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Child behaviour and parenting in HIV/AIDS-affected families in China

Stephanie Sun^a, Li Li^{a,*}, Guoping Ji^b, Chunqing Lin^a, and Alan Semaan^a

^aCenter for Community Health, Semel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, CA, USA

^bAnhui Center for Disease Control and Prevention, Hefei, China

Abstract

Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) among families in China poses many challenges for caregivers and their children. A total of 154 caregivers of HIV/AIDS-affected children were interviewed to examine child behaviour in HIV/AIDS-affected families. Parenting skills were found to be correlated with child delinquency, and this correlation was influenced by the number of children in the family and the child's age. Illiterate caregivers were more likely to have delinquent children, and parenting skills had less of an association with child delinquency among illiterate caregivers. Study findings underscore the necessity of emphasizing good parenting skills in interventions with caregivers of HIV/AIDS-affected children in China in order to improve child behaviour and overall family well-being.

Keywords

HIV; China; child behaviour; parenting

Introduction

Many children affected by human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) are not able to have a typical childhood. They often have to deal with psychosocial stress, an ill caregiver, reduced parenting capacity, a shift in family structure, financial deprivation and stigma and discrimination. These challenges can lead to emotional and behaviour changes in the children, such as depression and delinquency. Previous studies have documented that children from HIV-affected families have a heightened probability of experiencing externalizing and internalizing problems (Forehand et al., 1998), such as social adjustment and attention problems (Bauman et al., 2002; Esposito et al., 1999) and depression (Forsyth, Damour, Nagler, & Adnopo, 1996). A common distress described by children affected by HIV/AIDS is the constant worry about their futures once their parents die and the fear that their parents will die alone while they are in school [Save the Children (UK), South Africa Programme, 2001; Smart, 2000]. Another consequence of a caregiver infected with HIV is that children are often born and grow up in situations that can interfere with parent-child attachment, which can have potentially long-term psychological consequences (Nagler, Adnopo, & Forsyth, 1995). Much of this effect is associated with the caregiver's physical and mental health.

Caregivers living with HIV must not only cope with their own physical health symptoms, complex medication regimens (Gwadz et al., 1999), stigma (Herek & Capitanio, 1993) and fear of AIDS-related death, but must also care for their family (Armistead & Forehand, 1995; Rotheram-Borus, Murphy, Miller, & Draimin, 1997). Many caregivers experience psychological burden and stress, which affects their overall mental health. Depression is common among caregivers as they struggle with financial limitations while trying to provide for the family and support their children. Many caregivers are not able to work due to their poor physical health, creating economic hardships that can be devastating (UN General Assembly, 2005). Previous studies in China showed that some working parents were fired by certain companies because they tested HIV-positive (Cao, Pang, & Wu, 2005). The combination of lower family income caused by unemployment and the increasing healthcare costs for individuals with HIV/AIDS may hinder access to even the most basic needs such as food, housing, medication and education for children (China Nanfang Zhoumo News, 2004).

Such daily challenges and emotional distress have the potential to severely impact a caregiver's parenting abilities. In women affected by long-term illness, anxiety and depression tend to be common. Similarly, the chronic, progressive nature of HIV/AIDS contributes to increasing physical and mental changes that compromise parenting capabilities (Lewis, 1995; Lewis & Hammond, 1996). Simultaneously, increased parenting strain can lead in turn to depression (Semple et al., 1997). Together, these associations can cause a spiralling decrease of parenting skills and family relations. In a study conducted by Kotchick and colleagues (1997), HIV-infected mothers demonstrated worse relationship quality with their children and lower monitoring of child behaviour than non-HIV-infected mothers.

The compromised parenting capacity then alters and reshapes family structure and family relations. Changes in important family factors can influence child behaviour. Family factors such as lack of parental monitoring (e.g. parents not aware of what their children are doing; Peterson, Hawkins, Abbott, & Catalano, 1994), poor family management (e.g. parents not giving their children any responsibility) and parental permissiveness (e.g. not setting rules or expectations related to tobacco, drug or alcohol use; Cohen & Rice, 1997) have been identified as risk factors for child delinquency. In addition, when the family as a unit deals with the illness, there can be increased pressure on adolescents to help care for sick parents and younger siblings, causing some to miss school or even drop out, thereby increasing their isolation from social supports. These demands can manifest themselves in negative coping behaviour changes (Hudis, 1995). Such challenges underscore the importance of coping skills among children from HIV/AIDS-affected families. Dutra and colleague's 2000 study identified the central role of parenting for promoting child resiliency in families with maternal HIV infection (Dutra et al., 2000). The compromised parenting abilities of HIV-infected caregivers, however, puts children from HIV/AIDS-affected families at risk for developmental challenges and emotional and behavioural problems.

