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## SOCIAL SUPPORT DISPARITIES FOR CAREGIVERS OF AIDS-ORPHANED CHILDREN IN SOUTH AFRICA

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### Abstract

Drawing upon a sample of 1,599 adults caring for children in HIV-endemic Umlazi Township in South Africa, this cross-sectional survey investigated whether perceived social support varied among caregivers of AIDS-orphaned children ( $n=359$ ) as compared to caregivers of children orphaned by other causes ( $n=171$ ) and caregivers of non-orphaned children ( $n=1,069$ ). Results of multivariate linear regressions indicate that caregivers of AIDS-orphaned children reported significantly lower levels of social support compared to caregivers of other-orphaned children and non-orphaned children independent of socio-demographic covariates. Caregivers of other-orphaned and non-orphaned children reported similar levels of social support. In terms of sources of support, all caregivers were more likely to draw support from family and significant others rather than friends. These findings indicate a need to develop interventions that can increase levels of social support for caregivers of AIDS-orphaned children, particularly networks that include friends and significant others.

### INTRODUCTION

South Africa confronts the largest global HIV epidemic and long term challenges of supporting 1.9 million AIDS-orphaned children (UNAIDS, 2010). In the majority of cases, extended family take on primary responsibility for care of AIDS-orphaned children (Freeman & Nkomo, 2006b; Monasch & Boerma, 2004). These families confront a number of challenges including migration (Ford & Hosegood, 2005), financial stresses (Andrews, Skinner, & Zuma, 2006; Bachmann & Booyesen, 2003, 2004; Balew, Worku, Tilaye, Huruy, & Fetene, 2010; Collins & Leibbrandt, 2007) such as decreased employment and work-care conflicts (Freeman & Nkomo, 2006a; Linsk & Mason, 2004; Miller, Gruskin, Subramanian, Rajaraman, & Heymann, 2006; Safman, 2004), food insecurity (Schroeder & Nichola, 2006; Wangui, 2009), and poor physical and mental health outcomes (Joslin & Harrison, 2002; Kuo & Operario, 2010). Social support may be an important resource that caregivers draw on to respond to these diverse challenges. Formulating evidence-based strategies that can build or strengthen existing support for caregivers should be a priority for policy-makers,

practitioners, and researchers. However, we know little about levels or sources of social support for caregivers of AIDS-orphaned children despite a growing body of literature on this important population.

The literature on other populations suggests that social support can help individuals cope with a broad range of challenges. For example, a number of Southern Africa studies indicate that social support helps families cope with financial and emotional hardship related to HIV/AIDS and other stressors (Campbell, Nair, Maimane, & Sibiyi, 2008; Casale, 2011; Kidman & Heymann, 2009; Kiggundu & Oldewage-Theron, 2009; Ndlovu, Jon, & Carvalhal, 2010). Literature also documents the positive association of social support in promoting self-esteem, positive health behaviors, and mitigating effects of stress (Heaney & Israel, 1997; Lakey & Cohen, 2000; Peterson & Govender, 2010). Higher levels of social support have been associated with decreased morbidity (Holt-Lunstad, Smith, & Layton, 2010), improved quality of life and health among individuals experiencing a traumatic event such as bereavement (Ke, Liu, & Li, 2010; Sandler et al., 2010), and better physical health among those caring for a sick person (Pinquart & Sorensen, 2007), including those caring for people living with HIV (Bakasa, 2007). Social support may have a diffuse impact upon those within a social network. For example, growing evidence suggests that social support for caregivers can also positively benefit children in their care. Social support as a maternal coping strategy has been associated with more positive outcomes in child development (Sheppard, 2009). Parental access to social support has been associated with better quality of parenting (Crnic, Greenberg, Ragozin, Robinson, & Basham, 1983; Oyserman, Bybee, Mowbray, & MacFarlane, 2002; Simons, Beaman, Conger, & Chao, 1993). Together, this evidence suggests that social support may play an important role in the lives of caregivers of AIDS-orphaned children.

