*IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*
*e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 17, Issue 6 Ver. 10 (June. 2018), PP 43-48*
*www.iosrjournals.org*

# Clinical profile of paediatric HIV/AIDS

Dr.Niru Prabha Saharia[1], Dr.Arati Deka[1],Dr.Meena Kumari Mili[1], Dr.Swaroop Kumar Baruah [2]

*[1]Deptt. Of PaediatricsGauhati Medical College And Hospital Guwahati ,Assam , [2]Deptt. of Medicine, Gauhati Medical College And Hospital Guwahati ,Assam*
*Corresponding author: Dr. Meena Kumari Mili*

***Abstract***
*INTRODUCTION-Paediatric HIV/AIDS differs from adult HIV.With the availability of antiretroviral therapy (ART), HIV infection, has now become a chronic treatable condition in children.*
*AIMS AND OBJECTIVES: 1) Study different clinical presentations of HIV/AIDS in paediatric age group (18 months -15yrs)METHODS: It was a hospital based observational study. The case records of all children diagnosed with paediatric HIV infection between 1st July 2007 to 30th June 2017 who fulfill the inclusion and exclusion criteria were reviewed and their clinical profile prevalence were evaluated.RESULTS:In the study 31(25.84%) cases were between 18 months-3yrs age, 49 (40.83%) were between >3yrs -5yrs and 40 (33.33%) were of more than 5 yrs age. Majority of the children were from rural area 68 (56.7%) and 52(43.3%) were from urban area. Perinatal (vertical) mode of transmission was the most common mode of transmission. There were 10 (8.3%) asymptomatic cases. Fever was the most common presenting complaint. On clinical examination undernutrition was the most common finding. In the present study 45 cases who were on ART were followed up atleast once. Majority of the followups were for respiratory problem and fever. The nutritional status and the rates of common infection in these children on follow up were low .CONCLUSIONS: Intensified screening of HIV infection in asymptomatic children by high suspicion will help in diagnosing HIV at the earliest, and thus they can be subjected to early management helping in improving the immunological status and thereby increase the life span of the child.*

---

Date of Submission: 03-06-2018 Date Of Acceptance: 21-06-2018

---

## I. Introduction

HIV means Human Immunodeficiency Virus. HIV virus causes AIDS(Acquired Immunodeficiency Syndrome) also known as SLIM disease. AIDS is the end stage of disease representing breakdown of immune defense mechanism, leaving patient prey to progressive opportunistic infections and malignancies.Infection occurs when the virus integrates with the genetic material of a CD4 white blood cell in the immune system. Children of today are the youth of tomorrow. HIV affects this very precious generation and bears grave consequences to our future, our nation, the continent and the world at large. Ever since, the report of first paediatric case in 1983, there has been an alarming increase in the rate of disease[1].There is an increased frequency of malnutrition and infections that may be more persistent, severe and less responsive to treatment. In addition, these growing children are left with inescapable challenges of facing not only lifelong adherence with complex treatment regimens, but also enormous psychosocial, mental and neuro-cognitive issues[1]. With the availability of antiretroviral therapy (ART),HIV infection, has now become a chronic treatable condition in children.It is important to concentrate on paediatric HIV as it differs from adult HIV regarding epidemiology, mode of transmission, diagnosis, immunology, pathology clinical spectrum, management and presentation

**AIMS AND OBJECTIVES:**

Study different clinical presentations of HIV/AIDS in paediatric age group (18 months -15 years).

## II. Materials And Methods

**Setting -**Paediatric OPD and Paediatrics Ward and ART plus Centre in Gauhati Medical College and Hospital, Guwahati Assam.

**Period of study-** Duration of study was 1 year starting from 1st July 2016 to 30th June 2017

**Study design**- Hospital based observational study

**Study population**- All children diagnosed with paediatric HIV infection since 1st July 2007 till June 2017 in Paediatric OPD and Paediatrics Ward and ART plus Centre, in Gauhati Medical College and Hospital Guwahati.

