

Evaluation of follow-up effects of the International Child Development Programme on caregivers in Mozambique

Skar, Ane-Marthe Solheim (1), Sherr, Lorraine (2), Clucas, Claudine (2*), von Tetzchner, Stephen (1)

1 Department of Psychology, University of Oslo, Norway

2 Infection & Population Health, University College London, England (*Present affiliation: University of Chester)

PhD candidate Skar, A-M. S, Professor Sherr, L., Dr. Clucas, C., Professor von Tetzchner, S.

Correspondence should be addressed to Ane-Marthe Solheim Skar, Department of

Psychology, University of Oslo, Postboks 1094 Blindern, 0317 Oslo, Norway. E-mail:

amskar@gmail.com, telephone. +47 97 66 15 91.

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Abstract

Objectives: Parenting programmes have been used to good effect in many settings, yet few are systematically introduced and evaluated in developing countries. The current study explores the relative long-term effect of participation in the International Child Development Programme (ICDP) in a group of caregivers in Mozambique.

Methods: A quasi-experimental design was used to compare caregivers who had completed an ICDP course (N=75) with a socio-geographical matched comparison group (N=62) who had not followed any parenting programme. Both groups completed a questionnaire about parenting, attitudes towards the child and the child's behaviour, self-efficacy, life quality and mental health.

Results: The ICDP group reported better parenting skills, fewer conduct problems in their children and better child adjustment than the comparison group, as well as a shift in physical punishment away from hitting. The ICDP group had higher self-efficacy scores, better health and life quality, and lower scores on mental health difficulties.

Conclusion: The follow-up differences between caregivers who had and had not attended the ICDP course indicate that course attendance may result in observable benefits in parenting and mental health scores. The data are cross-sectional and the caregivers were interviewed post intervention only, and more research is therefore needed.

Keywords: ICDP, parenting course, Mozambique, evaluation

Introduction

Children growing up in developing countries often face difficulties that might affect their development. Research has found that 200 million children under the age of five in developing countries are not fulfilling their developmental potential (Grantham-McGregor et al., 2007, p. 67). Malnutrition (Grantham-McGregor & Fernald, 1997), marginalization (Bacchini, Concetta & Affuso, 2011), poverty (Engle et al., 2007; Patel, Araya, de Lima, Ludermir, & Todd, 1999), disease (Walker et al., 2011), witnessing of death and injury (Roberts, Gilman, Fitzmaurice, Decker, & Koenen, 2010), social exclusion, loss of parents or other close relatives, HIV infection (Cluver et al., 2013) and lack of the possibility to go to school (Phillips & Lowenstein, 2011) are factors that might influence all aspects of cognitive, social and psychological development. Risk factors for children in developing countries also include community violence (Unicef, 2004) and maternal depression (Cooper et al., 1999), with significantly higher rates in developing than in developed countries. Furthermore, female gender, low education (Patel et al., 1999), and low level of parental monitoring (Bacchini et al., 2011) are strongly associated with developmental challenges and mental health.

International declarations and conventions point to the need of children to have appropriate care during childhood (Geneva Declaration of the Rights of the Child, 1924; Convention on the Rights of the Child, 1989), and national and international organizations and governments are trying to meet this need in different ways. This includes implementing parenting programmes in order to improve children's caring environment by supporting caregivers and strengthen their caregiving abilities (Hundeide & Armstrong, 2011). Research from developed countries has identified three aspects of parenting that are consistently related to the cognitive and social-emotional competence of children: cognitive stimulation, caregiver sensitivity and responsiveness to the child, and caregiver affect (emotional warmth or

rejection of child) (Shonkoff & Phillips, 2000). Nores and Barnett (2010) point to the potential for large socio-economic benefits from improvements in child development and “externalities, low levels of parental education, and economic constraints on family investments in young children as factors that result in suboptimal investments in young children that can be addressed by public programs” (p. 280).

Research suggest that exposure to parenting programmes is linked to positive effects for parents and children, including reduced levels of parenting stress (Kaaresen et al., 2008; Knerr, Gardner, & Cluver 2013), increased parental warmth and self-efficacy (Thomas & Zimmer-Gembeck, 2007), reduced child behavioral problems (Bunting, 2004), and improved cognitive and social-emotional competencies in children exposed to community violence (Pharoah & Connolly, 1995). A report by Wessels et al. (2013, p. 12-14) points to “sound programme theory; clearly defined target population, appropriately timed; acceptable to participants; sufficient sessions; well-trained and well-supported staff; and monitoring and evaluation” as main features of effective parenting programmes”. Furthermore, they point to the following as important components in parenting programmes: “opportunities for parents to practice new skills; teaches parenting principles rather than prescribed techniques; teaches positive parenting strategies, including age-appropriate positive discipline, and considers difficulties in the relationships between adults in the family”. The results from a review of 20 early child development programmes in developing countries, of which four were parenting programmes, showed that effective programmes “provide direct learning experiences to children and families, are targeted toward younger and disadvantaged children, are of longer duration, high quality, and high intensity, and are integrated with family support, health, nutrition, or educational systems and services” (Engle et al., 2007, p. 229). However, evaluations of parenting programmes have mainly been conducted in developed countries. A recent review of programmes implemented to improve the emotional and behavioural