A better understanding of levels and sources of social support, and differences in access to social support among caregivers, can help facilitate strategies to support caregivers and their children. However, no studies to our knowledge have assessed levels or sources of social support among caregivers of AIDS-orphaned children as compared to caregivers of other-orphaned and non-orphaned children. This paper sets out to: (a) assess levels of social support among primary caregivers of children in a high HIV endemic township community of South Africa; (b) assess sources of social support (*e.g.*, support from family, friends, or significant others) among these caregivers; and, (c) compare whether caregivers of AIDS-orphaned children have different levels and sources of social support as compared to caregivers of other-orphaned and non-orphaned children.

## METHODS

### Participants and Procedures

We conducted a cross-sectional survey using a representative community sample of adult primary caregivers of children in Umlazi Township, KwaZulu Natal Province (KZN), South Africa. KZN was selected because it has the highest provincial prevalence of HIV/AIDS in South Africa, and Umlazi Township was selected because it falls in a health district where HIV is endemic, with an antenatal HIV prevalence of 41.6 percent (Statistics South Africa, 2010).

Participants were identified through multi-stage cluster sampling. Umlazi was split into geographic clusters based on Geographical Information System mapping of South African census enumeration areas (EAs). In each randomly sampled EA, every household was visited and screened for eligibility. Then, household members identified the primary child caregiver in the home. The primary child caregiver was defined as the individual responsible for the majority of day-to-day active care of the child(ren) (*e.g.*, preparing child(ren) for

school, overseeing self-care activities, emotional support, and possibly economic support). The caregiver could be related to the child in any way (*i.e.*, caregivers could be the biological parents of the child but could also be aunts, grandparents, non-relatives). This caregiver was invited to participate if: (a) they were 18 years or older; (b) provided primary care to one or more children; and, (c) both caregiver and child(ren) lived in the household at least four nights a week for the past four weeks. If multiple primary caregivers existed within a single household, one eligible primary caregiver was randomly invited to participate. A total of 2,070 households were screened for eligibility, with a response rate of 99.3 percent among eligible households, resulting in a final sample of 1,599 caregivers. Surveys were administered by local isiZulu speakers trained in research and ethical protocols. The study was approved by ethical review committees at Oxford University and University of KwaZulu Natal.

Caregivers in this study were classified into three groups – caregivers of AIDS-orphaned children, other-orphaned children, and non-orphaned children – in order to compare levels and sources of social support. If at least one child in the house was an AIDS-orphaned child, caregivers were classified as caregivers of AIDS-orphaned children. In order to identify whether children lost one or both parents from AIDS, a verbal autopsy was used (VA) (Lopman et al., 2006). We chose this method due to the difficulty of obtaining accurate death certificates and because caregivers were often unaware of, or did not wish to disclose the parental cause of death. The VA method uses reports on eight signs and symptoms of HIV to verify cause of death. The original study had a sensitivity of 66 percent and specificity of 76 percent of predicting death due to AIDS; sensitivity and specificity did not vary significantly according to gender, time of death, and whether the respondent was a primary caregiver, family member, or other relation to the deceased (Lopman, et al., 2006).

## Measures

The Multidimensional Scale of Perceived Social Support (MSPSS) was used to assess self-reported levels and sources of social support from family, friends, and significant others (Zimet, Dahlem, Zimet, & Farley, 1988). Each statement regarding social support is answered using a 7-point scale with answers ranging from “very strongly disagree” to “very strongly agree.” The 12 individual scores are summed to create a final total, ranging from 12 to 84 points. Higher scores indicate higher levels of perceived social support. MSPSS has been previously used in South Africa (Bruwer, Emsley, Kidd, Lochner, & Seedat, 2008), specifically in KwaZulu Natal (Myint & Mash, 2008) and has excellent reliability (Zimet, et al., 1988). Among our sample, the overall internal reliability was excellent for the overall scale (Cronbach  $\alpha = 0.86$ ), family support subscale (Cronbach  $\alpha = 0.95$ ), friends support subscale (Cronbach  $\alpha = 0.97$ ), and significant others support subscale (Cronbach  $\alpha = 0.90$ ).

Socio-demographic covariates were drawn from the South Africa National Census (Statistics South Africa, 2001), South Africa General Household Survey (Statistics South Africa, 2005), South Africa Demographic and Health Survey (Medical Research Council, 2003), and the KwaZulu-Natal Income Dynamics Study (KIDS) 2004 questionnaire (May, 2001). This helped ensure that the questionnaire used pre-tested, culturally appropriate questions, and limited the likelihood of inappropriate phrasing or biased response options.

