

## 72 - EPIDEMIOLOGIC PROFILE OF HIV CHILDREN AND ADOLESCENTS IN A REFERENCE HOSPITAL FOR THE TREATMENT OF AIDS - NATAL/RN/BRAZIL

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### INTRODUCTION

The Acquired Immune Deficiency Syndrome (AIDS) currently makes a major challenge to research, clinical treatment and social intervention. With dynamic profile since its emergence, the epidemic has changed its pattern of transmission, leaving the gay groups at risk for an increasing trend of heterosexual transmission. This change in the pattern of transmission makes us to find a frequency that upward of infected women and therefore increased the vertical transmission of HIV infection, raising the number of cases of AIDS in children worldwide (TOMAZELLI, 2003).

In Brazil, about 84% pediatric AIDS cases, or in children up to 13 years of age, is due to vertical transmission (BRAZIL, 2005).

The incidence of cases infected by mother-child transmission in Brazil, has been marked by low coverage of prophylactic actions during the prenatal (DEMPSEY et al, 2000). Moreover, the antiretroviral therapy has prolonged the survival of children infected, increasing the number of those without the development of the traditional symptoms of AIDS (LAUFER & SCOTT, 2000).

Given this, the interest of this study comes from the professional experience and observation of rapid and significant epidemiological changes that this epidemic is suffering as the time passes, beyond the importance in knowing who were these children living with AIDS, in which family are they inserted and what determinants are associated with the transmission of the disease. It is in that context that this research was developed, aiming to trace the epidemiological profile of children and adolescents suffering from HIV / AIDS met in a public service for AIDS treatment in Natal-RN.

### METHODOLOGY

This is an epidemiological analytical study, descriptive and quantitative, developed at the ambulatory of Giselda Trigueiro Hospital (HGT), reference to treat AIDS, located in Natal - RN / Brazil. The sample was composed of 33 children and adolescents suffering from HIV, attended in this reference center.

It obeyed to the following criteria for inclusion: a) prior permission of parents / guardians through the signing of a term of free and informed consent, b) parents with children / adolescents with the medical diagnosis of confirmed HIV, c) being in consultation at the ambulatory of the Hospital, on the day of the interview.

After authorization of HGT Board and approval of the project next to the Ethics Committee on Humans Research of the Federal University of Rio Grande do Norte, under the paragraph 142/04, started up the process of data collecting, which occurred between March and June 2006.

As a data collection tool was used a structured interview, validated through a pilot study. It was also used the patients records and the SINAN database, available in the commission of Hospital Epidemiology. For data analysis, was used EPI INFO software version 6.04.

### RESULTS AND DISCUSSION

Regarding the profile of children and adolescents, we tried to identify them about age and sex, and the group found itself in the range between 03 and 14 years, with an average age of 8.5 years. It was observed that 25 (75.7%) had less than 11 years old and 8 (24.3%) had between 11 and 14 years. It was found that 20 (60.3%) of the children were female and 13 (39.4%) males.

Children and adolescents from the city of Natal totaled 18 (54.55%) and from other cities of the Rio Grande do Norte State, 15 (45.45%). Among those from the capital, 8 (44.44%) lived in the North zone, 4 (22.22%) in the West, 4 (22.22%) in the East and 2 (11.12%) in the South.

The capital Natal is the greatest prevalent, with over 50% of cases of AIDS in children and adolescents. According to data from SINAN / MS, were registered, from 1988 to 2005, a total of 43 cases of AIDS in individuals younger than 13 years old in Rio Grande do Norte, with 22 cases in Natal. It is observed that in Brazil, AIDS moves more and more toward smaller cities (RED et al, 1998).

As the income of surveyed families, 17 (51.5%) had income of a minimum wage, 11 (33.33%) of two minimum wages and 5 (15.15%) had no wage income. The data about family income corroborate the theory of epidemic impoverishment, according to Parker and Camargo Jr (2000).

According to Foster (2003), the AIDS epidemic has pointed to a growing impoverishment, which more and more aggravates the health of children. When a child from families of low income becomes HIV positive, they generally do not receive appropriate treatment, either because their caregivers cannot afford the cost of transport and medicines, either because of none power to depart from work and other family commitments. Moreover, the illness or death of the mother or a responsible adult puts at risk the satisfaction of that child's basic needs, such as: access to health services, education, sanitation and adequate nutrition, threatening, often, their right to survive, but also may cause him to become a wanderer-homeless boy.

