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Parental HIV Disclosure: From Perspectives of Children Affected by HIV in Henan China

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Abstract

Culturally and developmentally appropriate parental HIV disclosure (i.e., parents disclose their HIV infection to children) has been shown to be closely related with the well-being of both HIV-infected parents and their children. However, current practices and effects of parental HIV disclosure remain poorly understood in low and middle-income countries including China. Quantitative data from 626 children affected by parental HIV (orphans and vulnerable children) in Henan, China, were collected in 2011 to examine children's perceptions and knowledge regarding their parents' HIV disclosure practices and to assess the associations of these practices with children's demographic and psychosocial factors. The data in the current study revealed that only a small proportion of children learned parental HIV infection from their parents (direct disclosure) and many of these disclosure seemed being unplanned. Among the children who were not told by their parents, at least 95% of them either knew parental illness from others (indirect disclosure) or from their own observations or suspicions. The children reported similar disclosure practices by fathers and mothers. There were minimum differences between disclosed and non-disclosed children on a number of psychosocial measures. The findings support the notion that parental HIV disclosure is a complex process and can only be beneficial if it is carefully planned. The data in the current study suggest the needs for the culturally and developmentally appropriate approach in parental HIV disclosure in order to maximize both short and long term benefits to children, parents, and family functioning.

Keywords

children; China; HIV disclosure; parental HIV; psychological well-being

Introduction

Over the past decade, there has been a precipitous decline in HIV-related deaths worldwide because of the wide availability of antiretroviral therapy (ART), which means that HIV-infected parents are living healthier and longer and are increasingly likely to have children and/or raise their children into adolescence or adulthood. However, HIV-infected parents

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often find it difficult to disclose their HIV status to children (“parental HIV disclosure”) due to various concerns (Clifford et al., 2013; Qiao, Li, & Stanton, 2013). They may struggle about the timing, approach, and content of the disclosure, and many of them are not confident in talking about HIV with children or explaining the cause of their infections (Corona et al., 2006; Kyaddondo et al., 2013). However, empirical data on these issues are limited to date (Krauss et al., 2013; Qiao et al., 2013). Therefore, it becomes increasingly important to understand the current practices and effects of such practices in order to identify or develop appropriate and effective approaches of parental HIV disclosure.

The process of parental HIV disclosure varied along different dimensions. For example, potential disclosers might involve parents (direct disclosure), and non-parents (indirect disclosure). The disclosure might be intentional (planned disclosure) or accidental (unplanned disclosure) (Palin et al., 2009). The findings in the literature are largely mixed in terms of effects of parental disclosure on children (Qiao et al., 2013). In addition, existing research on parental HIV disclosure has concentrated in the United States and few studies have focused on the practices, barriers, and impacts of parental disclosure in low and middle-income countries (LMIC) including China, where the HIV epidemic has been steadily expanding. The limited data about the practices and impacts of parental HIV disclosure in China and other LMIC underscore the need for investigation of disclosure issues in these settings.

Although whether or not a parent decides to disclose his/her HIV infection to children may have more to do with the parent than the children, such practices or the perceptions of such practices will directly affect children in terms of psychosocial well-being, school performance, and health behaviors (Gachanja et al., 2014; Roachat et al., 2014; Qiao et al., 2013). Therefore, it is important to understand the various issues of parental HIV disclosure (e.g., rates, approach, and impact) from the perspectives of children.

Our study, utilizing data from 626 children affected by parental HIV in Henan, China, was designed to examine children’s perceptions and knowledge regarding their parents’ HIV disclosure practices and to assess the associations of these practices with children’s psychosocial outcomes. We planned to answer the following questions in the study: First, what was the rate of parental HIV disclosure/awareness based on children’s reports? Second, what were the common approaches of disclosure or channels through which the children became aware of parental illness? Third, did the current parental HIV disclosure practice have any impact on children’s psychosocial well-being?

Method

Study site

Data were derived from a pilot trial of psychosocial intervention among children affected by parental HIV in a rural county in central China where many residents were infected with HIV through unhygienic plasma collection in the late 1980s and early 1990s. Although accurate epidemiological data were lacking, the county was generally believed to be one of the areas with the highest prevalence of HIV infection in central China (Agence France Presse, 2004). While the practices of unhygienic plasma collection were banned in 1998,

HIV continued to spread rapidly from former plasma donors to other groups via unprotected sex and injection drug use (Ji, Li, Lin, & Sun, 2007).