We believe that life-threatening illnesses impact parenting skills negatively, leading to negative child behaviour. Although there has been much discussion about children living with HIV/AIDS, research examining the well-being of HIV/AIDS-affected children who are not infected themselves is sparse. This preliminary study examines the relationship between the caregiver's background and child behaviour in HIV/AIDS-affected families in China. The data were collected from Anhui province, which is situated in eastern China, with Jiangsu and Zhejiang provinces and Shanghai to the east and Shandong province to the north (Figure 1). Most existing HIV infections (over two-thirds) in this area were caused by paid plasma donation (Wu, Liu, & Detels, 1995; Wu, Rou, & Detels, 2001).

This area consists of many poor, rural counties and a large population of more than 63 million people. There are 17 prefectures governed directly by the province and 56 counties; there are

53 ethnic groups in the province, but more than 99% of the population is Han Chinese (China Internet Information Center, 2006). This province has one of the highest rates of HIV in China. In 2005, it was estimated that there were between 10,000 and 49,999 HIV-infected individuals living in this area (Lu et al., 2006). The majority of people living with HIV are between the ages of 20 and 50 years, and the ratio of men to women is roughly equal. Because the spread of HIV through plasma donation occurred primarily in the early 1990s, many HIV-infected individuals in this area currently have children aged 6–18 years. The cross-sectional survey of caretakers of HIV/AIDS-affected children provides a first look at parenting inside a household with an HIV-positive patient.

Methods

Participants

The study participants consisted of caregivers of HIV/AIDS-affected children between the ages of 6 and 18 years. Children were considered to be affected by HIV/AIDS if one or both parents either died from or were living with HIV/AIDS. Disclosure of serostatus to the children was not necessary for participation in this study. Participants were either recruited from the hospital or clinic where they received healthcare services or referred by other caregivers already recruited for the study. Referrals occurred through word of mouth or a flyer advertising a 'Children and Family Health Study'. All caregivers were 18 years of age or older. Interviews were conducted by Anhui CDC staff at either a community building or the participant's home, depending on the choice of the participant. No names were associated with interview information. A total of 154 caregivers participated in the 1-hour face-to-face semi-structured interviews between December 2005 and June 2006. Individual informed consent was obtained prior to participation in the survey, and US\$7 was given to study participants for their participation. The study was reviewed and approved by the Institutional Review Boards (IRB) of the University of California, Los Angeles (UCLA) and the Anhui Center for Disease Prevention and Control.

Measures

The Family Health Survey questionnaire contained a total of 147 questions assessing caregivers' demographics, children's demographics, children's mental health and well-being, parenting practices, child withdrawal and child delinquency.

The demographics collected in this study included participant's age, gender, education level, marital status, occupation and income. Family background information consisted of number of people in the family, number of children in the family, HIV status disclosure, the participant's and his/her spouse's health status and family HIV status. HIV disclosure was determined by asking: 'Have you told others about your/your family member's HIV status?'. Participant's and spouse's health status were measured with the question: 'What is the child's father's/mother's health status?'. If the participant answered 'ill' or 'dead', 'what is the illness?' or 'what was the cause of death?' was asked. Using this information, we determined family HIV status by grouping the participant's family situation into three categories: (1) one parent is HIV-positive and one parent is HIV-negative; (2) both parents are HIV-positive; and (3) one parent is HIV-positive and one parent has died of AIDS.

The Parental Monitoring Scale [Center for HIV Identification, Prevention and Treatment Services (CHIPTS), 2006; Patterson & Stouthamer-Loeber, 1984] was used to assess the primary caregivers' parental monitoring of their children. The scale consisted of the following five items, where each item was scored from 1 (strongly disagree) to 5 (strongly agree): (1) 'my child is expected to be at a designated place (home, school activities, etc.) after school by a certain time'; (2) 'my child is supervised after school is out'; (3) 'my child can spend as much

free time hanging out with friends as s/he wants'; (4) 'in the afternoon/evening, I ask the child if s/he has homework to do for the next day'; and (5) 'my child can do things/go places without telling me exactly where s/he will be'. After reversing the scoring of questions 3 and 5, a higher score indicated better parental monitoring. The inter-item reliability of the scale is acceptable (Cronbach's $\alpha = 0.64$).

