The number of children under 15 who have lived or are living with HIV since the start of the epidemic in the late 1970's has reached about 4.8 million - 3.6 million of them have already died. Nearly 600,000 children were infected with HIV in 1999, mostly through their mothers before or during birth or through breast feeding (vertical transmission). HIV infection can be transmitted to:
- the unborn child (in utero infection)
- neonates during labour and delivery (intrapartum infection)
- neonates, when exposed to infected maternal birth fluids
- infants, after birth, through breast milk (post partum infection) (30 percent risk of transmission)

Other sources of HIV transmission to infants and children include:
- transfusion with HIV-contaminated blood or blood products
- use of non-sterile equipment in health care facilities
- use of non-sterile equipment by traditional healers (surgeries, male and female circumcisions, scarification)
- sexual abuse
- injecting drugs
- sexual initiation practices involving sex workers
- child prostitution
The lives of children who do not have HIV themselves are affected when family members have AIDS. Families face increased poverty and stress because adults have to leave their paid employment, or are too sick to farm their land. Women may be ill themselves, as well as caring for other sick family members and looking after young children (Fact Sheet 10).

Girls in particular often become the care providers for sick relatives and their brothers and sisters. Sometimes children have to leave school to look for work or care for other family members. In addition, denial or neglect of girls’ human rights results in gender discrimination, giving young women little access to socioeconomic opportunities (Fact Sheet 10). These girls (and boys to a lesser extent) often become vulnerable to commercial sex and to the drug trades (Fact Sheet 10).

• **Common symptoms of HIV infection in children**

HIV-infected children have an increased frequency of common childhood infections such as ear infections and pneumonia. In developing countries, diseases such as chronic gastroenteritis and tuberculosis are also frequent. In HIV-infected infants, the symptoms common to many treatable conditions, such as recurrent fever, diarrhoea and generalized dermatitis, tend to be more persistent and severe. Moreover, HIV-infected infants do not respond as well to treatment and are likely to suffer life-threatening complications. Enlarged lymph nodes and an enlarged liver are common in children infected with HIV. Opportunistic infections occur as the immune system becomes more affected, and most of these children have some type of neurological involvement, such as developmental delay or infection in the brain. Fact Sheet 4 provides an overview of the common medical, pharmaceutical, and nursing care treatments for opportunistic infections in adults that can be adapted to the care of infants and children. When administering medicines, it is important to consider the amount to be prescribed (depending on the infant/child’s size and body weight), and its suitability for use in children.

• **The course of HIV in infants/children**

The majority of infected infants develop disease during the first year of life and have a high mortality rate. With recent research and new antiretroviral therapies (ARVs), there has been significant improvement to child mortality in countries where this treatment is available and accessible.

The diagnosis of paediatric AIDS is difficult. In addition, in developing countries, diagnostic procedures might not be available or routinely used. Different countries might show slightly different patterns of the opportunistic infections that are common in HIV-infected children.

The signs and symptoms most commonly found in HIV-infected children include:

- Weight loss
- Chronic diarrhoea
- Failure to thrive
- Oral thrush (This often recurs after treatment and can be the first indication of HIV infection.)
- Fever

An 8-year-old in Tanzania. The boy received an injection at the hospital, but the needle was infected with HIV. (Credit: UNAIDS/Szulc-Kryzanowski)
• Making a diagnosis of AIDS in children when HIV testing is not available
In infected women, the maternal HIV antibody is passively transmitted across the placenta to the fetus during pregnancy (Fact Sheet 10). This antibody can persist in the infant for as long as 18 months. Consequently, during this period, the detection of HIV antibody in infants does not necessarily mean that an infant is infected. Therefore, a case definition for AIDS is made in the presence of at least 2 major, and 2 minor signs. (See next page.)

**Major signs:**
- weight loss or abnormally slow growth
- chronic diarrhoea for more than 1 month
- prolonged fever for more than 1 month

**Minor Signs:**
- generalized lymph node enlargement
- fungal infections of mouth and/or throat
- recurrent common infections (e.g. ear, throat)
- persistent cough
- generalized rash

*Please note:* Confirmed HIV infection in the mother counts as a minor criterion.

• Care for infants and children with HIV-related illness
Most HIV-related illness is caused by common infections which can be prevented or treated at home or in a health centre. However, the illnesses often last longer in HIV infected children, and are slower to respond to standard treatments. The standard treatments are nevertheless the most appropriate treatments. The following general recommendations should be used in the management of HIV infected infants/children and in teaching/counselling mothers and other care-givers.

