International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Impact Factor (2012): 3.358

Mother's Knowledge Regarding Weaning Process in Infants

Swati Kambli

Principal,
Dr. D. Y. Patil college of Nursing

Abstract: ***Fifty consecutive mothers of infants above 6 months of age attending in an outpatient service at Dr. D.Y. Patil Hospital and Research Centre, Nerul, Navi Mumbai were interviewed using questionnaire to determine how well they were informed about weaning process. Methodology: A cross sectional survey was conducted using questionnaire method regarding definition, age at which weaning should be initiated, foodstuffs to be included, principles to be followed and myths in context to weaning. Findings: Majority of the mothers are having wrong concept about weaning and are not knowledgeable about current weaning recommendations. Conclusion: Improved health facilities, child and maternal health progammes, easy access to mass media along with the increased rate of literacy in women, it has been seen that many mothers are well aware about weaning process. Though a still few mothers are lacking knowledge.***

Keywords: Mother, Knowledge, Weaning Process, Infants

1. Introduction

Learning is the addition of new knowledge and experience. Interpreted in the light of past knowledge and experience. Teaching and learning is an integral part of nursing. Nurses have the responsibility to educate patients related to various aspects and keep themselves updated. Various teaching strategies are used to increase knowledge, such as lecturing, demonstration, discussion and self-education. These methods of self-education has an advantage over the others as the learner can educate himself at his own pace and it also stresses on rereading [1]

Healthy children are full of energy and are active. The human milk alone, even in reasonable quantities, cannot provide all the energy and protein required for maintaining an adequate velocity of growth for the infant, after the age 6 months. It is therefore necessary to introduce more concentrated energy dense nutritional and iron supplements by this age. Adequate nutrition is essential to maintain optimum health of baby at the age of 6 months. Their growth and development are according to the expected norms and show no nutritional deficiency[21].

The term "to wean" comes from an ancient phrase that means "to accustom to". So weaning refers to the period during which an infant gradually becomes accustomed to food other than milk[2]. Weaning means addition or introduction of semi-solid foods along with continuation of breast feeding as long as possible. The term 'Weaning' describes the process by which baby moves or shifts from having breast milk to consuming semi-solid or solid foods with a gradual reduction in the intake of breast milk and /or baby formula[3].

In the strictest sense of the word, weaning means getting a body used to drinking milk from a cup instead of sucking milk from the breast or bottle; in the broader sense, it also means getting the baby used to taking food by biting and Chewing instead of only by sucking; Weaning is now discarded in favor of the phrase complementary feeding. To make weaning an easy adjustment for a baby, it should be done gradually step by step. At the beginning of the meal, when babies are extra hungry, they should be given the milk from a nipple. Otherwise, they are likely to swallow more air than usual in their hurry to satisfy their hunger. Later in the meal, when their hunger is partly satisfied, babies can drink from a cup or be fed with a bottle[4].

There is no right age when a baby should be weaned. Weaning too early may cause baby at higher risk of developing digestive disorders and adverse reactions or allergies to certain foods. On the other hand, weaning too late may deprive adequate nutrition and can result in improper growth and development [5].

Indicative signs for weaning are: Can sit in an upright position for feeding, Shows interest in other foods, Keeps putting things in the mouth, Shows signs of hunger before the usual feeding times, and Keeps chewing on things. When baby is 6 months old, start offering them a wide range of foods so that they get accustomed to eating different flavors. Introduce only one food at a time as it will be easier to detect any allergic to particular food item[5]. Foods that are given gradually for a baby are: Boiled and mashed vegetables; use vegetables like potatoes, cauliflower, carrots, and beans, etc; Starchy foods which are rich in carbohydrates like rice, potatoes, cereals, and oats; Ripe and mashed fruits; e.g; banana, apple; Diluted fruit juice (1 part fruit juice to 10 parts of water); Diary products like cheese and yogurt [5].

Foods to avoid: Never add salt to baby's food. Avoid processed foods which contain high amounts of salt, Avoid too much sugar until baby is 1 year old as it may cause teething problems, Avoid cow's milk as a drink altogether for 1 year as it does not meet an infant's nutritional needs, Avoid honey till 1 year as they may cause infant botulism in rare case, Nuts or seeds should be avoided as they may cause choking. If there is any family history of nut allergy, do not give nuts to baby till they are 3 years old. Tea and coffee should not be given to baby, Cold drinks or any diet drinks should be avoided as they are not meant for children, Avoid citrus fruits (e.g.; orange) until baby is 6 months old, as it may cause painful diaper rash, Foods containing Gluten like

rye, barley, and wheat based foods should not be offered till baby is 6 months old as Gluten can cause Celiac disease [5].

