Medical and Non-medical Expenses for Treating Babies Born to HIV-Infected and Non-HIV-Infected Mothers

BOONCHIAN PANSATIANKUL, MD*,
THANYANAT BUNNAG, MD*,
PIMSIRI LEOWSRISOOK, RN**

Abstract

Background : Most human immunodeficiency virus (HIV) infections among children under 5 years are transmitted perinatally. These children reqiure more medical attention and hospitalization than non HIV-infected children. The expenses of HIV-infected children are mostly related to opportunistic infections.

Objective : To compare the medical and non-medical expenses of treating babies born to HIV-infected and non-HIV-infected mothers at the Queen Sirikit National Institute of Child Health (QSNICH)

Methodology : Consecutive children of HIV-infected and non HIV-infected mothers born at Rajavithi Hospital, Bangkok, were recruited from 1993 to 1995. All of them were followed at QSNICH for free medical services. The demographic and pregnancy data of mothers and the characteristics of the babies of the two groups were compared as well as the number of the hospital visits and reported medical and non medical expenses.

Results : 58 children of HIV-infected mothers and 119 children of non-HIV-infected mother were recruited during this period. Only 30 (51.7%) children of HIV-infected mothers could complete the 18-month requirement, while 90 (75.6%) of the babies born to non-HIV-infected mothers finished the 18 months follow-up period. The two groups did not differ much in terms of demographic characteristics, except that the infant fathers were younger and serology for syphilis was higher in the HIV-infected mothers. This indicated that the HIV-infected mothers had earlier sexual activity. Babies born to the HIV-infected mothers tended to have a lower birth weight and were small for gestational age (SGA). Nine out of 30 babies (30%) born to the HIV-infected mothers were found to be HIV positive at the 18th month of follow-up. The mean medical, non-medical, and total expenses of the babies of the infected group were 2,525.90 $\pm$ 4,328.75, 1,323.07 $\pm$ 1,452.41, 3,848.97 $\pm$ 5,308.90 baht respectively, or were 2.4, 2.0, and 2.2 times those of the non-infected group. These expenses did not include antiretroviral therapy.

Conclusion : The total medical and non-medical expenses excluding antiretroviral therapy of the children of the infected group were 2.2 times those of the non-infected group. Under the limita-

tion of financial resource and fast growing health care expenditures, the preventive measure for HIV infections including public information, education, communication, and condom promotion should be emphasized.

Key word : Medical and Non-Medical Expenses, Babies Born to HIV-Infected Mothers

PANSATIANKUL B, BUNNAG T, LEOWSRISOOK P
J Med Assoc Thai 2003; 86 (Suppl 3): S719-S726

* Department of Pediatrics,
** Nursing Division, Queen Sirikit National Institute of Child Health, Bangkok 10400, Thailand.

Human immunodeficiency virus (HIV) infection and its subsequent syndromic diseases, i.e. acquired immunodeficiency syndrome (AIDS) is a major threat to both developing and developed countries. Estimates from the UNAIDS indicated that 88.8 per cent of all AIDS cases are in developing countries. In addition, one million new HIV infections are occurring each year and 70 per cent of these are in the developing world[1]. The transmission of HIV in many countries, including Thailand, has shifted from traditional risk groups, e.g. commercial sex workers (CSWs), intravenous drug users (IDUs) and homosexuals, to the general population *via* intrafamilial spread. Such transmissions within families have resulted in an increasing number of HIV-infected children and orphans due to the death of one or both parents. The economic and social consequences of this disease have begun to be seen and will continue to pose a threat into the next millennium. This is particularly true for countries that have extensive HIV transmissions in the recent past.