Participants

Consistent with the definitions of orphans and vulnerable children by UNAIDS, UNICEF and USAID (2004), the participants in our study included 150 (24%) orphans who had lost one or both parents to HIV and 476 (76%) vulnerable children who were living with HIV-infected parents. Some of the orphans were also living with HIV-infected family members (e.g., surviving parent, older sibling). Children who were 6 to 17 years of age and lived in family or extended family (i.e., kinship) care settings were eligible to participate in the study. No HIV test was conducted among participating children although number of HIV-infected children was estimated to be very small from other studies in the same geographic areas (Li et al., 2009).

Sampling procedure

The sampling and recruitment took place in 2011 using similar approaches in a previous study (Li et al., 2009). Briefly, we worked with village leaders to generate lists of families that were known to the local communities for taking care of orphans or having confirmed diagnoses of parental HIV infection. We approached families on the lists and recruited one child per family to participate in the study. If several children in one family met inclusion criteria, we randomly selected one child. If none of the children in a selected family were available to participate, we visited the next family on the list. This process was repeated until the target sample size for the pilot trial (i.e., about 600) was achieved. Appropriate informed consent/assent was obtained from children and their caregivers prior to participation. The research protocol, including the consenting process, was reviewed and approved by the Institutional Review Boards at both Wayne State University in the United States and Henan University in China.

Survey procedure

Each participating child completed a confidential survey in Mandarin Chinese. The survey included measures of demographic characteristics, parental HIV disclosure practice, and psychosocial adjustment. For children older than 8 years of age, the survey was self-administered; for younger children and children with reading difficulty (about 25%) the survey was read to the children by local research staff. During the survey, necessary clarification or instruction was provided promptly when needed. The entire survey took 75 to 90 minutes, depending on the age of the children. Children were offered a 10–15 minute break after every 30 minutes of survey. Parents or caregivers were asked not to stay with children during the data collection. During both the consent/assent process and the survey, children were instructed that they could skip any questions they did not feel comfortable with or simply did not want to answer. Children received age-appropriate gifts (toys or school supplies) at completion of the survey as a token of appreciation.

Measures

Demographic characteristics—Children were asked to provide information regarding their age, gender, primary caregivers (up to 2 per child), number of people in the household, and number of HIV-related illnesses and deaths in the immediate family and among relatives.

Parental HIV disclosure—Children were asked about whether, what, and how they knew about their parents' illness or the reasons of parental loss. Children were first asked in a general term whether their parents had told them about their illnesses. For the children who answered positively, they were further asked the name of disease they were told. Children were considered being disclosed of parental HIV ("disclosed children") in this study if they were told by their parents about their illness either in some general terms (e.g., "blood disease") or HIV specifically. In addition, children were also asked about the approach of the disclosure. Children who had not been told by their parents ("non-disclosed children") were asked whether and how they became aware of parental illnesses. Because of the sensitivity of the questions related to parental loss, relevant questions were phrased differently for orphans and vulnerable children. Among the orphans, only the children who knew parental illness before parental loss were asked about the approach of their awareness of parental illness. Some of the orphans who were living with their surviving parent also responded to the questions on parental disclosure.

Psychosocial measures—Children completed nine psychosocial measures including depression, loneliness, perceived social support, self-esteem, perceived stigma against children affected by HIV, enacted stigma, future orientation, hopefulness about the future, and perceived control over the future. The sample items, response options, and Cronbach alpha of these measure scales were presented in Table 1.

Statistical analysis

First, Chi-square test or analysis of variance (ANOVA) was employed to compare children's characteristics by gender. Second, frequency distributions were used to describe the disclosure practices by father or mother. Because of the differences in relevant questions between orphans and vulnerable children, we conducted the analyses separately for the two groups. Third, Chi-square test or ANOVA was used to compare the difference in psychosocial measures between disclosed children and non-disclosed children. A sum score (with appropriate reverse recoding) was employed as scale score for each of the psychosocial measures with higher scores indicating higher levels of perception/attribute that the scale was designed to measure. Finally, multivariate analyses using general linear model (GLM) were performed to test the main effect of the parental disclosure by father (Model 1: Paternal disclosure) and mother (Model 2: Maternal disclosure) on psychosocial adjustment.

All psychosocial measures entered the GLM analyses as the dependent variables. Because of the potential associations of child gender, age, and number of HIV infections in the family with their psychosocial well-being, these variables were controlled in both models as either an additional between-subjects factor (i.e., gender) or as covariates (i.e., child age, number

of HIV infections in the family). All analyses were conducted using SPSS for Windows V. 16.