**Inclusion criteria-**Children between 18months-15yrs age with HIV reactive by rapid/ ELISA test.

**Exclusion criteria-** Infants and children below 18months with clinical suspicion of HIV infection as per WHO criteria for presumptive diagnosis of severe HIV disease.

**Ethics-**Ethical considerations were met through institutional ethical committee. The anonymity of the children were maintained.

**Method of study**

The case records of all children diagnosed with paediatric HIV infection between 1st July 2007 to 30th June 2017 who fulfill the inclusion and exclusion criteria were reviewed and their clinical profile prevalence were evaluated. Diagnosis of HIV was confirmed in those children by rapid antigen tests or ELISA. Confirmations of all infections were done as per strategies suggested by WHO. Total of 120 both old and new cases were included out of which 16 were newly enrolled cases during the study period.

A special proforma was designed to record the following information: demographic data, history at presentation, clinical findings, nutritional status, developmental history, stage of disease, parental and sibling status, mode of transmission .The details of management and follow-up were recorded.The socio economic status was calculated using Modified BG Prasad socioeconomic classification scale, 2016.

## III. Results And Observation

**Age distribution of the cases**

In our study out of 120 cases, 31(25.84%) cases were between 2yrs - 3yrs age, 49 (40.83%) were between >3yrs -5yrs and 40 (33.33%) were of more than 5 yrs age.

**Table 1:** Showing age distribution of cases

| S.no | Age | Number | Percentage |
|---|---|---|---|
| 1 | 2yrs - 3yrs | 31 | 25.84 % |
| 2 | >3yrs - 5yrs | 49 | 40.83 % |
| 3 | > 5yrs | 40 | 33.33 % |

**Sex distribution of the cases**

Out of 120 children there were 61 (50.8%) males and 59(49.2%) females

**Table 2**: Showing sex distribution of cases.

| S.no | Sex | Number | Percentage |
|---|---|---|---|
| 1 | Male | 61 | 50.8% |
| 2 | Female | 59 | 49.2% |

**Area distribution of the cases**

Majority of the children were from rural area 56.7% (68) and 43.3% (52) were from urban area.

**Table 3**: Showing area of distribution of cases.

| S.no | Residence | Number | Percentage |
|---|---|---|---|
| 1 | Rural | 68 | 56.7 % |
| 2 | Urban | 52 | 43.3 % |

**Distribution according to socioeconomic status**

42(35%) cases belonged to lower class, 35(29.2%) belonged to lower middle class, 26(21.7%) belonged to middle class and 17(14.1%) belonged to upper class.

**Table 4**: Showing distribution of socioeconomic status of cases.

| S.no | Class | Number | Percentage |
|---|---|---|---|
| 1 | Lower class | 42 | 35 % |
| 2 | Lower middle class | 35 | 29.2 % |
| 3 | Middle class | 26 | 21.7 % |
| 4 | Upper class | 17 | 14.1 % |

**Mode of transmission**

Perinatal (vertical) mode of transmission was the most common mode of acquiring HIV.In our study perinatal mode of transmission comprised of 97.5% (117)cases, in 1.67% (2) the disease was transmitted through blood and blood products and in 0.83% (1) the source was uncertain.

**Table 5**:Showing distribution of mode of transmission of infection.

| S.no | Mode of transmission | Number | Percentage |
|---|---|---|---|
| 1 | Perinatal (vertical) | 117 | 97.5 % |
| 2 | Blood and blood products | 2 | 1.67 % |
| 3 | Unknown | 1 | 0.83 % |