Some authors as Bastos and Szwarcwald (2000) have thought the issue of social vulnerability and consequent impoverishment of the AIDS epidemic on economic and political terms. It is common that in poorer areas many adverse factors are brought together regarding the lack of infrastructure, low supply of service and employment opportunity.

The little serum-positive have small family, while 29 (87.9%) do not have brothers and 4 (12.1%) have two brothers, who are not infected with HIV.

In this study, the vast majority, 31 (93.93%) of children and adolescents, had as route of AIDS transmission, the vertical, except for 2 cases (6.07%), which occurred through blood transfusion. As a result of increased heterosexual transmission, has been increasing the number of women infected with HIV; consequently, the number of children infected through mother-child transmission increased (MOFENSON, 1994). In Brazil, about 84% of cases of pediatric AIDS, or in children up to 13 years old is due to vertical transmission (BRAZIL, 2005).

The period in which the mother's HIV infects its concept is not yet clear, but it can be inferred by clinical and laboratory evidence. The clinical course of HIV infected children has shown that around on 10%-30% of these children the symptoms begin early in life, so similar to other infections acquired in the womb. The majority (70%-90%) only shows the symptoms after several years, suggesting that transmission occurs, mainly during delivery (MOFENSON, 1994).

The school has been used as a marker of socioeconomic status, and the increase in the proportion of cases of AIDS in those individuals with less education have been called impoverishment. Between 1988 and 1999, the proportion of cases among individuals with up to the first degree has increased from 28.6 to 60.7% (BRAZIL, 1997).

It was seen in this research that among children and adolescents, 19 (86.36%) had been enrolled in institutions of public network and 3 (13.64%) in private institutions of education; 5 (15.15%) of them attended pre-school and 17 (51.52%) attended primary school. Another portion of children, 11 (33.33%), had not yet begun to attend school, all aged under 6 years, except one case where the child was 7 years. This finding seems to arise from the lack of options for access to pre-school education in the public network, which reaches a large part of children from families of low income in Natal (RN). Of the 22 children who started school life, the performance was described as good by 11 caregivers, who reported ease of learning, interest and satisfactory return of the child in school activities. 6 children were described as regular and 5 caregivers reported poor performance, exemplified with information on age-delayed grades, repetition or on the number of absences of children in school. The comparison of the chronological age of the child in relation to the grades that was taking led the researchers to examine the existence of age-delayed grades on children who had started their schooling with more than two years delayed, in terms of age expected for the frequency of a given grade. It was checked the presence of 4 cases with delayed, from that established criterion. These problems of performance can be attributed both to factors inherent in the illness, learning disabilities of the child as the precarious quality of education, frequent appearance in Brazilian schools, especially on those of the public network, where virtually all of the sample was registered.

As for the color of children and adolescents was observed that 24 (72.70%) children were brown and 9 (23.3%) caucasian, corroborating with the current profile of the epidemic in Brazil, which spread up between people of color brown. The AIDS epidemic continues its process of growth among the most vulnerable socioeconomic people, expressed by the persistent increase in the proportion of cases with race / color "brown" and reduction of the "caucasian" in both sexes (BRAZIL, 2005).

It was observed in this study that, among children and adolescents, 87.88% were in use of anti-retroviral (ARV). The parameters to indicate the start of ARV therapy is based on the classification of HIV infection in children, as the advocating criterion of CDC/1994, that, in cases that occur moderate immune alteration and moderate signs and/or symptoms of the disease, the introduction of ARV therapy on an individual may be considered, according to the clinical and laboratory evaluation (BRAZIL, 2004).

The use of prophylactic medication was reported in 17 (51.51%) of children and adolescents, being Sulfamethoxazole and Trimethoprim (SMX+TMP) in use in all cases. Children infected with HIV are at increased risk of moderate or severe bacterial infections, with frequent recurrences. The most common pathogen in serious bacterial infections is the *Streptococcus pneumoniae*. The antibiotic treatment of such conditions should follow the same standards set for immunocompetent children with individualized decisions for the age group, knowing the seriousness and epidemiological factors, such as home or hospital origin, and local patterns of bacterial resistance (BRAZIL, 2004).