Results

Sample characteristics

Our sample consisted of approximately equal number of boys ($n=310$) and girls ($n=316$). The average age was 10.59 years ($SD=2.64$) with 90% of children between 7 and 14 years of age. The sample had an average family size of 4.47 ($SD=1.58$) with additional 1.49 siblings ($SD=1.33$) living together. The average numbers of HIV-related illness and death in the immediate family were 1.18 ($SD=.96$) and .60 ($SD=.96$), respectively. The average numbers of HIV-related illness and death among relatives were 1.37 ($SD=2.09$) and .70 ($SD=1.23$), respectively. More than 60% of the children lived with at least one of their parents (61% with father and 66% with mother). The primary caregivers also included older siblings (8%), paternal grandparents (23%), maternal grandparents (6%), paternal and maternal relatives (10% each), and non-relatives (9%). Boys and girls were similar in most of the demographic characteristics with only a few exceptions. Compared to boys, girls were living in larger households with more family members (4.71 vs. 4.21, $p<.0001$) and more siblings (1.61 vs. 1.36, $p<.05$). In addition, more girls than boys (13% vs. 8%, $p<.05$) were under the primary care of paternal relatives.

Disclosure/awareness rate

Table 2 depicts the rates of parental disclosure/awareness reported by vulnerable children and orphans. Among the vulnerable children, disclosed children reported their parents' disclosure practices and non-disclosed children reported their awareness of parental illness. Because some of the orphans who were living with their surviving parent also responded to the questions on parental disclosure, we have a total of 491 children provided data on the disclosure practices of their fathers and 511 provided data on their mothers. Based on the disclosed children's reports, 150 (31%) of the fathers told their children about their illness and 116 (77%) of these fathers explicitly told children that they had HIV. Likewise, 198 (39%) of the mothers told their children about their illness and 140 (71%) of these mothers explicitly told children that they had HIV. Among the non-disclosed children, at least 85% of them said that they knew about their parents' illness (88% for fathers and 85% for mothers). In addition, about 10% of the children said that they did not know but were suspicious about the illness with their fathers (9%) and mothers (11%). Only 3% and 5% of the children said that they had no idea about their fathers' and mothers' illnesses, respectively.

Based on orphans' reports, only 8% of the fathers and 11% of the mothers told their children about their illness before their death. Among non-disclosed orphans, 61% and 42% knew the causes of their fathers' and mothers' death, respectively. Slightly less than 50% of the children knew that their parents were sick prior to their death (47% for fathers and 45% for mothers). Among the children who knew of their parent's illness before death, more than three-quarters knew that their parents had HIV (79% for fathers and 76% for mothers).

Disclosure/awareness approach

Approach of disclosure—As shown in Table 3, 35% of the disclosed children reported that they were individually told by their fathers; 47% said that their fathers told everyone in the family; 19% said that their fathers asked other family member to convey the news. Similar proportions of various disclosure approaches by mothers were reported: 38% disclosed individually; 54% to everyone in the family; and 9% asked someone else in the family to disclose.

Ways of knowing parental illness—Among the vulnerable children who were not disclosed by their parents, about 60% of the non-disclosed children reported that they became aware of their parent's illness from other family members. A small proportion of them reported learning the news from their relatives (6% for fathers and 7% for mothers), neighbors (8% for fathers and 7% for mothers), or overhearing a conversation parents had with someone else (6% for both fathers and mothers). More than 20% of the children reported that they knew their fathers' or mothers' illness through their own suspicions.

Among the orphans who knew their parent's illness prior to parental death, about 20% were told by their parents (20% for fathers and 23% for mothers). A majority was told by other family members (67% for fathers and 59% for mothers). Other channels of learning about their parent's illness included non-family members (2% for fathers and mothers), overhearing (7% for fathers and 9% for mothers), and self-suspicion (4% for fathers and 7% for mothers).

Psychosocial impacts of parental disclosure

As shown in Table 4, disclosed children were similar to non-disclosed children in most of the psychosocial measures. The paternally disclosed children reported a higher level of depressive symptoms as well as a higher level of self-esteem ($p < .05$ for both variables). Maternally disclosed children reported a higher level of future expectation ($p < .01$) and higher levels of self-esteem ($p < .01$).

