) for skewed data. Finally, sensitivity analyses were conducted using linear and negative binomial generalized estimating equations (GEE) via the R package *geeM*.

2.9. Stakeholder involvement statement

Filipino parents and service providers were closely involved in the development, adaptation, and piloting of the MaPa programme prior to the trial.¹⁶ We also engaged regularly with the Philippine Child Protection Network, the Philippine Ambulatory Pediatric Association, the Philippine government, and UNICEF Philippines during the development and refinement of the research questions, study design, and ethical procedures. Results from this study were shared with local and national government and NGO stakeholders who had the opportunity to comment on the findings.

2.10. Adverse effects

Although decades of research on parenting interventions, including many randomised trials in LMICs have not shown any evidence of harm from parenting interventions with plenty of evidence of benefit for parents and children, and high parent satisfaction, we considered the potential risk of adverse effects from participating in the intervention or evaluation. For instance, there

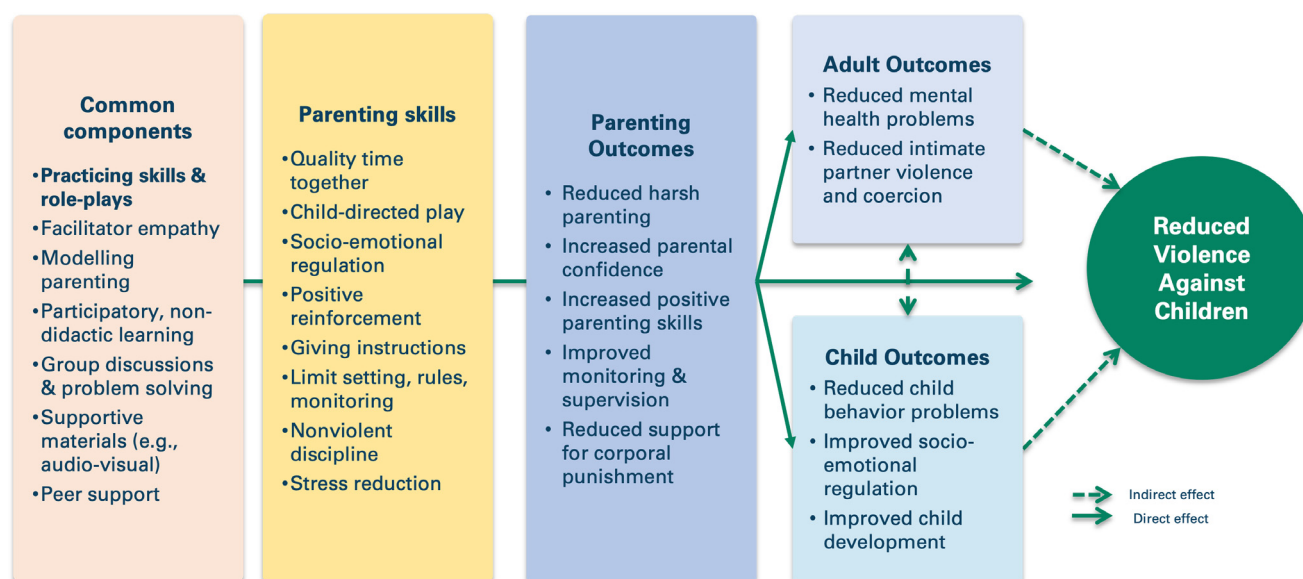


Fig. 2. Study Flow Diagram.

may have been potential psychological harm due to participation in the parenting programme or study. Our statistical analyses used two-tailed tests for differences between groups to examine potential negative and positive intervention effects. We also monitored research subjects to assess whether participation in the intervention placed any individuals at potential risk of harm. In addition to post-test assessments, monitoring occurred at specific time points when we were monitoring implementation fidelity during programme delivery.

2.11. Role of funding source

The funders played no role in the design, conduct or interpretation of the analyses.