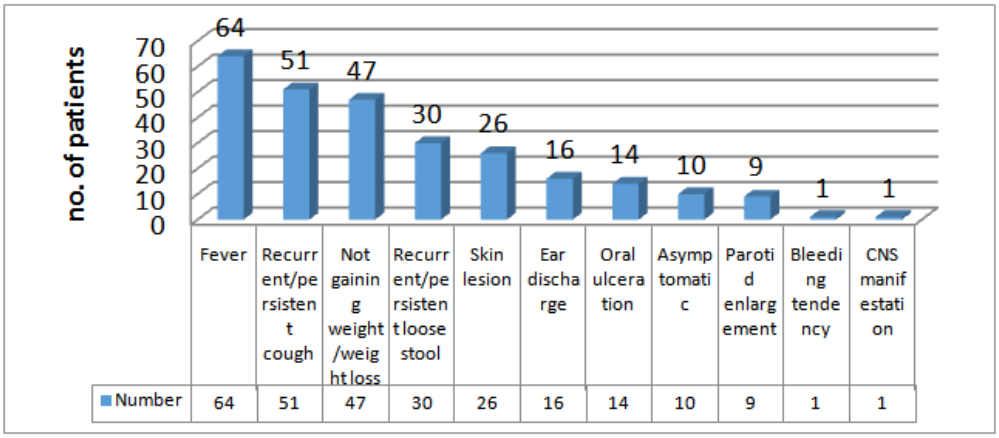
**Complaints on first presentation**

Fever was the most common presenting complaint and it was found in 64(53.3%) cases. Next common presentation was recurrent/persistent cough found in 51(42.5%),followed by not gaining weight/weight loss and it was found in 47(39.1%) cases. Other common presentations were loose stool in 30(25%), skin lesion in 26(21.6%), ear discharge in 16 (13.3%), oral ulcers in 14(11.66%), parotid enlargement in 9(7.5%) cases and bleeding tendency in 1(0.83%), CNS manifestation 1(0.83%) (AFP).10 patients, that is 8.3%, were asymptomatic

**Table 6**: Showing distribution of symptoms complaints on first presentation.

| S.no | Complaints | Number | Percentage |
|---|---|---|---|
| 1 | Fever | 64 | 53. 3% |
| 2 | Recurrent/persistent cough | 51 | 42.5 % |
| 3 | Not gaining weight/weight loss | 47 | 39.1 % |
| 4 | Recurrent/persistent loose stool | 30 | 25 % |
| 5 | Skin lesion | 26 | 21.7 % |
| 6 | Ear discharge | 16 | 13.3 % |
| 7 | Oral ulceration | 14 | 11.66 % |
| 8 | Asymptomatic | 10 | 8.3 % |
| 9 | Parotid enlargement | 9 | 7.5 % |
| 10 | Bleeding tendency | 1 | 0.83 % |
| 11 | CNS manifestation | 1 | 0.83 % |

***Fig 1:*** *Showing distribution of symptoms complaints on first presentation*




**Clinical signs**

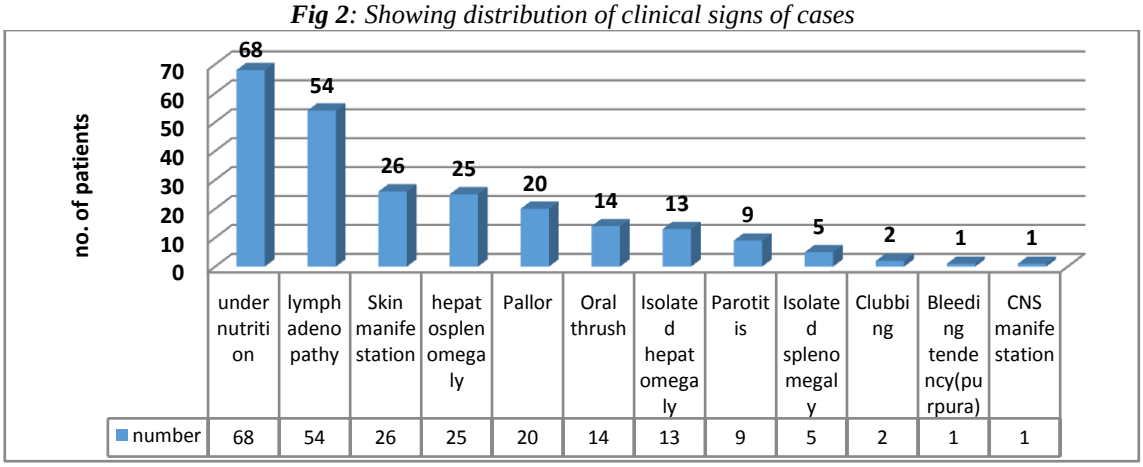
On clinical examination, malnutrition was the most common finding and was found to be in 68 (56.67%), the next common findings were lymphadenopathy 54(45%) and skin lesions 26 (21.6%), hepatosplenomegaly was present in 25(20.83%), pallor 20 (16.6%) while oral thrush present in 14(11.66%), isolated hepatomegaly 13 (10.8%) and painless parotitis in 9(7.5%), isolated splenomegaly were present in 5(4.1%).Other findings were clubbing present in 2(1.67%) and bleeding tendency (purpura) in 1(0.83%) and CNS manifestation in 1(0.83%) cases. (CNS manifestation was in the form of AFP).

