

Acceptability of HIV Testing at the Pediatric Ward of the University Hospital Cnhu-Hkm, Cotonou, Benin

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Abstract

Introduction: Systematic testing is considered a good tool to decrease HIV-related morbidity and mortality. To be efficiently implemented in children, this testing needs to be accepted by parents. The objective of this study was to measure the acceptability of HIV testing by the parents of children seen on routine health visitor admitted to hospital.

Methods: This was a cross-sectional prospective, descriptive and analytic study carried out at the pediatric ward of the university hospital CNHU-HKM of Cotonou, Benin, from 1st March to 31st August 2010. HIV testing was proposed, after counseling, to a group of 312 parents (mother or father) of apparently healthy children recruited at immunization clinic or on routine health visit, and to another group of 376 parents of sick children admitted to hospitalization.

Results: Eighty-three point four percent of children seen on routine health visits and 34.4% of those hospitalized were less than 12 months old (age limits of 1-84 months and 1-180 months respectively). Sex ratio was 1.04 and 1.24 in respective groups. Among parents addressed, there were one father in the healthy children's group and 98 in the hospitalized one's group. HIV testing acceptability was 95.8% in the healthy children's group (n=199) and 49.2% in the hospitalized children's group (n=191). Mothers of hospitalized children were less receptive to the testing (31.65%, n=88) than those of apparently healthy children (4.2%, n=13) [$p < 10^{-9}$]. The test was positive to HIV1 in eight children (2.5%) of the healthy children's group and in 25 of the hospitalized one's group (6.7%) and there were three cases of co-infection HIV1-HIV2.

Conclusion: HIV testing is better accepted by parents of healthy children than by those of sick ones at the university hospital CNHU-HKM of Cotonou. This testing can be used to control HIV through early diagnosis and management of the disease.

Keywords: Accessibility; HIV testing; Routine screening; Child

Abbreviations: HIV: Human Immunodeficiency Virus; CNHU-HKM: Centre National Hospitalier et Universitaire Hubert K. Maga

Introduction

HIV infection remains a pediatric concern in most developing countries, especially in sub-Saharan Africa where 90% of HIV-positive children live [1]. Difficulties in diagnosing the disease in children are considered a hindrance to the initiation of Antiretroviral Therapy (ART) [2]. Counseling and screening have become an important component of the Prevention of Mother-To-Child Transmission (PMTCT) and help increase the patients' access to HIV/AIDS care including ART [3,4]. Besides, many authors recommend that counseling and screening be proposed on a routine basis on health care facilities to increase access to care and to reduce HIV-related morbidity and mortality [5-7]. Acceptability of systematic screening of HIV in the general population of Benin is unknown. Systematically proposing this screening can contribute to avoid «lost opportunities» of testing [8]. This study aimed to measure acceptability, by parents, of HIV testing in their children on the occasion of an immunization or routine health visit, or during hospitalization in the pediatric ward of the university hospital CNHU-HKM of Cotonou.

Methods

This was a cross-sectional prospective, descriptive and analytic study of the acceptability of HIV testing in children seen on the occasion of immunization or routine health visit (apparently healthy children) or hospitalized (sick children) in the pediatric ward of the university hospital CNHU-HKM of Cotonou from 1 March to 31 August 2010. Counseling was systematically performed with the father or the mother of each child prior to the sampling for HIV serology. CNHU-HKM

is a tertiary referral center. The pediatric ward, with 150 beds, offers preventive and curative care to children from zero to 15 years of age. About 4000 children are hospitalized every year and another 4500 are vaccinated during the same time frame. Some of the latter are seen within the framework of routine health visits performed by resident doctors in the ward. Other children are also brought in by their parents only for routine health visit.

The rapid test for HIV1/2 (Determine[®] 7D23-43) was used to check the child's status. Confirmation test with Biolane[®] SDHIV-1/2 3.0 was immediately done in children older than 18 months and result rendered to their parents. In children less than 18 months, confirmation was done by Polymerase Chain Reaction (PCR). An appointment was made with the parents to discuss the result.