## Analyses

Data was analyzed using SPSS version 17. Differences between caregiver groups for socio-demographic characteristics were assessed using chi-square tests or ANOVAs. ANOVAs were conducted to determine if social support scores differed between the three caregiver groups with Tukey post-hoc tests to determine differences between specific groups. ANOVAs and Tukey post-hoc tests were also conducted for each sub-scale of the social

support measure (*i.e.*, family, friends, and significant others). Associations were considered statistically significant at the level of  $p < 0.01$ . If caregiver groups reported statistically significant differences in social support, multivariate linear regressions were used to further assess whether differences persisted after adjusting for socio-demographic cofactors that showed a bivariate association with social support at  $p < 0.25$  (Hosmer & Lemeshow, 1989).

## RESULTS

### Socio-demographic Characteristics of Participants

Participants in this study were primarily female (86.4%), spoke isiZulu (98.1%), were African/Black (99.9%), and an average age of 39.4 years ( $SD = 14.7$ ). Levels of education and housing type indicate high levels of deprivation in the community. Less than a quarter of participants completed secondary schooling (22.8%) which would correspond to grade eight or the level of schooling expected of 12-13 year olds. More than half of participants (53.9%) lived in informal dwellings (*i.e.*, buildings made with cardboard, corrugated iron, plastic, etc.). There was an average of 5.5 people living in the household. Most participants listed salaries or wages as their main source of income (64.9%) but a significant percentage listed pensions and grants as their main source of income (27.7%), indicative of poverty among the sample. Descriptive statistics of the total population are summarized Table 1.

There were significant differences in age between caregiver groups ( $p < 0.01$ ,  $F = 26.6$ ). Caregivers of AIDS-orphaned children were the oldest ( $M = 44.2$ ,  $SD = 16.4$ ), followed by caregivers of other-orphaned children ( $M = 39.4$ ,  $SD = 14.7$ ), and caregivers of non-orphaned children ( $M = 37.8$ ,  $SD = 13.8$ ). Data also indicated different levels of education ( $p < 0.01$ ,  $F = 10.9$ ). On average, caregivers of AIDS-orphaned children had lower levels of education, completing grade seven, versus caregivers of other-orphaned children and non-orphaned children who completed grade eight. There were also differences in the average number of people in the household ( $p < 0.01$ ,  $F = 49.7$ ). Caregivers of AIDS-orphaned children had significantly more individuals in their household ( $M = 6.5$ ,  $SD = 3.0$ ), followed by caregivers of other-orphaned children ( $M = 6.2$ ,  $SD = 2.7$ ), and caregivers of non-orphaned children ( $M = 5.1$ ,  $SD = 2.3$ ). A higher percentage of caregivers of AIDS-orphaned children (37.1%) and caregivers of other-orphaned children (35.9%) relied on pensions and grants as their primary income source compared to caregivers of non-orphaned children (23.2%) ( $p < 0.01$ ,  $\chi^2 = 32.0$ ). There were no significant differences between caregiver groups in gender, language spoken, population group, or dwelling type. Socio-demographic differences are summarized in Table 1.

### Social Support

In terms of levels of social support, caregivers reported a mean social support score of 63.6 points ( $SD = 13.2$ ) out of an 84 point scale. There were significant differences between groups in terms of overall levels of social support ( $p < 0.01$ ,  $F = 15.8$ ). Caregivers of AIDS-orphaned children reported significantly lower levels of social support ( $M = 60.2$ ,  $SD = 13.9$ ) compared with caregivers of other-orphaned ( $M = 64.0$ ,  $SD = 13.6$ ) ( $p < 0.01$ ) and non-orphaned children ( $M = 64.7$ ,  $SD = 12.8$ ) ( $p < 0.01$ ). There were no differences in levels of overall social support between caregivers of other-orphaned ( $M = 64.0$ ,  $SD = 13.6$ ) and non-orphaned children ( $M = 64.7$ ,  $SD = 12.8$ ). Similarly, there were significant differences between groups in terms of levels of social support from friends ( $p < 0.01$ ,  $F = 7.1$ ), family ( $p < 0.01$ ,  $F = 9.9$ ), and significant others ( $p < 0.01$ ,  $F = 8.80$ ) social support subscales. Caregivers of AIDS-orphaned children had significantly less support than caregivers of non-orphaned children for the support sources of friends ( $M = 15.9$  versus 17.8) ( $p < 0.01$ ), family ( $M = 21.8$  versus 23.2) ( $p < 0.01$ ), and significant others ( $M = 22.5$  versus 23.7) ( $p < 0.01$ ). There were no differences between the levels of social support for these subgroups for caregivers of AIDS-

orphaned children versus caregivers of other-orphaned children or caregivers of other-orphaned children versus caregivers of non-orphaned children.