Data from the Epidemiology Division shows that, up to 2002, there were 42 million reported AIDS cases, 2.7 million of whom were children under 15 years. The sentinel serosurveillance of HIV infection among various risk groups including CSWs, IDUs, male patients attending sexually-transmitted diseases (STDs) clinic and pregnant women attending antenatal clinics (ANCs) showed an HIV prevalence rate of 18.46, 47.17, 5.92 and 1.46 respectively in 1999[2]. The rate of perinatal transmission of HIV from mothers to children varied by geographical area and intervention. Before widespread use of anteretroviral (mainly zidovudine) prophylaxis, the mother-to-child transmission rate in certain areas in upper northern Thailand was as high as 40 per cent. After zidovudine prophylaxis was available, a policy for all 6 provinces in upper northern Thailand in 1997, the rate fell to about 20 per cent. However, zidovudine has not been adopted as a nationwide policy and several new developments in terms of regimens have been recently developed in Thailand and elsewhere[3]. Mother-to-child transmission can be considered as the sole mode of new infection among children under 5 years, except for rare cases of blood-transfused HIV-transmitted disease. A study in the Queen Sirikit National Institute of Child Health (formerly Children's Hospital) showed that 99 per cent of HIV infections among children under 5 years are transmitted perinatally[4,5].

In the past, detection of HIV infection in the newborn was not easy as it was based on the detection of HIV antibody (immunoglobulin G). Maternal HIV Ig passes to the fetus freely *via* the placenta requiring approximately 18 months to clear from the infant's circulation, thus HIV infection in the child based on Ig could not be diagnosed before 18 months of age. With the advent of new techniques including polymerase chain reaction (PCR), detection of HIV nucleic acids is now possible and the diagnosis of HIV infection among the newborn has become easier. However, the PCR technique is quite sophisticated and not available in general hospitals. Therefore, detection of

most HIV infections among the newborn in Thailand still relies mainly on the determination of immunoglobins against HIV in the babies.

In addition to the recent developments in prophylaxis against maternal-to-fetal transmission of HIV, progress in treating HIV-related illnesses among children who are HIV-infected has been made. The treatments are usually confined to the issues of provision of antiretrovirals and treating opportunistic infections, e.g. *Pneumocystis carinii* pneumonia, *Cryptosporidium* diarrhea, and recurrent bacterial pneumonias. Some of these infections can be easily diagnosed by general pediatricians working in general hospitals while others require pediatricians specialized in HIV diseases. It is generally observed that HIV-infected children require more medical attention and hospitalization than non-HIV-infected ones. This is understandable given the more opportunistic infections among the former. Except for live-attenuated vaccines, the immunization schedule, including the number of visits for immunizations, of the two groups should be the same. Therefore, the number of visits should be a good surrogate of the number of medical attentions, and therefore, the episodes of illnesses of the two groups.

Objective

To compare the medical and non-medical expenses of treating babies born to HIV-infected and non-HIV-infected mothers in the Queen Sirikit National Institute of Child Health (formerly Children's Hospital).

Methodology

During June, 1993 and February 1995, consecutive cases of HIV positive pregnant women who attended the labor rooms of Rajavithi Hospital, Bangkok, were contacted, the study was explained and they were invited to participate in the project. If agreeing, the prospective mothers would be asked for informed written consent and they were interviewed for demographic and behavioral data. It is the policy of the hospital to test all pregnant women in the labor room for HIV infection and other infectious markers including syphilis serology [Venereal Disease Research Laboratory, (VDRL)], if no such data were available from ANC records. After delivery, the babies would be taken care of by the pediatricians of the Queen Sirikit National Institute of Child Health (QSNICH). The mothers would then be followed-up for routine postpartum care and the babies would be transferred for well-baby care at QSNICH. The control group was selected from the well-baby clinic of QSNICH, by age and sex matched from non-HIV infected mothers whose deliveries were also in the labor room of Rajavithi Hospital. informed written consent and interviews were the same as for the HIV-infected group. For vaccination and medical illnesses, the mothers might seek medical attention at the QSNICH any time and free medical services, according to the hospital protocols, would be provided. For each hospital visit, medical (drugs, clinical procedures and clinical investigations) and non-medical (transportation and incomes forgone) were determined by well-trained interviewers and recorded in specially developed forms. The expense figures were taken as reported and no effort was made to convert the figures to real costs. At the time of the study, prophylaxis and treatment of the babies with zidovudine had not yet been made a hospital policy. It was only at the end of the study that the policy was made.