adjustment of children under the age of four found that none of the evaluations of programmes that fulfilled the inclusion criteria (group-based parenting programmes and use of at least one standardised instrument to measure changes in emotional and behavioural adjustment) had been conducted in developing countries (Barlow, Smailagic, Ferriter, Bennet, & Jones, 2010). There were indications that the programmes may increase emotional and behavioural adjustments in children whose parents have attended parenting courses, but according to the authors evidence was lacking with regard to whether the findings would be replicated in other cultural settings. There is therefore a need for evaluations of parenting programmes with the most needy caregivers.

A review that focuses on the benefits of early intervention (cash transfer in the form of providing funds to the families, nutritional or educational support, or mixed) outside the US found cognitive, behavioural, health and schooling benefits across 30 studies of diverse parenting programmes in 24 countries in Europe, Asia, Africa, Central and South America (Nores & Barnett, 2010). Interventions with pre-schoolers showed better effects than interventions for parents with children across the full age range, and interventions that included an educational component had higher effects sizes related to cognitive development than programmes that focused on cash transfers or nutrition only (Nores & Barnett, 2010). Knerr et al. (2013) reviewed the effectiveness of parental intervention in 12 studies conducted in nine countries in low and middle income settings and showed results favouring interventions on a series of parenting measures, including improving parent-child interaction and increasing parental knowledge on child development. This review, the only overview of parental interventions in low and middle income settings, called for more evaluation of parenting within resource constrained environments.

The International Child Development Programme (ICDP) is a competence-building programme for psychosocial and educational care of children, developed in 1985 by Professor

Karsten Hundeide at the University of Oslo. The aim of the programme is to improve the developmental conditions for children through providing caregivers and care staff with information about children's psychosocial development and increase their basic caregiving skills and ability to give social support to the children. The theoretical foundation of ICDP is based on child development research. The key themes in ICDP are formulated within three dialogues (emotional, comprehension, and regulative), which contain eight guidelines for good interaction (Hundeide, 2001).

ICDP is used in more than 30 developing and developed countries globally, in cooperation with governments, local institutions, and organizations such as Unicef, Plan, Save the Children and the World Health Organization. The programme emphasizes that it is the caregivers' own positive cultural practices that are activated and confirmed, and in this sense, the programme is culture sensitive: "All cultures develop their own mechanisms for survival, development and care of children, and it is those 'indigenous practices' which need to be identified and reactivated in order to stimulate development which is truly authentic and long-lasting. The first steps in this type of intervention, which, in fact, is more like sensitising than intervening, is to identify the local child rearing practices that can serve as a basis for further extensions and development, rather than impose concepts and regulations from outside" ("icdp.info/approach", 2013). It is assumed that long-term effects only can be achieved and sustained through support of children's permanent network of care, and the programme is therefore implemented by trained local persons primarily to parents and staff in kindergartens, orphanages and other child institutions.

Several small evaluation reports suggest that caregivers tend to express more positive attitudes of parenting and their child after participating in an ICDP course, and caregivers generally report improved relationships between themselves and their children, as well as positive emotional and behavioural changes in themselves and in the children

("icdp.info/evaluation", 2013). However, most of the evaluations of ICDP are carried out ad hoc and often under difficult conditions with limited funding and no external evaluators. These reports should therefore be interpreted with caution. A few comprehensive evaluations show positive effects of ICDP courses on parenting compared to controls who did not attend any parenting course. Dybdahl (2001) found positive effects on women traumatized by war experiences in Bosnia and Herzegovina when ICDP was combined with therapeutic discussion groups, including improved mental health in the mothers and the psychosocial functioning and mental health of the children. A recent Norwegian study found positive effects of ICDP courses on parenting strategies, parents' attitudes towards child management and the children's difficulties following a publically available ICDP course (Sherr, Skar, Clucas, von Tetzchner & Hundeide, 2013). In general, research is needed to investigate the efficacy of parenting programmes in different cultural settings and whether differences exist in the suitability of particular types of parenting programmes to particular groups of parents and cultural contexts (Chandan & Richter, 2008). In particular, based on the wide-reaching but sparsely evaluated ICDP programme, research is needed to investigate the ICDP programme in different cultural settings.

