Published in final edited form as:
Child Youth Serv Rev. 2014 September 1; 44: 417–421. doi:10.1016/j.childyouth.2014.07.018.

Family Economic Strengthening and Parenting Stress Among Caregivers of AIDS-Orphaned Children: Results from a Cluster Randomized Clinical Trial in Uganda

Proscovia Nabunya, MSW,
The University of Chicago, School of Social Service Administration, 969 E. 60th Street Chicago IL 60637 Phone: 646-509-6431

Fred M. Ssewamala, PhD [Associate Professor of Social Work and International Affairs], and
Columbia University, 1255 Amsterdam Avenue, Office # 1122, New York, NY 10027, Tel: 212-851-2250

Vilma Ilic, MSW
Columbia University, School of Social Work, 1255 Amsterdam Avenue, Office #1121, New York, NY 10027, Tel: 212-851-2224

Abstract

This study examines the impact of a family economic strengthening intervention on parenting stress among caregivers of AIDS-orphaned children in Uganda. The study uses data from a 4-year (2008-2012) NIMH randomized clinical trial for AIDS-orphaned children known as Suubi-Maka (N=346 dyads). Child-caregiver dyads from 10 comparable primary schools were randomly assigned to either the control group (n=167 dyads) receiving usual care for school-going orphaned children (such as food aid and scholastic materials) or the treatment group (n=179 dyads) receiving a family economic strengthening intervention (focused on a matched savings account), financial planning and management workshops over and above the usual care. Interviews were conducted at baseline, 12 months and 24 months follow-up. This study uses data from baseline and 24 months post-intervention. We use multivariate regression methods, controlling for socioeconomic characteristics. At 24 months, caregivers in the treatment group reported significantly lower levels of parenting stress compared to caregivers in the control group. Findings from this study point to the potential of a family economic strengthening intervention to improve caregiver's psychosocial wellbeing and that of their families. We conclude that programs and policies aimed at improving the psychosocial wellbeing of families caring for AIDS-orphaned children may consider incorporating economic strengthening components in their programming to help support these kinds of families, caregivers of AIDS-orphaned children especially those residing in developing countries.

Corresponding Author: pnabunya@uchicago.edu. fs2114@columbia.edu. vpi2101@columbia.edu.

Keywords

parenting stress; family economic strengthening; AIDS-orphans; caregivers; randomized clinical trial; Uganda

Introduction

Although the prevalence rates of HIV/AIDS have been declining in sub-Saharan Africa, the number of orphaned children (defined as those who have lost one or both parents due to AIDS and/or AIDS-related causes) continues to increase. The region represents 90% of all AIDS-orphaned children in the world. More than half of these children are below the age of 17 years (UNAIDS, 2010). In Uganda, 1.2 million children have been orphaned as a direct result of HIV/AIDS (UNAIDS, 2010). In most parts of Africa, extended families often provide care and support to orphaned children (Foster, 2002; Phiri & Webb, 2002). However, with the increasing number of orphaned children, coupled with high rates of poverty, studies indicate that the extended family system is overburdened and families are reluctant to take-on more children (Foster, 2000; Ntozi & Nakayiwa, 1999; Nyambedha, Wandibba, & Aagaard-Hansen, 2003; Ssewamala & Ismayilova, 2009). Caregivers report additional pressures, including financial burden, emotional distress, and chronic illness that come with added familial responsibilities (Kuo & Operario, 2009; Oburu, 2005). These stressors may have adverse effects on parenting practices and family functioning. Using data from the Suubi-Maka economic empowerment intervention, this study examines the impact of a family economic strengthening program on parenting stress among poor caregivers of AIDS-orphaned children in low-resource communities in Uganda.

Caregiving and parenting stress

Parenting stress has been identified as a factor influencing parenting behavior and a determinant of dysfunctional parenting (Abidin, 1992; Belsky, 1984; Rodgers, 1993). Stressors associated with parenting are those related to difficulties controlling children's behaviors, coping with generational differences, and assuming a firm parental role (Stokes & Greenstone, 1981). Ostberg and Hagekull, (2000) investigated the predictors of parenting stress among a total of 1,081 Swedish mothers of healthy children. Their findings indicate that high workload, low social support, perception of a child as difficult, negative life events, child caretaking hassles, family size, specifically high numbers of children in the family, and high maternal age were directly related to increased levels of parenting stress.