Settings

The mothers were recruited in Rajavithi Hospital in the Department of Medical Services (DMS), the Ministry of Public Health (MOPH). The hospital specializes in childbirths with approximately 12,000 deliveries per year. As a routine practice, after delivery, the babies are taken care of by the pediatricians from the nearby QSNICH, which is also part of the DMS, MOPH. The QSNICH treats 330,000 outpatients and admits 13,000 inpatients each year.

Serological testing

The study was carried out when PCR was not a routine procedure. Therefore, all diagnoses of HIV infections were made by detecting immunoglobulins in the blood. The ELISA (Enzyme-linked immunosorbent assay) test kit (Cobus Core Anti HIV-1/HIV-2 EIA, Roche Company, Switzerland) was used. Definite diagnosis of HIV infection in the babies was made if the babies tested positive for HIV antibody by the Western Blot (HIV-1 Western Blot, Diagnostic Biotehnology, Singapore) method[6]. The confirmation was done by polymerase chain reaction (PCR) by Center for Disease Control Laboratory Center in Nonthaburi when HIV infection was suspected or at the age of 18 months.

Statistical analyses

Demographic and behavioral data of the mothers of the two groups were compared as the well

as number of hospital visits and reported medical and non-medical expenses. Since the endpoint was set as positive HIV serology at the 18th month after birth, cases who were lost to follow-up prior to 18 months were excluded from the analysis. For categorical and count data, χ^2 test was used for testing the difference in distribution. For the categorical data with expected cell ≤ 5, Fisher's exact test was used. For continuous data, mean (X) and standard deviation (SD) were calculated. The differences between the two groups were tested by unpaired *t*-test. Since, there were only three cases who received antiretroviral prophylaxis and treatment at the time of the study, medical expenses of these cases used in the analysis excluded the expenditure of the antiretrovirals.

Abnormal syphilis serology was defined as VDRL of the titer 1 : 8 or higher or any titer level of VDRL with positive test of *Treponema pallidum* hemagglutination assay (TPHA).

RESULTS

During June 1993 and February 1995, 58 HIV-infected mothers were detected and invited to join the study. All of them agreed. One hundred and nineteen babies of non-HIV-infected mothers were also invited to join the study. Of the babies born to the 58 HIV-infected mothers, only 30 (51.7%) could complete the 18-month requirement or died of HIV infection. While 75.6 per cent (90 out of 119) of the babies born to non-HIV-infected mothers finished the 18 months follow-up period. Demographic and pregnancy-related characteristics of the two groups of mothers are shown in Table 1. The two groups were comparable in demographic characteristics, except for their age, their husband's age, and proportion of abnormal serology. The HIV-infected mothers were on the average 3 years younger, had a younger husband, and a higher percentage of positive syphilis serology than the non-HIV-infected mothers.

Of the 30 HIV-infected mothers, 2 (6.7%) reported a history of being CSWs and another 4 cases (13.3%) admitted having more than one sex partner. The other 24 cases (80%) reported no other risk, except normal sexual activities with their husbands.

Table 2 shows the characteristics of the babies born to the 30 HIV-infected mothers and the 90 non-HIV-infected mothers. Babies born to the HIV-infected mothers tended to have a lower birth weight and were small for gestational age (SGA). A marked difference in feeding pattern was also observed. The difference can be attributed to the MOPH policy to discourage breast-feeding for babies born to HIV-infected mothers to prevent the post-natal transmission of HIV.

