

A Study to Assess the Knowledge of Weaning Practices among Mothers of Infants in Selected Hospitals, Ahmedabad, with a View to Develop an Information Booklet

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ABSTRACT

Background of the study: Young children (below 1 year) in developing countries commonly have growth flattening in relation to international reference pattern. The primary explanation for slower growth during this period includes insufficient or inappropriate dietary intake. Six months old infants require weaning food of appropriate energy and nutrient densities in addition to breast milk to meet their physiologic needs. Inadequate breast feeding and delayed or early introduction of weaning food contributes significantly to the high prevalence of malnutrition among infants.

Objectives of the study

1. To determine the weaning practices among mothers of infants in selected hospitals of Ahmedabad.
2. To identify the reasons related to early and late weaning practices among mothers.
3. To find the association between the weaning practices and demographic variables.

Methods: A purposive sample of 104 mothers of infants (i.e. infants aged between six months and twelve months), were selected and semi-structured interview schedule was used for data collection. A conceptual framework for the study was developed based on Becker's health belief model (1975). The content validity was obtained from seven experts of different fields. The reliability of the tool was established by split half method and Spearman Brown prophecy formula was used ($r = 0.78$). The data were analyzed using descriptive and inferential statistic.

Results: The result of the study showed that all the mothers (100%) started weaning to their child. Among them highest percentage of mother (72.12%) started weaning before six months whereas only 22.12% of mothers started weaning at six months. Majority of mothers (56.73%) initiated weaning with liquid diet. Among these mothers 33.65% started with fruit juice. Gradually children were shifted to home made semi liquid diet which was conji among 70.55% of mothers. All the mothers (100%) followed good hygienic practices. There was significant association found between weaning practices and mothers education, occupation, child's order of birth and number of children in the family at 0.05 level of significance.

Conclusion and Interpretation

This study concluded that mothers of infants (i.e. infants aged six months and twelve months) were following different weaning practices. Majority of mothers started weaning to child before six months with fruit juice and gradually shifted to conji. Good hygienic practices were followed by the mothers during weaning. The educational status and occupation of mothers and number of children in the family and the birth order of child was found associated with weaning practices.

Key words: Infants; Mothers; Weaning practices.

INTRODUCTION

“Today's Children are Tomorrow's Citizen and Leaders”

– Nehru

Health is one of the most difficult term to define. Health means different things to different children. To some it may mean freedom from any sickness or disease while to some it may mean harmonious functioning of all body systems. The first year of life is crucial in laying the foundation for good health. During this period certain specific biological and psychological needs must be met to ensure the survival and healthy development of the child who will be the future adult. One of these vital needs is the nutrition of the infant. According to UNICEF report India is having population of one

billion; it has the highest number of under-five deaths in the world. Globally 10.9 million children under the age of five die annually, from that four million die in their first month. About 2.42 million (roughly one-quarter) of these deaths are in India alone, and two-thirds of these deaths occur in the first year and are related to inappropriate feeding practices .

According to Food and agricultural organization reports, there are about 460 million people, that is, 15 percent of the world's population excluding China, who are malnourished, of which about 300 million live in South Asia, where they constitute one-third of the population⁴. Malnutrition makes the situation most serious, main victims are children under the age of 15. But children under the age of five years are the hardest hit. The report of researches carried out on infant and young child feeding practices clearly point out that malnutrition among children occurs almost entirely during the first two years of life and is virtually irreversible after that. According to the National Family Health Survey-2, malnutrition in children sets in below six months and peaks around 18 months, after which it plateaus. Nutrition during the first years of life is critical for early child development because almost all brain growth takes place during this period. In the long run, healthier adults contribute to greater economic productivity. Child malnutrition impairs the cognitive development, intelligence, strength, energy and productivity of a nation. When malnutrition strikes during the first two years, it disturbs the foundation of life and development.

Recent concept on infant and young child feeding practices advocates that breastfeeding should be started immediately after birth, preferably within one hour, and continued till six months to two years with appropriate and adequate weaning diet after six months. Weaning is the best way to feed babies after six months of age and growing children. The period of transition from exclusive breastfeeding to family food is very crucial. Inadequate breastfeeding and delayed or early introduction of weaning foods contributes significantly to the high prevalence of malnutrition in India. Weaning should be timely, meaning that all infants should start receiving foods in addition to breast milk after six months; it should be adequate, meaning that the nutritional value of weaning foods should be parallel at least that of breast milk. Food should be prepared and given in a safe manner so that the risk of contamination with pathogens is minimal and the foods are of appropriate texture and given in sufficient quantity.