Among families affected by HIV/AIDS, grandparents are increasingly becoming the primary caregivers of AIDS-orphaned children (Foster, 2000; Ntozi & Nakayiwa, 1999; Nyambedha, Wandibba, & Aagaard-Hansen, 2003). Yet, caregiving has been reported as being more stressful for other caregivers, especially grandparents than biological parents (Musil, Youngblut, Ahn & Curry, 2002). The additional caregiving responsibilities result into negative impacts on caregivers, children and overall family functioning (Kuo & Operario, 2009).

One of the few studies that examined stress outcomes with respect to caregivers of orphaned children among Luo primary caregivers in Kenya demonstrated that primary caregivers reported higher levels of parenting stress than part-time caregivers (Oburu & Palmerus, 2005). Another study in Uganda identified caregivers of AIDS-orphaned children as experiencing higher levels of economic, emotional, physical, and nutritional stress (Ssengonzi, 2007). Elderly caregivers have also been found to suffer social distress (Agyarko, Kalache, & Kowal, 2000; Williams & Tumwekwase, 2001). However, availability of social support has been shown to reduce the adverse impact of stressors on parenting behavior and to reduce parenting stress (Lindberg, Bohlin, & Hagekull, 1994; Younger, 1991).

Although parenting stress has been studied, there is very limited knowledge on how it can be reduced, especially among poor caregivers of AIDS-orphaned children. Most studies are focused on the effect of economic strengthening on the impacted children (Ssewamala & Ismayilova, 2008; 2009). As a result, there are very few economic strengthening interventions that target caregivers. The study described in this paper does three things: 1) it breaks ground with regard to the effect of economic strengthening on parenting stress and psychosocial functioning among poor caregivers of AIDS-orphaned children in low-resource communities such as those in sub-Saharan Africa—in this case, Uganda; 2) it contributes to the body of literature on the potential of evidence-based interventions, specifically those focused on economic strengthening for addressing parenting distress, psychosocial functioning, and improving family functioning among families caring for orphaned children, and; 3) it contributes to our understanding of the extent to which interventions involving economic strengthening can help support and buffer caregivers' parenting stress as they care for orphaned children.

Methodology

Sample and study site

We use data from a 4-year (2008-2012) randomized controlled trial (2008-2012) known as Suubi-Maka. The Suubi-Maka intervention was funded by the National Institute of Mental Health (NIMH; Grant # RMH081763A). The overall aim of the study was to develop and examine a family economic strengthening intervention among poor families providing care and support to AIDS-orphaned children in Uganda. The Suubi-Maka intervention combines both children's matched savings accounts and health promotion strategies to empower and strengthen families caring for AIDS-orphans within their communities. A total of 346 AIDS-orphaned children (average age 14 years), in the last two years of primary school together with their caregivers were recruited to participate in the study. Children were selected from 10 rural public primary schools in Rakai and Masaka political districts of Uganda. The two districts are characterized by high HIV/AIDS prevalence rates ranging between 8.5% and 10%. The national average is 6.5% (Government of Uganda, 2010). All schools included in the study were geographically separate and comparable based on the level of academic performance determined by Primary Leaving Examinations (PLE), administered by the government of Uganda.

Study design and data

The study utilized a cluster-randomized design. Randomization was conducted at the school level to minimize cross arm contamination. Each of the 10 schools was randomly assigned to either the control condition (n=5 schools, 167 child-caregiver dyads) or the treatment condition (n=5, 179 child-caregiver dyads). Participants in the treatment condition received the usual services of support and care offered to orphaned children such as counseling, food aid in the form of school lunches, and scholastic materials including textbooks, notebooks and school uniforms. Participants in the treatment condition received the usual services of support and care mentioned above, plus: 1) a matched savings account in the form of Child Development Account (CDA), held in both the child and caregiver's name. Accumulated savings in the CDA were matched at a ratio of 2:1. Matched savings were intended to pay for the children's post-primary education or start a microenterprise/small family business, and 2) workshops on financial management and microenterprise development for both children and their caregivers. Children in both groups received mentorship sessions throughout the intervention period. A detailed explanation of the intervention is provided elsewhere (see Ssewamala & Ismayilova, 2009; Ssewamala, et al. 2009; 2010).