Mozambique is one of the poorest in the world, rated as number 127 of the 135 countries on Human Poverty Index for developing countries (Human Development Report, 2009). More than 50 per cent live in poverty, of whom approximately 30 per cent are living on less than 1 US dollar per day (Fox, Bardasi & Van den Broeck, 2005). The economic situation is associated with morbidity and mortality which are directly affecting many families. The prevalence of HIV/AIDS is ten per cent on a national level (Macassa, Ghilagaber, Bernhardt & Burström, 2003), leaving many children and families vulnerable. The infant mortality rate is 115 per 1000 new-borns and nearly 17 per cent of all children die before they reach the age of five (Macassa et al., 2003; Unicef, 2009).

The implementation of ICDP in Maputo in Mozambique was evaluated in 2007 through direct observation and discussion, report scrutiny, group work, individual interviews and visits. Sherr (2007) reported that the ICDP courses were well implemented, but recommended increased monitoring, evaluation and evidence-based feedback. Hence, the present study builds on available information about course implementation, and uses a quasi-experimental design with a group of caregivers of preschool-age children who had attended an ICDP course and a group of geographically and socio-economically matched caregivers with children in the same age group who had not. The aim of the study was to investigate whether ICDP attendance would show longer-term effects on parenting strategies, caregivers' perception of child problems and their own self-efficacy, life quality, general health and mental health. It was hypothesized that outcomes for the caregivers who had attended ICDP training would differ significantly, that they would report a stronger positive involvement and more commitment to their parental role, and that the children would be rated more positively with fewer behaviour problems than the children of non-attending parents.

Methodology

Participants

Associação para o Desenvolvimento Social da Criança (ADSC) and local authorities cooperated on the recruitment of the caregivers. ADSC had a list of caregivers who had participated in ICDP courses the previous years, and invited a convenience selection of 75 caregivers to participate in the evaluation. The caregivers were selected from needy and vulnerable areas based on their accessibility and proximity to the recruiters. They received information about the purpose of the study, the date and time for data collection, and a careful explanation about confidentiality and consent. The information was repeated when the

caregivers arrived for the interview session and written and oral consent was obtained. The 75 caregivers consisted of one participant who had participated in the ICDP course in 2004, six who had participated in 2007, 31 in 2008 and 35 participants had attended the course early in 2009 (two participants did not answer this question). The questionnaires were completed in November 2009.

The comparison group was recruited with the help of ADSC from the same area as the ICDP group. The same sampling technique was used, where caregivers were selected based on the convenient accessibility and proximity to the recruiters. The caregivers were eligible for attending an ICDP course, but had not yet attended any parenting course. This group consisted of 62 caregivers. They received the same information about the purpose of the study, the date and time for data collection, and a careful explanation about confidentiality and consent.

Table 1 shows that there were no significant differences between the groups with regard to years of schooling, number of children and age of focus child. The caregivers in the ICDP group were slightly older (43.93 vs. 38.59 years) but this difference did not reach statistical significance. Table 1 also shows that there were significantly more males in the ICDP group than in the comparison group (18.7 and 5.3 per cent). Family composition varied and employment did not differ significantly between the two groups. Many caregivers in both groups had experienced the death of a child. The number was somewhat higher in the ICDP group (54.9 vs. 35.7 per cent), but the difference was not statistically significant.

Table 1. *Demographic data for ICDP group and comparison group (*p = <.05)*

		ICDP Group	Comparison group	Mann-Whitney U	<i>p</i>
		M (SD)	M (SD)		
<i>Age</i>		43.93 (15.75)	38.59 (13.95)	1560 .0	.056
<i>Years of schooling</i>		8.02 (5.99)	7.22 (4.68)	1549 .0	.686
<i>Number of children</i>		4.73 (3.43)	3.88 (2.72)	1385.5	.133
<i>Age of focus child</i>		4.42 (2.01)	4.74 (2.05)	1766.0	.318
		ICDP group (%)	Comparison group (%)	Chi-square	<i>p</i>
<i>Gender</i>	Males	12 (18.7)	3 (5.3)	5.05	.025*
	Females	52 (81.3)	54 (94.7)		
<i>Employment</i>	Yes	12 (16.9)	14 (24.6)	1.15	.284
	No	59 (83.1)	43 (75.4)		
<i>Family</i>	Live alone	9 (15.5)	17 (29.8)	6.02	.110
	With partner	23 (39.7)	12 (21.1)		
	With family	21 (36.2)	22 (38.6)		
	Partner+family	5 (8.6)	6 (10.5)		
<i>Child Death</i>	% Yes	28 (54.9)	15 (35.7)	3.41	.065

Implementation of the ICDP programme

ICDP has been providing parenting courses in Maputo, the capital of Mozambique since 2004. In addition to implementing and leading ICDP courses with caregivers, they also train *ICDP facilitators* and supervise and support new facilitators' work with caregivers and provide accreditation to *ICDP trainers* (“icdp.info/approach”, 2013). In cooperation with women's organizations and the Provincial Directorate of Woman and Social Welfare (DPMAS), ICDP is implemented for parents and staff in child institutions in areas where the population is socially and economically deprived, and through cooperation with Universidade Eduardo Mondlane and Universidade Pedagógico where the ICDP programme is part of master courses in psychology and other health educations.