Multivariate analysis (Table 5) confirmed the overall similarity in psychosocial measures by the disclosure status in both models. Child age was significantly related to all the psychosocial measures in multivariate and univariate tests in both models, while number of HIV infections in family was associated with psychosocial measures in neither model. Paternal HIV disclosure was only significantly associated with depression in univariate test ($p < .05$). Child gender was significantly associated with enacted stigma in Model 1.

There was a significant interaction term between disclosure status and child gender in Model 1 for multivariate test and univariate tests for depression, loneliness, perceived stigma, enacted stigma, and perceived control over the future. Further examination of cell means indicated that the significant interaction mainly resulted from uneven gender difference by the disclosure status. For example, among non-disclosed children, depression scores were lower among boys than girls (20.95 vs. 22.01), while among disclosed children depression scores were higher among boys than girls (25.37 vs. 22.05). Likewise, among non-disclosed

children, scores of perceived stigma were lower among boys than girls (28.23 vs. 30.50), while boys scored much higher than girls (33.98 vs. 28.05) among the disclosed children.

Discussion

The current study revealed that only a small proportion of children (including both orphans and vulnerable children) were disclosed of their parent's illness in general or HIV specifically. Consistent with the global literature (Qiao et al., 2013), many of these children reported unplanned disclosure from their parents (e.g., parents disclosed when they were confronted by their children) and some children also learned about their parent's illness from indirect disclosure (e.g., from non-family members, overhearing) or children's own observation and suspicions. Even among orphans, many were still unaware of the real cause of their parent's death or did not know their parent's illness before their death.

Our findings supported the notion that parental HIV disclosure must be understood in a specific socio-cultural context (Yoshioka & Schustack, 2001). China is a society that generally discourages the disclosure of stressful events such as parental HIV (Tse, Chong, & Fok, 2003). Likewise, the disclosure practices may be affected by the collectivism cultural norm in China (Chen, 2000). In most areas of China, especially rural areas, health care providers often informed the family members of an HIV diagnosis before informing the patient (Li et al., 2007). Sometimes family members kept the patient from knowing the diagnosis for as long as possible. This may partially explain the results in our study regarding the large proportion of non-disclosed children becoming aware of their parent's illness through other family members.

Given that more than 60% of the disclosures reported in our study were unplanned or indirect, it was not surprising that we did not see many differences between *disclosed* and *non-disclosed* children in terms of psychosocial measures. However, such a finding underscores the importance of at least three methodological issues related to parental HIV disclosure research. First, future research needs to carefully examine the various features of parental HIV disclosure including the approach and context of the disclosure as well as children's developmental stages. As parental HIV disclosure is a complex process, a simple "tell" or "not tell" dichotomy may not provide sufficient information. Second, a more important question in the future research should be *how to disclose* rather than *whether to disclose*. The word *disclosure*, in fact, may have different meanings to children and parents. A parental disclosure can only be beneficial to both children and parents if it is well planned and culturally and developmentally appropriate. Third, it is necessary to explore paternal and maternal disclosure separately in respect to child gender in study of parental disclosure, because gender of the parent and the gender composition of parent-child dyads may shape parenting style and parent-child relationship, which in turn influence practice and impacts of parental disclosure.

Because some children were considered being disclosed of parental HIV if they were told by their parents about their illness in some general terms without mentioning HIV or AIDS explicitly, the rates of parental HIV disclosure in the current study could be overestimated. However, given the sensitive nature of the terms of HIV or AIDS and the relatively young

age of these children who might have limited comprehension of the terms of HIV or AIDS, some parents might have deliberately chosen common names of the symptoms during the disclosure. In our field work in rural China, we observed that AIDS has been often called or labeled as “blood disease”, “fever disease”, “anemia”, “pneumonia”, “wasting disease”, or “bad fatal disease” based on the symptoms of opportunistic infections. Therefore, we considered that our approach in defining the disclosed children was culturally justified. Nonetheless, this issue needs to be considered when interpreting the results in the current study.

Findings of the study also need to be interpreted with cautions due to several other limitations. First, the sample in our study was recruited from a single rural county in central China where most of the HIV infections were caused by unhygienic plasma collection. The findings may not be generalizable to children in other areas of China where HIV was largely transmitted via other routes (e.g., unprotected sex, injection drug use). Second, there were some missing data in children’s responses to measures related to parental HIV disclosure. As children were told that they could skip any questions they did not feel comfortable answering or simply did not want to answer, such missing data seemed unavoidable for some sensitive questions regarding parental illness and death. Third, data collected were subject to self-report bias, particularly the error of recall regarding the timing and approach of parental HIV disclosure.

