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Prevalence and pattern of disclosure of HIV status in HIV-infected children in Ghana

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Abstract

With the advent of highly active antiretroviral therapy (HAART) HIV-infected children are surviving into adulthood. Despite, emerging evidence of the benefits of disclosure, when and how to disclose the diagnosis of HIV to children remain a clinical dilemma. We investigated the prevalence and determinants of HIV disclosure in a cross-sectional study of 71 caregiver-child dyads from the Pediatric HIV/AIDS Care Program at Korle-Bu Teaching Hospital (Accra, Ghana). The children were from 8 to 14 years with median age of 10.39 years. The prevalence of disclosure was 21%. Age ($p<0.01$), the level of education ($p<0.01$), deceased biologic father ($p=0.02$), administration of own HIV medications ($p=0.02$), and longer duration on HIV medication ($p=0.02$) were significantly associated with disclosure. The low prevalence of disclosure underscores the need for a systematic and a staged approach in disclosing HIV status to infected children in resource limited countries.

Keywords

Pediatric HIV; disclosure; caregiver-child dyad; resource limited countries

Introduction

Children under 15 years of age account for approximately 2 million of the people living with HIV worldwide. Almost 90% of all HIV infected children live in sub-Saharan Africa ¹. With the advent of antiretroviral therapy (ART), there has been a significant reduction in morbidity and mortality of HIV-infected children and more of them are surviving through childhood and into adolescence. Along with the increased survival of children infected with HIV, disclosure of HIV status to children remains a complex and a critical clinical issue in the care of HIV-infected children. Caregivers may be reluctant to disclose the HIV status to their children for fear of social rejection and isolation, parental sense of guilt, and fear that the child would not keep diagnosis to themselves ². However, several studies have documented the benefits of disclosure of the HIV status to HIV-infected children; psychological benefits and positive effects on the clinical course of the disease ^{3–5}.

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The American Academy of Pediatrics recommends that children and adolescents with HIV should be told their diagnosis⁶. However, published rates of disclosure in children from resource rich countries vary widely, from 18% to 77%, partly due to the lack of conclusive guidelines on when and how to disclose the diagnosis of HIV to children. Though limited, studies available on rates and effects of HIV disclosure on children are mainly from resource rich countries. There is paucity of data on disclosure from resource limited settings, where the majority of HIV infected children live. Moreover, studies from resource limited settings have mainly been qualitative in design with small samples sizes making it difficult to generalize the findings. In the present study, we sought to address some of the limitations of previous studies on disclosure from resource limited settings. We investigated the prevalence, pattern, and predictors of HIV disclosure in HIV-infected children in one of the tertiary hospitals in Ghana.

Methods

Setting

The Pediatric HIV/AIDS Care program at Korle-Bu Teaching Hospital, Accra, Ghana provides comprehensive HIV/AIDS care and management of opportunistic infections. The children referred to the clinic either have mothers already known to be HIV-1 seropositive during pregnancy through the program for the prevention of mother-to-child transmission (PMTCT), are discovered to be infected with HIV-1 after presenting with an AIDS-defining illness, or are diagnosed after either a symptomatic sibling or parent was found to be HIV positive. The majority of the children were infected perinatally. The program takes care of about 700 children including those with confirmed HIV diagnosis and HIV-exposed children pending final status determination. About 200 of the children are currently on antiretroviral therapy (ART). The PMTCT program and antiretroviral therapy (ART) were started in 2004. The majority of the children on ART are receiving non nucleoside analog based-highly active antiretroviral therapy HAART; comprising of zidovudine (AZT) or stavudine (d4T) plus lamivudine (3TC) plus either nevirapine (NVP) or efavirenz (EFV).

Participant families were identified through the Pediatric HIV/AIDS Care program. All the children recruited into the study received medical care for their HIV infection through the clinic. Over the period of the study, June to August, 2009, all the families attending the clinic with children aged 8 to 14 years were offered participation in the study by their primary medical provider. All the children enrolled into the study had been diagnosed with HIV infection. In addition, 9 healthcare providers working at the pediatric HIV clinic were enrolled into the study.

All participants gave informed consent in order to participate and child participants required both parental/caregiver consent and child assent. Participants were given the opportunity to refuse or withdraw from the study at any point. All participants were given a small stipend to offset travel expenses. The study was approved by the Institutional Review Boards of University of Ghana Medical School and Yale University, USA.