3. Results

3.1. Retention

Study recruitment and retention are summarised in the flow diagram (Fig. 2). The 4Ps personnel referred 139 families to the study of whom 120 gave consent to participate and were randomised to either MaPa or TAU (i.e., Family Development Sessions or FDS) arms ($n=60$ per group). Study retention was considerably higher than anticipated with 96.7% at one-month post-intervention ($n=116$) and 94.2% at 1-year follow-up ($n=113$; 114 for non-parenting related measures since one child did not live with the caregiver at follow-up). Similarly, high retention rates were achieved for Parent Daily Report assessments undertaken two months and four months post-baseline ($n=105$, 87.5% and $n=108$, 90.0%, respectively).

3.2. Sample characteristics

Characteristics of the sample at baseline are summarised in Table 1. Roughly half of the sample had not completed high school ($n=59$), about two-thirds were unemployed ($n=78$), and 38.3% ($n=46$) reported some form of adult disability (i.e., difficulty seeing, walking, hearing, or completing normal tasks). Almost a quarter of the parents reported having experienced household hunger more than five times in the previous 30 days ($n=29$, 24.2%). 96

parents (80.0%) reported that they had experienced corporal punishment as a child, and 48 (40.0%) reported that they had experienced at least one instance of psychological or physical violence from their partner in the past month. Three-quarters of the sample disclosed that they used at least one form of physical discipline towards their child in the past month ($n=89$), and 112 (91.7%) parents reported that they verbally abused their children (e.g., shouted or yelled at their child). Lastly, 56 (46.7%) parents reported some form of child neglect in the past month. There were no demographic differences between MaPa and TAU arms on most of the measures, however more children with disabilities ($n=6$) were allocated to TAU (Chi-squared=6.32 (1), $p<0.01$). Families in the TAU arm also reported a higher overall rating of household hunger ($t=2.10$ (111.17); $p<0.05$) and higher prevalence of child neglect (Chi-squared=6.56, $p<0.01$) than those allocated to the MaPa arm. These significant baseline differences are assumed to occur by chance rather than bias due to the random assignment procedure.

3.3. Programme adherence

Fifty-seven allocated parents participated in at least one group session of the MaPa programme (95.0%). The average overall attendance rate of enrollees was 61.8% or 7.4 out of 12 sessions, with 65.0% ($n=39$) attending at least half of the programme (7 or more sessions) and 32.7% attending three-quarters of the programme ($n=19$).

3.4. Outcomes

3.4.1. Primary outcomes

Results for primary outcomes are summarised in Table 2. Linear regressions were used for log transformed overall maltreatment and emotional abuse, whereas negative binomial models were used for physical abuse and neglect. Adults receiving the MaPa programme reported less overall maltreatment in comparison to the TAU arm at post-intervention ($d=-0.50$, 95%CI [-0.86,-0.13]) and at 1-year follow-up ($d=-0.39$, 95%CI [-0.75,-0.03]). Frequency of emotional abuse was also less for families who received the MaPa programme at post-intervention ($d=-0.59$, 95%CI [-0.95,-0.22]) and 1-year follow-up ($d=-0.37$, 95%CI [-0.73,-0.01]). MaPa participants reported a 49% reduced risk of physical abuse in comparison to TAU families at post-intervention (IRR=0.51, 95%CI [0.26,0.75]), but

