Case study

- **An 18-month-old boy presents with a weight-for-age and a length-for-age decline from 50th to 5th percentile over 6 months, a weight-for-length, on the 5th percentile.**
- **He was born at term with a birth weight of 3.2 kg and a length of 49 cm,**
- **He was partially breastfed for 3 months.**
- **He had mild reflux that was treated with medication**
- **His mother is 24 years of age, has completed high school, has 2 older children. The child's parents is employed fulltime .**
- **The grandmother assists with child care.**

Case study cont.

- The mother's concerns are WT, HT, and feeding behavior of the child
- His appetite is fair to poor; he eats slowly and spits out food but there are no problems of choking or vomiting.
- The mother is anxious at mealtimes and frequently coaxes her child, makes alternative foods, and occasionally feeds him on her lap.
- The child prefers snacks and juice throughout the day. He has frequent tantrums.
- His development is normal.
- Initial evaluation reveals no evidence of an allergic, endocrinological, or gastrointestinal disorder.

FTT may present in other ways

- **Frequently, the poor growth is not obvious to the parent or physician but only when plotted.**
- **Parents may report problems with feeding or eating and concerns with growth.**
- **There may be symptoms or signs such as persistent diarrhoea, frequent spitting/vomiting, recurrent or unusual infections, shortness of breath, and lethargy; these may reflect underlying conditions that impair growth.**
- **Behavioral or developmental problems, as well as parental and family problems such as child abuse and neglect**
- **Lastly, problems related to poverty such as unemployment, and lack of access to health care and food insecurity .**

Step-by-step diagnostic approach.

Monitoring of the growth

1. WFL or BMI <5th percentile
2. WFA dropping >2 major percentile lines, after having achieved a stable pattern
3. LFA <5th percentile or dropping >2 major percentile lines.

2. Assess the severity of FTT

Low WFL reflects acute malnutrition and can be categorized as

- **Mild (80% to 90% of median),**
- **Moderate (70% to 80% of median),**
- **Severe(<70% of median)**

2. Assess the severity of FTT cont. ,

- WFA of < 5th percentile or a decline across 2 major percentile lines, after having achieved a stable pattern.

- Severity can be categorized as
- Mild (75% to 89%),
- Moderate (60% to 74%),
- Severe (<60%).

2. Assess the severity of FTT cont. ,

LFA <5th percentile or a decline across 2 major percentile lines.

It can also be categorized as:

- **Mild (90% to 95% of median),**
- **Moderate (85% to 89% of median),**
- **Severe (<85% of median)**

The diagnosis of FTT is based on meeting at least 2 growth criteria. There is a risk of a false positive diagnosis if only one criterion is met

- **Decline in more than one parameter (a drop in WFL & WFA across 2 major percentile lines) are strongly suggestive of faltering growth.**
- **Note : If the child not experienced a slowdown in weight gain, but is experiencing a slowdown in length-for- age, then genetic, endocrine, or constitutional factors should be considered**

History
Birth history

Problems during pregnancy (infection , toxin, drug exposure)

Problems during labour and delivery and neonatal period

- Wt (low birth wt reflect IUGR)
- Length
- Gestational age (prematurity / PBD)

Developmental History

- Because FTT has risk for development delay

Feeding patterns

Two common methods of gathering information on children's intake are a 24-hour diet recall or 3- day food diaries for parents to complete.

- A feeding history provides information regarding oral motor problems such as difficulty with chewing or swallowing
- feeding refusal behaviors such as spitting, refusal, or vomiting.
- The child's communication regarding hunger and satiety signals, preferences regarding self feeding
- mealtime routines, snacking, meals at day care

Mealtime routines

Information should be gathered on family mealtime routines.

- **Does the child have a consistent, developmentally appropriate place to sit for meals?**
- **Are meals provided on a consistent schedule?**
- **Does the child's being assessed for hungry at meals .**

Children who have unlimited access to food or juice throughout the day are unlikely to be hungry at mealtime.

Social history

- Families' housing, food insecurity
- Possible abuse, neglect, and violence in the family
- Parental concerns about the child's size and feeding behavior .
- Strategies that the parents used to encourage feeding .

family history

- **Abnormal growth pattern of parents and siblings.**
- **Other family members may have also experienced FTT**

Summary

- **Review of system :** Gastrointestinal problems (reflux, swallowing disorder or HO choking)
- **Natal history :** Prematurity and small for gestational age
- **Feeding history :** family mealtime routine, snacks, allergies, quantity & quality of food or fluid intake, feeding/eating behaviour
- **Past medical history :** Medical problems as cardiac diseases coeliac disease, cerebral palsy
- **Development history** as autism
- **Social history :** Food and housing insecurity, child abuse and neglection career knowledge, career-child interaction, career depression and poverty

Examination

- **Mild malnutrition is usually first detected via accurately plotted growth. As severity increase signs, such as listlessness and wasting**
- **There may also be signs related to specific nutrient deficiencies such as pallor from anaemia, rachitic changes due to vitamin D deficiency**
- **May present with dehydration**
- **A thorough physical examination is essential to exclude other conditions that may contribute to FTT. For example, a cleft palate**
- **Milk bottle caries, poor hygiene, severe nappy rash, and toxic ingestions suggest neglect.**
- **Bruising in pre-ambulatory infants or patterned bruising suggests abuse, as do inadequately explained injuries.**
- **A murmur due to congenital heart disease, signs of pneumonia, cachexia**