The Child Behavior Checklist: Delinquency subscale (Achenbach & Rescorla, 2001) was used to measure the children's delinquency, which included disruptive behaviour, aggressiveness, impulsiveness and low attachment to caregivers. The subscale had five items: (1) 'the child destroys things belonging to his/her family or other children'; (2) 'the child hangs around with children who get in trouble'; (3) 'the child lies or cheats'; (4) 'the child swears or uses obscene language'; and (5) 'the child is disobedient at school'. For each of the items, participants were asked to rate how true each statement was for their children on a four-point scale, from strongly disagree to strongly agree. Higher scores reflected a higher level of child delinquency (Cronbach's $\alpha = 0.64$).

In order to achieve culturally appropriate translation, the 'forward-backward' translation procedure (Brislin, 1970) was utilized for both the Parental Monitoring and Child Behavior Checklist scales. The English instruments were rendered first to Chinese by bilingual English-Chinese scholars, and the outcomes were rendered back to English by another English-Chinese scholar on the translation team. Question items in the new English version were compared with those in the original English scales to check for differences. Any mismatches were discussed and required a revisit to the Chinese translations. Agreement was reached by revision of the forward translation. Finally, the provisional version of the translated questionnaire was pilot tested to assess the feasibility and clarity of the items and response categories. The internal consistency was deemed to be acceptable for both scales.

Data analysis

Data were analysed using SAS statistical software (version 9.1). First, the distribution of demographics and family background information was analysed descriptively. Secondly, selected items from the children behaviour scales were compared between boys and girls using χ^2 tests. Thirdly, Pearson's correlation coefficients were calculated to study the relationships between the parenting score, delinquency score and caregiver, family and child characteristics. Finally, the relationship between the parenting score and child delinquency score was investigated further by grouping children by gender and age and using simple regression models (Figures 2–4).

Results

The majority of caregivers were the child's parents: 48% were mothers, 36% were fathers, and 15% were grandparents. Most caregivers were younger than 46 years (88%), and about 58% of the participants were women. Caregivers had an average of 2.7 years of education, and almost half the participants were illiterate. The main occupation for caretakers was farming, with 88% working at least part-time as a farmer. Most families (74%) consisted of fewer than four members. Slightly more than a third of the families had two children (39%). About four-fifths of the interviewed caregivers were HIV-positive. One hundred and two (66%) fathers and 88 (57%) mothers were HIV-positive, and 13 (8%) fathers and 10 (7%) mothers had died from HIV/AIDS by the time of the interview. Of the participating families, 45% consisted of two HIV-positive parents, 40% consisted of one HIV-positive parent and 16% had at least one parent die from AIDS. The children in this study had a mean age of 13.51 years. Among them, 56% were male, two of 154 children were HIV-positive and 88% were currently attending school. The participating families reported an average annual income of 606 Yuan (US\$75.8),

which was much lower than the China average annual income of over 10,000 Yuan (US\$1250) (Zaobao News, 2005).

Child behaviours by gender are presented in Table 1. A small percentage of the caregivers (7%) reported that their child, all of whom were male, destroyed things belonging to their family or their children. Significantly more boys than girls were reported as playing with children who got into trouble. Of the caregivers who responded, about one-third of the caregivers (36%) reported the child's school performance as 'good', 46% as 'average' and 18% as 'poor'. Of all the children, 34% repeated a school grade level, although there was no significant difference between boys and girls regarding school performance and repeating grades. Approximately three-quarters of the children (78%) helped with housework such as cooking, cleaning or childcare at home. Only 18% of the children knew how to use a computer. On average, the children had 5.13 close friends, with a range from 0 to 15.

Table 2 presents the correlation coefficients of identified variables. In this study, caregiver's years of education was associated positively with family's annual income ($r = 0.24$). Caregivers with fewer children in the family reported higher parenting scores ($r = -0.25$). Child's age was found to be associated positively and significantly with the parenting score. In other words, caregivers with older children reported a higher parenting score ($r = 0.30$). The child's delinquency score was associated negatively with caregiver's years of education ($r = -0.22$) and parenting score ($r = -0.22$).

We examined further the relationship between caregiver's parenting skills and children's delinquency level among different populations. We found that for children aged 6–12 years, a one-unit increase in parenting score was associated with a 0.36-unit decrease in delinquency score. For children aged 13–18 years, however, a one-unit increase in parenting score was associated only with a 0.09-unit decrease in delinquency score. A one-unit increase in parenting score in single-child families was associated with fewer units of decrease in delinquency score than in families with more than one child (0.09 vs. 0.16). The relationship between parenting score and delinquency score was also different for illiterate and literate caregivers. For literate caregivers, a one-unit increase in parenting score was associated with a 0.11-unit decrease in delinquency score; for illiterate caregivers, a one-unit increase in parenting score was associated only with a 0.04-unit decrease in delinquency score.