In terms of sources of social support, caregivers ranked significant others ( $M=23.4$ ,  $SD=4.8$ ) as the most important source of support followed by family members ( $M=22.9$ ,  $SD=5.2$ ) and friends ( $M=17.3$ ,  $SD=8.2$ ). Sources of social support were also disaggregated by caregiver group. Caregivers of AIDS-orphaned children reported that they were most likely to draw support from significant others ( $M=22.5$ ) and family ( $M=21.8$ ) rather than friends ( $M=15.9$ ). Similarly, caregivers of other-orphaned children reported that they were most likely to draw support from significant others ( $M=23.2$ ) and family ( $M=23.2$ ) rather than friends ( $M=17.7$ ). Caregivers of non-orphaned children were also more likely to draw support from significant others ( $M=23.7$ ) and family ( $M=23.2$ ) rather than friends ( $M=17.8$ ). Levels and sources of social support and summarized in Tables 2.

Multivariate linear regressions were conducted with the overall social support score and the family, friends, and significant others subscores as dependent variables. Due to the significant patterns of difference that caregivers of AIDS-orphaned children showed in levels and sources of social support compared to the other groups in bivariate analyses, multivariate models focused on comparing caregivers of AIDS-orphaned children versus caregivers of other-orphaned and non-orphaned children. Unadjusted and adjusted models for these variables are presented in Table 3.

In the unadjusted model for overall levels of social support, caregivers of AIDS-orphaned children reported significantly less social support compared to other groups ( $\beta = -0.14$ ,  $p<0.01$ ). In the final adjusted model, caregivers of AIDS-orphaned children still reported significantly less social support compared to other groups ( $\beta = -0.12$ ,  $p<0.01$ ). The final adjusted model also identified main source of household income ( $\beta = -0.13$ ,  $p<0.01$ ) as an important socio-demographic co-variate for lower levels of social support among caregivers of AIDS-orphaned children.

In the unadjusted model for levels of social support in the family subscale, caregivers of AIDS-orphaned children reported significantly less social support compared to other groups ( $\beta = -0.11$ ,  $p<0.01$ ). In the final adjusted model, caregivers of AIDS-orphaned children still reported significantly less social support compared to other groups ( $\beta = -0.12$ ,  $p<0.01$ ). This model identified main source of household income ( $\beta = -0.12$ ,  $p<0.01$ ) and caregiver age ( $\beta = 0.13$ ,  $p<0.01$ ) as two important socio-demographic cofactors for lower levels of social support among caregivers of AIDS-orphaned children.

In the unadjusted model for the levels of social support in the friend subscale, caregivers of AIDS-orphaned children reported significantly less social support compared to other groups ( $\beta = -0.09$ ,  $p<0.01$ ). In the final adjusted model, caregivers of AIDS-orphaned children still reported significantly less social support compared to other groups ( $\beta = -0.08$ ,  $p<0.01$ ). The final adjusted model identified caregiver age ( $\beta = -0.08$ ,  $p=0.01$ ) as an important socio-demographic cofactor for lower levels of social support among caregivers of AIDS-orphaned children.

In the unadjusted model for levels of support in the significant others subscale, caregivers of AIDS-orphaned children reported significantly less social support compared to other groups ( $\beta = -0.10$ ,  $p<0.01$ ). In the final adjusted model, caregivers of AIDS-orphaned children still reported significantly less social support compared to other groups ( $\beta = -0.07$ ,  $p<0.01$ ). The final adjusted model identified number of people in the household ( $\beta = -0.07$ ,  $p=0.01$ ), main source of household income ( $\beta = -0.15$ ,  $p=0.01$ ), and gender ( $\beta = -0.08$ ,  $p=0.01$ ) as important socio-demographic cofactors for lower levels of social support among caregivers of AIDS-orphaned children.

