

According to the Interim Findings on the National PMTCT Pilot Sites published February 2002:

- 65% of mothers chose exclusive formula feeding.
- 35% of mothers chose exclusive breastfeeding.
- Mothers in urban areas prefer formula feeding and mothers in rural/peri-urban areas prefer breastfeeding.
- It's believed that the surrounding communities associate Nan Pelargon feeding with being HIV positive.

8. NUTRITION AND THE ANTIRETROVIRALS

The goal of current medication is to suppress the multiplication of the virus and restore the immune system.

First line **Anti Retroviral Treatment (ART)** for adults given at hospitals and their nutrition related side effects are :

- Stavudine
 - GI disturbances including loss of appetite, nausea, vomiting, diarrhoea, constipation.
 - Stomatitis (inflammation of the oral cavity).
 - Anaemia.
 - Pancreatitis (inflammation of the pancreas).
 - Increased risk for lipodystrophy (fat redistribution syndrome).
 - Liver failure/inflammation.
 - Can be taken without regard to food
- Lamivudine
 - GI disturbances including loss of appetite, nausea, vomiting, diarrhoea.
 - Anaemia.
 - Pancreatitis (inflammation of the pancreas).
 - Can be taken without regard to food but avoid alcohol.
- Efavirenz
 - GI disturbances including reflux, weight gain, loss of appetite, nausea, vomiting, diarrhoea, flatulence, indigestion & taste disorders.
 - Hepatitis (inflammation of the liver).
 - Elevated blood cholesterol levels.
 - Can be taken without regard to food but avoid alcohol and **DO NOT USE IN PREGNANCY.**

Second line **Anti Retroviral Treatment (ART)** for adults given at hospitals and their nutrition related side effects are :

- **Didanosine**
 - GI disturbances including loss of appetite, nausea, vomiting, diarrhoea, dry mouth, loss of taste, constipation.
 - Stomatitis (inflammation of the oral cavity).
 - Anaemia.
 - Pancreatitis (inflammation of the pancreas).
 - Take with water 1 hour before or 2 hours after eating to prevent decrease absorption.
 - Do not take with juice or antacids with aluminium or magnesium and avoid alcohol.

- **Zidovudine**
 - GI disturbances including loss of appetite, nausea, vomiting, constipation, dyspepsia.
 - Anaemia.
 - Avoid with fatty meals because it causes decreased absorption of the drug and avoid alcohol.

- **Lopinavir/Ritonavir combination**
 - GI disturbances including loss of appetite, nausea, vomiting, constipation & diarrhoea.
 - Increased risk for lipodystrophy (fat redistribution syndrome) and diabetes.
 - Take with a meal if possible

Appropriate dietary responses may help maintain food intake and compensate for nutrient losses. Diet-related side effects need to be managed immediately to help continue proper eating habits and to maintain weight.

Proper nutritional management of the side effects of medications will help improve the client's adherence to the treatment. If not properly managed, diet-related side effects of medications often lead to interruption of treatment or poor adherence to treatment.

9. NUTRITIONAL ADVICE FOR GASTROINTESTINAL SYMPTOMS IN HIV/AIDS

Poor appetite

- Don't eat alone.
- Eat more in the morning when appetite is usually better.
- Flavour food to make it tastier.
- Make meals interesting & attractive.
- Eat whenever you are hungry.
- Eat the foods you like.
- Eat small, frequent meals (six small meals per day).
- Exercise improves appetite.
- Drink high energy drinks like milk, mageu and maas.
- Cold foods are often tolerated better.
- Rather drink fruit juice and milk in stead of tea or coffee.
- Use full cream milk

Heartburn and feeling bloated

- Eat small, frequent meals (six small meals per day).
- Avoid gas-forming foods like beans, onion, cabbage and cold drinks with gas.
- Avoid spicy foods like atchar and curry.
- Avoid fatty foods like chips, vetkoek, polony, viennas and atchar.
- Eat slowly and chew properly.
- Eat at least 2 hours before going to sleep.
- Avoid alcohol, coffee, chocolates and cigarettes.

Nausea and vomiting

- Eat small, frequent meals (six small meals per day).
- Drink fluids between meals and eat separately.
- Eat foods that are cold or at room temperature since they are tolerated better.
- Dry crackers, toast and cereal help to relieve nausea.
- Suck ice cubes.
- Avoid spicy foods like atchar and curry.
- Avoid fatty foods like chips, vetkoek, polony, viennas and atchar.
- Eat at least 1 hour before going to sleep.
- If vomiting occurs, replace fluids with soup made from water and Marmite/Bovril, juice or jelly.