**Table 7**: Showing distribution of clinical signs of cases

| S.no | Signs | Number | Percentage |
|---|---|---|---|
| 1 | Undernutrition | 68 | 56.67 % |
| 2 | lymphadenopathy | 54 | 45 % |
| 3 | Skin manifestation | 26 | 21.6 % |
| 4 | hepatosplenomegaly | 25 | 20.83 % |
| 5 | Pallor | 20 | 16.6 % |
| 6 | Oral thrush | 14 | 11.66 % |
| 7 | Isolated hepatomegaly | 13 | 10.8 % |
| 8 | Parotitis | 9 | 7.5 % |

| | | | |
|---|---|---|---|
| 9 | Isolated splenomegaly | 5 | 4.1 % |
| 10 | Clubbing | 2 | 1.67 % |
| 11 | Bleeding tendency(purpura) | 1 | 0.83 % |
| 12 | CNS manifestation | 1 | 0.83 % |

***Fig 2**: Showing distribution of clinical signs of cases*




**Out of the total 120 cases in the study, 45 cases had follow up and were on ART**

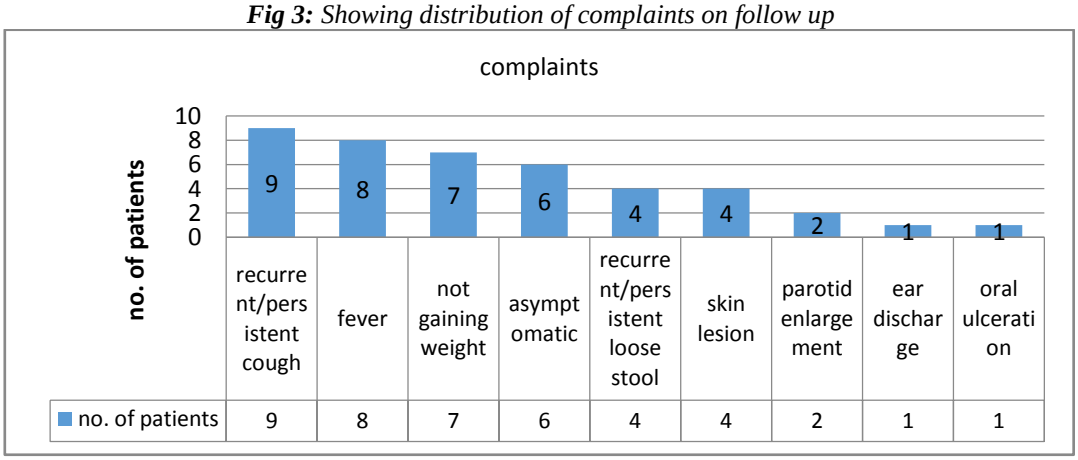
**Complaints on follow up**

Majority of the follow ups were for respiratory complaints and fever seen in 20% and17.8% cases respectively. Other complains were of not gaining weight in 15.6%, recurrent/persistent loose stool in 8.9%, skin lesion in 8.9%, parotid enlargement in 4.4%, ear discharge in 2.25%, oral ulceration 2.25% cases. Only six patients 13.33% in their follow ups were asymptomatic.