The adequacy of weaning food not only depends on the availability of a variety of food in the household, but also on the feeding practices of caregivers. Feeding young infants requires active care from caregivers and stimulation and encouragement for the child to eat. According to the global strategy and the national guidelines, child can be started to feed locally available food at the completion of six months which is easy to prepare at home. Mothers can prepare a variety of foods with different combination of ingredients like rice, maize, grams, groundnut, wheat etc. As it takes 10-15 days for a child to get used to the food, any addition should be tried only after such a gap. By the age of eight to nine months, children can take food made at any three components out of pulses, rice, green vegetables, potato, fruits, etc.

Weaning patterns vary widely from one culture to another; different methods used to wean affect the amount of food the child ingests and pathogens to which it is exposed. Lack of basic knowledge regarding nutritional needs of infants and child rearing is one of the existing global problems in India and there is much evidence today to suggest that infant mortality rate can be brought down by making aware of all mothers regarding nutritional needs of infants and child rearing.

BACKGROUND OF THE STUDY

Mothers can produce sufficient breast milk to sustain adequate growth of the infant only for the first four to six months. By this time, the baby weighs six kilograms and requires 600 kcals for his/her growth. The aim should be to start adding semi-liquid to the diet at this time so that the balance of the energy is supplied by semi-liquid.

Human milk is the most nutritionally balanced food for the infant. Mothers milk is only the scientifically established infant food. It provides all the nutrients needed for the growth till six months and handled easily by the child's digestive tract. Studies carried out by ICMR showed that Indian mothers secrete as much as 400-600 ml milk per day during the first year and the proportion of milk secreted by these mothers is able to satisfy the nutritional needs of the infant up to six months of age. So breastfeeding alone cannot go for a long time unless it is supplemented with other foods to meet the nutrient needs of the infant. Many mothers fail to recognize that infant is no longer fed adequately and seem to assume that as long as the child is sucking at the breast the supply of milk must be adequate. The transition from a specialized feeding in infancy to the consumption of varied foods is a crucial period in the nutritional history of the child. The process is called weaning in which transfer of the infant from dependence on its mother's milk to another form of nourishment.

Young children (aged ~ three to 15 months) in low income countries commonly have growth faltering in relation to international reference pattern. The primary explanation for slower growth during this period includes insufficient or

inappropriate dietary intake and frequent infections. Infants six months old require weaning foods of appropriate energy and nutrient densities in addition to breast milk to meet their physiologic needs. In the report “Present day practices in infant feeding” by U. S. Department of Health and Human services, it is suggested that infant do not require solid food before six months of age. It was recommended in this report that infants should be offered a mixed diet by six months of age. After about six months, that breast milk can no longer supply all the nutritional needs of the infant and growth is likely to be impaired if the baby receives only breast milk. The panel of this report also considered that early introduction of solid foods is undesirable because: some babies do not properly develop the ability to bite and chew before three to four months, the infant’s gut is very vulnerable to infection and allergy, and the early introduction of energy-dense foods may increase the likelihood of obesity.

It has been suggested that full production of pancreatic amylase does not occur in human infants until six to nine months of age. As most weaning foods are starchy this may be a physiological indicator that a relatively late introduction of starches into the diet is desirable. Introducing starchy solid foods too early may produce symptoms similar to those of infectious gastroenteritis because of poor digestion and absorption due to the lack of pancreatic amylase.

NEED FOR THE STUDY

A child who is in a state of good health will be happy, active, creative and bright. Health and happiness are the outcomes of good nutrition. Weaning is any nonbreast milk food or nutritious food given to young children in addition to breastfeeding. Breastfeeding is sufficient till the first six months, thereafter weaning foods are required to ensure adequate growth and to prevent malnutrition and stunting, which is very common in the age group of six to 24 months.

The infants need more attention during the six to 11 months’ period because infants are just learning to eat and must be fed soft foods frequently and patiently. Care must be taken to ensure that these foods complement rather than replace breastmilk. For older infants and toddlers, breast milk continues to be an important source of energy, protein, Vitamin A and Vitamin C. Therefore breastfeeding should continue up to the age of two years at least, while receiving weaning foods.