The study received IRB approval from Columbia University (IRB-AAAD2525) and Uganda National Council for Science and Technology (SS-1540). The study protocol is registered in the Clinical Trials database (ID: NCT01180114). Data were collected using surveys administered by trained Uganda interviewers. All interviewers had to undergo good clinical practice training and had to obtain the Collaborative Institutional Training Initiative (CITI) certificate before interacting with study participants. All measures were translated from English to the local Luganda language, and back translated to English to ensure accuracy. The Principal Investigator and all interviewers were fluent in the local Luganda language. In-person interviews were administered to both children and their caregivers at baseline, 12 months, and 24 months follow-up. The analysis detailed in this paper utilizes data from baseline and 24 month follow-up. Due to attrition, the sample size was reduced from the original 346 dyads at baseline to 335 dyads (representing an attrition rate of approximately 3%) at 24-month follow-up (see table 1).

Measures

The outcome measure for this study is caregiver stress, measured by the Parenting Stress Index (Abidin, 1990). This scale has been used in previous studies in Africa (Oburu, 2005) to measure parenting stress and child adjustment difficulties. The short version of the measure consists of 36 items. For this study, we adapted 33 items related to parental distress, difficult child, and caregiver-child dysfunctional relationships. Parental distress measures stress related to the caregiver's perception of their own incompetence, role restrictions and relationship problems. Sample items include: you often have a feeling that you cannot handle things well, you feel trapped by your responsibilities as a parent. The difficult child assesses children's behavioral manageability. Sample items include: the child does a few things which bother you a great deal, the child gets upset easily over the smallest things. The parent-child dysfunctional relationship measures the quality of the current relationship between the child and the caregiver. Sample items include: your child rarely does things for you to make you feel good, your child smiles at you much less than you expected. These

items were rated on a 4-point likert scale ranging from 1 = *strongly disagree*, 2 = *somewhat disagree*, 3 = *somewhat agree*, and 4 = *strongly agree*. The Cronbach's alpha of the scale was 0.83 indicating a high level of internal consistency. Summated scores for the entire scale and the specific domains were calculated. A higher score represents higher levels of parenting stress.

The key independent variable is participation in the Suubi-Maka intervention. This variable was dichotomized as "yes" for participation in the treatment condition and "no" for participation in the control condition.

Other covariates in the analysis include: caregiver's age, gender, caregiver's occupation (i.e. formally employed, self-employed/owns a business, and peasant-farmer/not formally employed), household composition (total number of people in the household) and presence of household savings (dichotomized as "yes" and "no"). All covariates were measured at baseline.

Analysis procedure

First, we analyzed the socio-economic characteristics of the study sample at baseline using univariate statistics (means, standard deviations, and frequencies). Second, we conducted bivariate analysis comparing the treatment group and the control group. Specifically, we conducted independent sample t-tests for continuous variables and cross tabulations for categorical variables. Third, we conducted multivariate regression analysis to examine the impact of the intervention on caregiver's stress, controlling for socio-economic characteristics. The difference in parenting stress between wave 1 and wave 3 served as the outcome variable, to account for baseline differences. Differences were also utilized for the specific parenting stress domains. Statistical analyses were conducted using Stata 12.

Results

Descriptive and bivariate analysis

Table 1 presents results on the socio-demographic characteristics of the sample. The average age of caregivers was 45.5 years. Approximately 79% of the caregivers were female. The majority (71.3%) were peasant farmers (not formally employed). The average household size was 6.5. Sixty five percent (65.1%) had money saved.