Discussion

Our study is the first to examine the relationship between parenting skills and child delinquency in HIV/AIDS-affected families in China. There seem to be many factors influencing child behaviour, from the education level of caregivers to the child's age and the number of children in the family household.

We found that the number of children in the family and the child's age affected the relationship between parenting skills and child delinquency. Good parenting had a greater negative association with child delinquency in families with more than one child (compared to a single child), and parenting skills had a stronger inverse relationship with child delinquency among younger children. In families with children between the ages of 6 and 12 (vs. ages 13–18), increases in parenting scores were associated with larger decreases in child delinquency. The strong association between parenting skills and reduced child delinquency in younger children could be explained by the greater impressionability of younger children. Once children hit adolescence, they often become more independent and are less willing to listen to their parents. Despite the cultural differences in the extent to which autonomy and independence are emphasized, the effects of parental control may be similar across cultures and the need for autonomy for older adolescence is universal (Barber, Stolz, & Olsen, 2006; Chirkov & Ryan,

2001). Caregivers usually have more control and influence over younger children, supporting the conclusion that parenting skills have a greater correlation with child delinquency among younger children.

In families with more than one child (compared to a single child), increases in parenting scores were associated with larger decreases in child delinquency. This could be explained by the nature of parent–child relations in larger families. When there are more children in a family, the family faces increased pressures as resources are split among a greater number of people, causing diminished caregiver attention to be available for each child. This is especially true in China, where the one-child policy is implemented and families with more than one child are subject to economic sanctions and are viewed with disfavour and disapproval by the larger society (Hardee-Cleaveland & Banister, 1988; Yang, Ollendiek, Dong, Xia, & Lin, 1995). Within larger families, each child experiences less overall interaction and communication with their caregiver. For this reason, when the caregiver is able to provide attention to a child, the attention holds more value and has a greater impact on the child. Therefore, the better parenting skills and greater caregiver effort reflected by a higher parenting score may translate to more effective discipline and a stronger influence on reducing child delinquency. Another possible explanation for the stronger inverse association between parenting skills and child delinquency in families with more than one child can be found through the interactions of siblings. When there are more children in a family, parenting behaviours may be modelled by older siblings towards the younger siblings, thereby multiplying the parenting effects.

Child delinquency was also related to the literacy level of the caregiver. In our study, illiterate caregivers were more likely to have delinquent children, and higher parenting scores had less of an association with reduced child delinquency among illiterate caregivers. This could be due to several factors. Illiterate caregivers usually have less formal education, which may hinder their abilities to obtain a good job. Therefore, they might have to work more hours to support the family, leaving them less time to provide good parenting for their children. If caregivers are at home less often their children may be less willing to obey them, and the caregivers could lose their position of leadership in the household. With such threats to the caregiver's authority, parenting becomes more difficult.

The changing role of a parent is especially consequential in Chinese families, where the typical role of an adult is to be an independent, productive person who cares for children and ageing parents. Chronic illness reverses this culturally prescribed role, requiring the ageing parents and/or children to care for the ill adult (Chin & Kroesen, 1999). In rural China, children are commonly expected to contribute to the family, either by helping around the house or providing monetary support through work outside the house, depending upon their age. When parents are not capable of contributing to housework or providing financial stability because of chronic illness, further burden rests on their children. A child who is taking on more and more adult responsibilities at an early age may also learn to be independent from family adults, which is unconventional and may be considered inappropriate (Fair, Spencer, Wiener, & Riekert, 1995), especially in a more collectivist Chinese culture, where children are more interdependent with the family compared to western culture (Iyengar & Lepper, 1999). This situation affects traditional family roles, and parents can lose their standing as head of the household (Hudgens, 1979). It becomes important to transfer or re-establish leadership roles, which can strain significantly the relationships between parents, other adults in the family and children, leading to poor family relations and impacting negatively parenting abilities and child behaviour.

Studies in the United States have shown similar findings that HIV/AIDS impacts parenting abilities, in turn affecting child behaviour. Familial reactions to HIV/AIDS can result in changes in parenting techniques or realignment of roles between parents and children (Fair et

al., 1995; Lewis, 1995). Adolescents may become 'parentified' as a result of taking responsibility for their parents and siblings at an early age (Stein, Riedel, & Rotheram-Borus, 1999). Adolescents may assume a 'super-child' role in which they take on household and adult responsibilities to keep busy and avoid painful feelings, gain approval of parents or convey a sense of readiness to handle life without the parent (Zayas & Romano, 1994). Such changes in familial roles can affect the social relationships and school performance of children and adolescents.