Of the 30 babies born to the HIV-infected mothers, 9 (30%) were found to be HIV-positive at the 18th month of follow-up. All of them were HIV-positive before the age of 12 months and eight of them died of HIV-infection before 9 months of age. Table 3 shows the number of outpatient visits, inpatient admissions and medical and non-medical expenses of the two groups of babies. Medical, non-medical and total expenses among the HIV-infected group were all higher than the non-HIV-infected group.

DISCUSSION

Both groups of mothers did not differ much in terms of demographic characteristics, except for the difference in age of the mothers and their husbands indicating that the HIV-infected mothers had earlier sexual activity than the non-infected mothers. Since all cases were recruited consecutively, the difference should not be explained by potential difference in parity of the two groups.

The two groups experienced similar rates of complications during pregnancy. However, the non-infected group seemed to have a higher rate of labor complications than the infected ones but the sample size in the present study was too small to provide conclusive evidence in this regard. Both groups of babies had similar birth weights. The higher rate of immediate post-natal complications among the non-infected babies corresponded well with the higher rate of labor complications among their mothers. Although the mean number of outpatient visits among the babies born to the infected mothers was higher, the difference was minimal. However, the mean medical, non-medical, and total expenses of the babies of the infected group was $2,525.90 \pm 4,328.75$, $1,323.07 \pm 1,452.41$, $3,848.97 \pm 5,308.90$ baht respectively or 2.4, 2.0 and 2.2 times those of the non-infected group. It is true that these expenses cannot be considered the "real" costs and not all of these expenses were borne by the mothers because some part might have been absorbed by the hospitals or borne by a third party. However, if we are willing to assume that the expenses are proportional to their costs, the 2-fold difference in expenses between the two groups is quite alarming because expenses related to antiretroviral therapy were not included in the analysis. If the costs or expenses of such a therapy are taken into consideration, the ratio will be much higher. This posts an important

Table 1. Demographic and pregnancy-related characteristics of HIV-infected and non-HIV-infected mothers, Bangkok, Thailand.

Characteristics	HIV-infected (n = 30)	%	Non-HIV-infected (n = 90)	%	P-value
Age (years)					
≤ 20	4	13.3	6	6.7	0.285
21-30	24	80.0	66	73.3	
31-40	2	6.7	17	18.9	
>40	0	0.0	1	1.1	
Mean age	23.0		26.1		0.001
SD	4.1		5.2		
Range	17-35		17-41		
Age of husband					
≤ 20	1	3.3	1	1.1	0.303
21-30	21	70.0	52	57.8	
31-40	8	26.7	31	34.4	
>40	0	0.0	6	6.7	
Mean age	27.5		30.3		0.010
SD	4.1		7.3		
Range	19-35		17-65		
Current occupation					
Housework	3	10.0	18	20.0	0.099
Small business	1	3.3	10	11.1	
Labor	26	86.7	55	61.1	
Current occupation of husband					
Housework	15	53.6	48	56.5	0.468
Small business	6	21.4	24	28.2	
Labor	7	25.0	13	15.3	
Educational level					
Primary school	15	50.0	58	64.4	0.304
Secondary school	8	26.7	20	22.2	
Higher than secondary school	7	23.3	12	13.3	
Educational level of husband					
Primary school	9	30.0	39	43.3	0.343
Secondary school	11	36.7	31	34.4	
Higher than secondary school	10	23.4	20	22.2	
Household monthly income (baht)					
< 5,000	14	46.7	37	41.1	0.668
5,000-9,999	13	43.3	35	38.9	
10,000-19,999	2	6.7	12	13.3	
≥ 20,000	1	3.3	6	6.7	
Abnormal syphilis serology					
Yes	4	13.3	1	1.1	0.004
No	26	86.7	89	98.9	
History of ANC					
Yes	28	93.3	84	93.3	1.000
No	2	6.7	6	6.7	
Pregnancy complication					
Yes	2*	6.7	5**	5.6	0.822
No	28	93.3	85	94.4	
Complication during delivery					
Yes	2***	6.7	14****	15.6	0.215
No	28	93.3	76	84.4	

* Complications during pregnancy among the HIV-infected mothers include.