As for the immunization coverage of children and adolescents, 26 (78.8%) received all the vaccines the official schedule of vaccination. As the time for defining the diagnosis of HIV infection is long, it does not justify the postponement of the start of vaccination in asymptomatic children exposed via vertical HIV transmission, on the risk of leaving them without protection. The Ministry of Health recommends that during its monitoring, children receive all vaccines of the official schedule (BRAZIL, 2004).

About the HIV teenager carriers, all started tracking only aged over two years, evidencing the absence of AZT antiretroviral prophylaxis.

These findings corroborate with studies conducted on the epidemiology of HIV vertical transmission HIV, revealing that the age at diagnosis for HIV in teenagers is later in North and Northeast regions. The reasons for these differences may be linked to both the poor performance of public health services network in those regions to detect, diagnose and report cases of AIDS in children, as the higher prevalence of other childhood diseases, masking and delaying the diagnosis (Foster, 2003). This monitoring delay of HIV children show us the issue of finding such customers, since the non-treatment endangers these children lives.

In Brazil, since 1995, AZT prophylactic use has been recommended and distributed by the Health Ministry, which advocates from the 14<sup>th</sup> week of pregnancy, during delivery and the newborn (NR), in six weeks. Although the evaluation of these recommendations is slightly damaging the difficulty in monitoring the various stages of intervention, available data have shown that the number of pregnant women receiving the injection AZT in childbirth in 1998 was only 2,512, while the number of HIV positive pregnant women in childbirth was 19,898, or only 19.5% of pregnant women were given AZT during delivery (BRASIL, 1999).

This fact highlights the failure of strategies to reduce vertical transmission in Brazil, pointing to the need for continuous awareness and training of all health care professionals involved with assistance to women in general and to pregnant women in particular, to implement correctly the actions aiming to reduce HIV vertical transmission.

Type of delivery has been widely discussed as a risk factor for HIV vertical transmission. Cesarean birth was associated with lower risk for the transmission than vaginal delivery (LANCET, 1992). Among the mothers who participated in this search, the vaginal delivery occurred in 28 (84.84%) of cases.

Failure to demand the prenatal care for pregnant women remains as a major barrier to the effective planning interventions proven to reduce vertical transmission. This study revealed that only 45% of mothers participants performed the prenatal during pregnancy of these HIV teenager carriers. According to Lancet (1992), human milk may be associated with HIV vertical transmission in the after birth period.

The suggested percentage for HIV transmission through breastfeeding is 29%, and the additional risk of HIV transmission through this route in infections acquired in periods intra-uterine and childbirth is about 14% (DUNN et al, 1992). In this study, 30 (90.9%) of teenagers were fed with milk from their mothers. The data are best viewed in table 1.

**Table 1. Teenagers profile in Giselda Trigueiro Hospital- Natal / RN 2008.**

Considered variable	f	%
<b>Age</b>		
- 3 to 10 years (children)	25	75,7
- 11 to 14 years (adolescents)	8	24,3
<b>Sex</b>		
- Male	13	39,4
- Female	20	60,6
<b>Brothers?</b>		
- Yes	11	33,3
- No	22	66,7
<b>Color</b>		
- White	9	27,3
- Brownscale	24	72,7
<b>Prophylactic medication use</b>		
- Yes	11	33,3
- No	22	66,7

<b>Vaccination</b>		
- Yes	26	78,8
- No	7	21,2
<b>Birth type</b>		
- Cesarean	5	15,2
- Normal	28	84,8
<b>Breastfed?</b>		
- Yes	30	90,9
- No	3	9,1
<b>Contamination form</b>		
- Vertical transmission	31	93,93
- Blood transfusion	2	6,1
<b>Origin</b>		
- Capital	18	54,5
- Interior	15	45,5
<b>Anti-retroviral use</b>		
- Yes	29	87,9
- No	4	12,1
<b>Total</b>	<b>33</b>	<b>100,0</b>

Source: Data collected by the researcher.

### CONCLUSION

The obtained data and the theoretical reference were addressed to characterize children and adolescents who attend Giselda Trigueiro Hospital ambulatory, reference for pediatric infection, chosen as the site for this study.

AIDS occurrence in this age group is directly linked to the diagnosis in women, and non-adoption of chemo-prophylactics measures during pregnancy, childbirth and puerperium, as well as non-inhibiting lactation.

It is emphasized the importance in shaping the epidemiological profile of this population, with the goal of most significant interventions aimed at determining how age, housing, years of study concluded, social context, among others, influencing in a significant way the confrontation in front of the infection by HIV virus.