The group of apparently healthy children was seen by a resident doctor on the occasion of a vaccination (expanded program of immunization or subsequent immunizations) or that of a routine health visit. The doctor was assisted by a trained. Both were part of HIV management team and were specially trained to do the counseling.

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Received June 05, 2013; **Accepted** November 20, 2013; **Published** November 22, 2013

Citation: Sagbo GG, Lalya HF, d'Almeida M, Alao MJ, d'Almeida C, et al. (2013) Acceptability of HIV Testing at the Pediatric Ward of the University Hospital Cnhu-Hkm, Cotonou, Benin. *Pediat Therapeut* 3: 181. doi:10.4172/2161-0665.1000181

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Weight, length/height and head circumference were recorded during the visit. The second group comprised children hospitalized for various pathologies in the pediatric ward and were seen by the same team of resident doctor and nurse.

The counseling room was specially designed. The counseling was done on an individual basis and comprised a pre- and post-test confidentially done, after which the testing result was immediately given to the parents. When parents agreed for the test, a venous sampling was done. Children who were tested positive to HIV were managed according to the guidelines implemented in the ward.

Were excluded from the study all children whose HIV status was known beforehand. We performed a consecutive, exhaustive inclusion of children in each group. A verbal consent was obtained from either or both parents. A form was used to collect data on demographics, acceptance of the testing, HIV test result and other relevant data.

Data were analyzed with epi Info 3.8. Chi 2 or Fisher test was used to compare proportions, with a significance level of 5%.

Results

A total of 312 apparently healthy children and 376 hospitalized children and their parents were seen.

Population characteristics

Among the 312 apparently healthy children 260 (83.3%) were less than 12 months of age (1 month to 30 months). Sixty-seven point six percent of the 376 hospitalized children were more than 12 months of age (1 month to 180 months). Sex ratio was 1.04 among the apparently healthy children and 1.29 among the hospitalized ones. Counseling was done with 589 mothers out of a total of 688 parents (85.6%) from both groups. Table 1 displays population characteristics.

Acceptability and HIV status

After counseling 71.2% (n=490) of parents have accepted HIV testing for their children. Acceptability rate was 95.8% (n=299) in the group of parents of apparently healthy children and only 50.8% (n=191). Acceptability and HIV status are shown in Table 2, and Parents' position regarding their gender on HIV testing acceptability is presented on Table 3.

Discussion

This study showed that evaluation of HIV testing acceptability after counseling was possible during routine care activities in the pediatric ward of the university hospital CHNU-HKM of Cotonou. Indeed almost three fourth of parents accepted HIV serology in their children. This high rate of acceptability during routine care was also demonstrated in other studies [9-12]. World Health Organization and many other authors have recommend to systematically propose HIV testing to patients on the occasion of any contact with the health

	Hospitalized children (%) N=376	Healthy children (%) N=312
Age		
< 12	122 (32.4%)	260 (83.3%)
≥ 12	254 (67.6%)	52 (16.7%)
Gender		
Female	164 (43.6%)	153 (49.0%)
Male	212 (56.4%)	159 (51.0%)

Table 1: Population characteristics.

	Hospitalized children (%) N=376	Healthy children (%) N=312
Acceptability		
Yes	191 (50.8%)	299 (95.8%)
No	185 (49.2%)	13 (04.2%)
Parent giving consent		
Mother	278 (73.9%)	311 (99.7%)
Father	98 (26.1%)	1 (00.3%)
HIV Serology result		
Negative	165 (86.8%)	290 (98.9%)
Positive	25 (13.2%)	8 (02.6%)
Not done	186	14
Type of HIV		
VIH1	22 (88.0%)	8 (100.0%)
VIH1+2	3 (12.0%)	0 (00.0%)

Table 2: Acceptability and HIV status.