** Complications during pregnancy among the non-HIV-infected mothers include.

*** Complications during labor among the HIV-infected mothers include.

**** Complications during labor among the non-HIV-infected mothers include.

Table 2. Characteristics of babies born to HIV-infected and non-HIV-infected mothers, Bangkok, Thailand.

Characteristics	HIV-infected (n = 30)	%	Non-HIV-infected (n = 90)	%	P-value
Birth weight (grams)					
< 2,500	4	13.3	7	7.8	0.294
2,500-2,999	7	23.3	34	37.8	
≥ 3,000	19	63.3	49	54.4	
Mean birth weight	3,060.0		3,015.1		0.667
SD	396.8		366.3		
Range	2,200-3,950		1,900-3,850		
Gestational age at birth (weeks)					
< 36	1	3.3	2	2.2	0.801
36-40	29	96.7	87	96.7	
> 40	0	0.0	1	1.1	
Birth weight and gestational age					
Small for gestational age (SGA)	3	10.0	3	3.3	0.147
Appropriate for gestational age (AGA)	27	90.0	87	96.7	
Immediate post-delivery complication (within 7 days after birth)					
Yes	2*	6.7	14**	15.6	0.215
No	28	93.3	76	84.4	
Feeding					
Exclusive breast-feeding	1	3.3	60	66.7	< 0.001
Mixed breast- and bottle-feeding	1	3.3	17	18.9	
Exclusive bottle-feeding	28	93.3	13	14.4	

* Immediate post-delivery complications among babies born to the HIV-infected mothers include.
** Immediate post-delivery complications among babies born to the non-HIV-infected mothers include.

Table 3. Hospital visits and medical and non-medical expenses of babies born to HIV-infected and non-HIV-infected mothers, Bangkok, Thailand.

Characteristics	HIV-infected (n = 30)	%	Non-HIV-infected (n = 90)	%	P-value
Outpatient (OP) visit					
1-12	17	56.7	53	58.9	0.509
13-24	9	30.0	31	34.4	
≥ 25	4	13.3	6	6.7	
Mean OP visit	14.3		13.1		0.467
SD	7.4		6.9		
Range	7-32		6-51		
Inpatient (IP) admission					
0	27	90.0	81	90.0	0.670
1	2	6.7	8	8.9	
2	1	3.3	1	1.1	
Mean IP admission	0.13		0.11		0.850
SD	0.43		0.35		
Range	0-2		0-2		
Mean medical expenses (baht)*	2,525.90		1,053.20		0.002
SD	4,328.75		545.51		
Mean non-medical expenses (baht)**	1,323.07		669.75		0.020
SD	1,452.41		598.04		
Mean total expenses (baht)	3,848.97		1,722.95		< 0.001
SD	5,308.90		942.59		

* Medical expenses include expenses on drugs, radiological and laboratory investigations.
** Non-medical expenses include expenses on transportation and income forgone due to illnesses of the babies.

challenge on the health care financing and services of the country. How can the country secure adequate funding to pay for the effective treatment for HIV infections when the number of HIV infected individuals is estimated to be 600,000 or roughly 1 per cent of the total population? This question must be answered in the context of limited financial resources in health and the attempts of the country to curb its fast growing health care expenditure. Furthermore, one of the main competitors of the health budget for treatment is "prevention". Health professionals and the general public look to the government to sustain its successful HIV/AIDS preventive efforts including public information, education, communication and condom promotion.

SUMMARY

The partial answer for containing medical and non-medical expenses for HIV/AIDS prophylaxis and treatment is to adopt cost-effective approaches. This will need critical review of evidence of effectiveness of the regimen, careful cost consideration and appropriate analysis of economic, social and political situations of the countries. It is obvious that Thailand may not be able to adopt the highest standard of practice from the most advanced countries. We will not go for mediocre approaches either. We need to strike a good balance between individual rights and social rights to make a good public policy on HIV/AIDS prophylaxis and treatment in both adult and pediatric cases.