At baseline, the two study groups did not differ in terms of caregiver's gender and household composition. However, we observe statistically significant differences in terms of caregiver's age, occupation, household savings and parenting stress. Specifically, caregivers in the control condition were older (47.2 versus 43.8) and were more likely to be peasants (83% versus 60.3%). On the other hand, caregivers in the treatment group were more likely to report presence of household savings (40.2% versus 29.2%) at baseline. We control for these differences in our regression analysis. It is also important to note that although caregivers in the treatment group started off with higher levels of parenting stress at baseline (74.9% versus 68.1%), these levels reduced significantly by wave 3. Specifically, caregivers in the treatment condition had a 11.1-point reduction in stress compared to a 6.3-point reduction for the control group.

Multivariate analysis findings

Table 2 presents the results of the regression analysis, showing the impact of the Suubi-Maka intervention on caregiver stress. After controlling for socioeconomic characteristics, caregivers in the treatment group reported significantly lower levels of parenting stress compared to caregivers in the control group (β =−4.9, 95% CI =−8.5, −1.4, p<. 01). Household size and presence of household savings were associated with a reduction in parenting stress, however the differences were not statistically significant. No other significant results were found.

In table 3, we present caregiver's parenting stress in each of the domains at baseline and the changes between wave 1 and wave 3. After controlling for socioeconomic characteristics, participation in the intervention was associated with a significant decline in parenting stress in two domains. Specifically, results indicate a decline in stress related to parent distress (β = −2.4, 95%CI=−4.3, −.43, p<. 01) and parent-child dysfunctional relationship (β =−2.0, 95%CI=−3.5, −.47, p<. 01). Although parenting stress related to the difficult child domain reduced, the change was not statistically significant.

Discussion

Findings from this study suggest that a family economic empowerment intervention has the potential of supporting caregivers of orphaned children who are overwhelmed and stressed by their caregiving roles. We assume that as a result of participating in the intervention, caregivers were probably less stressed about having to meet the basic needs and school needs of the children under their care, and were probably more likely to view their relationships with the children as less stressful. Our findings indicate that economic strengthening interventions that assist poor families accumulate economic resources not only improve the economic wellbeing of families, but also reduce parenting stress that originates from caregiving roles. Interventions that integrate family economic strengthening components might help improve caregiver distress and overall family functioning.

In addition, our study examined the impact of the intervention on the specific domains of parenting stress. Our findings indicate that participating in the intervention significantly reduced stress related to parent distress and child-caregiver dysfunctional relationships. This is probably because participating in the intervention helps the caregiver to release some of the distress and worry about his or her parenting skills, and begin to perceive the child as not complicated, which may improve the overall family functioning.

Limitations

Although the study provides significant findings, a few limitations are worth noting. First, we only report findings from one group of caregivers of orphaned children in rural areas. We do not have a comparable group of either biological parents or caregivers of non AIDS-orphaned children. Findings may be different for caregivers living in urban settings. Secondly, our model explains only a small percentage of the total variance in parenting stress. As such, caution should be applied when interpreting study findings. Third, the data was self-reported and therefore our findings may be affected by social desirability bias.

Implications

The study contributes to the limited evidence-based literature on the impact of an innovative economic intervention in addressing parenting stress among caregivers of orphaned children. Our findings indicate that in low-resource communities where traditional methods such as counseling, may not be a viable option for caregivers, family economic strengthening interventions may be helpful given the multiple positive impacts. Not only do such interventions improve support for orphaned children, they also improve caregivers functioning and overall family functioning. Future studies should investigate the impact of economic interventions that primarily target caregivers of orphaned children, and also investigate the mechanisms through which such interventions can improve caregiver distress. In addition, programs and policies should incorporate family economic strengthening components in their programming to help support caregivers as they also care for orphaned children.

Conclusion

Our findings indicate that a family-based economic strengthening intervention has the potential to improve parenting distress and improve overall family functioning. This has important implications for programming and policies, especially in developing countries where most families provide care and support to AIDS-orphaned children.

