

## CHAPTER 2

### REVIEW OF LITERATURE

#### 2.1. CHILD AGE FOR SUPPLEMENTARY FEEDING:

In developing countries, the age at which breast fed infants are first given supplementary food is of public health importance because of the risk of diarrhoea from contaminated foods, and the potential risk of growth faltering if foods are inappropriately delayed. The result indicates that breast fed infants self regulate their total energy intake when other foods are introduced. As a result, there is no advantage in introducing supplementary foods before six months, where as there may be disadvantages if there is increased exposure to contaminated supplementary food.(13)

From a study in Gujrat, India found that religion, type of family, income and use of health care services as well as maternal age, literacy status, and work outside the home resulted in frequent delays in the introduction of supplementary foods, even to later than 12 months of age, and in poor nutrition and health status of children. The study implies that nutrition education is essential for creating an

awareness of desirable weaning practice among mothers. (14)

## **2.2. SUPPLEMENTARY FEEDING:**

Although emphasis on infant feeding is rightly being placed on breast feeding, the needs for supplementary foods for the developing world must also receive it's due attention. Traditional supplementary foods used for young infants in a typical west African village can be as hazardous, bacteriologically, as commercial milk products, and providing a breast fed child with supplements under the conditions which prevail in much of the developing world is potentially, whatever the source of the food. (15)

In developing countries the most dangerous period of a child's life begins with supplementary feeding when the protection of the breast milk vanishes and after heavily contaminated food is introduced. The large number of infections , especially diarrhoea, that follow may be a major factor impairing growth and development with accompanying undernutrition. Utilization of available nutrients is much improved if these infections can be prevented. (16)

### 2.3. FREQUENCY OF FEEDING:

The adequate growth velocity of those totally breast fed until the growth falter at six-seven months suggest that breast milk alone may be adequate for Nepali infants up to the age of the "weaning ceremony" (five -six months). The slow growth during the second six months, and the slow introduction of supplementary semisolid high the need for education and encouragement of mothers to fed their children several times a day with appropriate semisolid. "Sarbotam Pitho" which is cereal and pulse multimix, high calory locally available supplementary food is suitable for the infants.(17)

### 2.4. PRACTICE:

As a longterm risk inappropriate supplementary feeding practices may also have a negative impact on health in the longterm through two mechanisms. One is the cumulative effect of changes which while starting early in life, result in clinical evidence of morbidity only years later. The other is the creation of food habits leading to undesirable dietary practices, which finally contribute to health problems. In practice these two mechanisms may be interrelated.(7)

Finally, hand washing was reported to be well

accepted, particularly before main meals, and there was evidence that soap consumption increased. Lack of time and increase of fuel use were reported to be major objections to the preparation of supplementary food. The investigators are now exploring ways of incorporating the study findings into health education materials used in rural development projects in Guatemala. (18)

#### **2.5. NUMBER OF CHILDREN:**

Children with birth order less than two suffered from protein energy malnutrition (PEM) more than children with a birth order equal to or more than two. (19)

#### **2.6. MOTHER'S AGE:**

A study in Madrid show that mothers age was significantly related to the time of introducing supplementary foods. As younger mothers were more likely to start solids earlier than older mothers. (20)

#### **2.7. TYPE OF FOOD**

Food frequently mentioned as potentially allergenic are fish, eggs, and cows milk. Although most mothers delayed

introducing fish until the second half year, 10 % of babies had already received fish by 5.8 months age. (20)

Supplementary foods which can save the mothers time and energy while at the same time properly nourishing their children need to be promoted. Cereal pulse based mixture which mother/family can make and give to children between two main family meals are most appropriate. Super flour made from well roasted beans, ground cereal and pulses is one example of a traditional Nepali food. (21)

#### **2.8. PREPARATION:**

Many children in developing countries traditionally receive as supplementary food a liquid porridge made from the staple eg. maize, cassava or rice-diluted with water. Nutritious side dishes are usually in short supply. Although the stomach of the child may be filled, the porridge usually contains insufficient nutrients after no more than half the desired amount. (22)

Inadequate preparation, storage and handling of supplementary foods are likely to be major risk factors for diarrhoea in developing countries. A study in 1994 in rural Guatemala described the sociocultural context of the hygiene

behaviors that take place when preparing, handling and storing supplementary foods, and then selected specific behaviors for intervention. (18)

#### **2.9. MALNUTRITION:**

The high prevalence of PEM in Thai children aged under five can be attributed to the effects of a large number of etiological factors among which comes inadequate and improper supplementary feeding, lack of nutritional knowledge, and faulty concepts of food utilization leading to poor food consumption practices. (19).

A study result in Pakistan, Nepal, Sierra Leone, and Papua New Guinea showed that growth faltering, which may herald PEM, usually begins between 6 and 12 months of age of the infant. Among 378 infants aged 6 to 12 months showed 131 (35 %) had weight for age (WA) < 80 % and 126 (33 %) had Arm circumference < 12.5 cm. (AC) which indicates early PEM. (23)

#### **2.10. KNOWLEDGE:**

The study assessed the knowledge of mothers of urban Baroda of India on weaning. The result regarding solid supplements show 62 % mother were aware that an infant above

six month of age needed to be fed four to six times a day as more food was required for growth. The food given should be in addition to breast milk (24).

#### **2.11. EDUCATION:**

Illiterate mothers have less chance to get a job than literate mothers, so, illiterate mothers will have lower family incomes and their children may suffer from malnutrition more than children of literate mothers. Furthermore, literate mothers should have better attitudes provide better care for the child and have more interest in the outside world than illiterate mothers and their children will have lower illness prevalence rates than the neglected child. (19)

A study result of a community based weaning intervention to teach supplementary feeding in Bangladesh shows that over five months treatment children gained more in weight for age than the control subject. The increase in percentage points of severe malnutrition was only 5 % in treatment group compared with 26 % in the control subjects.

The affordable supplementary food consisted mainly of cereal porridge with oil and brown sugar. These findings suggest that educational intervention teaching families to feed

hygienic, simple, cheap, energy enriched supplementary foods to breast fed infants after 5 to 6 months can improve child growth, even under impoverished conditions. (25)

Improving health status of children through education is a formidable task. There is scope for improvement in infant feeding practice as well as for the protection of that is positive. (26)

A review article in WHO bulletin said that education of mothers in food safety principles, particularly weaning food, must also receive high priority. Educational programmed based on the hazard-analysis-critical-control point approach, taking into consideration also socioculture factors, should be integrated into all national infant feeding or food and nutrition programme. (27)