ACKNOWLEDGEMENT

The authors wish to thank Dr. Achara Teeraratkul for her kind assistance of protocol preparation and data collection; Dr. Pathom Sawanpunyalert, Miss Ratchanee Mitgitti for their kind assistance in data analysis and review of various versions of this manuscript; Dr. Tawee Chotipitayasunondh and Dr. Yupin Thanasophan for their kind advice.

(Received for publication on August 30, 2003)

REFERENCES

1. Kunanusonti C. The epidemiology of HIV infection and AIDS in Thailand. In : Pancharoen C, Chotipitayasunondh T, Tisyakorn U, (eds). Pediatric AIDS. Bangkok: Chulalongkorn University Printing House; 2002: 1-14.
2. Thonghong A, Plipat T, Thanprasertsuk S, et al. HIV Serosurveillance in Thailand : Result of the 18th Round, June 2000. Thai AIDS J 2001; 13: 66-84.
3. Sirisanthana V. Demographic and Clinical characteristic of symptomatic vertical HIV-infected chidren at Chiang Mai University Hospital. J Infect Dis Antimicrob Agents 1996; 13: 89-93.
4. Chotipitayasunondh T, Chearsakul S, Suteewan W, et al. Natural history and mortality of perinatal HIV-1 infection, Bangkok, Thailand. Abstract (Poster) We C. 3440 in X1 Intenational Conference on AIDS, Vanconver, Canada, July 7-12 1996.
5. Thisyakorn, U. Children infected by their mothers. In : Brown T, Siffitrai W, (eds). The impact of HIV on children in Thailand. Program on AIDS. Thai Red Cross Society Research Report No.16. Bangkok, 1995: 20-3.
6. Panakitsuwan S, Phutiprawan T, Susiriwatananon Y, Phenchan T. Confirmation of true positive result for HIV antibody by combination of the two screening assays. Bull Dept Med Serv 1995; 20: 170-5.

ค่าใช้จ่ายในการรักษาพยาบาลเด็กเกิดจากมารดาติดเชื้อเอ็ชไอวีและเด็กเกิดจากมารดาปกติ

บุญเชียร ปานเสถียรกุล, พบ,*
ธัญญณัฐ บุนนาค, พบ, พิมพ์ศิริ เลี่ยวศรีสุข, พยาบาลวิชาชีพ***

ความเป็นมา : การติดเชื้อเอ็ชไอวีในเด็กอายุต่ำกว่า 5 ปี ส่วนใหญ่ได้รับจากมารดาขณะใกล้คลอด และระหว่างคลอด เด็กกลุ่มนี้ส่วนใหญ่ต้องการการดูแลอย่างเอาใจใส่ และอยู่โรงพยาบาลมากกว่าเด็กทั่วไป ค่าใช้จ่ายของเด็กเหล่านี้ ส่วนใหญ่เกี่ยวข้องกับการติดเชื้อฉวยโอกาส

วัตถุประสงค์ : เพื่อเปรียบเทียบค่าใช้จ่ายทางการแพทย์ และที่ไม่ใช่ทางการแพทย์ในการดูแลรักษาเด็กที่เกิดจากมารดาติดเชื้อเอ็ชไอวีและมารดาไม่มีการติดเชื้อเอ็ชไอวี

วิธีการศึกษา : ระหว่างปี 2536–2538 เด็กที่เกิดจากมารดาติดเชื้อเอ็ชไอวีทุกราย และเด็กที่เกิดจากมารดาปกติทุกรายคลอดที่โรงพยาบาลราชวิถี โดยมีอายุและเพศใกล้เคียงกันมาติดตามดูแลต่อที่สถาบันสุขภาพเด็กแห่งชาติมหาราชินี ข้อมูลพื้นฐานส่วนตัวของมารดา ของทารก ค่าใช้จ่ายทางการแพทย์ และค่าใช้จ่ายที่ไม่เกี่ยวกับทางการแพทย์ในการพาเด็กมาโรงพยาบาลแต่ละครั้ง ถูกนำมาวิเคราะห์