	Hospitalized children (%) N=376	Healthy children (%) N=312
Father		
Agree	1 (0.3)	0 (0.00)
Not agree	97 (25.8)	1 (0.33)
Mother		
Agree	190 (50.5)	298 (95.51)
Not agree	88 (23.4)	13 (4.16)

Chi=131.40, p<10⁻⁹, RP=3.13 [2.63; 3.72]

Table 3: Parents acceptability regarding their gender.

care facilities so as to avoid « lost opportunities» of diagnosing HIV infection [7,13,14].

Thus proposing HIV testing is an important part of the prevention of HIV and an important support to the access to ART [15,16]. This is particularly essential in children in whom the disease progression is fast especially those in their first year of life, where the mortality rate is high [17,18]. Moreover HIV testing at hospital offers the possibility of initiating care without delay if the child is infected, the aim being to reduce morbidity and mortality [19].

The majority of apparently healthy children were less than 12 months of age whereas hospitalized ones were at least 12 months old. Children seen on routine health visit were predominantly children brought by their parents for immunization in the Expanded Program of Immunization (EPI). This program is intended for children less than 12 months of age. The other children seen were brought for vaccines scheduled after the age of 12 months, catch-up vaccination, or routine health visit.

Mothers were kind to accept the HIV testing after counseling. On the other hand more than one fourth of parents of hospitalized children who made the decision about the testing were male (26.1%, n=98) and the refusal rate was higher (49.2%, n=185). Taking in account both groups or considering only mothers of both groups, acceptability was higher in the group of parents of healthy children than in that of hospitalized children. One would have expected the opposite presuming that parents of healthy children would not accept HIV testing in a non sick child. On the other hand parents of hospitalized children were expected to accept more HIV testing as part of management of their kids but acceptability was lower in their group. One can also think that parents of healthy children were not aware of the fact that their children could possibly be asymptomatic HIV host; this could contribute to explain the readiness of those who accepted the testing. The high number of fathers involved in the group of hospitalized children had

certainly contributed to the low acceptability in that group compared to that of healthy children. Many authors observed that males were more reluctant to screening than females [19-21]. Taking in account only hospitalized children we noted that fathers significantly refused HIV testing more than did mothers ($p < 10^{-9}$). It is possible that this refusal be due to their not willing to reveal or know their own HIV status in case familial screening was proposed in the face of a positive HIV serology in the child. This refusal could be a hindrance to the management of infected children or even parents, leading to the increase of the number HIV/AIDS-related orphans and to the disruption of the protective familial environment.

This study did not seek the reason of this fathers' refusal of the testing. Mugisha et al. [22]. Found that fathers accept more screening in the face of certain particular situations like the appearance of HIV infection symptoms or the death of the partner [22].

Thirty-three children were HIV positive including 25 hospitalized (13.2%) and eight (2.6%) apparently healthy children.

The prevalence of HIV in the general population of Benin was 1.9% in 2010; about the same was found in the group of children seen on routine health visit.

This strategy of systematically proposing HIV screening to the parents of hospitalized children is very helpful in the identification of HIV-infected patients; indeed more than 10% of tested children were HIV positive. This number is higher than the one obtained during a previous non published screening in the ward and which was predictive symptoms-based. These findings confirm others authors' finding that more HIV cases could be identified by a routine proposal of testing than by strategies based on evaluation of clinical symptoms [23,24].

This study did not consider the reasons of parents' refusal of HIV testing in their children in both groups and the diagnosis in hospitalized patients; this was deliberate so as to see whether or not acceptability of HIV testing by parents was related to the child's clinical status.

Conclusion

Acceptability by parents of HIV testing in their children in the pediatric ward of CNHU-HKM is good. It was more significant in children seen on routine health visits than in those hospitalized for other diseases. It would be beneficial that this systematic offer of screening be part of daily health care package in all of our hospitals and health care facilities.

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