Acknowledgments

Financial support for the Suubi-Maka study came from the National Institute of Mental Health (NIMH; Grant # RMH081763A, Prof. Fred M. Ssewamala, PI). We are grateful to the staff and the volunteer team at the International Center for Child Health and Asset Development in Uganda for monitoring the study implementation process. Our special thanks go to all children and their caregiving families who agreed to participate in the study. The content of this paper is solely the responsibility of the authors and does not necessarily represent the official views of the NIMH.

References

Abidin RR. The determinants of parenting behavior. Journal of Clinical Child Psychology. 1992; 21407:412.

Abidin, RR. Parenting Stress Index (PSI) manual. Psychological Assessment Resources, Inc.; Odessa, FL: 1990.

Agyarko, RD.; Kalache, A.; Kowal, P. Older people, children and the HIV/ AIDS nexus. UNAIDS; Geneva: 2000.

Belsky J. The determinants of parenting: A process model. Child Development. 1984; 55:83–96. [PubMed: 6705636]

Foster G. Beyond education and food: pyschological well-being of orpans in Africa. Acta Paediatricam. 2002; 91:502–504.

Foster, G. The capacity of the extended family safety net for orphans in Africa. Vol. 5. Pschology, Health & Medicine; 2000. p. 55-62.

Government of Uganda. UNGASS country progress report. Uganda AIDS Commission; Kampala, Uganda: 2010.

Joint United Nations Program on HIV/AIDS. Global Report: UNAIDS Report on the Global AIDS Epidemic. Geneva, Switzerland: 2010.

Kuo C, Operario D. Caring for AIDS-orphaned children: A systematic review of studies on caregivers. Vulnerable Children and Youth Studies. 2009; 4(1):1–12.

Lindberg L, Bohlin G, Hagekull B, Thunström M. Early food refusal: Infant and family characteristics. Infant Mental Health Journal. 1994; 15262:27.

Musil CM, Youngblut JM, Ahn S, Curry VL. Parenting stress: a comparison of grandmother caretakers and mothers. Journal of Mental Health and Aging. 2002; 8:197–210. [PubMed: 21966182]

Ntozi JPM, Nakayiwa S. AIDS In Uganda: How has the household coped with the epidemic? The Continuing African AIDS Epidemic: Responses and Coping Strategies. 1999:155–181.

Nyambedha E, Wandibba S, Aagaard-Hansen J. Changing patterns of orphan care due to the HIV epidemic in western Kenya. Social Science & Medicine. 2003; 57(2):301–311. [PubMed: 12765710]

Oburu PO. Caregiving stress and adjustment problems of Kenyan orphans raised by grandmothers. Infant and Child Development. 2005; 14:199–210.

Oburu PO, Palmerus K. Stress related factors among primary and part time caregiving grandmothers of Kenyan grandchildren. International Journal of Aging and Human Development. 2005; 64(4):273–282. [PubMed: 15954678]

Ostberg M, Hagekull B. A structural modeling approach to the understanding of parenting stress. Journal of Clinical Child Psychology. 2000; 29(4):615–625. [PubMed: 11126638]

Phiri, S.; Webb, D. The impact of HIV/AIDS on orphans and programme and policy responses, AIDS, public policy and child well-being. Florence; Italy: 2002.

Rodgers AY. The assessment of variables related to the parenting behavior of mothers with young children. Children and Youth Services Review. 1993; 15385:402.

Ssengonzi R. The plight of older persons as caregivers to people infected/affected by HIV/AIDS: evidence from Uganda. Journal of Cross-Cultural Gerontology. 2007; 22:339–353. [PubMed: 17694427]

Ssewamala FM, Han CK, Neilands TB, Ismayilova L, Sperber E. Effect of economic assets on sexual risk-taking intentions among orphaned adolescents in Uganda. American Journal of Public Health. 2010; 100483:8. [PubMed: 19965571]

Ssewamala F, Ismayilova L. Integrating children's savings accounts in the care and support of orphaned adolescents in rural Uganda. The Social Service Review. 2009; 83(3):453–472. [PubMed: 20445763]

Ssewamala FM, Ismayilova L, McKay M, Sperber E, Bannon W, Alicea S. Gender and the effects of an economic empowerment program on attitudes toward sexual risk-taking among AIDS-orphaned adolescent youth in Uganda. Journal of Adolescent Health. 2010; 46372:378.