Study design

A cross-sectional study of 71 caregiver-child dyads was conducted from June to August, 2009. Participants were administered a study questionnaire, the design of which was informed from previous studies on HIV disclosure^{7, 8}. Information was collected on disclosure status, age at disclosure, treatment compliance, and socio-demographic data, family type (biologic, adoptive/foster, extended), and caregiver's HIV status. Children and caregivers were read separate structured questionnaires. To avoid inadvertent disclosure of a child's status, children were interviewed in the presence of their caregivers while the

caregivers were interviewed without the children present. Interviews were conducted by trained study personnel and they lasted between twenty and twenty-five minutes. The primary care providers in the clinic also completed a brief questionnaire.

Medical records were reviewed for medical diagnoses, reported route of transmission, disease severity as determined by WHO clinical staging, current medication including type, treatment compliance, and CD4+ count.

Outcome variables

The main outcome variables were disclosure and non-disclosure of status.

HIV disclosure status was based on the caregiver report. Care givers were asked whether the child knows his/her HIV status.

Definitions

Disclosure—Where the caregiver said that the child knows his/her HIV diagnosis.

Non-disclosure—Where the caregiver said that the child does not know his/her infection or where the caregiver was unsure if the child knew his/her status.

Caregiver—A person who lives with the child, participates in the child's daily care and is the most knowledgeable about the child's health. They were either biological parents or guardians acting as surrogate parents to the child.

Statistical Analysis

HIV disclosure status was based on what the caregiver said on whether the child knew his/her diagnosis. Fisher's exact tests were used to compare categorical variables between children who knew their HIV status and those who did not know. For continuous variables, Wilcoxon rank sum tests were used. Multivariate analyses using logistic regression models were employed to examine the predictors of HIV disclosure. Two sided p-values are reported.

Results

The prevalence of HIV disclosure

The prevalence of disclosure was 21%. Based on the caregiver account 15 of the 71 children knew their HIV status. Of the 15 children whom their caregivers said they knew their status, only 7 (47%) mentioned HIV in describing their illness; while, 8 (53%) did not make reference HIV in describing their illness.

Characteristics of study participants

The demographic characteristics of the 71 caregiver-child dyads enrolled into the study are illustrated in Tables 1 and 2. Fifty-four percent of the children interviewed were females and 60% were in a grade level of three or higher. A little over half of the children had their biological parents alive. The percent of biological parents with HIV was 80 and 52 for mothers and fathers, respectively. Seventy five percent of the caregivers had at least completed junior high school. Over 50% of the caregivers had at least a monthly income of 200 GHC (approximately 130 US Dollars). The HIV disease activity of the children has been summarized in Tables 1 and 2. The mean age of the children was 10.42 years (S.D.=1.72). The HIV clinic was started in 2004 and the mean duration of attendance at the clinic by study children was 36.25 months (S.D.=21.59). At the time of registration into the

clinic, 62% of the study children had WHO clinical stage 3 or 4. Eighty five percent of the children were on HAART at the time of enrollment into the study; the mean duration on HAART was 29.92 months (S.D.=18.17). The mean CD4 absolute count and percent values at or closest to the time of study was 856 (S.D.=631.93) and 26 (S.D.=13), respectively (Table 2).

Association between demographic characteristics and HIV disclosure

Univariate analyses using Fisher's exact and Wilcoxon rank sum tests were employed to examine the association between the characteristics of the study participants and the HIV disclosure status (Tables 3–4). The only caregiver characteristic significantly associated with disclosure of HIV status to the child was having a deceased biologic father ($p=0.02$). Whether the biological mother was alive or dead, HIV status of biological parents, education attainment of caregiver, age of caregiver, and household income were not significantly associated with disclosure of HIV status to the child. The characteristics of the child that were significantly associated with disclosure of HIV status were level of education ($p<0.01$), child responsible for taking his/her own medication ($p=0.02$), age of child ($p<0.01$), duration of starting on HAART ($p=0.02$), and duration of clinic attendance ($p=0.04$). The ARV status, WHO clinical staging at clinic registration, and CD4-T lymphocyte count at time of interview were not associated with the disclosure status of the child.