Table 1
Characteristics of the sample at baseline

Total(N = 120)	FDS(n = 60)		MaPa(n = 60)
Adults			
Adult age, M (SD)	36.11 (6.56)	36.6 (6.81)	35.62 (6.32)
Gender: Female, n (%)	120 (100%)	60 (100%)	60 (100%)
Language: Tagalog, n (%)	118 (98.3%)	59 (98.3%)	59 (98.3%)
Marital status: Married, n (%)	61 (50.8%)	33 (55%)	28 (46.7%)
Not completed high school, n (%)	59 (49.17%)	27 (45%)	32 (53.3%)
Unemployed, n (%)	78 (65.0%)	37 (61.7%)	41 (68.3%)
Adult disability, n (%)	46 (38.3%)	24 (40.0%)	22 (36.7%)
Parent experienced abuse as a child, n (%) ¹²	96 (80.0%)	52 (86.7%)	44 (73.3%)
Children			
Child gender: Female, n (%)	64 (53.3%)	33 (55.0%)	31 (51.7%)
Child age, M (SD)	3.81 (1.25)	3.80 (1.22)	3.82 (1.30)
Biological child, n (%)	116 (96.7%)	58 (96.7%)	58 (96.7%)
Child enrolled in school, n (%)	59 (49.2%)	30 (50.0%)	29 (48.3%)
Child physical disability, n (%)	6 (5.0%)	6 (10.0%)**	0 (0.0%)
Household			
Household size, M (SD)	6.83 (2.25)	6.65 (1.85)	7.02 (2.60)
Presence of another caregiver, n (%)	89 (74.2%)	43 (71.7%)	46 (76.7%)
Adult working in household, n (%)	113 (94.2%)	55 (91.7%)	58 (96.7%)
Household hunger, M (SD)	3.32 (2.29)	3.75 (2.52)*	2.88 (1.96)
Acute household hunger ≥ 5 times in previous 30 days, n (%)	29 (24.2%)	17 (28.3%)	12 (20.0%)
Child maltreatment³			
Total maltreatment-frequency, M (SD)	13.26 (13.80)	12.45 (12.00)	14.07 (15.5)
Physical abuse-incidence, n (%)	89 (74.2%)	46 (76.7%)	43 (71.7%)
Emotional abuse-incidence, n (%)	112 (93.3%)	55 (91.7%)	57 (95.0%)
Neglect-incidence, n (%)	56 (46.7%)	35 (58.3%)**	21 (35.0%)

¹ ICAST-Retrospective Physical Punishment Subscale² ICAST-Retrospective Prevalence³ ICAST-TC; Significant differences between groups* $p < .05$ ** $p < .01$.**Table 2**Primary outcomes overall maltreatment, emotional abuse, physical abuse, and neglect controlling for baseline scores, child age, and child sex ($N = 120$)^{1,2}

Variable	Intervention M (SD)	Control M (SD)	β	Unstandardized b [95%CI]	p value	Effect Size [95%CI] ³
Overall maltreatment (Log) ^a						
Baseline	0.97 (0.40)	1.00 (0.40)				
Post-intervention	0.73 (0.34)	0.96 (0.44)	-.24	-0.20 [-0.31, -0.09]	.000	d: -0.50 [-0.86, -0.13]
Follow-up	0.77 (0.37)	0.93 (0.39)	-.19	-0.14 [-0.35, -0.03]	.026	d: -0.39 [-0.75, -0.03]
Emotional abuse (Log) ^a						
Baseline	0.76 (0.32)	0.76 (0.35)				
Post-intervention	0.55 (0.32)	0.76 (0.36)	-.28	-0.20 [-0.31, -0.09]	<.001	d: -0.59 [-0.95, -0.22]
Follow-up	0.56 (0.34)	0.69 (0.36)	-.18	-0.13 [-0.24, -0.02]	.026	d: -0.37 [-0.73, -0.01]
Physical abuse ^a						
Baseline	3.37 (4.38)	4.03 (4.29)				
Post-intervention	1.36 (2.07)	3.64 (5.49)	-.42	-0.68 [-1.17, -0.20]	.005	IRR: 0.51 [0.26; 0.75]
Follow-up ^a	1.98 (3.16)	3.30 (4.57)	-.32	-0.30 [-0.81, 0.21]	.245	IRR: 0.74 [0.36; 1.12]
Neglect ^a						
Baseline	1.57 (3.42)	1.90 (3.36)				
Post-intervention	1.22 (2.41)	2.79 (4.87)	-.58	-0.66 [-1.30, -0.01]	.046	IRR: 0.52 [0.18; 0.85]
Follow-up	1.39 (2.69)	2.37 (4.05)	-.38	-0.53 [-1.15, 0.09]	.093	IRR: 0.59 [0.23; 0.95]