Malnutrition usually begins in children during the period of weaning. Weaning is an essential part of infant feeding. It should begin gradually when the infant would have doubled his birth weight by the age of six months. There are two major reasons for weaning even if there is sufficient breast milk to feed: breast milk is not adequate diet after the age of six months and if weaning is not started at the age of six months, introduction of solid food becomes difficult at a later stage.

As the child grows, breast milk alone will not be able to provide adequate amount of all nutrients needed to maintain growth after six months. At this stage weaning is initiated. There is widespread ignorance about the baby’s nutritional requirements and the common foods that supply the necessary nutrients. Most of the mothers are ignorant of how much food a child needs for adequate growth, and when to start weaning.

The statistical data (2003) showed that in India only 44% of children were weaned with weaning food at six months of age whereas 66% of children were still breastfed at 20-30 months of age. Thus one out of every two or three children suffers from some degree of growth failure¹⁹. In order to reach the human resources to its optimum development, it is essential that every child gets adequate supplementary nutrition at the appropriate age. The World Breastfeeding Week theme for the year 2005 was “Breastfeeding and family foods.” The focus of this is to raise awareness of the risk and costs of introducing other foods and drinks to breastfed babies before six months and to draw attention to the value of continuing to breastfeeding as nutritious foods are introduced after this time. Research on cultural attitudes concerning child complementary feeding has revealed several beliefs that could have important influences on children’s dietary intake. The Committee on nutrition founds that mothers tended to believe that children should control the amount of food ingested, i.e., the child’s hunger and apparent interest in food should determine the amount of food provided. The variations found in the beliefs that Central American mothers who felt that a child who refuses food should be encouraged to eat more had better nourished children than those who felt that a child’s refusal should not trigger additional food.

All the investigations conducted to investigate the practices regarding weaning of children serves to provide the background knowledge needed to overcome the problem of malnutrition among children which begins during the weaning period. Hence to overcome this problem in a vast country like India, it is important to investigate from time to time the existing knowledge and practices of mothers in weaning children among the numerous different communities in India. To understanding weaning attention needs to be paid to the specific feeding practices.

Current evidence suggests that programmatic interventions to improve weaning practices are not likely to succeed unless they incorporate with consideration of cultural practices and economic status.

Statement of the problem

“A study to assess the weaning practices among mothers of infants in selected hospitals, Ahmedabad, with a view to develop an information booklet.”

Objectives of the study

1. To determine the knowledge of weaning practices among mothers of infants in selected hospitals of Ahmedabad.
2. To identify the reasons related to early and late weaning practices among mothers.
3. To find the association between the weaning practices and demographic variables.

Operational definitions

1. **Weaning practices:** It is a verbal statement expressed by mothers regarding gradual introduction of culture-specific or manufactured fluids and semisolids to their child at the age of six months while continuing to breastfeed the child (UNICEF report).

In the present study the term weaning is used synonymously to supplementary feeding. It is the verbal response given by the mothers about the introduction of other food along with the breast milk from six months to one year of age of the infant.

2. **Early weaning:** In the present study early weaning refers to the introduction of additional supplementary feeding before six months of age.

3. **Late weaning:** In the present study late weaning refers to the introduction of additional supplementary feeding after the completion of six months of age.

4. **Information booklet:** It is a small, thin book with paper cover containing information on a selected aspect (Oxford Dictionary, 2004).

In the present study, the information booklet is a small thin book which contains knowledge and facts regarding weaning practices.

Variables

Variable is a characteristic or attribute of a person or an object that varies within the population under study. The variables included under this study are demographic variables of mothers and children and weaning practices among mothers.

Assumptions

Mothers will have different types of weaning practices.

Hypothesis

H1: There will be significant association between the weaning practices and demographic variables at 0.05 level of significance.

Conceptual framework

A concept is an abstract idea or mental image of phenomena or reality. A conceptual model broadly represents an understanding of the phenomena of interest and reflect the assumptions and philosophical views of the model's designer. Conceptual framework for this study is based on Becker M. H.'s Health Belief Model (1975). This model addresses the relationship between a person's belief and behaviours. It provides a way of understanding and predicting how clients will behave in relation to their health and how they will comply with healthcare therapies. In the present study this model provides a way of improving and understanding how mother will behave in relation to health care therapy. This model proposes that mothers will not attempt to undertake preventive practices unless they believe that they are vulnerable and susceptible to disease condition or believe that the disease condition is threatening to some aspect of their lives. Proponents of the health belief model contented that mothers will take action to avoid disease condition and these actions are modified by

- A sense of personal susceptibility to disease condition
- Perceived severity of disease
- Cues to action
- Perceived benefits of preventive health action behaviour and
- Perceived barriers to take action to prevent disease and its complication.