Predictors of disclosure of HIV status

Multivariate analyses using logistic regression models were employed to examine characteristics of children or caregivers that could predict the HIV disclosure status of a child. All the factors that were associated with HIV disclosure status at the 0.30 level in the univariate analysis were included in the multivariate analysis (Table 5). Age, level of education of the child, deceased biologic father, administration of own HIV medication remained the main predictors of HIV disclosure status in the unadjusted models. The children were more likely to know their HIV status, if they were older, in class 5 or higher, in charge of taking their own ARVs, had a deceased father, had been on ARVs longer, or been a clinic attendee longer. In the adjusted model, none of the above variables predicted the HIV disclosure status of a child, thus, only unadjusted odds ratios are reported in Table 5.

Interview of healthcare providers

We interviewed nine healthcare providers in the clinic for their views on HIV disclosure to their patients. The providers comprised of two attending physicians, two resident physicians, three pharmacists, and two nurse/counselors. Seventy-eight percent of them said disclosure should be done by the caregiver and 18% said it should be by both caregivers and clinic providers. However, when caregivers who had not yet disclosed were asked the same question, nearly a third of them wanted to defer disclosure to the clinic personnel.

All the healthcare providers thought disclosure should be a process with full disclosure by 12 to 13 years of age. The providers thought formal training in counseling and disclosure was critical.

Discussion

The disclosure rate among our study population was 21%. This is within the lower bounds of the range (18% to 77%) reported in studies from resource rich countries². Our finding is consistent with reported rates of disclosure from Thailand, Zambia, and Uganda of 30.1%, 31.8%, and 29%, respectively^{4, 7, 9}. Several studies from both resource rich and resource limited countries suggest that the disclosure of the HIV status to HIV-infected children has

psychological benefits and positive effects on the clinical course of the disease^{4, 5, 10}. Disclosure of HIV status helps HIV infected children to understand their illness and the need for treatment; thereby promoting their participation and responsibility for their treatment¹¹. The rate of disclosure remains low especially in resource limited countries despite the growing evidence of the benefits of disclosure. Reasons cited by the caregivers were consistent with that of studies in resource-limited countries; namely stigmatization and isolation, parental sense of guilt, and fear that the child would not keep diagnosis to themselves². Our findings and that of other studies in the sub-region of low rate of disclosure underscore the need for a systematic review of the hurdles to disclosure and implementation of locally and culturally-sensitive interventions programs to promote disclosure. The low rates of disclosure in pediatric HIV patients may reverse the gains of the unprecedented global initiative to scale-up ARV access in resource-limited countries.

The inability of most caregivers to handle disclosure has defined the three main patterns of disclosure: complete parental, partial, and non-disclosure. In complete disclosure, the child is told that he/she has HIV and is given disease specific information; while, in partial disclosure, the child may know that he/she has an illness but he/she has not been told specifically that he/she has HIV infection. In complete disclosure, the child is aware and refers to his/her illness as HIV related. Complete disclosure of HIV status has been associated with improved adherence to ART⁹. Partial disclosure and non-disclosure can strain the relationship between the caregiver and the child. Force and persuasion are often used to get the child to adhere to treatment; these may result in purposeful rebellion and non-adherence by the child⁹. In our study, the prevalence of complete and partial disclosures was 47% and 53%, respectively. Nearly a third of the caregivers expected the healthcare providers alone to disclose the HIV status of their children. This is contrary to a Thai study where majority of caregivers believed that as parents it was their responsibility to the diagnosis to the child⁷. This may be partly due to the cultural differences in relation to communication between parents and children on issues and the lack of disclosure skills. The healthcare providers agreed that disclosure is the prerogative of the caregivers and children should be told their HIV status. These contrasting views are consistent with that of studies from resource rich countries¹². The expectation of some caregivers that healthcare providers should disclose the HIV status to the HIV-infected child may lead to unnecessary delays in disclosure. As reiterated by the healthcare providers, training of the healthcare providers in disclosure counseling and a disclosure program adopted by the clinic would allow healthcare providers to better advise caregivers on how to disclose. With caregivers who lack disclosure skills, a counselor-assisted or supported disclosure session may suffice⁹.