¹ Baseline assessments conducted in July 2017, Post-intervention assessments conducted in January-February 2018, Follow-up assessments conducted in January-February 2019² Bold indicate significant effect sizes based on 95% CI not overlapping zero for Cohen's d and not overlapping 1.00 for Incidence Risk Ratio (IRR)³ Cohen's d for linear regressions after log transformation of skewed data; IRR for negative binomial models for skewed data.^a ICAST-TC.

there were non-significant differences between groups at follow-up (IRR=0.74, 95%CI [0.36,1.12]). There was also a 48% reduced risk of neglect at post-intervention (IRR=0.52, 95%CI [0.18,0.85]) and 41% reduced risk at follow-up (IRR=0.59, 95%CI [0.23,0.95]).

3.4.2. Proximal outcomes

Analyses of proximal outcomes found large intervention effects for reduced dysfunctional parenting ($d=-0.88$ 95%CI [-1.25,-0.50]) and moderate effects for increased parent daily report of positive parenting behaviours ($d =0.47$, 95%CI [0.11,0.84]) at post-intervention. There were no significant effects for overall positive parenting and parental endorsement of corporal punishment at

post-intervention, nor any intervention effects at 1-year follow-up for any of these four measures (Table 3).

3.4.3. Secondary outcomes

Parents allocated to the MaPa programme reported a 63% reduced risk of intimate partner violence victimhood at one-month post-intervention (IRR=0.37, 95%CI [0.06,0.68]) with 49% reduced risk at one-year follow-up (IRR=0.51, 95%CI [0.01,1.00]). They also reported increased parenting self-efficacy ($d=0.39$, 95%CI [0.03, 0.75]) and fewer daily child behaviour problems ($d=-0.45$, 95%CI [-0.82,-0.09]) at post-intervention compared to those receiving treatment as usual, although these were not maintained at 1-year follow-up. Analyses found no other intervention effects for

Table 3Proximal outcomes based on linear regressions controlling for baseline scores, child age, and child sex ($N = 120$)^{1, 2}

Variable	InterventionM (SD)	ControlM (SD)	β	Unstandardized b[95%CI]	p value	Effect Size[95%CI]
Positive parenting ^a						
Baseline	102.28 (11.04)	101.70 (13.20)				
Post-intervention	103.50 (14.22)	99.28 (11.13)	.16	3.97 [-0.36, 8.29]	.072	d: 0.33 [-0.03, 0.69]
Follow-up	105.93 (13.19)	104.00 (13.35)	.07	1.75 [-2.63, 6.13]	.433	d: 0.14 [-0.22, 0.50]
Dysfunctional parenting ^b						
Baseline	112.10 (13.41)	108.93 (15.05)				
Post-intervention	102.02 (11.85)	111.02 (10.59)	-.40	-9.67 [-13.47, -5.88]	<.001	d: -0.88 [-1.25, -0.50]
Follow-up	105.14 (14.54)	107.49 (15.41)	-.13	-3.73 [-8.74, 1.28]	.145	d: -0.26 [-0.62, 0.10]
Endorsement of corporal punishment ^c						
Baseline	1.93 (0.84)	2.10 (1.09)				
Post-intervention	1.90 (0.74)	2.22 (1.17)	-.16	-0.32 [-0.67, 0.03]	.074	d: -0.33 [-0.69, 0.03]
Follow-up	2.04 (0.94)	1.93 (0.86)	.07	0.12 [-0.22, 0.46]	.479	d: 0.14 [-0.22, 0.50]
Attitudes supportin corporal punishment ^d						
Baseline	9.45 (2.23)	10.33 (2.08)				
Post-intervention	9.72 (2.15)	10.03 (2.46)	-.02	-0.11 [-0.94, 0.71]	.790	d: -0.04 [-0.40, 0.32]
Follow-up	10.89 (2.18)	11.14 (2.78)	-.06	-0.31 [-1.21, 0.59]	.498	d: -0.12 [-0.48, 0.24]
Positive daily parenting ^e						
Baseline	7.50 (1.24)	7.28 (1.52)				
Post-intervention	7.90 (1.18)	7.24 (1.30)	.23	0.60 [0.17, 1.02]	.005	d: 0.47 [0.11, 0.84]
Follow-up	7.55 (1.67)	7.47 (1.43)	.00	0.01 [-0.54, 0.56]	.966	d: 0.00 [-0.36, 0.36]