The caregivers in the current study took part in 10-12 weekly ICDP group sessions with additional follow-up visits at home for six weeks, to allow for observations of caregiver-child interaction by the ICDP facilitators that could be discussed in the next ICDP meeting. A core element in the ICDP approach is the focus on positive aspects of the caregiver's performance and interaction with the child in order to strengthen their self-confidence. The approach is activity based in the sense that the participants in the course have to carry out the practical assignments – through observing, doing (home assignments) and reporting. Recommendations for implementation are set out in the ICDP manual (Hundeide, 2001).

Instruments

The questionnaire was an abridged version of one used in a Norwegian evaluation of ICDP (Sherr et al., 2013). It consisted of 46 questions derived from a variety of validated scales exploring parenting, psychosocial health, and child outcomes (see Table 2 for details and references). The questionnaire was translated from English into Portuguese by a Portuguese scholar and into the local language Changana by an expert in written Changana. An oral back

translation was conducted to check the accuracy of the translation. The two translators were familiar with ICDP and were trained in the use of the instruments. The questionnaire was piloted in order to check the relevance of each question within the cultural setting.

Table 2. *Measures utilised in the questionnaire data*

<i>Measure</i>	<i>Description</i>
<i>Demographics</i>	Age, gender, employment, education, number of children, age of focus child, and number of children lost.
<i>ICDP participation</i>	Year of ICDP course and attendance, and 14 study specific questions about perceived reception and effects of the programme, and personal experiences with using the ICDP principles.
<i>Child prosocial behaviour and child conduct problems</i>	The prosocial and conduct problem subscales from the Strength and Difficulty Questionnaire (SDQ) (Goodman, 1999), measuring the child's strengths and difficulties (Cronbach's alpha of .73 and .51 respectively), with scale scores from 0 to 10.
<i>Depressive symptoms</i>	The Shona Symptom Questionnaire to measure mental health (Cronbach's alpha of .81) with scale scores from 1 to 14 - standardized in a Sub Saharan African setting, and Cronbach alpha value of 0.85 for internal consistency (Patel, Simunyu, Gwanzura, Lewis, & Mann, 1997).
<i>Health and quality of life</i>	SF-36 visual analogue scale (VAS) (Ware, Snow, Kosinski & Gandek, 1993) was used to measure self-reported health and quality of life on a Likert scale from 0 (worst) to 100 (best) - previously used in Sub-Saharan Africa (Robberstad & Olsen, 2010).

<i>Self-efficacy</i>	Norwegian data for the Generalized Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) were analysed to identify the single question that best predicted the final score – used as a proxy measure for this scale: “When I am confronted with a problem, I am usually able to handle it”. Scores are from 1 (exactly true) to 4 (not true at all).
<i>Psychological aggression</i>	Psychological aggression subscale from the Conflict Tactics Scale was used (Straus, Hamby, Finkelhor, Moore, & Runyan, 1998). Cronbach’s alpha of .61. Scale scores from 0 to 75. Scale has moderate to good test-retest reliability, discriminant and construct validity (Locke & Prinz, 2002).
<i>Physical discipline</i>	A question about physical discipline was created by combining questions from the physical discipline subscale of the Conflict Tactics Scale (Straus, 1979): “Last time your child was naughty, did you pinch, shake, hit him/her with your hand, hit him/her with a stick? Please circle your answer”. Participants selected one answer and based on the number of responses per answer, and a variable was created with the following categories: pinch or shake, hit with a hand or stick, none.
<i>Caregivers perception of their child</i>	Thirteen questions measure the caregivers’ attitudes towards parenting, their parental role, their child, caregiving confidence, and the use of the eight ICDP guidelines and its negative opposites, and positive regulation strategies. Scores for each item are 0 (agree completely/agree a little), 1 (neither agree nor disagree), and 3 (disagree a little/disagree completely).

Procedure

A primary school director made three classrooms available for data collection: two for interviews and one for rest and lunch. The first author coordinated the data collection and made sure that everyone received the same information. Eight local ICDP team members interviewed the participants. They had bilingual proficiency in Portuguese and Changana, and professional working proficiency in English. They were trained in the use of the instruments and the procedures. All local resource persons were paid local fees for their assistance.

The caregivers were interviewed one-to-one in a room with four interviewer-interviewee dyads, separated by sufficient space to avoid observation or interruption. The research assistants read each question out loud and gathered the participant's response. Caregivers who had more than one child were asked to base their answers on the child who was nearest in age to four years.