Oriented education actions related to sexuality and reproductive health addressed the population, especially women, should be planned as AIDS increasing feminization has contributed significantly to the disease growth in children and adolescents.

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## EPIDEMIOLOGIC PROFILE OF HIV CHILDREN AND ADOLESCENTS IN A REFERENCE HOSPITAL FOR THE TREATMENT OF AIDS - NATAL/RN/BRAZIL

### ABSTRACT

The gradual increase in the number of AIDS cases among women of all Brazilian regions in the vast majority through sexual transmission, has contributed significantly to the increase of HIV vertical transmission infection, raising the number of cases of AIDS in teenagers. This study objective was tracing the epidemiological profile of children and adolescents suffering from HIV / AIDS met in a public service for the AIDS treatment in Natal-RN. It is an epidemiological analytical study, descriptive and quantitative, developed at the ambulatory of Giselda Trigueiro Hospital (HGT), reference to treat AIDS, located in Natal - RN / Brazil. The sample was composed of 33 children and adolescents suffering from HIV, attended in this reference center. As main results, it was observed that children and adolescents were at the interval between the 03 and 14 years, with an average age of 8.5 years, being 20 (60.3%) females and 13 (39.4%) males. It was identified that most of them, 18 (54.55%), were from Natal. The group had as means of transmission, the vertical in 31 (93.93%), except to 2 cases (6.07%), which occurred through blood transfusion. It was found that 30 (90.9%) of teenagers were fed with breast milk after birth. Regarding education, 19 (86.36%) had been enrolled in institutions of public education and 3 (13.64%) in private institutions. It follows, therefore, that the occurrence of AIDS in this age group is directly linked to the diagnosis in women, as well as the non-adoption of chemo-prophylactics measures during pregnancy, childbirth and puerperium, as well as non-inhibiting lactation.

**Keywords:** AIDS / HIV, Children, Adolescents.

## PROFIL EPIDEMIOLOGIQUE DES ENFANTS ET DES ADOLESCENTS VIVANT AVEC LE VIH A L'HOPITAL DE REFERENCE POUR LE TRAITEMENT DU SIDA - NATAL/RN/BRÉSIL

### RESUMÉ

L'augmentation progressive du nombre de cas de sida chez les femmes de toutes les régions du Brésil, principalement par transmission sexuelle, a contribué de manière significative à l'augmentation de la transmission verticale de l'infection par le VIH, avec augmentation du nombre de cas de sida des enfants et des adolescents. Le but de cette étude était de tracer le profil épidémiologique des enfants et des adolescents vivant avec le VIH / SIDA ont participé à un public de référence pour le traitement du sida dans le Natal-RN. Il s'agit d'une étude épidémiologique, descriptive et analytique quantitative dans la nature, développé à la clinique de l'Hôpital Giselda Trigueiro (HGT) de référence dans le traitement du sida, situé dans la ville de Natal - RN / Brésil. L'échantillon comprenait 33 enfants et adolescents avec le VIH, enregistrés et traités dans ce centre de référence. Le principal résultat a été observé que les enfants et les adolescents sont dans la fourchette comprise entre 03 et 14 ans, avec un âge moyen de 8,5 ans, et 20 (60,3%) étaient des femmes et 13 (39,4%) hommes. Il a été, la plupart d'entre eux que 18 (54,55%) ont été de la ville de Natal. Le groupe a été de voie de transmission du sida, de la verticale à 31 (93,93%), à l'exception qu'il est de 2 cas (6,07%), qui a eu lieu par transfusion sanguine. Il a été constaté que 30 (90,9%) des enfants et des adolescents ont été allaités le lait maternel après la naissance. En ce qui concerne l'éducation, 19 (86,36%) étaient inscrits dans les établissements publics et 3 (13,64%) dans les établissements privés. Il s'ensuit donc que les cas de sida dans ce groupe d'âge est directement liée au diagnostic des femmes ainsi que l'adoption de mesures non chimioprophylactiques au cours de la grossesse, l'accouchement et du post-partum, et de ne pas inhiber la lactation.