In our study, the factors that were associated with disclosure were age of the child, the level of education of child, deceased biologic father, administration of own HIV medications, and longer duration on HIV medication. The finding of the association between disclosure and older age, the level of education, and relative's illness or death are consistent with previous studies^{13, 14}. Disclosure has been associated with severity of HIV/AIDS, lack of adherence to treatment, the child's expressed will to know his/her condition, HIV-seronegative caregiver, caregivers with good support system, family expressiveness, and higher socioeconomic status². In our study, socioeconomic status of caregiver, WHO clinical staging, and CD4-T lymphocyte count at time of interview were not associated with disclosure. Several studies in resource rich countries have reported that parents' own HIV status can influence both decision-making around disclosure of the child's status and the disclosure process itself¹⁵. An interesting finding was the fact that children who were responsible for taking their medication without caregiver supervision were more likely to know their status. Data on adherence was not uniformly available so we could not model adherence in our analyses. Other studies have found that disclosure promotes adherence to

treatment and in our study nearly 50% of the caregivers who had disclosed cited issues surrounding medication adherence as a reason. It is possible that after disclosure, children took charge of their illness and medication leading to improved adherence. In studies in Zambia and the Democratic Republic of the Congo, a common reason caregivers gave for disclosure is the hope that by knowing their status, the children will have better adherence to treatment^{4, 8}.

In a two-level mixed model, age, level of education of the child, deceased biologic father, and administration of own HIV medication were the main predictors of the disclosure status of a child. Age remains the strongest predictor of disclosure across all studies. Caregivers consider children less than five years of age as too young both emotionally and cognitively to their illness and the implications thereof^{2, 11}. Caregivers are more likely to disclose the HIV status to children over the age of twelve¹⁶. Interestingly, the mean age at disclosure of our study population is consistent with the mean age at disclosure to HIV-infected children in the USA recently reported by the Pediatric AIDS Clinical Trial Group study (PACTG 219C)³. In the PACTG 219C study, there was a significant decline in age at disclose over time³. The authors attributed the decline in age at disclosure to a decline in social stigma surrounding HIV and the improved long-term survival because of the introduction of HAART in 1996. Most resource limited countries either have access or are at the verge of accessing the advances in antiretroviral therapy. If the lessons learnt in resource rich countries are incorporated appropriately in to programs in resource limited countries, there may be a rapid decline in the age at disclosure over time.

The present study was an exploratory study to determine prevalence and pattern of disclosure at the first Pediatric HIV/AIDS Care Program in Ghana. To the best of our knowledge, this is one of the first studies from West Africa. It has several strengths compared to previous studies from the sub-region; uses a quantitative instrument and a modest sample size. However, the study had some limitations. As a cross-sectional study, the associations observed may not be causal. Also, we are missing information on the circumstances leading to disclosure in individual situations and lack of data on adherence to treatment. Furthermore, the study did not explore the benefits of disclosure such as adherence and clinical improvement in HIV disease due to the low prevalence of disclosure. Further studies are needed to determine whether our findings are representative of the situation in Ghana and other sub-Saharan African countries.

In conclusion our study as other studies from the sub-region reiterates the need to shift the emphasis from whether or not to disclose to the HIV-infected child to providing culturally sensitive support to caregivers and age-appropriate information on the HIV status of the child¹⁷. Pediatric HIV programs should have a systematic and a staged-approach protocol in place to provide support and skill set to facilitate disclosure of HIV status to HIV-infected children by caregivers.