The interview was structured, however the interviewers allowed the interviewees to talk freely outside of the question and answer component, as a structured interview technique would not fit the cultural context. The interview session lasted for approximately 30 minutes. All participants received a traditional piece of fabric (skirt), pens (Courtesy of Bristol Myers Squibb) and lunch in acknowledgement of the time they had given to participate in the study.

Analyses

Mann Whitney analyses were conducted to assess differences between the ICDP group and the comparison group because the variables were not normally distributed. Chi-squared tests were used to investigate the relationship between group (ICDP versus comparison) and categorical variables. Four caregivers who did not complete the minimum attendance requirements for the ICDP course were excluded from the analysis as they could not be assumed to have attended the ICDP course.

Because the ICDP group had significantly more male attenders than the comparison group, preliminary analyses explored whether gender of parent was significantly associated with the psychosocial measures. These analyses showed that gender was not associated with any of the measures, except perception of child conduct problems. Unadjusted and adjusted analyses using linear regression are therefore presented for child conduct. A square root transformation was applied to correct for non-normality of the distribution prior to using linear regression.

Ethical considerations

The study was submitted and approved by the local authorities before the study commenced, and conducted according to ethical principles set out by the *Regional Committee for Medical and Health Research Ethics* and the *Norwegian Social Science Data Services* which had approved the evaluation study in Norway. Participants did not have to give their name or other person identifiable information. Many of the participants in the current study had few years of school attendance, and might therefore have had minimal experience with research and the concept of “voluntary consent”. The aim of the research project was therefore explained thoroughly and the interviewers made sure that informed consent and confidentiality were understood by the interviewees. A local leader was involved in explaining the study at an early stage, and it is believed that this contributed to a process of full informed consent (cf., Shapiro & Meslin, 2001).

The questionnaire addresses the caregivers’ competence and interaction with their child as well as child functioning, which may be sensitive topics for parents who have lost a child. The interviewers were trained in approaching these issues in a sensitive way and gave the parents enough time to talk about whatever they found difficult. The comparison group had not received any parenting training and participation in the study made them aware of

this. They were informed of the possibility of participating in a later course after questionnaire completion.

Results

Table 3 shows several group differences related to parenting behaviours addressed in the course. The ICDP group had significantly higher agreement scores than the comparison on statements about expanding the child’s experience (2.68 vs. 2.43), helping the child to focus attention (2.82 vs. 2.55), adjusting to the child’s interests (2.84 vs. 2.64) and showing feelings and enthusiasm (2.87 vs. 2.48). Effect sizes were moderate (Cohen, 1992). For the remaining statements about parenting behaviours the groups did not differ significantly and effect sizes were small.

Table 3. Agreement scores (range 1–3) of the ICDP group and comparison group for statements related to parenting behaviour (* $p = <.05$)

Outcome	ICDP group (n=71)		Comparison group (n=62)		Mann-Whitney U	p	Cohen's d
	Mean	SD	Mean	SD			
Expand child’s experiences	2.68	.53	2.43	.53	1668.5	.005*	.47
Help child focus his/her attention	2.82	.42	2.55	.62	1709.0	.004*	.51
Set limits without explaining why	1.97	.83	2.03	.83	2113.0	.674	-.07

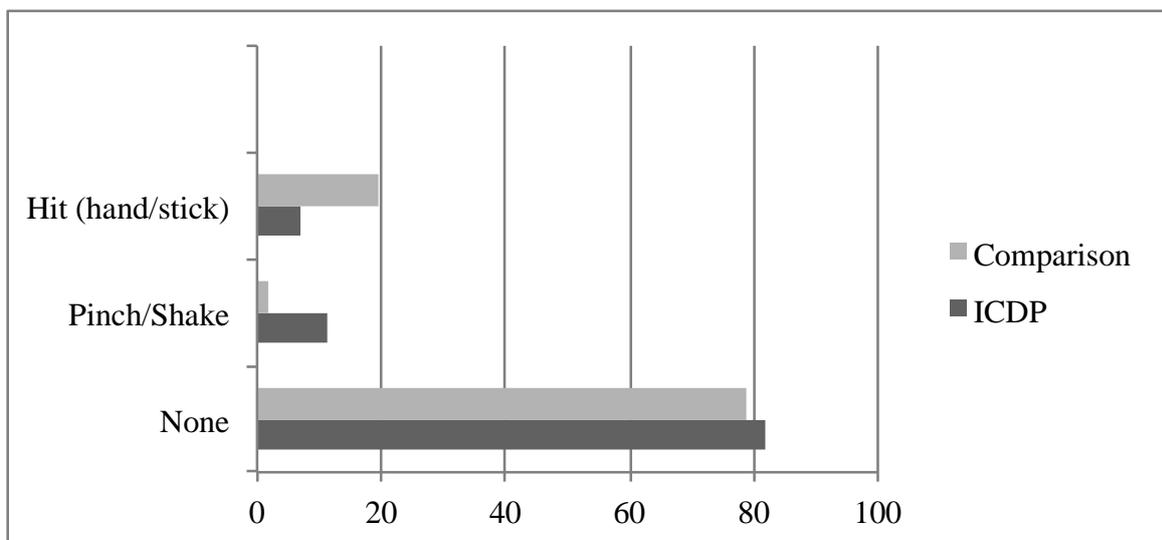
Adjust myself to child's interests	2.84	.40	2.64	.60	1839.0	.034*	.39
Show feelings and enthusiasm	2.87	.41	2.48	.72	15620	.001*	.67
Give praise and recognition	1.01	.12	1.08	.37	2124.5	.244	-.26
Help plan and carry them out	1.15	.40	1.08	.27	2066.0	.267	.21
Handle it well when child unruly	2.28	.88	2.43	.86	1982.5	.254	-.17
Listen to child even when angry	1.22	.59	1.24	.59	2120.5	.742	-.03
Show much love to child	1.08	.40	1.05	.28	2143.5	.761	.09
Do not talk a lot to child	1.83	.94	1.77	.93	2132.0	.726	.06
Comfort and cuddle child when hurt	1.08	.37	1.13	.46	2146.5	.572	-.12
Trust my ability to take good care	1.15	.47	1.15	.44	2171.5	.814	.00