**Table 8**: Showing distribution of complaints on follow up

| S.no | Complaints | Number | Percentage |
|---|---|---|---|
| 1 | Recurrent/persistent cough | 9 | 20 % |
| 2 | Fever | 8 | 17.8 % |
| 3 | Not gaining weight | 7 | 15.6 % |
| 4 | Asymptomatic | 6 | 13.3 % |
| 5 | Recurrent/persistent loose stool | 4 | 8.9 % |
| 6 | Skin lesion | 4 | 8.9 % |
| 7 | Parotid enlargement | 2 | 4.4 % |
| 8 | Ear discharge | 1 | 2.25 % |
| 9 | Oral ulceration | 1 | 2.25 % |

***Fig 3:** Showing distribution of complaints on follow up*



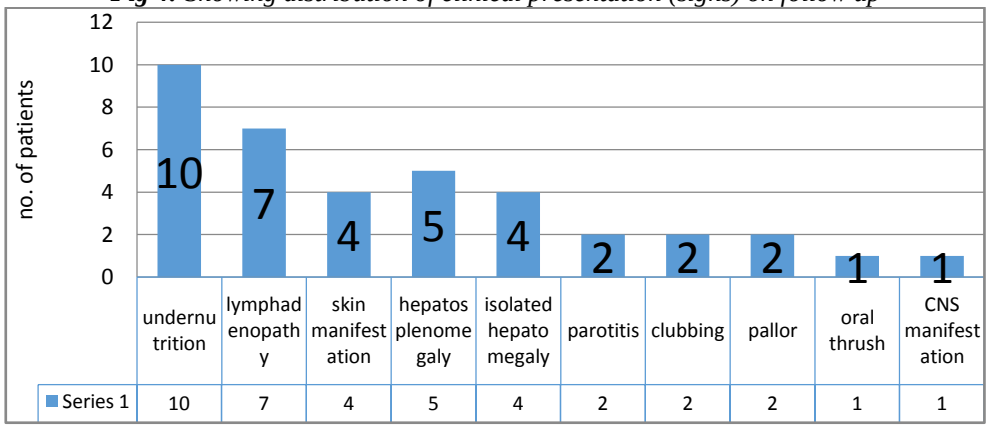

**Clinical presentation (signs) on folow up**

Out of 45 cases who had follow up 22.2% had malnutrition,15.5% cases had lymphadenopathy, 8.9% had skin manifestation, hepatosplenomegaly in 11.1%, isolated hepatomegaly in 8.9%, 4.4% had parotitis, 4.4% had clubbing, 4.1% had pallor, 2.25% Oral thrush and 2.25% CNS manifestation

**Table 9**: Showing distribution of clinical presentation (signs) on follow up.

| S.no | Signs | Number | Percentage |
|---|---|---|---|
| 1 | Under nutrition | 10 | 22.2% |
| 2 | Lymphadenopathy | 7 | 15.5% |
| 3 | Skin manifestation | 4 | 8.9% |
| 4 | Hepatosplenomegaly | 5 | 11.1% |
| 5 | Isolated hepatomegaly | 4 | 8.9% |
| 6 | Parotitis | 2 | 4.4% |
| 7 | Clubbing | 2 | 4.4% |
| 8 | Pallor | 2 | 4.4% |
| 9 | Oral thrush | 1 | 2.25% |
| 10 | CNS manifestation | 1 | 2.25% |