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References

1. Report on the global AIDS epidemic; executive summary. [Accessed 11/13/2009]. http://data.unaids.org/pub/GlobalReport/2008/JC1511_GR08_ExecutiveSummary_en.pdf
2. Wiener L, Mellins CA, Marhefka S, Battles HB. Disclosure of an HIV diagnosis to children: history, current research, and future directions. *J Dev Behav Pediatr.* Apr; 2007 28(2):155–166. [PubMed: 17435473]
3. Butler AM, Williams PL, Howland LC, Storm D, Hutton N, Seage GR 3rd. Impact of disclosure of HIV infection on health-related quality of life among children and adolescents with HIV infection. *Pediatrics.* Mar; 2009 123(3):935–943. [PubMed: 19255023]
4. Menon A, Glazebrook C, Campain N, Ngoma M. Mental health and disclosure of HIV status in Zambian adolescents with HIV infection: implications for peer-support programs. *J Acquir Immune Defic Syndr.* Nov 1; 2007 46(3):349–354. [PubMed: 17721397]
5. Ferris M, Burau K, Schweitzer AM, et al. The influence of disclosure of HIV diagnosis on time to disease progression in a cohort of Romanian children and teens. *AIDS Care.* Oct; 2007 19(9):1088–1094. [PubMed: 18058392]
6. Disclosure of illness status to children and adolescents with HIV infection. American Academy of Pediatrics Committee on Pediatrics AIDS. *Pediatrics.* Jan; 1999 103(1):164–166. [PubMed: 9917458]
7. Oberdorfer P, Puthanakit T, Louthrenoo O, Charnsil C, Sirisanthana V, Sirisanthana T. Disclosure of HIV/AIDS diagnosis to HIV-infected children in Thailand. *J Paediatr Child Health.* May; 2006 42(5):283–288. [PubMed: 16712559]
8. Vaz L, Corneli A, Dulyx J, et al. The process of HIV status disclosure to HIV-positive youth in Kinshasa, Democratic Republic of the Congo. *AIDS Care.* Aug; 2008 20(7):842–852. [PubMed: 18608054]
9. Bikaako-Kajura W, Luyirika E, Purcell DW, et al. Disclosure of HIV status and adherence to daily drug regimens among HIV-infected children in Uganda. *AIDS Behav.* Jul; 2006 10(4 Suppl):S85–93. [PubMed: 16791525]
10. Bachanas PJ, Kullgren KA, Schwartz KS, et al. Predictors of psychological adjustment in school-age children infected with HIV. *J Pediatr Psychol.* Sep; 2001 26(6):343–352. [PubMed: 11490035]
11. Lester P, Chesney M, Cooke M, et al. When the time comes to talk about HIV: factors associated with diagnostic disclosure and emotional distress in HIV-infected children. *J Acquir Immune Defic Syndr.* Nov 1; 2002 31(3):309–317. [PubMed: 12439206]
12. Waugh S. Parental views on disclosure of diagnosis to their HIV-positive children. *AIDS Care.* Apr; 2003 15(2):169–176. [PubMed: 12856338]
13. Cohen J, Reddington C, Jacobs D, et al. School-related issues among HIV-infected children. *Pediatrics.* Jul. 1997 100(1):E8. [PubMed: 9200382]
14. Bor R. Disclosure. Vancouver Conference Review. *AIDS Care.* Feb; 1997 9(1):49–53. [PubMed: 9155915]
15. Lee CL, Johann-Liang R. Disclosure of the diagnosis of HIV/AIDS to children born of HIV-infected mothers. *AIDS Patient Care STDS.* Jan; 1999 13(1):41–45. [PubMed: 11362086]
16. Funck-Brentano I, Costagliola D, Seibel N, Straub E, Tardieu M, Blanche S. Patterns of disclosure and perceptions of the human immunodeficiency virus in infected elementary school-age children. *Arch Pediatr Adolesc Med.* Oct; 1997 151(10):978–985. [PubMed: 9343006]
17. Schonfeld DJ. Talking with elementary school-age children about AIDS and death: principles and guidelines for school nurses. *J Sch Nurs.* Feb; 1996 12(1):26–32. [PubMed: 8696015]

Table 1

Characteristics of the study population

Characteristics	N	%
Gender of child		
Male	33	46
Female	38	54
Education of child		
Class 1–2	28	40
Class 3–4	28	40
Class 5 or more	14	20
WHO Staging of Child		
1	6	8
2	21	30
3	36	51
4	8	11
Mother alive		
No	31	44
Yes	40	56
Father alive		
No	32	46
Yes	37	54
ARV status of child		
Not on ARV therapy	11	15
On ARV therapy	60	85
Caregiver education		
None	8	11
Elementary	10	14
Junior high	32	46
Secondary	20	29
Monthly income of household		
< 100 GHC	28	41
200–300 GHC	27	40
>300 GHC	13	19
Mothers HIV status		
Negative/Unknown	13	20
Positive	51	80
Fathers HIV status		
Negative/Unknown	31	48
Positive	34	52
Who supervises ARVs		
Child	24	41
Father/mother	23	40