¹ Baseline assessments conducted in July 2017, Post-intervention assessments conducted in January-February 2018, Follow-up assessments conducted in January-February 2019² Bold indicate significant effect sizes based on 95% CI not overlapping zero for Cohen's d^a Parenting of Young Children scale^b Parenting Scale^c 1-item from UNICEF Multiple Indices Cluster Survey^d ICAST-Attitudes scale^e Parent Daily Report-Parenting subscale

other secondary outcomes at either post-intervention or follow-up, including parenting stress, parental mental health, child behaviour problems, child communication development, child social-emotional development, partner negotiation, marital satisfaction, and the number of hours of sleep a child had in the past five days. There were no adverse effects reported (Supplementary Tables 1 and 2).

3.4.4. Sensitivity analyses

Sensitivity analyses using GEE yielded mostly similar regression coefficients and effect sizes but showed some discrepancies in statistical significance (Supplementary Tables 3-6). There were marginal effects of the MaPa programme at 1-year follow-up for overall maltreatment ($d=-0.33$, 95%CI [-0.69,0.03]) and emotional abuse ($d=-0.35$, 95%CI [-0.71,0.01]). There were also non-significant differences between MaPa and TAU arms in neglect at post-intervention (IRR=0.55, 95%CI [0.25,1.20]) and follow-up (IRR=0.73, 95%CI [0.36,1.44]). Among the proximal outcomes, there were no significant differences between groups in parent daily report of positive parenting behaviours at post-intervention ($d=0.31$, 95%CI [-0.05,0.67]) but there was a sustained effect of lower dysfunctional parenting among MaPa participants compared to TAU participants at follow-up ($d=-0.39$ 95%CI [-0.75,-0.03]). For the secondary outcomes, there was no significant differences between groups in parenting self-efficacy at post-intervention ($d=0.17$, 95%CI [-0.18,0.53]), and intimate partner violence victimhood at post-intervention (IRR=0.51, 95%CI [0.56,1.09]) and one-year follow-up (IRR=1.04 95%CI [0.72,1.52]).

4. Discussion

This study is the first to rigorously test the effectiveness of a parenting programme for low-income families with children older than two years as part of a conditional cash transfer system. Moreover, it is the first test of a parenting programme using an RCT design in the Philippines. Results indicating post-intervention and

sustained reductions in overall maltreatment and emotional abuse at one-year follow-up are promising, especially given the high levels of poverty and social vulnerability of the participating families. These positive effects also support the transportability of parenting interventions across settings,⁹ and the importance of conducting formative work to culturally adapt interventions when delivered in new settings.¹⁹ Although conducted on a small-scale in one community in urban Manila, findings also support the utility of nesting programmes within existing social services in order to maximize programme engagement and sustainability. This study also provided empirical evidence for the advantages of combining social learning-based parenting programmes and economic strengthening interventions to accelerate impacts across multiple Sustainable Development Goal targets.²⁰

In comparison to treatment as usual families, caregivers who underwent MaPa reported significant post-intervention reductions in dysfunctional parenting; for secondary outcomes, there were reductions in daily child problem behaviours. These results are consistent with research on other effective parenting interventions that use social learning-based strategies, including praising children's positive actions, setting limits, and addressing child misbehaviours consistently and with regulated emotions.²¹ Rehearsing parenting skills as part of role-plays during the programme and then applying them at home are designed to increase parents' skills in behaviours that counter negative or dysfunctional parenting. Such changes in parenting behaviour coincide with perceptions of decreased child behaviour problems. Given that the programme only targets parents, future research should examine whether these are the mechanisms by which the intervention brought about lower child maltreatment.