Younger JB. A model of parenting stress. Research in Nursing & Health. 1991; 14197:204.

Research Highlights

- We examine the impact of economic strengthening on parenting stress among caregivers
- The intervention was associated with parenting stress decline at 24 months follow-up
- Findings suggest that economic strengthening can reduce stress from caregiving roles
- Need to incorporate economic strengthening in programs that support caregivers

Table 1

Descriptive and bivariate statistics of the study sample

Variable	Total sample (N= 335)	Treatment group (n=174)	Control group (n=161)	
	% or Mean (SD)	% or Mean (SD)	% or Mean (SD)	t statistics or χ^2
Caregiver's age (mean, SD)	45.5(14.4)	43.8(13.5)	47.2(15.2)	2.17*
Caregiver's gender (%)				
Male	20.9	22.4	19.3	0.5
Female	79.1	77.6	80.8	
Caregiver occupation				
Formally employed	8.1	10.3	7.5	23.9***
Self employed	19.7	29.3	9.3	
Peasant Farmer / not employed	71.3	60.3	83.2	
Household size	6.5(2.3)	6.6(2.5)	6.4(2.1)	−0.65
Has any money saved				
Yes	34.9	40.2	29.2	4.48*
No	65.1	59.8	70.8	
Parenting stress at wave 1	72.0(13.3)	74.9(12.1)	68.1(13.1)	4.19***
Changes in parenting stress	8.83(15.9)	−11.1(15.1)	−6.3(16.3)	2.8**

* p<.05,

** p<.01,

*** p<.001

Table 2

Regression on changes in parenting stress

	b(SE)	95% Confidence Interval
Constant	−8.1(4.7)	−17.3, 1.1
Treatment group	−4.9**(1.8)	−8.5, −1.4
Caregiver's age	.06(.06)	−.07, .18
Caregiver's gender (male)		
Female	.47(2.2)	−3.9, 4.8
Caregiver occupation (peasant/ not employed)		
Employed	.04(3.3)	−6.4, 6.5
Self employed	2.5(2.4)	−2.2, 7.3
Has any savings (no)		
Yes	−1.4(1.9)	−5.3, 2.4
Household size	−.16(.39)	−.92, .60
Adjusted R^2	.011	
F-value (df)	1.51*(7)	
N	335	

* p<.05,

** p<.01

Table 3

Descriptive, bivariate and regression of treatment effects on changes in parenting stress domains.

	Total sample (N=335)	**Treatment group (n=174)**	**Control group (n=161)**		**Regression of treatment effects on changes in parenting stress domains**			
					Treatment exposure			
Parenting stress domain	*Mean (SD)*	*Mean (SD)*	*Mean (SD)*	*t-statistics*	*b(SE)*	*95% CI*	*Adjusted R^2*	*F-value (df)*
Parent distress								
Wave 1	30.5(7.1)	31.9(6.9)	28.9(7.1)	−4.01***				
Change at wave 3	−3.6(8.7)	−4.7(8.5)	−2.3(8.8)	2.6**	−2.4**(.98)	−4.3, −.43	.016	1.79(7)
Difficult child								
Wave 1	16.3(4.1)	16.8(3.9)	15.9(4.2)	−2.1*				
Change at wave 3	−2.5(5.2)	−2.7(4.8)	−2.2(5.6)	.85	−.57(.59)	−1.7, .60	.014	0.36(7)
Parent-child dysfunctional relationship								
Wave 1	25.2(5.9)	26.2(6.1)	24.2(5.6)	−3.1**				
Change at wave 3	−2.8(6.9)	−3.7(6.9)	−1.8(6.7)	2.5**	−2.0**(.78)	−3.5, −.47	.022	2.09*(7)

Note: Each regression model controls for caregiver's gender, age, household size, occupation, household savings, and changes in parenting stress domain

* p<.05,

** p<.01,

*** p<.001