Characteristics	N	%
Others ^a	11	19

^a Others: grandparents, sister, uncle, aunt, stepmother, schoolmother

Table 2

HIV disease activity of study children

Variable	Children		
	N	Mean (S.D.)	Median (Range)
Age in years	63	10.42 (1.72)	10.42 (8.0,14.23)
Time on ARVs (months)	61	29.92 (18.17)	31.74 (0.92,62.16)
Duration of clinic attendance (months)	70	36.25 (21.59)	37.69 (0.00,106)
CD4 absolute count	69	856 (631.93)	843 (16,3921)
CD4 percent	61	26.07 (12.95)	29 (1.00,54.50)

Table 3

Demographic characteristics by disclosure status of child

Characteristics	No N =56		Yes N=15		P-value ^a
Gender					0.38
Male	28	50	5	33	
Female	28	50	10	67	
Education					<0.01
Class 1–2	26	47	2	13	
Class 3–4	24	44	4	27	
Class 5 or more	5	9	9	60	
WHO Staging					0.68
1	4	7	2	13	
2	16	29	5	33	
3	30	53	6	40	
4	6	11	2	13	
Mother alive					1.00
No	24	43	7	47	
Yes	32	57	8	53	
Father alive					0.02
No	21	39	11	73	
Yes	33	61	4	27	
ARV status					1.00
Not on ARV therapy	9	16	2	13	
On ARV therapy	47	84	13	87	
Care giver education					0.39
None	7	13	1	7	
Elementary	8	14	2	13	
Junior high	27	49	5	33	
Secondary	13	24	7	47	
Monthly income of household					0.24
< 100 GHC	23	43	5	36	

Characteristics	No		Yes		P-value ^d
	N=56	%	N=15	%	
200–300 GHC	23	43	4	28	
>300 GHC	8	14	5	36	
Mothers HIV status					1.00
Negative/Unknown	10	20	3	20	
Positive	39	80	12	80	
Fathers HIV status					0.25
Negative/Unknown	26	52	5	33	
Positive	24	48	10	67	
Who supervises ARV's					0.02
Child	14	31	10	77	
Father/mother	21	47	2	15	
Others ^b	10	22	1	8	

^a Fisher's exact test p-value.

^b Others: grandparents, sister, uncle, aunt, stepmother, schoolmother

Table 4

HIV disease activity by disclosure status of child

Variable	No (N=56)			Yes (N=15)			p value ^a
	N	Mean (S.D.)	N	Mean (S.D.)	N	Mean (S.D.)	
Age in years	49	10.05 (1.48)	14	11.72 (1.93)			<0.01
Time on ARVs (months)	48	27.1 (16.81)	13	40.2 (19.95)			0.02
Duration of clinic attendance (months)	56	33.7 (19.13)	14	46.3 (28.09)			0.04
CD4 absolute count	54	852 (635.5)	15	871 (640.5)			0.92
CD4 percent	48	25.4 (13.49)	13	28.6 (10.8)			0.35

^aWilcoxon rank sum p-value.

Table 5

Predictors of HIV disclosure status

Predictors	<u>Unadjusted Odds Ratios</u>	
	Odds ratio (95% CI)	P-value
<i>Education</i>		
Class 1–2	1.00	
Class 3–4	3.63 (0.35,37)	0.28
Class 5 or more	92.0 (7.32,999)	<0.01
<i>Father alive</i>		
No	1.00	
Yes	0.20 (0.05,0.84)	0.03
<i>Father HIV</i>		
No	1.00	
Yes	2.21 (0.57,8.54)	0.25
<i>Monthly Income</i>		
< 100 GHC	1.00	
200–300 GHC	1.31 (0.28,6.07)	0.72
>300 GHC	3.00 (0.59,15.3)	0.19
<i>Who supervises ARVs</i>		
Child	1.00	
Father/mother	0.07 (0.01,0.58)	0.01
Others ^a	0.16 (0.02,1.43)	0.10
<i>Age in years</i>	1.86 (1.21,2.86)	<0.01
<i>Time on ARVs (months)</i>	1.05 (1.01,1.10)	0.02
<i>Time on clinic (months)</i>	1.04 (1.00,1.08)	0.03

^a Others: grandparents, sister, uncle, aunt, stepmother, schoolmother