Tips for successful weaning: Always sit near to the baby while feeding so that baby does not choke, Never force feed baby, Make sure that the food is in right temperature; do not make it too hot, If baby refuses to eat a particular type of food, consider backing off and offer it later on, Offer baby a wide range of foods so that they get used to different flavors, Introduce only one food at a time as it will be easier to detect if baby is allergic to any particular food, Encourage baby to feed himself [5].

2. Need for the Study

Knowledge has enabled humility to make progress in life; it ensures success in improving the health status of the people. Though we have adequate health facilities, it becomes increasingly evident that existing health care facilities cannot be gained unless the people get the knowledge regarding available health care facilities in specific fields [].

After 6 months, breast milk alone does not provide all the nutrients that growing baby need, in particular iron and calories that solid foods provide. For other sources of nourishment, try to gradually introduce semi solid or solid foods to baby. Hence weaning provides child a nutritional balance for proper growth and development [5].

According to WHO criteria, 22.7% of the infants were anemic at 8 months and 18.1% at 12 months. More breast than formula fed infants were anemic at 8 and 12 months. Cow's milk as the main drink was associated with increased anemia at 12 months and low ferritin at 8 and 12 months [7].

The prevalence of anemia in children of age 6months– 1 year in urban slums of Meerut was 59.9%. The weaning time, nutritional status and early iron supplementation had a positive impact on it. Exclusive breast feeding up to 4 months followed by weaning, adequate nutritional status and early iron supplementation have a definite role in prevention of anemia in children [8].

Among 80 mother substitutes, aged 7-70, in Jabalpur town, India, in 1984; 45% advocated bottle feeding, with 25% preferring spoon feeding. The majority of young and uneducated substitutes thought proper weaning age to be after 6 months. 905 of the young mother substitutes were against solids being introduced by the age of 4 months. A majority of the substitutes suggested weaning foods such as dal, rice, roti, and biscuits with a few considering tinned cereals as proper weaning foods. This concludes why protein and energy deficiency may be observed around weaning age in many infants throughout the third world [9].

The level of knowledge of mothers regarding weaning was measured by a knowledge questionnaire. The study showed that most of the mothers were in the age group of 22-24 years (44%) and 70 percent of them belonged to lower socio-economic status, and 76 percent of mothers got information about weaning from their mothers. The mean post-test knowledge score (32) was higher than the mean pretest knowledge score (14). The mean score of post-test attitude (68) was higher than the mean pre-test attitude score (50) [10].

In general, mothers have very little knowledge about the nutritive value. It is the responsibility of health workers to provide appropriate information to the mothers in the community, hospital and clinics, at various levels of child development. Parents should be made aware of their role in practicing healthy food habits. Demonstrations on the preparations of simple multipurpose food can create interest in the mothers.

Through the above facts and studies, the investigator has realized the increased incidence of problems due to non-weaning, and deficiency of knowledge among mother's regarding weaning. Hence the investigator felt the need to select this study and to prepare video assisted teaching to improve the knowledge of mothers with infant.

3. Review of Literature

Review of literature is a key step in research process. The review of literature in a research report is summery of current knowledge about particular practice, problem and includes what is known and what is unknown about a problem [11]. This contributed to gaining insight regarding the selected problem under study.A study was conducted to determine the maternal knowledge and practice associated with weaning of the infants in India. A total of 123 mothers were interviewed attending health clinics of S.K.Institute of medical sciences. 28 children were considered to be well nourished while the remaining 95 children were determined to be in various degrees of malnutrition. Only 3 mothers had an excellent score for infant weaning awareness. This study concludes that a decreasing trend between awareness and practice of infant weaning; suggesting that further improvement of health education is needed to reduce the lag between infant weaning awareness and practice [12].

A study was conducted to determine the feeding practices through semi structured interviews with mothers of 1 year old infants. Results showed that infants weaned early were heavier at 7 and 14 months, and gained more weight between 8 weeks and 14 months, even after breastfeeding was controlled. This concludes that early weaning is related to rapid weight gain in infancy [13].

A study was conducted on knowledge regarding weaning among 80 mother substitutes, aged 7-70 in Jabalpur town, India in 1984. Results pointed that 45% advocated bottle feeding, with 25% preferring spoon feeding. The majority of young and uneducated substitutes thought proper weaning age to be after 6 months. 905 of the young mother substitutes were against solids being introduced by the age of 4 months. A majority of the substitutes suggested weaning foods such as dal, rice, roti, and biscuits with a few considering tinned cereals as proper weaning foods. This concludes why protein and energy deficiency may be observed around weaning age in many infants throughout the third world.[9]

A study was designed to determine whether provision of a micronutrient- fortified food supplement supported by counseling or nutritional counseling alone would significantly improve physical growth between 6 to 12 months of age. 418 infants were individually randomized. Results showed that the food supplementation infants 250g more weight than did than the visitation group.