All adjusted models were significant ( $p < 0.01$ ). Each additional block increased explanatory power, as exhibited by increasing adjusted R-squares. For overall social support, the unadjusted model explained 2 percent of the variance but the adjusted model explained 4 percent of the variance in levels of social support. For the family social support subscale, the unadjusted model explained 1 percent of the variance but the adjusted model explained 3 percent of the variance in levels of social support. For the friend social support subscale, the unadjusted model explained 0.8 percent of the variance but the adjusted model explained 1 percent of the variance in levels of social support. For the significant others social support subscale, the unadjusted model explained 0.9 percent of the variance but the adjusted model explained 4 percent of the variance in levels of social support.

## DISCUSSION

Findings indicate that caregivers of AIDS-orphaned children have lower levels of perceived social support compared to caregivers of other-orphaned children and caregivers of non-orphaned children. A surprising finding is that caregivers of other-orphaned children reported levels of social support comparable to caregivers of non-orphaned children. These patterns in levels of social support suggest that caregivers of AIDS-orphaned children may be particularly vulnerable to social isolation. Moreover, the fact that caregivers of other-orphaned children did not report lower levels of social support than caregivers of non-orphaned children suggests that this social isolation may be related to AIDS as the cause of parental death, rather the experience of caring for an orphaned child. Other studies indicate that AIDS-affected households face a multitude of challenges and may be negatively affected by the epidemic, HIV and AIDS can exacerbate poverty (Alkenbrack Batteh, Forsythe, Martin, & Chettra, 2008; Bachmann & Booysen, 2003), food insecurity (Alkenbrack Batteh, et al., 2008) and poor health among caregivers of AIDS-orphaned children (Kuo & Operario, 2010). Lower social support may add a further dimension to the vulnerability of these households, with less coping resources available to respond to challenges, as well as higher health risks (Heaney & Israel, 1997; Lakey & Cohen, 2000; Peterson & Govender, 2010). Fewer social support resources may also have negative implications for the wellbeing of children cared for (Reading, 2005; Sheppard, 2009; Stein, Ramchandani, & Murray, 2008). The social vulnerability reported by caregivers of AIDS-orphaned children has important implications for policies and programs seeking to support this population.

Findings also indicate that lower levels of social support among caregivers of AIDS-orphaned children remained significant even after adjusting for several socio-demographic co-factors. Some of these socio-demographic co-factors - number of people in the household, primary source of household income, age, and gender - significantly contribute to lower levels of social support among caregivers of AIDS-orphaned children. The literature indicates that gender, age, and socio-economic status can influence levels of social support and the nature of social networks (Antonucci & Akiyama, 1987; Kato Klebanov, Brooks-Gunn, & Duncan, 1994; Kawachi, Kennedy, Lochner, & Prothrow-Stith, 1997; Turner, Pearlin, & Mullan, 1989; Walen & Lachman, 2000). For example, studies indicate that women tend to have large and more diverse social networks (Antonucci & Akiyama, 1987) but that these networks are more difficult to maintain (Wallen & Lachman, 2000). Literature also indicates that higher income inequality is associated with decreased social support (Kawachi et al, 1997). However, it is likely that other variables contribute to lower levels of support among caregivers of AIDS-orphaned children. Our results indicate that adjusted models explain a limited amount of the variance for levels of social support. Additional variables need to be examined to understand the varying levels of social support reported by caregivers of AIDS-orphaned children as compared to caregivers of non-orphaned children.

Finally, our findings indicate that caregivers, regardless of the type of children they care for, draw primarily from family and significant others, rather than friends, for support. These results have important implications for interventions aimed at strengthening social support available to caregivers of children. Such findings indicate that efforts to bolster caregiver social support networks should focus on family and significant others rather than friends.

This study has several limitations. It does not describe details of friend, family, and significant others social networks. Detailed mapping of these types of social networks would provide additional information to inform interventions. Furthermore, the study takes place in an urban community in KwaZulu Natal and results may not be generalizable beyond this specific community and cultural context. Third, the cross-sectional data limits the possibility of identifying possible mechanisms affecting levels and sources of social support in HIV-affected communities. Many of these limitations can be addressed in future studies.