**Mots-clés:** VIH/SIDA, de l'enfance, l'adolescence.

## PERFIL EPIDEMIOLÓGICO DE LOS NIÑOS Y ADOLESCENTES QUE VIVEN CON EL VIH EN UN HOSPITAL DE REFERENCIA PARA EL TRATAMIENTO DE SIDA - NATAL/RN/BRASIL

### RESUMEN

El aumento gradual en el número de casos de SIDA entre las mujeres de todas las regiones brasileñas de la mayoría a través de la transmisión sexual, ha contribuido de manera significativa al aumento de la transmisión vertical de la infección por el VIH, con aumento en el número de casos de SIDA en niños y adolescentes. El objetivo de este estudio fue determinar el perfil epidemiológico de los niños, niñas y adolescentes que viven con el VIH / SIDA atendidos en un público de referencia para el tratamiento del SIDA en Natal-RN. Se trata de un estudio epidemiológico, descriptivo, analítico y cuantitativo en la naturaleza, desarrollado en la clínica del Hospital Giselda Trigueiro (HGT) de referencia en el tratamiento del SIDA, ubicado en la ciudad de Natal - RN / Brasil. La muestra comprende 33 niños, niñas y adolescentes con el VIH, registrados y tratados en este centro de referencia. El resultado principal se observó que los niños, niñas y adolescentes se encontraban en el rango entre 03 y 14 años, con una edad media de 8,5 años, y 20 (60,3%) eran mujeres y 13 (39,4%) hombres. Es, la mayoría de los que 18 (54,55%) fueron de la ciudad de Natal. El grupo fue a la vía de transmisión del SIDA, el vertical en 31 (93,93%), excepto que es de 2 casos (6,07%), que se produjo a través de transfusión de sangre. Se constató que 30 (90,9%) de los niños, niñas y adolescentes fueron alimentados con leche la leche materna después del parto. En cuanto a la educación, 19 (86,36%) estaban matriculados en instituciones públicas y 3 (13,64%) en instituciones privadas. De ello se deduce, por tanto, que la incidencia de SIDA en este grupo de edad está directamente relacionada con el diagnóstico en las mujeres, así como la adopción de medidas no quimioprolifáticas durante el embarazo, parto y posparto, y no inhibir la lactancia. **Palabras clave:** VIH/SIDA, niños, adolescentes.

## PERFIL EPIDEMIOLÓGICO DE CRIANÇAS E ADOLESCENTES PORTADORES DE HIV EM UM HOSPITAL DE REFERÊNCIA PARA O TRATAMENTO DA AIDS NATAL/RN/BRASIL

### RESUMO

O progressivo crescimento do número de casos de Aids entre mulheres de todas as regiões brasileiras em sua grande maioria por meio da transmissão sexual, tem contribuído de forma significativa para o aumento da transmissão vertical da infecção pelo HIV, com elevação do número de casos de Aids em crianças e adolescentes. O objetivo deste estudo foi o de traçar o perfil epidemiológico das crianças e adolescentes portadoras de HIV/Aids atendidas em um serviço público de referência para o tratamento da Aids em Natal-RN. É um estudo epidemiológico, descritivo e analítico de natureza quantitativa, desenvolvido no ambulatório do Hospital Giselda Trigueiro (HGT) referência no tratamento da Aids, situado no município de Natal - RN/Brasil. A amostra foi composta por 33 crianças e adolescentes portadoras de HIV, cadastradas e atendidas neste centro de referência. Como principais resultados observou-se que as crianças e adolescentes encontravam-se no intervalo entre 03 e 14 anos, com idade média de 8,5 anos, sendo 20 (60,3%) do sexo feminino e 13 (39,4%) do masculino. Identificou-se, na sua maioria que 18 (54,55%) eram procedentes do município de Natal. O grupo teve como via de transmissão da Aids, a vertical em 31 (93,93%), excetuando-se 2 casos (6,07%), os quais ocorreram através de transfusão sanguínea. Constatou-se que 30 (90,9%) das crianças e adolescentes foram amamentadas com leite materno após o nascimento. Em relação à escolaridade, 19 (86,36%) encontravam-se matriculadas em instituições da rede pública e 3 (13,64%) em instituições particulares. Conclui-se, portanto, que a ocorrência da Aids nesse grupo etário está diretamente ligada ao diagnóstico em mulheres, bem como a não adoção de medidas quimioprolifáticas durante a gestação, parto e puerpério, bem como a não inibição da lactação.

**Palavras-chave:** Aids/HIV, Crianças, Adolescentes.