***Fig 4:*** *Showing distribution of clinical presentation (signs) on follow up*




## IV. Discussion

In the present studymajority of the cases 49(40.83 %) were between >3yrs - 5yrs which could be compared with Deshmukh SB et al[2]who found majority of the cases between 3yrs-5yrs. There were 50.8% male and 49.2% female which is comparable to studies reported by Asnake S et al[3] 51.7% male and 48.3% female % and Ugochukwu EF[4] 53.1% Male and 46.9% female.This difference may be related to the extra attention and concern shown to the male child in this region of our country especially in rural areas, accounting for higher health facility visits for their illness from where these studies are done.56.7% cases werefrom rural area and 43.3% urban area which is comparable to the study by Deshmukh SB et al[2] *who* reported 56.48% from rural and 43.52% from urban area. This may be due to accessibility of health service in urban population.Transmission by blood products is less probably because of good blood products screening which has been made mandatory by FDA since 1985 . Also increase in perinatal transmission is due to lack of screening antenatally and lack of PMCT in some section of people. Fever was the most common presenting complaint and it was found in 64(53.3%) cases which is similar to the studies reported by Shah SR et al[5] and Asnake S et al[3] who found in 50% cases.. Next common presentation was recurrent/persistent cough found in 51(42.5%), followed by not gaining weight/weight loss and it was found in 47(39.1%) cases. Other common presentations were loose stool in 30(25%) cases, skin lesion in 26(21.6%), ear discharge in 16 (13.3%), oral ulcers in 14(11.66%), parotid enlargement in 9(7.5%) cases and bleeding tendency in 1(0.83%), CNS manifestation 1(0.83%) (AFP).10 patients, that is 8.3%, were asymptomatic. On clinical examination, malnutrition was the most common finding and was found to be in 68 (56.67%), cases which can be compared with study conducted by Solunke VN et al[6]in which they foundundernutrition to be 59.02%.In contrast Shah SR et al[5] reported in 90.47% cases.

This dictates that nutritional intervention should be instituted early in the care plan of these children.The next common findings were lymphadenopathy 54(45%) and skin lesions 26 (21.6%), hepatosplenomegaly was present in 25(20.83%), pallor 20 (16.6%) while oral thrush present in 14(11.66%), isolated hepatomegaly 13 (10.8%) and painless parotitis in 9(7.5%), isolated splenomegaly were present in 5(4.1%).Other findings were clubbing present in 2(1.67%) and bleeding tendency (purpura) in 1(0.83%) and CNS manifestation in 1(0.83%) cases. (CNS manifestation was in the form of AFP).Out of 45 cases who follow up had some improvement in the nutritional status of children is seen as determined by weight for height with the use of antiretroviral therapy. This aspect has been studied and similar results have been shown by other authors also. There is improvement in the quality of life of these patients with antiretroviral and supportive therapy.The rates of common infection in these children on follow-up were low. Similar improvements were seen in studies by Lodha et al[7].

## V. Conclusion

There is improvement in the quality of life of the patients with antiretroviral and supportive therapy.Perinatal transmission is the most common mode of acquiring HIV infection in children. Hence, screening of pregnant women antenatally and appropriate ART to mother and baby during peripartum period, elective LSCS will be effective in reducing mother to child transmission.Intensified screening of HIV infection in asymptomatic children by high suspicion will help in diagnosing HIV at the earliest.And thus they can be subjected to early management like chemoprophylaxis, immunization, management of opportunistic infection, nutritional support and anti-retroviral (ARV) therapy and follow up periodically.

Funding: None; Competing interests: None stated

## References


[1]. Durgesh Kumar, Mukesh V. Singh1, Dinesh Kumar, K. M. Shukla1, D. K. Singh1, Dharmendra K. Singh.A study of mode of transmission, clinical presentations, WHO and immunological staging among HIV infected children. Int J Res Med Sci. 2014 Nov;2(4):1541-1544

[2]. Sunil B. Deshmukh, Sandeep Mogre, S. S. More, Khushbu S. Deshmukh. Clinical profile of human immunodeficiency virus infection in children: an interesting prospective study. Int J Contemp Pediatr. 2016 Feb;3(1):100-106

[3]. Sebhat A snake, Solomon Amsalu. Clinical Manifestations of HIV/AIDS in Children in Northwest Ethiopia. Ethiopian journal of Health and Development2005;19(1)25-28

[4]. E.F Ugochukwa. clinical spectrum of paediatric HIV in Nnewi, Nigeria, WAJM VOL 25,Jan-March 2006

[5]. Vikas N. Solunke, Milind B. Kamble2, Amol R. Suryawanshi, PallaviSaple, Manish M. Tiwari,Bhete S. B., Garad S. B. Clinical Profile and Prevalence of Opportunistic Infection in HIV Patients Attending Pediatric Department.MedPulse – International Medical Journal, ISSN: 2348-2516, EISSN: 2348-1897, Volume 1, Issue 2, February 2014 pp 69-74

[6]. Shilpa R. Shah, Milind S. Tullu and Jaishree R. Kamat. Clinical Profile of Pediatric HIV Infection from India. Archives of Medical Research 36 (2005) 24–31

[7]. Rakesh Lodha, AmitUpadhyay, Vishal Kapoor and S.K. Kabra. Clinical Profile and Natural History of Children with HIV Infection. Indian Journal of Pediatrics, Volume 73—March, 2006.201-04

[8]. HIV/AIDS in the context of other global challenges, Global 2015, Special report for the UN high level meeting on AIDS, 2011.NACO Pediatric Guidelines 2013.