Future studies can increase our understanding of why caregivers of AIDS-orphaned children report lower levels of support and why they turn to family and significant others rather than friends for support. First, we need to expand our understanding of the factors that contribute to social support disparities among caregivers of AIDS-orphaned children. For example, one factor that needs to be included in future studies is AIDS-related stigma. The HIV/AIDS literature suggests that stigma may exacerbate social isolation experienced by caregivers due to silence, secrecy, fear, and denial surrounding the cause of death (Paige & Johnson, 1997) (Akintola, 2008; Campbell & Foulis, 2004; Hosegood, Preston-Whyte, Busza, Moitse, & Timaeus, 2007; Kipp, Matukala Nkosi, Laing, & Jhangri, 2006; Ssengonzi, 2009). Stigma has been shown to lead to hostility and ostracism among families and communities affected by HIV (Akintola, 2008; Kipp, et al., 2006; Thomas, 2006). Some studies even indicate that parents may decide to not disclose their status or that of their children for fear of losing social support (Brandt, Dawes, & Bray, 2006; Gillespie, 2004). Stigma may be accentuated in cases when orphaned children cared for are also HIV positive, as caregivers may be faced with the additional tension between secrecy and fear of disclosure and the openness needed to provide care and receive social support (Gillespie, 2004; Hejoaka, 2009). Second, future studies need to gather longitudinal data on mechanisms affecting social support. For example, we need to understand how family deaths contribute to loss of social support for caregivers, including how relationships of the deceased and presence and length of the deceased individual's illness contribute to caregivers' social support. Similarly, we need to understand how caregiver health status may affect social support. Third, qualitative studies are needed to understanding the cultural and context-specific factors related to social support. Such an understanding can contribute to developing more effective and culturally-relevant responses to bolster caregivers' social support networks as evidence suggests that cultural values can be particularly influential for caregivers in their choice of coping strategies (Knight & Sayegh, 2010). Qualitative or mixed methods studies could also explore the conceptualizations and understandings of social support in particular communities, reasons behind the choice of or access to one type of source of support versus another, and existing community-level initiatives that may represent potential for intervention. Fourth, while this paper focuses on levels and sources of social support, future studies should investigate how types of social support are used to cope with specific types of challenges. Studies suggest that different types of social support may contribute to different aspects of caregiver experience (Thompson, Futterman, Gallagher-Thompson, Rose, & Lovett, 1993). For example, studies indicate that self-esteem and appraisal dimensions of social support are critical for preventing PTSD among victims of childhood sexual abuse (Hyman, Gold, & Cott, 2003) and social participation in particular may have an effect on depressive symptoms for daughters caring for elderly parents (Li, Seltzer, & Greenberg, 1997). Future studies could apply alternative or multiple instruments to include measurements of types of support and determine their relative importance for this specific

population. Finally, studies designing and testing the efficacy of interventions that target social support for caregivers of AIDS-orphaned children are needed. To our knowledge no studies have conducted randomized-controlled trials for interventions addressing social support among this population of caregivers. Studies in related populations suggest that social support may be important for improving wellbeing. For example, a study in the US found that a social support intervention increased social support in seronegative caregivers of HIV positive children (Hansell et al., 2002). Another study indicated that peer support decreased levels of depression, anxiety, and anger in AIDS-orphaned children (Kumakech, Cantor-Graae, Maling, & Bajunirwe, 2009).

In sum, we believe our findings make an important contribution to the literature. This is the first study to our knowledge to highlight levels of social support among caregivers of AIDS-orphaned children as compared to other groups. It is also the first study to our knowledge to identify whether sources of social support differ between caregivers of AIDS-orphaned children and other groups. Our findings are strengthened by a rigorous methodological approach which includes a representative sample, comparison groups, and large sample size ( $n=1,599$ ). While this study contributes to our knowledge of how to support caregivers, an important population who are the main source of protection and support for AIDS-affected children, we also identify the vast scope for further work in this area, as discussed above. In order to effectively provide care for children, families in HIV-endemic communities must have social resources (Wakhweya, Dirks, & Yeboah, 2008). Policies and programs may be able to strengthen the resilience and improve the wellbeing of families caring for children by addressing disparities in social support among caregivers of AIDS-orphaned children and by building on existing caregiver sources of social support including family, significant others, and the broader community. While these findings strongly indicate a need for more generalized support for caregivers and children in high HIV prevalence areas, intervention approaches should not single out specific population subgroups or households in a way that may further social seclusion and stigma. Indeed, as our analyses highlights, caregivers of AIDS-orphaned children experience heightened social isolation that may exacerbate their vulnerability and ability to cope with challenges associated with caring for children in today's HIV epidemic. There is an urgent need to support this group of caregivers and their households, and to ensure that they are included and prioritized within policy and program responses.