Figure 1 shows that 18.3 per cent in the ICDP group and 21.0 per cent in the comparison reported harsh punishment of the child. The ICDP group reported less severe physical discipline than the comparison group who more often reported that they hit the child. This difference was significant.

Table 4 shows that the ICDP group had significantly lower scores on child conduct problems than the comparison group ($M = 1.49$ vs. 2.42). The effect size was moderate. There was no difference on the child prosocial behaviour. The difference for child conduct problems remained significant after adjusting for gender of the parent, $B = 0.21$ (95% Confidence Interval = $0.02, 0.39$, $SE = 0.09$, $Beta = 0.20$, $p = .027$).

Table 4 also shows that the caregivers in the ICDP group reported significantly higher scores than the comparison group on self-efficacy ($M = 3.51$ vs. 3.14) and life quality ($M = 75.07$ vs. 55.05). Effect sizes were small to moderate. The ICDP group also rated their general health higher ($M = 65.53$ vs. 60.38) and scored lower than the comparison group on depressive symptoms ($M = 5.23$ vs. 6.34) but these differences only approached significance and effect sizes were small.

Figure 1. Differences between caregivers in the ICDP group and comparison group on physical discipline



Fishers exact = 8.41 $p = .013$. Comparison group significantly more likely to use harsh physical punishment (hit with hand or stick).

Table 4. Scores of the ICDP group and comparison group on scales related to harsh discipline, child behaviour, self-efficacy, quality of life, health and mental health ($*p = <.05$)

Scale	N	ICDP group	N	Comparison group	Mann-Whitney U	p	Cohen's d

		Mean	SD		Mean	SD			
Psychological aggression (0-75)	61	2.97	5.41	46	2.49	4.61	1996	.593	.10
Child conduct problems (SDQ, 0-10)	69	1.49	1.44	62	2.42	2.21	1659	.023*	-.50
Child prosocial behaviour (SDQ, 0-10)	68	8.06	1.99	62	7.98	2.46	1323	.598	.04
Self-efficacy (1-4)	71	3.51	.82	62	3.14	.97	1659	.006*	.41
My life quality (0-100)	70	61.67	30.22	62	55.05	21.99	1710.5	.047*	.25
My health (0-100)	71	65.53	30.29	61	60.38	20.62	1780.5	.076	.20
Shona Symptom questionnaire 0-14)	70	5.23	3.60	59	6.34	3.44	2460.5	.061	-.32

Figure 2 shows that the caregivers who had attended the ICDP course reported that their group had functioned well and that they would recommend the course to others (a proxy measure of satisfaction). Sixty-two per cent answered that they did not find the programme difficult to understand, and all except one (98.6%) said they had applied the principles of ICDP in practice. Nearly all had noted changes in their child (98.6%), their family (97.2%) and themselves (98.6%) after they attended the ICDP course.

The caregivers in the ICDP group were also asked to indicate whether they agreed, neither agreed or disagreed, or disagreed with statements about change in their perception of the child and interaction with their child after having attended the course. The results showed that a large majority of the parents agreed and almost none disagreed with the statements (see Table 5).

Figure 2. Caregivers' evaluation of the ICDP group: Per cent who agree/disagree.