**Maintain good nutritional status in weight loss and failure to thrive**
In most countries of the developing world, HIV-infected mothers are still breast-feeding their infants. However, with the knowledge that HIV can be passed through breast milk (approximately 30% risk), this practice might be changing. (Fact Sheet 10). In some countries, *substitutes for breast milk* may be recommended for infants of HIV-infected mothers. However there needs to be a safe and adequate supply of affordable breast milk substitutes, access to a clean water supply and adequate means to boil water and to sterilize equipment. In some communities, where supplies and equipment are limited or unavailable, the risk of babies dying if not breastfed will be greater than the risk of passing on HIV. In countries where ARV is available, breast milk substitutes will probably be recommended. (Fact Sheet 10) Nurses and midwives are encouraged to refer to local policies and practices on nutritional counselling and breast feeding. Regular growth monitoring (preferably every month) is an appropriate way to monitor nutritional status. If growth falters, additional investigations should be done to determine the cause.

**Provide early and vigorous therapy for common paediatric infections as early as possible**
All infants with HIV antibodies should be treated vigorously for common paediatric infections such as measles and otitis media. (see Table below) Because the immune systems of children with HIV infection are often impaired, these diseases may be more persistent and severe, and the children may respond poorly to therapy and develop severe complications. Consequently, the mothers of all HIV-positive infants should be encouraged to take their infants for examination and treatment as soon as possible whenever symptoms of common paediatric infections develop.
<table>
<thead>
<tr>
<th>Paediatric infection</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral thrush (Often recurs after treatment and can be the first indication of HIV infection)</td>
<td>Treat with gentian violet application, polyvidone iodine and chlorhexidine mouthwash, and antifungal tablets and lozenges (depending on child’s age)</td>
</tr>
<tr>
<td>Other skin diseases</td>
<td>Calamine, topical steroids, antibiotics orally or topically</td>
</tr>
<tr>
<td>Unexplained fever</td>
<td>Paracetamol; aspirin (in children older than 6 years of age)</td>
</tr>
<tr>
<td>Sexually transmitted diseases in the newborn</td>
<td>Antibiotics such as benzylpenicillin, kanamycin, erythromycin and others have been found to be effective for newborn treatment of syphilis, gonorrhea, and chlamydia</td>
</tr>
<tr>
<td>Otitis media</td>
<td>Broad spectrum antibiotics</td>
</tr>
</tbody>
</table>

**Emphasize early diagnosis and treatment of suspected TB for all family**

TB is one of the most common and deadly opportunistic infections and the HIV positive child is very susceptible to contracting this disease. Every effort should be made to ensure that TB prevention and treatment is available to family members. (See Fact Sheets 4 and 13)

**Immunize according to standard schedules**

All infants and children should be immunized according to standard schedules. The only exception is that infants with clinical symptoms of HIV infection should not be given tuberculosis vaccine (BCG). It is important that correct sterilization procedures for immunization equipment be strictly followed (See Fact Sheet 11 on Universal Precautions).

**Ensure the child has good quality of life**

Most infants of HIV infected mothers are not infected with HIV (Fact Sheet 10). In addition, many of those who are infected will have months of asymptomatic life. Some will live for years without developing symptoms. Every effort should be made by members of the child’s family and by the health care professional to help the HIV-infected child to lead as normal a life as possible.

• **Basic nursing care for the HIV-infected child with an opportunistic infection**

**Infection control**

Maintain good hygiene. Always wash hands before and after care. Make sure linen nappies and other supplies are well washed with soap and water. Burn rubbish or dispose of in containers. Avoid contact with blood and other body fluids and wash hands immediately after handling soiled articles. (See Fact Sheet 11 on Universal Precautions)

**Skin problems**

Wash open sores with soap and water, and keep the area dry. Salty water can be used for cleansing. Use medical treatment, such as prescribed ointment or salve, where available. Local remedies, oils, and calamine lotion might also be helpful.
**Sore mouth and throat**
Rinse the child's mouth with warm water at least three times daily. Give soft foods that are not too spicy.

**Fevers and pain**
Rinse body in cool water with a clean cloth or wipe skin with wet cloths. Encourage the child to drink more fluids (water, tea, broth, or juice) than usual. Remove thick clothing or too many blankets. Use antipyretics and analgesics such as aspirin, paracetamol, acetaminophen, etc.