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Table 1

## Socio-demographic Characteristics of the Study Sample

	All caregivers (n=1599)	Caregivers of AIDS-orphaned children (n=359)	Caregivers of other-orphaned children (n=171)	Caregivers of non-orphaned children (n=1069)	P-value <sup>1</sup>
Age (Mean, SD)	39.4 (14.7)	44.2 (16.4)	39.4 (14.7)	37.8 (13.8)	<0.01
Gender					
Female (%)	86.4	89.9	87.1	85.1	ns
Male (%)	13.6	10.1	12.9	14.9	ns
Education (M, SD)	Grd. 8 (3.9)	Grd. 7 (4.1)	Grd. 8 (3.6)	Grd. 8 (3.8)	<0.01
African (%)	99.9	99.7	100	99.9	ns
isiZulu language (%)	98.1	98.3	98.2	98.0	ns
Number of people living in the home (M, SD)	5.5 (2.6)	6.5 (3.0)	6.2 (2.7)	5.1 (2.3)	<0.01
Type of housing					
Formal (%)	46.1	48.5	47.4	45.8	ns
Informal (%)	53.9	51.5	52.4	54.2	ns
Main source of household income					
Salaries as main household income (%)	64.9	54.6	57.1	69.6	<0.01
Pensions or grants	27.7	37.1	35.9	23.2	<0.01
Other	7.5	8.7	7.1	7.2	<0.01

<sup>1</sup>P-values are associated with one-way ANOVA or chi-square test.

**Table 2**

## Levels and Sources of Social Support and Differences between Caregiver Groups

	All caregivers (n=1599)	Caregivers of AIDS-orphaned children (n=359)	Caregivers of other-orphaned children (n=171)	Caregivers of non-orphaned children (n=1069)
Overall levels of social support (M, SD)	63.6 (13.2)	60.2 (13.9) <sub>a</sub>	64.0 (13.6) <sub>b</sub>	64.7 (12.8) <sub>b</sub> **
Support from family (M, SD)	22.9 (5.2)	21.8 (5.9) <sub>a</sub>	23.2 (5.3) <sub>a</sub>	23.2 (4.9) <sub>b</sub> **
Support from friends (M, SD)	17.3 (8.2)	15.9 (8.4) <sub>a</sub>	17.7 (8.6) <sub>a</sub>	17.8 (8.1) <sub>b</sub> **
Support from significant others (M, SD)	23.4 (4.8)	22.5 (5.5) <sub>a</sub>	23.2 (5.3) <sub>a</sub>	23.7 (4.5) <sub>b</sub> **

Note. M = mean; SD = standard deviation.

Different subscripts denote significant differences in reported social support between groups in the Tukey comparison ( $p < 0.01$ ).

\*\*  
p > 0.01

P-values are associated with one-way analysis of variance.

Table 3

## Differences in Levels of Social Support

	Overall Social Support ( $\beta$ )		Family Social Support ( $\beta$ )		Friend Social Support ( $\beta$ )		Significant Others Social Support ( $\beta$ )	
	<i>Unadjusted Model</i>	<i>Adjusted Model</i>	<i>Unadjusted Model</i>	<i>Adjusted Model</i>	<i>Unadjusted Model</i>	<i>Adjusted Model</i>	<i>Unadjusted Model</i>	<i>Adjusted Model</i>
Caregiver type (Caregivers of AIDS-orphaned children versus other-orphaned and non-orphaned children)	-0.14**	-0.12**	-0.11**	-0.12**	-0.09**	-0.08**	-0.10**	-0.07**
Total number of people in household	-0.02		-0.001		0.002			-0.07**
Source of household income		-0.13**		-0.12**		-0.04		-0.15**
Age		0.02		0.13**		-0.08*		0.03
Gender		-0.05		-0.04		-0.01		-0.08**
Education		0.01		0.02		0.002		-0.004

\* p&lt;0.05,

\*\* p&lt;0.01