Table 5. Agreement scores on statements about change in the caregivers' perception of and interaction with their child after attending the ICDP course

Question	Agree/ strongly agree N (%)	Neither agree nor disagree N (%)	Disagree/ strongly disagree N (%)
Do not punish the child as often as before	59 (84.3)	1 (1.4)	10 (14.3)
Give the child more freedom to follow his/her own initiative and interests	66 (94.3)	3 (4.3)	1 (1.4)
Better manage to see positive qualities	69 (98.6)	1 (1.4)	0 (0)
I am more patient and listen more to the child	67 (95.7)	3 (4.3)	0 (0)

Spend more time explaining things to the child	61 (87.1)	9 (12.9)	0 (0)
The child is more content and active	65 (92.9)	5 (7.1)	0 (0)
I feel more responsibility for the child	68 (97.1)	2 (2.9)	0 (0)
The child likes being with me more	64 (91.4)	6 (8.6)	0 (0)

Table 6 shows that within the ICDP group, caregivers with more years of schooling had significantly better self-rated health and quality of life, were significantly more likely to set limits without explaining why and reported lower child conduct problems than caregivers with fewer years of schooling. They were also significantly less likely to find the course difficult to understand. There were no significant differences related to schooling for the other variables.

Table 6. *Correlations for caregiver years of schooling (n=54)*

	<i>Rho</i>	<i>p</i>
Health	.424	.001*
Quality of life	.319	.020*
Set limits without explaining why	.395	.003*
Found the course difficult to understand	.348	.010*

The time which had elapsed since the caregivers in the ICDP group attended the course varied considerably. On all scales with significant differences between the ICDP group

and the comparison group, comparisons were made between caregivers who had attended the ICDP course earlier in 2009 and caregivers who had attended the course between 2004 and 2008. No significant differences were found between the groups, suggesting that the influences of the course were sustained over time, and the answers from the 2009 groups and earlier attenders were therefore pooled in the analyses.

Discussion

The aim of the current study was to investigate whether participating in the ICDP programme would lead to more lasting changes in attitudes toward parenting and the child, and positively influence the caregivers' self-efficacy, experienced life quality and mental health. The results suggest that those who had attended the ICDP course scored differently from the comparison group on a number of parenting and personal outcomes. Sub analysis of the parenting group attenders by time since the course did not show any significant difference, suggesting that the effects are sustained over time.

The results generally suggest stronger positive involvement as well as more caring and commitment to the child among caregivers who had participated in ICDP courses compared to the comparison group of non-attenders. The caregivers in the ICDP group endorsed a range of statements related to improved interaction with the child. The differences between the ICDP group and the comparison group suggest that in terms of child rearing practices they were better able to endorse approaches which encouraged expansion of the child's experiences, help with attention, adjustment of their input in line with the child's interest, and reported greater display of feelings and enthusiasm. These are aspects of parenting that are central in the ICDP course, which appear to have been transferred and fostered by those who had been trained. Schaller, Rocha and Barshinger (2007) point out that parenting programmes that

focus on how caregivers can participate in the child's learning are important for supporting children's education, and could thereby be of potential long-term benefit.

In Mozambique and many other countries physical punishment is common. There is strong evidence of the negative effects and the long lasting detrimental effects of child corporal punishment (e.g. Holt, Buckley, & Whelan, 2008; Ma, Han, Grogan-Kaylor, Delva, & Castillo, 2012). Studies have found stronger association between maternal physical discipline and conduct problems among children in European American families than in African American families (Deater-Deckard, Doge, Bates, & Pettit, 1996; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Stormshak, Bierman, McMahon, Lengua, & the Conduct Problems Prevention Research Group, 2000) pointing to the importance of cultural context in the study of child rearing in general and the use of corporal punishment in particular. Yet, there seems to be cross-cultural evidence that corporal discipline has a negative effect on children. For example, in China, India, Italy, Kenya, Philippines, and Thailand, Gershoff et al. (2010) found that corporal punishment, expressing disappointment, and yelling or scolding were associated with more child aggression, and giving time-out, using corporal punishment, expressing disappointment, and shaming were significantly associated with more child anxiety in all countries. In this study it was notable that caregivers in the intervention group reported less severe physical punishment. Overall the results seem to reflect a shift from violent to less violent discipline.

The caregivers in the ICDP group reported fewer child conduct problems than the comparison group. This may indicate changes in parenting strategies as a result of course attendance which may have influenced the child's behaviour, or at least the way the caregivers perceived their child's behaviour. Either possibility may be an indication of improvement as the literature suggests that re-defining a child's behaviour may well increase the likelihood of change in this behaviour (Sameroff, 2009). The changes in perceived and

actual child behaviour may also have influenced the caregiver's use of physical discipline and the caregivers' sense of self-efficacy. Many caregivers find parenting challenging and stressful, and better child management may therefore influence their coping and sense of well-being. The group that attended the course had significantly higher self-efficacy scores, better quality of life, and a tendency towards better physical and mental health scores than the comparison group. Longitudinal studies suggest that parental training first creates changes in parenting, followed by changes in child behaviour and then eventually changes in maternal depression (DeGarmo, Patterson & Forgatch, 2004). However, the depressive symptom score, and the health score, did not differ significantly.