How each of these actions is applicable in the present study is discussed under the following headings

Component – 1: Individual perception

The first component in the health belief model involves an individuals perception of susceptibility to disease condition. In this study, mothers perception consist of the weaning practices which she carried out for her infant.

Component – 2: Modifying factors

It involves the individuals perception of the seriousness of disease. This is influenced and modified by demographic and socio-psychological variables, perceived threat to illness and cues to action. The perception of the weaning practices affected by demographic variables of mothers and children.

Cues to action

Attending health education programme regarding weaning and family members, exposure to mass media, friends and health personnel who motivate the mothers to proper weaning.

Component – 3: Likelihood of action

It involves a person taking preventive action based on is perception of benefit of taking that particular action it the perceived benefits over weighted the perceived barriers, the individuals is likely to take preventive action to improve their health. In the present study perceived benefit may be gaining adequate knowledge regarding weaning practices, timely introduction of weaning and hygienic practices. The barrier may be lack of knowledge regarding weaning cultural belief, traditional misconceptions. When the perceived problems and threats are more, the mother is likely to consider the benefits and they will choose the preventive action to improve weaning practices. Thus the health belief model helps to understand the factor influencing mothers perception regarding weaning and it will help the researcher to develop an information booklet for further reference (Annexure 14, 15).

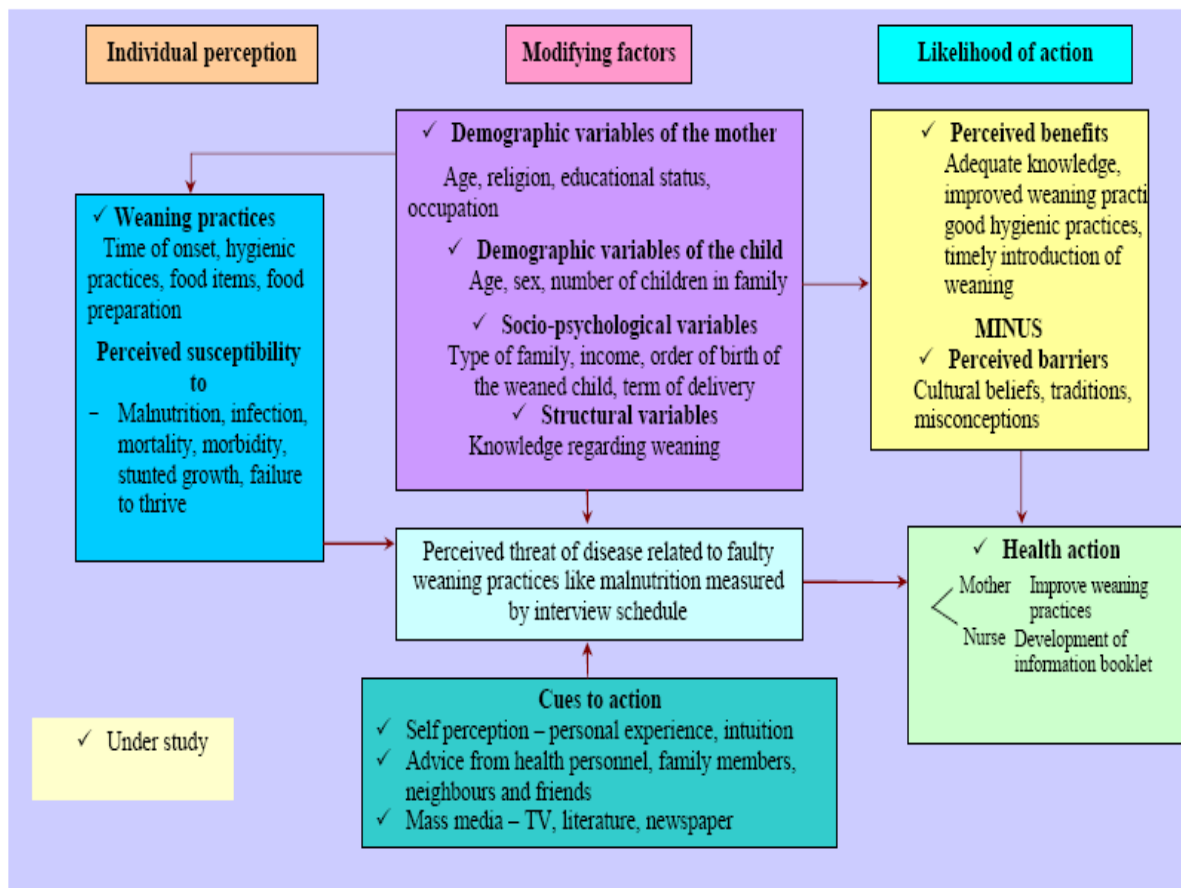


Figure 1: Conceptual framework for assessing weaning practices among mothers of infants based on Becker's Health Belief Model (1975)

METHODOLOGY