There are some limitations that should be noted when interpreting the findings of this study. First, it was conducted in an area where a large proportion of HIV infections were caused by former plasma donations. Results may not be generalizable to HIV-positive individuals who were infected through other transmission routes. The recruitment procedure might also have introduced potential selection bias because the participants recruited from the hospital might have had a higher social economic status and been less affected by HIV/AIDS than the families who could not receive healthcare services. Secondly, our study uses a cross-sectional design which might suffer the limitation of all cross-sectional studies. We may not be able to make causal inferences because of the temporal ambiguity. Thirdly, the reliance on self-report data, without including the child and/or other family members' perspectives, may cause possible information bias. Finally, the study sample size is too small and the limited number of items per scale does not allow there to be any conclusions other than just those indicative of associations. As this was a pilot study, more research with larger sample sizes is necessary to confirm the findings.

Our findings have important implications for addressing the strain put upon parenting skills, family relations and child behaviour by HIV/AIDS. From our analyses, it seems that parenting skills have an especially greater impact at an earlier age and with children in larger families. This information could help to tailor a future intervention for families affected by HIV/AIDS that helps caregivers to develop better parenting skills through different approaches, according to their family situation.

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Figure 1.
Map of Anhui, China.

For children aged 6–12 years, delinquency score = $15.180 - 0.36 \times \text{parenting score}$.
 For children aged 13–18 years, delinquency score = $10.96 - 0.09 \times \text{parenting score}$.

Figure 2.
 Delinquency score versus parenting score among different children age groups.

For single-child family, delinquency score = $11.16 - 0.09 \times \text{parenting score}$.

For more than one-child family, delinquency score = $11.96 - 0.16 \times \text{parenting score}$.

Figure 3.

Delinquency score versus parenting score among single child and more than one child families.

For literate caregivers, delinquency score = $11.24 - 0.11 \times \text{parenting score}$.
For illiterate caregivers, delinquency score = $11.01 - 0.04 \times \text{parenting score}$.

Figure 4.
Delinquency score versus parenting score among illiterate and literate caregivers.

Table 1

Human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS)-affected child behaviour by gender.

	Total		Female		Male	
	#	%	#	%	#	%
Destroys things belonging to family/other children						
No	143	92.86	68	100.0	75	87.21 ^{**}
Yes	11	7.14	0	0	11	12.79
Plays with children who get into trouble						
No	132	85.71	63	92.65	69	80.23
Yes	22	14.29	5	7.35	17	19.77 [*]
Lies or cheats						
No	145	94.16	64	94.12	81	94.19
Yes	9	5.84	4	5.88	5	5.81
Swears or uses obscene language						
No	144	93.51	64	94.12	80	93.02
Yes	10	6.49	4	5.88	6	6.98
Is disobedient at school						
No	126	81.82	55	80.88	71	82.56
Yes	28	18.18	13	19.12	15	17.44
School performance						
Well	53	34.42	28	44.44	25	29.76
Average	68	44.16	27	42.86	41	48.81
Poor	26	16.88	8	12.70	18	21.43
Repeated grade						
No	97	62.99	44	69.84	53	63.10
Yes	50	32.47	19	30.16	31	36.90
Helps with housework						
No	34	22.08	13	19.12	21	24.42
Yes	120	77.92	55	88.88	65	75.58
Number of close friends						
≤3	72	46.75	30	44.12	42	48.84
4 or 5	46	29.87	22	32.35	24	27.91
≥6	36	23.38	16	23.53	20	23.26

Significance level:

* $p < 0.05$

** $p < 0.01$.

Table 2

Correlation coefficients and significance levels among selected variables.

	2	3	4	5	6	7	8	9	10
1. Female caregiver	0.01	-0.61**	0.05	-0.14	0.06	-0.07	0.07	0.06	-0.01
2. Caregiver's age (years)		0.06	-0.22**	0.04	-0.16*	-0.01	0.03	-0.05	-0.05
3. Caregiver's years of education			-0.08	0.24*	0.06	-0.04	0.03	-0.03	-0.22*
4. Number of kids in family				-0.03	-0.05	-0.03	0.16	-0.25**	-0.13
5. Family's yearly income					-0.04	-0.15	-0.04	0.06	-0.11
6. Child's age						-0.01	0.05	0.30**	-0.07
7. Female child							-0.08	0.04	-0.13
8. Both parents HIV ⁺ versus only one parent HIV ⁺								-0.05	-0.06
9. Parenting score									
10. Delinquency score									

Significance level:

* $p < 0.05$

** $p < 0.01$. HIV: human immunodeficiency virus.