This concludes that the nutritional counseling group had higher energy intakes ranging from 280 to 752 KJ at different ages but no significant benefit on weight and length increments [14].

An observational study was conducted to investigate the relationship status between iron status of 928 infants and type of weaning foods consumed. According to WHO criteria, 22.7% of the infants were anemic at 8 months and 18.1% at 12 months. More breast-than formula- fed infants wee anemic at 8 and 12 months. Cow' milk as the main drink was associated with increased anemia at 12 months and low ferritin at 8 and 12 months [7].

A study was conducted on the weaning practices in infants aged 4-9 months of Idoma women in Makurdi. A pre-tested standard questionnaire was used to collect data from mothers who regularly visited the health clinics. 67% of the mothers had no more than primary education, while about 90% of the mothers planned to cease breast feeding at 12 months. The results showed that better educated mother's breast fed for a shorter time or planned to cease breast feeding after a short period than mothers who had little education/ no formal training [15].

A cross sectional study on mother's knowledge and practice related to weaning was conducted in Butajira in 1994. A total of 1,543 mothers –child pair were included in the study. The most important reasons for mothers to start weaning were reduction of amount of breast milk and mothers belief that the child is at the right age to start weaning food. The study demonstrated the presence of inappropriate weaning practice in the area which needs appropriate intervention [16].

A study was conducted to examine weaning practices during the first year of life in a sample of Swedish children. Data were derived from 467 infants visiting child health centers in Sweden. The results showed that 18% were still breast fed at the age of 12 months, 6% received solid foods before the age of 4 months, and 12% received foods after the age of 6 months.This study concludes that the creation of routines for the distribution of information concerning weaning foods should be encouraged in order to reach families with special needs [17].

A study was conducted on factors affecting duration of breast feeding and weaning practices among 790 mothers of children less than 24 months of age in minas Gerais state, Brazil. Results conclude that conditions significantly associated with risk of weaning were: primi parity; difficulty in post partum breast feeding; belief in ideal breast feeding duration of less than six months [18].

A study was conducted to determine the prevalence of weaning, and the factors related to early weaning in young infants of rural communities of Mexico. A structured interview was done. This study concludes that early weaning is typical of small families, with high educational level of the mothers, better living conditions and contact with medical personnel, it is therefore deemed necessary to implement health programs which promote gradual weaning after 4th or 6th month of life among the infant population of Mexican rural [19].

A cross sectional study was conducted to identify the feeding practice of children aged 6-12 months of age and associated maternal factors in the state of Sao Paulo, Brazil with 24,448 children. It was observed that 63% of the samples were being given porridge, 87% fruit, 78% soups, 64% the family meal, 58% meals including beans, and 36% meat. This study concludes that excessive consumption was observed of liquid and semi solid foods, suggesting that appropriate guidance on complementary feeding is needed, taking into account age, primi parity, education and employed mothers[20].

A cross sectional study was conducted in 2005 among 294 pairs of nursing mothers and their children who attended post natal clinic and health centers in Akure community, Nigeria. It was done to evaluate the nutritional composition of local weaning foods and their impact on child feeding practices among low-income Nigerian mothers. Results showed that the educational attainment of the parents ranged from 1.4% had no formal education, to 46% higher education; 13% had completed primary school, and 39.6% had completed secondary school. Among the children 23.1% were exclusively breastfed, 9.5% received breast milk and traditional medicinal herbs, 15.6% received breast milk and commercial weaning food, 7.4% received commercial food only, 14.8% received local weaning foods only, 24.1% received local weaning foods plus breast milk, and 5.8% received family diet; 58.3% were of normal weight, 41.1% were mildly underweight, 0.3% moderately underweight, and 0.3% severely underweight; This study concludes that a high proportion of the nursing mothers used local ingredients to formulate weaning foods for their babies [21].

4. Methodology of Research:

According to Shinde M (2007), Research approach refers to the overall plan for obtaining answers to the research questions and for testing the hypothesis. The research designs spells out the strategies that the researcher adopts to develop information that is accurate, objective and interpretable and it helps the researcher in selection of subjects, manipulation of independent variable, observation of a type of statistical analysis to be used to interpret the data[11].

a) Research Design:

A descriptive survey was conducted in order to obtain detailed information of the study subjects with specific characteristics. The research design used for this study is QUASI NON-EXPERIMENTAL EXPLORATIVE RESEARCH

DESIGN, as it will help in determining the knowledge of mothers regarding weaning.