**Cough**
Lift the child's head and upper body on pillows to facilitate breathing, or assist the child to sit up. Place the child where she/he can get fresh air. Vapourisers, humidifiers can provide symptomatic relief.

**Diarrhoea**
Treat diarrhoea immediately to avoid dehydration, using either oral rehydration salts (ORS), or intravenous therapy in severe cases of dehydration. Ensure that the child drinks more than usual, and continues to take easily digestible nourishment. Cleanse the anus and buttocks after each bowel movement with warm soap and water and keep the skin dry and clean. Antibiotics used for other infections can worsen the diarrhoea. Remember to wear gloves or other protective covering when handling faecally contaminated material (Fact Sheet 11).

**Local Remedies**
There are often local remedies that alleviate fevers, pains, coughs, and cleanse sores and abscesses. These local remedies can be very helpful in relieving many of the symptoms associated with opportunistic infections. In many countries, traditional healers and women's associations or home care programs compile information on local remedies which alleviate symptoms and discomfort.

**Assessing the family’s ability to care for a child with HIV and HIV-related illness**

The ability of a family to care for a child with HIV-infection or related illness is affected by their socio-economic status and their knowledge and attitudes about HIV infection. The following questions will help the health care worker to determine what care can be expected from family members and what care must be obtained from other sources.

What does the family know about HIV infection? Do they know how HIV is transmitted (Fact Sheet 1) and how to prevent transmission? (Fact Sheet 12)

Can the family acknowledge that the child is HIV-infected, in order to access appropriate services?

What is the parents' state of health, including their emotional condition? Are they physically able to care for the child?

Which individuals can offer support to this family? What is their state of health?

Are they able and willing to help care for the child?

What is the social service system like to support this family?
Children orphaned by AIDS

Approximately 8.2 million children around the world have been orphaned by the HIV/AIDS epidemic. AIDS orphans, defined as children who have lost their mother or both parents to AIDS before reaching the age of 15, are predicted to number 41 million worldwide by 2010. Nine out of ten (90%) maternal orphans are presently living in sub Saharan Africa. The extended family system, which would traditionally provide support for orphans, is greatly strained in communities most affected by AIDS. This is especially true in populations which migrate.

When children are cared for by other family members, this places an added financial burden on these care givers. After their parent’s death, children can lose their rights to the family land or house. Without education, work skills or family support, children may end up living on the streets. These children are especially vulnerable, often becoming sexually active at an early age and at risk from HIV themselves (Fact Sheet 10). Poverty is an overwhelming problem. These orphans not only lack money, but basics such as clean water, drugs, food, shelter and medical supplies. They do not have information about how to protect themselves, and have poor access to doctors, nurses, and other health care workers and facilities. Finally, these orphans often lack human rights and dignity. The magnitude of this problem will have to be addressed at international, national, local, and community levels. Government, non-governmental organizations (NGO) and other institutions and organizations will have to combine their efforts to provide effective programs and strategies to care for orphaned children. Nurses and midwives can play an important role in orphan care. This care could include direct physical care, being an advocate on behalf of the child, and helping to influence policy changes to respect the rights and dignity of children.

Strategies for the care of orphaned children

Strategies for the care of orphaned children include the following, in order of preference:

1. The extended family: Every reasonable attempt must be made to trace relatives.

2. Substitute or foster care families: Placement with non-relative family units after careful caregiver selection, or foster care on an informal basis, recognizing traditional norms and values.

3. Family type group: Paid foster mothers living together with small groups of orphans or similar arrangements.
4. **Child-headed households**: Adolescents caring for younger siblings with the support of the community.

5. **Orphanages**: As a last resort when all other options are inappropriate or unavailable. However, there is a limited role for orphanages, for example, in caring for abandoned babies or for very young children needing care until alternative solutions can be found for them.

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**Questions for reflection and discussion**

- What are the most common symptoms in HIV-infected children? How can you treat these symptoms?
- What might lead you to suspect a child may be infected with HIV (without HIV testing)?
- What are some of the important nursing care practices to consider when caring for an HIV-infected infant/child?
- What kind of strategies might you consider as you work with a family with an HIV-infected child?
- What role might you be willing to play in addressing the problems of orphan care?

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**References**

- Caring for Children. AIDS ACTION (27), AHRTAG, 1994-95