Diarrhoea

- Eat small, frequent meals (six small meals per day).
- Drink lots of fluids to replace the lost fluids.
- Drink fluids between meals and eat separately.
- Avoid milk products (milk, cheese, ice cream) except yoghurt, buttermilk and maas.
- Avoid spicy foods like atchar and curry.
- Avoid fatty foods like chips, vetkoek, polony, viennas and atchar.
- Avoid caffeine and alcohol.
- Eat foods with roughage that will bind the fluid in the stomach like grated raw fruits and vegetables, cooked and mashed lentils.
- The oral rehydration solution/sugar-and-salt mixture can be used to prevent dehydration if 3+ loose stools have been experienced in 24 hours. It can be used in adults and children and should be given after every loose stool. Children 0-2 years need 50-100ml after each loose stool and children and adults older than 2 years need 100-200ml after each loose stool. (*clean water refers to previously boiled water)



Sore mouth and throat (Stomatitis)

- Choose soft foods like mashed potato, minced meat, soft porridge, soup, custard, banana and paw paw .
- Avoid dry & hard foods (raw vegetables, biscuits and whole wheat bread) and sticky foods (peanut butter and syrup) that is hard to swallow .
- Avoid sour foods like citrus fruit, pineapple, orange juice.
- Avoid spicy foods like atchar and curry.
- Eat food at room temperature or cold.
- Use gravy, sauces or margarine to make food moist.
- Use a straw to drink liquids.
- Small amounts of fluid during meals can improve ability to chew or swallow .
- Rinse the mouth daily to prevent thrush with 1 teaspoon baking soda mixed in a glass of warm boiled water. DO NOT swallow this mixture.

Constipation

- Eat regularly (six small meals per day).
- Drink 6-8 glasses of water per day.
- Exercise can improve constipation.
- Eat enough roughage or fiber like brown bread, oats, maltabella, fruits and vegetables.
- Avoid laxatives.

Tips to increase protein and energy intake

- Add 4 teaspoons of milk powder to a glass of milk.
- Cook porridge with milk, no water.
- Add oil, butter, margarine or peanut butter to porridge.
- Add butter or margarine to vegetables, rice, mealie rice, samp or mashed potatoes.
- Spread butter or margarine or peanut butter thick on bread.
- Add white sauce to vegetables and finely chopped meat or chicken into soup.
- Mince cooked dried beans and add to sauces, gravies and stews to thicken instead of corn flour.

10. FURTHER READING

- **Feeding of the infants of HIV positive mothers.** Department of Health. 2000
- **Guidelines for Nutrition Interventions at Health Facilities to manage and prevent child malnutrition.** Department of Health. 2003
- **Integrated Management of Childhood Illness.** South African Department of Health, WHO, UNICEF. 2003
- **Prevention of mother-to-child HIV transmission and management of HIV positive pregnant women.** Department of Health. 2000
- **South African National Guidelines on Nutrition in TB, HIV/AIDS and other chronic debilitating conditions.** Department of Health. 2001
- **South African Breastfeeding Guidelines for Health Workers.** Department of Health / UNICEF, 2000
- Steenkamp L & Dannhauser A. **Nutritional management of the HIV/AIDS patient – A practical approach.** S Afr J HIV Med 2001; Dec: 31-36
- www.fantaproject.org
- www.who.int/nut/documents/hivaids_nut_require.pdf

11. ADDENDA

CASE STUDY 1

John Mahlangu is a 2-year-old boy born on 21 April 2002 to an HIV infected mother

His weight history has been as follows:

21/04/2002 (Birth weight)	3.50kg
22/07/2002	5.00kg
21/10/2002	6.50kg
23/02/2003	7.00kg
21/04/2003	7.50kg
22/07/2003	7.50kg
20/10/2003	8.00kg
21/04/2004	7.00kg

Attached is the weight plotted on the Road to Health Chart.

Important: Write month of birth in first block
Plot in the middle of each block

It can clearly be seen that

- Baby's birth weight was above the 50th centile.
- At age 3 months weight was between the 50th and 3rd centile.
- At age 6 months weight was still between the 50th and 3rd centile but curving closer to the 3rd centile.
- At age 10 months weight was on the 3rd centile.
- At age 12 months weight was still on the 3rd centile.
- At age 15 months weight was under the 3rd centile.
- At age 18 months weight was under the 3rd centile.
- At age 24 months weight was between the 3rd centile and 60% of the 50th centile very close to the 60% of 50th centile line.

Observations made

- Born at a healthy birth weight.
- Not growing in a curve similar to centile lines.
- Showing no growth between 12 and 15 months.
- Showing negative growth (weight loss) between 18 and 24 months.

CASE STUDY 2

Precious Tshabalala is 12-year-old girl born in July 1992

Her weight and length history has been as follows:

YEAR	WEIGHT(kg)	LENGTH(cm)	BMI= weight (kg)/ [height (m) x height (m)]
1994	12.9	87	17.0 (12.9/0.87 x 0.87)
1995	15.1	96	16.4
1996	17.0	103	16.0
1997	19.5	111	15.8
1998	22.3	118	16.0
1999	25.6	125	16.4
2000	29.6	132	17.0
2001	31.8	133	18.0
2002	35.6	138	18.7
2003	39.8	144	19.2
2004	45.6	151	20.0

Attached is the weights plotted on the Road to Health Chart.

It can clearly be seen that growth took place in a curve similar to the centile lines between the 50th and 75th centile.