Despite these limitations, this study is one of the first efforts to explore parental HIV disclosure from the perspective of children in China. The findings in the current study underscore the need to investigate parental HIV disclosure in terms of not only whether parents disclose, but also how the parents disclose. Future research needs to integrate both quantitative and qualitative research methodologies, ideally with a longitudinal design to explore the effect of different types of disclosure practices. The findings also offer insights that may guide health care professionals in how better to support children and families to improve their psychological well-being either prior to or after the parental HIV disclosure (as such a disclosure may have some, at least short-term, negative consequences to the children and families). Evidence-based intervention programs are needed to assist parents or other caregivers of orphans and vulnerable children to avoid unplanned disclosure, to conduct developmentally appropriate parental HIV disclosure, and to minimize any unintended negative social or emotional consequences of disclosure to either the children or the families.

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Table 1

Summary of psychosocial scales

Psychosocial scales	#items	α	Sample item	Response options
Depression Center for Epidemiological Studies Depression Scale for Children (CES-DC) (Fendrich, Weissman, & Warner, 1990; Wang, 1993)	20	.81	I was bothered by things that usually don't bother me.	4-point response option ("not at all" to "a lot")
Loneliness Children's Loneliness Scale (CLS)(Asher, Hymel, & Renshaw, 1984; Garcia & Crocker, 2008; Wang, 1993)	16	.78	It's easy for me to make new friends at school.	5-point response option ("not true at all" to "always true")
Perceived Social Support (PSS) (Hong et al., 2010)	16	.88	I can talk about my problems with my family.	5-point response option ("very strongly disagree" to "very strongly agree")
Self-esteem Self-Esteem Scale(Rosenberg, 1965; Wang, 1993)	10	.57	I feel that I have a number of good qualities.	4-point response option ("strongly disagree" to "strongly agree")
Public stigma Stigma Against Children Affected by AIDS (SACAA) (Zhao et al., 2010)	10	.83	People think children of PLWHA should leave their villages	4-point response option ("most people" to "none")
Enacted Stigma (Zhao, Li, Zhao, Zhang, & Stanton, 2012)	14	.88	Relatives stopped visiting when parents got sick or died.	5-point response option ("never happened" to "always happened")
Future expectation Children Future Expectation Scale (Future) (Bryan, Rocheleau, Robbins, & Hutchinson, 2005)	4	.83	How sure are you that you can handle your school work when you get older?	5-point response option ("not at all" to "very much")
Hopefulness about future (Hope)(Whitaker, Miller, & Clark, 2000)	4	.74	How likely will you graduate from high school some day	4-point response option ("will not happen" to "will definitely happen")
Perceived control over the future (Control) (Bryan et al., 2005)	7	.68	My future is what I make of it	4-point response option ("disagree a lot" to "agree a lot")

Table 2

Rates of disclosure/awareness of parental HIV reported by vulnerable children and orphans

	Father	Mother
Vulnerable children (N)	491 ^a	511 ^a
<i>Disclosed children</i> ^b		
Father/Mother told me he/she was sick	150 (31%)	198 (39%)
Father/Mother told me he/she had HIV ^c	116 (77%)	140 (71%)
<i>Non-disclosed children</i>	341(69%)	313(61%)
<i>Awareness of parental illness</i> ^d		
Knew	290 (88%)	257 (85%)
Did not know but suspicious	28 (9%)	33 (11%)
Did not know at all	11 (3%)	14 (5%)
Orphans (N)	107	93
<i>Disclosed children</i>		
Father /Mother told me he/she was sick before death	9 (8%)	10 (11%)
<i>Non-disclosed children</i>	98 (92%)	83 (89%)
<i>Awareness</i> ^b		
Knew the cause of his/her death	62 (61%)	39 (42%)
Knew that he/she was sick before his/her death	47 (47%)	42 (45%)
Knew he/she had HIV ^c	37 (79%)	32 (76%)

Note:

^aThe # of respondents were larger than the sample size for vulnerable children (n=476) because some of the orphans who were living with their surviving parent also responded to the questions on parental disclosure.