It is worth noting that the parenting intervention brought about a significant decrease in parent-reported intimate partner violence (IPV) at both post-intervention and 1-year follow-up, even though the focus of the programme was the parent-child relationship. Studies have established the links between experience of maltreatment as a child, IPV, and maltreatment of one's own child.

dren via mechanisms that include mental health problems, modelling of aggressive behaviours, and familial stress.²² Preliminary evidence from our sample suggests that the MaPa caregivers, all women, reported higher efficacy and confidence when dealing with spouses and other adult caregivers in the household and found the mindfulness-based practices helpful in regulating their anger even towards their spouses.¹⁶ Even though GEE sensitivity results did not show significant effects, this finding is particularly encouraging given the limited evidence on the effectiveness of interventions that target both VAC and IPV, and concerns that parenting programmes have the potential to have harmful effects on IPV in some families, by increasing partner conflict over child rearing.²³

Results suggest that there were no intervention effects for self-reported improved positive parenting. This finding is contrary to the trial of the PLH for Young Children programme in South Africa, which showed increases in the frequency of positive parenting in the past month.²⁴ The null effects in this study may be due to a potential ceiling effect in which respondents rated their parenting behaviours highly at baseline, thus change in an upward direction was limited. The results may also have been due to the lack of sensitivity of the PARYC scale to measure specific parenting behaviours over a 30-day period. An alternative expectation may be that in Filipino culture, parenting is generally rated positively.¹⁶

Additionally, results showed no differences between groups in child development and parental mental health outcomes. The MaPa programme does not specifically focus on child cognitive and socio-emotional development, but rather on child behaviour management, thus it is not surprising that we did not find any changes in these outcomes. Additional content may be necessary to support early learning. Likewise, although parenting programmes have sometimes been found to have beneficial effects on parental depression and stress,²⁵ this programme was not effective for parent mental health outcomes. However, we note that when it comes to other parent and child outcomes, a number of moderator studies of parent interventions have found that depressed parents benefit as much, or more, than other parents.²⁶

Whilst effects on our primary outcomes of child maltreatment and emotional abuse were sustained at 1-year follow-up, none of our secondary outcomes showed lasting effects. While the sustained effects are promising, the persistently adverse conditions and risks facing the most vulnerable families in LMICs may make short-term and fade-out effects more likely than not.²⁷ This highlights the need for booster programmes and/or more systemic social development interventions to mitigate the various risks for violence against children, including poverty alleviation, education, and economic strengthening. Such an embedded and systemic approach to parenting interventions may also better evince changes in caregivers' mental health and child development outcomes.

4.1. Study limitations

The study has several limitations. First, although the selected setting was similar to many other poor Filipino communities in the urban areas, findings may not be generalisable to other populations outside of Metro Manila. Second, we were unable to determine whether there was any selection bias or differences between the sample in the study and the wider population due to insufficient data regarding the main characteristics of recipients of the conditional cash transfer system in the locations where the study was conducted. Third, the limited sample size ($N = 120$ families) means that the study was underpowered to detect smaller intervention effects (i.e., potential Type II error in which there were undetected effects). Fourth, whereas findings on sustained effects on overall maltreatment and emotional abuse after 1 year are promising, they should be interpreted with caution given the marginal