This chapter deals with the methodology selected for the study. “Methodology of a research indicates the general pattern for organizing the procedure for gathering valid and reliable data for the problem under investigation.” It includes research approach, research design, setting of the study, description of the population, sampling technique, development of the tool, validity and reliability of tools, pilot study, procedure for data collection, and the plan for data analysis.

Research approach

Research approach indicates the basic procedures for conducting research. A descriptive survey approach, which is explorative in nature, will be adopted for the study to assess the weaning practices among mothers of infants (i.e. infants age between six months and 12 months). Descriptive survey is concerned with the conditions or relationships that exist, opinions that are held, processes that are going on, effects that are indent or trends that are developing.

Research design

Research design refers to the researcher’s overall plan for answering the research questions or testing the research hypothesis⁵⁵. The purpose of the present study is to find out the weaning practices. Non-experimental, descriptive research design will found to be consistent with the aim of the present study and hence it was adopted.

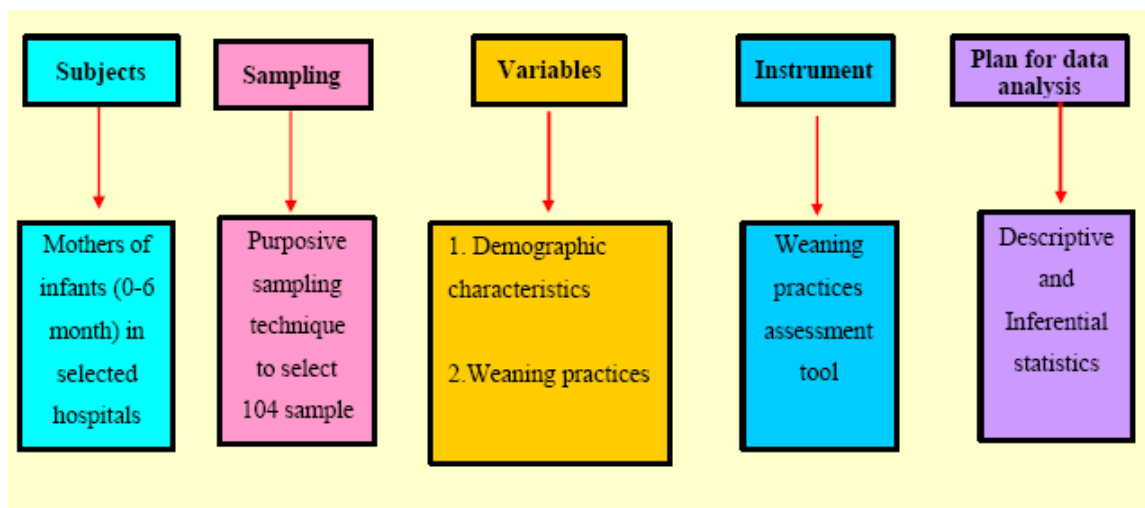


Figure 2: Schematic representation of study design of weaning practices among mothers of infants in selected hospitals

Setting of the study

“Setting is the physical location and conditions in which data collection takes place.” This study was conducted in the selected hospitals of Ahmedabad.

Population

The requirement of defining population for a research project arises from the need to specify the group to which the results of the study can be applied.

Sample and sampling technique

Sample is the subset or population selected to participate in a research study.

By using purposive sampling technique, a sample of 100 mothers of infants in the age group of six to 12 months were selected for the study.

Criteria for selection of the samples

- Mothers of infants (i.e. infants aged six months and 12 months) attending the outpatient department of the hospitals.
- Mothers who were willing to participate.