^bResponse categories were not mutually exclusive to these questions;

^cData were only available from children who were told or knew that father/mother was sick;

^dNumber in various responses did not add to the total due to missing data;

Table 3

Ways of disclosure/awareness reported by vulnerable children and orphans

	Father	Mother
Vulnerable children (N)^a	491 ^b	511 ^b
<i>Disclosed children</i>	150(31%)	198(39%)
Way of disclosure		
Father/Mother told me alone	50 (35%)	72 (38%)
Father/Mother told everyone in family	68 (47%)	103 (54%)
Father/Mother asked other family member to tell me	27 (19%)	17 (9%)
<i>Non-disclosed children</i>		
Way of knowing parental illness		
Told by other family member	169 (59%)	144 (59%)
Told by relatives	18 (6%)	17 (7%)
Told by neighbors	23 (8%)	17 (7%)
Overheard when parent told someone else	16 (6%)	14 (6%)
By guess	62 (22%)	53 (22%)
Orphans (N)^a		
Way of disclosure/knowning parental illness^c		
Told by father/mother	9 (20%)	10 (24%)
Told by other family member	30 (67%)	26 (63%)
Told by non-family member	1 (2%)	1 (2%)
Overheard when parent told others	3 (7%)	2 (5%)
By guess	2 (4%)	2 (5%)

Note:

^a Number in various items did not add to the total due to missing data;^b The # of respondents were larger than the sample size for vulnerable children (n=476) because some of the orphans who were living with their surviving parent also responded to the questions on parental disclosure.^c Data were only available from children who knew that father/mother was sick before his/her death.

Table 4

Association between parental HIV disclosure and children psychosocial outcomes

	Father		Mother	
	Non-disclosed	Disclosed	Non-disclosed	Disclosed
N (%)	341(69%)	150(31%)	313(61%)	198(39%)
Psychosocial outcomes (Mean [SD])				
Depression	21.48 (9.25)	23.70 (8.29)*	22.07 (8.95)	21.85 (9.29)
Loneliness	40.22 (10.78)	39.33 (10.40)	40.26 (10.50)	40.20 (11.60)
Social Support	39.68 (11.59)	41.74 (9.66)	39.68 (11.33)	40.56 (10.69)
Perceived Stigma	29.37 (12.43)	30.97(12.13)	30.14(12.20)	30.82(15.50)
Enacted Stigma	23.29(9.30)	22.43(9.07)	23.58(9.34)	22.05(9.50)
Future Expectation	19.20 (6.76)	20.04 (6.88)	19.04 (6.88)	20.81 (6.88)**
Happiness about the Future	10.47 (3.10)	10.91 (3.05)	10.52 (3.06)	11.07 (3.13)
Perceived Control over Future	18.65 (3.90)	18.93 (4.16)	18.55 (4.02)	19.28 (3.68)
Self-esteem	20.85 (10.49)	23.06 (8.93)*	20.29 (10.15)	23.27 (9.99)**

*
p<.05,**
p<.01,***
p<.0001.

Table 5

Effect of parental disclosure on children's psychosocial measures (GLM analysis)

		Main Effect		Interaction		Covariates	
		Disclosure (D)	Child Gender (G)	D by G	Child Age	# of HIV cases in family	
Model 1:Paternal Disclosure							
Multivariate test	1.75	1.09		2.13*	14.82****	<1	
Depression	5.86*	<1		5.14*	4.75*	<1	
Loneliness	<1	<1		5.69*	21.00****	2.71	
Social Support	1.63	2.21		<1	8.79**	2.54	
Perceived Stigma	1.77	<1		8.91**	24.22****	<1	
Enacted Stigma	<1	4.60*		7.41**	17.49****	<1	
Future Expectation	<1	<1		2.11	16.13****	1.08	
Hopefulness	<1	<1		1.28	23.72****	2.36	
Perceived Control	<1	<1		7.53**	70.55****	<1	
Self-esteem	1.19	1.67		1.99	67.39****	<1	
Model 2: Maternal Disclosure							
Multivariate test	<1	1.39		<1	14.75****	<1	
Depression	<1	<1		<1	4.30*	<1	
Loneliness	1.63	1.58		<1	27.44****	3.11	
Social Support	<1	2.72		<1	10.18**	1.59	
Perceived Stigma	1.61	<1		<1	18.96****	<1	
Enacted Stigma	<1	2.72		2.03	17.11****	<1	
Future Expectation	2.73	<1		<1	11.52****	<1	
Hopefulness	<1	<1		<1	19.21****	<1	
Perceived Control	<1	<1		<1	71.17****	<1	
Self-esteem	1.21	3.10		2.15	64.66****	<1	

* p<.05,

**
p<.01,

p<.0001.