[9]. Shivananda, Sanjeeva GN. Management of opportunistic infection Pediatric, HIV Under IAP ActionPlan2006,pg46-48.

[10]. Gallo RC, Sahalludin SZ, Papovic M, Shearer G, Mark K, Barton F. Frequent Detection and Isolation of cytopathic Retrovirus from patient with AIDS and risk of AIDS.AIDS 1984;224:500- 03.

[11]. UNAIDS fact sheet JULY 2017.

[12]. NACO annual report 2016-17.

[13]. *Centers for Disease Control (1982).* "Opportunistic infections and Kaposi's sarcoma among Haitians in the United States". *MMWR Morb Mortal Wkly Rep. 31 (26): 353–354; 360–361*. PMID 6811853

[14]. Gallo RC, Sarin PS, Gelmann EP, Robert-Guroff M, Richardson E, Kalyanaraman VS, Mann D, Sidhu GD, Stahl RE, Zolla-Pazner S, Leibowitch J, Popovic M (1983). "Isolation of human T-cell leukemia virus in acquired immune deficiency syndrome (AIDS)". Science.220 (4599): 865–867. Bibcode:1983Sci...220..865G. PMID 660 1823.doi: 10.1126/ science. 6601823.

[15]. *Altman LK (May 11, 1982).* "New homosexual disorder worries health officials". *The New York Times*.RetrievedAugust 31, 2011

[16]. Babatunde O Ogunbosi, Regina E Oladokun, Biobele J Brown and Kikelomo Osinusi. Prevalence and clinical pattern of paediatric HIV infection at the University College Hospital,Ibadan, Nigeria: a prospective cross-sectional study. Ogunbosi et al. Italian Journal of Pediatrics 2011, 37:29

[17]. A.M. Lingayat, Prathamesh Kamble, study of clinical profile of cd4 count and outcome in children with HIV/ AIDS below 12 years.Int J Cur Res Rev | Vol 7 • Issue 15 • August 2015

[18]. Suresh kumar Ramaswamy, Murali Thandavarayan, Sivaraman Thirumalaikumarasamy, Aparna Suresh kumar. A study on clinical profile of paediatric HIV infection in the age group of 18 months to 12 years and its correlation with CD4 count. Int J Contemp Pediatr. 2017 Jul;4(4):1232-1235

[19]. HIV/AIDS in the context of other global challenges, Global 2015, Special report for the UN high level meeting on AIDS, 2011.)NACO Pediatric Guidelines 2013

[20]. WHO case definitions of HIV for surveillance and revised clinical staging and immunological classification of HIV-related disease in adults and children 2007.

[21]. Merchant RH, Oswal JS, Bhagwat RV, Karkare J. Clinical profile of HIV infection.Indian Pediatr. 2001;38:238-46.

[22]. R. Sehgal,U.K Baveja,d .Chattopadhya, J.Chandra and S.Lal.Paediatric HIV. Indian journal of pediatrics,v ol 72 Nov-2005,925-30

[23]. Centers for Disease Control and Prevention: Revised surveillance case definition for HIV infection—United States, 2014. MMWR 63(No RR-3):1-10, 2014

[24]. NACO OM - Revised Guidelines on initiation of ART 2017

[25]. 2016 WHO and UNICEF HIV and Infant Feeding Updated Guidelines


Khongwar D "Assessment of effectiveness of prophylactic topical antibiotic vis-a-vis oral antibiotic in the prevention of surgical site infection in elective open inguinal hernioplasty."IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 17, no. 6, 2018, pp 43-48.