Data collection method

For any scientific study one important aspect is the task of systematically collecting observable and measurable evidence upon which inferences could be based. As the purpose of the present study is to collect information regarding weaning practices, questioning the mothers directly was thought to be the most practicable and suitable technique for eliciting such information in a more systematic way.

Development of the tool

A semi structured interview schedule named 'weaning practices assessment tool' was developed after extensive review of literature on relevant topic, consultation with experts, and on the experience of the investigator. The tool was initially written in English (Annexure 11) and was then translated into Kannada (Annexure 12) by a language expert.

Description of the tool

The tool for data collection have four sections – Section A, B, C and D. Section A consists of baseline proforma of mothers, Section B consists of baseline proforma of the children, Section C consists of weaning practices under six areas, and Section D consists of items related to reasons of early or late weaning practices.

Method of data collection

Prior to data collection, permission will be obtained from the authority concerned for conducting the study. Subjects will be selected according to the selection criteria of the study. The data will be collected through interview schedule.

MAJOR FINDINGS OF THE STUDY

Demographic characteristics of the sample

1. It was observed that out of 104 sample highest percentage (75.96%) of the mothers belonged to the age group of 21-30 years.
2. Highest percentage (71.15%) of the mothers had primary education.
3. Majority (60.57%) of the mothers belonged to Hindu religion.
4. Majority (67.30%) of the mothers were housewives.
5. Highest percentage (77.28%) of the mothers in the sample were having a monthly income between Rs 2,501- 5,000.
6. Majority (52.88%) of the mothers belonged to nuclear families.
7. Majority (51.92%) of the children were in the age group of 6-8 months.
8. Highest percentage (62.5%) of the children were male.
9. Majority of the children (57.70%) were first born in the family.
10. Majority of the children (57.70%) were only the one child in the family.
11. Majority (66.34%) of the children were full term at birth.

Description of weaning practices among mothers

The analysis of the weaning practices among mothers showed that all the mothers (100%) started weaning to the child, among them majority (72.12%) of mothers introduced weaning before six months of age. Majority (56.73%) of mothers introduced weaning with liquid diet which was fruit juice in 33.65% of cases, where as least percentage (11.54%) of mothers started weaning with vegetables soup.

Regarding weaning the child maximum percentage (30.77%) of mothers received advice from family members. Highest percentage (88.46%) of mothers not celebrated ceremony for weaning the child. Majority (76.93%) of mothers fed the child three or more then three times in a day. Maximum percentage (47.12%) of mothers used spoon to feed the child.

Majority of mothers (75%) were feeding the child with home made preparation, among them highest percentage (70.55%) of mothers were feeding the child with Conji. For feeding the child the highest percentage (91.35%) of mothers followed fixed schedule. Majority (87.50%) of mothers prepared fresh feed each time for feeding the child.

All the mothers (100%) followed the good hygienic practices as all the mothers washed hands with soap and water before feeding the child and also regularly cleaned and boiled utensils were exclusively used for feeding the child.

Highest percentage (63.47%) of mothers reported that after 12 months of age child can put on families regular diet, in case when child refused to eat, maximum (49.03%) percentage of mothers fed the child with the amount how much child takes.

Majority (54.09%) of mothers reported that child vomited feed when weaning was initiated.

Description of early or late weaning practices

Highest (72.12%) of mothers started early weaning to child. Among majority (64%) of mothers reported that they were not having adequate breast milk where as least (12%) of mothers reported that they thought only breast milk in not sufficient for child as well as inadequate breast milk.

Late weaning was practiced by least percentage (5.76%) of mothers, among them 50% of mothers reported that they thought child can not digest too much food as well as child refused to eat were the reason for late weaning.

Association between the weaning practices and demographic variables

In the present study mothers education, occupation, number of children in the family and birth order of the child, showed a significant association with the weaning practices as the calculated value were more than the table value at 0.05 level of significance. So the research hypothesis H1 was accepted for these variables.

However no significant association was found between the weaning practices and mothers age, religion, income of the family types of the family, age of the child, gender and term of delivery. Hence the research hypothesis H1 was rejected for these variables.

The significance association found between mothers occupation and types of food ($df = 2, c2 = 36.29$); occupation and timing of weaning ($df = 1, c2 = 35.11$); Income of the family per months and food item given ($df = 1, c2 = 25.14$) at 0.05 level of significance. There was no significant association was found between type of family and person fed the child at 0.05 level of significance.