results found in the sensitivity analyses for these outcomes. Fifth, the study relied on parent-report data which is susceptible to reporting biases due to social desirability. Parents who were allocated to the MaPa Programme may have reported greater reductions in maltreatment due to their increased knowledge that these outcomes were desirable. It is recommended that future studies incorporate observational assessments of parent-child interactions to increase the potential objectivity of results. Sixth, although the study tested the effectiveness of a parenting programme when delivered as part of an existing conditional cash transfer system, the facilitators in this phase were not the usual 4Ps service providers. Instead, they were professionals or students with higher levels of training and experience. Lastly, no male caregivers volunteered to participate in the study, even though recruitment was not limited to mothers and some fathers did attend sessions with their female partners. This is an ongoing challenge for parenting programmes across the globe, even in high-income countries, primarily due to perceptions that caregiving and child-rearing is mainly the domain of female caregivers.²⁸ Nonetheless, future research in the Philippines would benefit from identifying strategies to increase the engagement of fathers, especially given the impact that they have on child and maternal outcomes.²⁹

5. Conclusion

This study adds to a growing body of evidence suggesting that parenting interventions that are grounded in evidence-based practices and principles, and delivered in culturally sensitive ways, are effective at reducing violence against children in low- and middle-income countries. It also supports research showing the effectiveness of transporting parenting programmes from one context to another.⁹ Conducting the trial in real-world settings, such as the conditional cash transfer system, allows for the testing of programme effectiveness and the feasibility of scale-up in conditions that are as close to normal service delivery as possible.³⁰ Future research in different contexts in the Philippines is recommended in order to rigorously test the effectiveness of the MaPa Programme with other population groups and outside of Metro Manila. Forthcoming analyses to examine whether improvements at post-intervention mediated reductions in violence at follow-up will also provide valuable insight into the mechanisms of change of the MaPa intervention, underscoring the importance of incorporating a one-year follow-up assessment in the trial design. Additional research using factorial experimental designs may also help to optimise the intervention for scalability by identifying the components or component levels that are most effective and cost-effective.

In conclusion, this study makes an important contribution in demonstrating the need for low-cost interventions that show evidence of reducing violence against children and are delivered within existing service delivery systems. The promising results suggest the benefit of integrating evidence-based practices into local delivery contexts to meet the needs of low-income Filipino families in Metro Manila. Although further research is necessary to establish intervention effectiveness and generalisability more firmly throughout the Philippines, this study is an important step to achieving the goal of ending violence against children and improving child wellbeing.

Contributors

JML is the primary author and principal investigator on the study along with LPA and FG. All authors contributed to the conceptualisation, implementation, analysis & interpretation of data including the literature review, study design, data collection, data analysis, data interpretation, writing. In addition to the above, JML

took leadership on drafting of the manuscripts. LPA & RJ led on writing methods, results, and discussion, with RJ leading on data analysis. JML, LPA & RJ accessed verified the underlying data. All authors critically reviewed the penultimate draft.

Data sharing statement

Data collected for this study, including de-identified individual participant data and analysis syntax, will be available via Open Science Framework immediately upon acceptance with no end date to anyone who wishes to access the data (<https://osf.io/4kgz6/>).

Declaration of Competing Interest

BM, CA, and MG declare that they have no competing interests. JML, JH, FG and CW are co-developers of PLH for Young Children, which is licensed under a Creative Commons 4.0 Non-commercial No Derivatives license, and, with colleagues, co-founders of the Parenting for Lifelong Health initiative. JH is the Director of the Children's Early Intervention Trust, a non-profit institution responsible for the dissemination of the programme in Europe. JML and JH receive occasional fees for providing training and supervision to facilitators and coaches. JML, JH, FG, LPA, RJ, BVLM, and CW have participated (and are participating) in several research studies involving the programme as investigators, and the University of Oxford, University of Cape Town, Bangor University, and Ateneo de Manila University, and receive research funding for these. Conflict is avoided by declaring this potential conflict of interests; and by conducting and disseminating rigorous, transparent, and impartial evaluation research on both this and other similar parenting programmes.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.lanwpc.2021.100279](https://doi.org/10.1016/j.lanwpc.2021.100279).

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