Besides the comparison data between the two groups, the intervention group provided retrospective feedback on the parenting intervention. This feedback data showed positive endorsement of the course, positive appraisal, and respondents reported both learning and a willingness to recommend the course to others – often seen as a proxy marker of satisfaction. The participants not only felt they had learned from the course but reported applying the principles in their daily lives. These findings are in line with evaluations of ICDP in other cultural settings (Dybdahl, 2001; Sherr et al., 2013), and suggest that the participants' perception of the content of ICDP was similar in Mozambique to other settings – often culturally quite diverse. The caregivers in this study were older than in many parenting studies. The average age of the caregivers in the ICDP group was nearly 44 years, the comparison group a little younger. Family size was also large, with an average of 4.7 children. Moreover, most raised their children with a partner and/or in an extended family network. This suggests that ICDP courses may have a positive influence on parenting strategies for caregivers with considerable parenting experience and stable social networks. Also, the groups attracted both male and female caregivers, suggesting a pathway to reach males who

are often excluded from parenting interventions. This is important, as there is good evidence that paternal input affects child development (Rohner & Venziano, 2001).

The fact that caregivers with more schooling were less likely to find the course difficult suggests a need to investigate the appropriateness and accessibility of the different elements of the course for caregivers with different educational backgrounds. There are also suggestions of additional elements that may be considered in future implementations of the ICDP programme in order to promote change in the lives of vulnerable children and families. Walker and colleagues (2007) identified cognitive stimulation, nutrition stunting, iodine deficiency, and iron deficiency anaemia as key factors where the need for interventions is urgent in developing countries (see also Engle et al., 2007). The effects of HIV on families may be a specific additional component, and future implementation of the programme may also take relational familial difficulties into consideration (Wessels et al., 2013).

There are several limitations with the data and study design. Response bias may have skewed attenders to answer positively to questions around the content of the training. For some questions, notably harsh punishment, there are lowered response rate. Post intervention comparisons make it difficult to establish causal pathways, and baseline data, together with change scores in both groups, would have allowed for a stronger design. However in this difficult to reach field setting, the quasi-experimental group provides some understanding of impact and opens up a pathway for future evaluation. Parental report may need to be supplemented with observational data in future research. However, there were consistent differences between the intervention group and the comparison group on a range of behavioural measures relating to both their own and the child's behaviour, as well as in scores related to their own self-efficacy, quality of life and mental health. In addition, the groups are relatively small, the data are cross sectional and the caregivers were interviewed post course attendance. Information prior to the ICDP group's course attendance was not available.

Although every effort was made to generate a matched control group, the design limitations cannot establish causal pathways. It is therefore not possible to conclude that the differences between the ICDP group and the comparison group were due to course attendance alone. For example, there were more males in the ICDP group, which could have accounted for some of the differences in results, although we adjusted for the effect of gender in analyses with outcomes found to be related to gender. The various time differences since attendance may also have a differential effect and these should be standardised in a more rigorous follow up to differentiate immediate and longer-term effects. The restricted range of harsh discipline options might have prevented us from detecting greater variations. Furthermore, the mechanisms by which self-confidence and caregiver self perception changes is not fully established.

Despite these limitations, there were a range of robust effects in parenting and self-evaluation scales which suggest a potential long-term benefit of participating in such courses. The present results are encouraging, but there is a need for larger and better controlled studies. There are few studies that evaluate parenting programmes in developing countries, especially the longer-term effects. Field and applied research often mitigate against the possibility of random allocation to course attendance. In addition to questionnaires and checklist, a more comprehensive evaluation may include observations of the caregivers' implementation of the strategies and possible changes in child behaviour and measures of nutritional, cognitive, and emotional development. Following this, the child's school attendance and academic performance may be included (Schaller et al., 2007). Follow up observations of future psychosocial health and professional and economic success would add valuable information about the lifelong usefulness of early childhood intervention for children, families, and the society as a whole. Change processes and mediators in diverse cultural settings – including cross-cultural comparisons – may be an important topic for future investigations.

Conclusions

The results of the present study suggest that parenting programmes such as the ICDP may be useful for strengthening parenting practices and hence the conditions of children and families in developing countries. The study demonstrates that it is possible to evaluate programmes in the field using standardized evaluation tools and utilizing controlled comparisons to tests for effects. The data is somewhat limited in that it is cross sectional and post intervention. Future evaluation would benefit from prospective designs. The ethics of random allocation to intervention may not be feasible in the field, but it may be possible to utilize waiting list controls. Significant effects were shown, clearly indicating that the ICDP intervention has benefit, and reduction of hitting and harsh physical punishment was demonstrated in this data. There was positive endorsement of the course by attenders in terms of their appraisal, their learning and their recommendation to others. Thus there is tentative support of benefit of such interventions to promote implementation.

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