ผลการศึกษา : มีเด็กที่เกิดจากมารดาติดเชื้อเอ็ชไอวี 58 ราย และเด็กที่เกิดจากมารดาปกติ 119 ราย เมื่อสิ้นสุดการติดตาม 18 เดือนพบว่ากลุ่มเด็กที่เกิดจากมารดาติดเชื้อเอ็ชไอวีมีเพียง 30 ราย (51.7%) และกลุ่มเด็กที่เกิดจากมารดาปกติมีเพียง 90 ราย (75.6%) ข้อมูลส่วนตัวของมารดาทั้ง 2 กลุ่ม มีลักษณะคล้ายคลึงกันยกเว้นกลุ่มมารดาติดเชื้อมีอายุน้อยกว่า อายุสามีน้อยกว่า และ VDRL ที่ผิดปกติมากกว่ากลุ่มมารดาของเด็กที่ปกติ แสดงว่ามารดากลุ่มนี้มีเพศสัมพันธ์ตั้งแต่อายุยังน้อย เด็กที่เกิดจากมารดาติดเชื้อเอ็ชไอวีมีน้ำหนักตัวน้อยกว่าและน้ำหนักตัวเปรียบเทียบกับอายุครรภ์น้อยกว่าเด็กกลุ่มเปรียบเทียบ 9 ในเด็ก 30 คน ของกลุ่มมารดาติดเชื้อเอ็ชไอวี มีผลเอ็ชไอวีบวกที่ติดตามครบ 18 เดือน (30%) ค่าเฉลี่ยของค่าใช้จ่ายทางการแพทย์ ค่าใช้จ่ายที่ไม่เกี่ยวกับทางการแพทย์และค่าใช้จ่ายโดยรวมของกลุ่มที่เกิดจากมารดาติดเชื้อเอ็ชไอวี ซึ่งไม่ได้รวมค่ายาต้านไวรัสเท่ากับ 2,525.90 ± 4,328.75, 1,323.07 ± 1,452.41, 3,848.97 ± 5,308.90 บาท ตามลำดับ หรือเป็น 2.4, 2.0, และ 2.2 เท่าของกลุ่มที่เกิดจากมารดาปกติ

สรุป : ค่าใช้จ่ายในการดูแลรักษาผู้ป่วยเด็กที่เกิดจากมารดาติดเชื้อเอ็ชไอวีสูงเป็น 2.2 เท่าของเด็กที่เกิดจากมารดาปกติ ในสถานการณ์ปัจจุบันประเทศไทยมีข้อจำกัดทางการเงิน ค่าใช้จ่ายด้านการสาธารณสุขเพิ่มขึ้น มาตรการการป้องกันการติดเชื้อเอ็ชไอวีที่จำเป็นต้องเน้น ได้แก่การประชาสัมพันธ์ การให้ความรู้แก่ประชาชน การให้คำปรึกษาแนะนำและการใช้ถุงยาง

คำสำคัญ : ค่าใช้จ่ายทางการแพทย์ และที่ไม่ใช่ทางการแพทย์, เด็กเกิดจากมารดาติดเชื้อเอ็ชไอวี

บุญเชียร ปานเสถียรกุล, ธัญญณัฐ บุนนาค, พิมพ์ศิริ เลี่ยวศรีสุข
จดหมายเหตุทางแพทย์ ฯ 2546; 86 (ฉบับพิเศษ 3): S719–S726

* กลุ่มงานกุมารเวชกรรม,
** กลุ่มงานการพยาบาล, สถาบันสุขภาพเด็กแห่งชาติมหาราชินี, กรุงเทพ ฯ 10400