1) **Dependent Variable:**
   In this study, weaning process in infants is the dependent variable.
2) **Independent Variable**
   In this study the knowledge of mothers is the independent variable.
3) **Extraneous Variable:**
   In this study, the extraneous variables are age of the participant, educational status, and socio economic factors, gender, religion and occupation.

b) **Setting Of The Study:**
The study was carried out in Dr. D.Y Patil Hospital and Research Centre, Nerul, Navi Mumbai, in order to achieve adequate number of sample size for the study.

c) **Population:**
The target population comprises of mothers of infants above 6 months of age who are reporting to paediatric ward, O.P.D, postnatal ward in Dr. D.Y Patil Hospital and Research Centre and to whom the results could reasonably be generalised.

d) **Sample:** The sample for this study is composed of 50 mothers of infants above 6 months of age.

e) **Sampling Technique**: Purposive sampling technique was used to select the sample.

1) Inclusion Criteria:

- Sample is selected only from Dr. D.Y Patil Hospital and Research Centre, Nerul, Navi- Mumbai.
- Mothers who are willing to participate in the study.
- Mothers of infants above 6 months of age reporting to paediatric ward, O.P.D, and postnatal ward.
- Mothers who can communicate in either English, Hindi or Marathi.

2) Exclusion Criteria:

- Mothers of children who are seriously ill.
- Mothers of children who are not willing to participate in the study.

f) Section 1: Baseline proforma:
Section 1 consisted of 8 items which provides baseline information or demographic data of the study subjects. It includes age, gender, religion, education, occupation, family income, marital status, and area of residence.

g) Section 2: Structured questionnaire:
The mothers of infants were interviewed by using a well structured knowledge questionnaire which consisted of 40 items covering 6 aspects on weaning. The aspects included were definition, age at which weaning to be started, dietary needs of an infant, foodstuffs to be included, principles to be followed and myths in context to weaning. The items that were included were of multiple- choice questions with one correct answer. Each correct response carried a weight age of one score. Thus the maximum score was 40 and the minimum score was zero.

h)Plan For Data Analysis
The data analysis is planned while developing the research plan this provides the researcher with an opportunity to summarize the finding meaningfully and draw conclusion about the findings. The data would be analysed by using descriptive and inferential statistics.

5. Major Findings of the Study

Section 1: Sample distribution based on the age of the study subjects:
About 15.38% of the sample participating in the study belongs to the age group between 18 to 20 yrs and 30.76% of the samples belongs to the age group between 27 to 33 yrs. The minimum number 1.92% of samples belongs to the age group of more than 34 yrs. The maximum number of samples (51.92%) participating in the study belongs to the age group between 20 to 26 yrs.

The frequency of the number of infants between 6 to 7 months of age are 13, between 8 to 9 months are 17,between 10 to 11 months are 16 and infants of 12 months and above are 5. The maximum number of infants are between 8 to 9 months that is 32.69% . The minimum number of infants is between 12 months and above that is 9.61%.

Section 2: knowledge related to age at which weaning to be introduced.
The maximum number 100% of samples responded correctly to the question related to the mother's awareness about the weight of their infant. The minimum number 38.4% of samples responded correctly to question related to the reasons for starting weaning.

Section 3: knowledge related to dietary needs of an infant.
The maximum number 84.6% of samples responded correctly to the question that is weight should be increased after initiation of weaning). The minimum number 1.92% of samples responded correctly to question about how many mothers are aware about the protein requirement of infants between 6 to 12 months of age.

Section 4: knowledge related to foodstuffs to be included in weaning.
The maximum number 69.23% of samples responded correctly to the question no about the age at which semi-solid food should be introduced.The minimum number 15.38% of samples responded correctly to question about the age at which non-vegetarian items should be introduced.

Section 5: knowledg related to certain principles to be followed while providing weaning
The maximum number 100% of samples responded correctly to the question about the importance of environmental hygiene during preparation of weaning food. The minimum number 9.61% of samples responded correctly to question related to the tolerance of the baby towards food. *This section also includes* : the gastrointestinal problems the mothers have observed in their infants. About 13.46% of the infants were observed with diarrhoea and 5.76% with abdominal distension. The maximum number that is 25% of

samples observed vomiting in their infants. The minimum number that is 1.2% of samples observed constipation in their infants

Section 6: knowledge related to myths in Indian society regarding weaning

The maximum number of prevalent myths in Indian society is about consumption of Banana that is 65.38%.
The minimum number of prevalent myth in Indian society is about the consumption of other weaning food that is 15.38%.

Knowledge level of mothers regarding weaning process

The study result shows that about 42% of the mothers of infants had poor knowledge about the weaning process. 38% of the samples had average knowledge regarding weaning process and 20% of the mothers are well aware and had good knowledge regarding weaning process.

6. Conclusion

The high prevalence of illness in infants and malnutrition due to improper weaning will increase the mortality and morbidity rate. So its important that proper interventions should be made to promote the proper weaning practices. This study was mainly done to assess the knowledge of mothers of infants regarding weaning. The study has found that still there are mothers who are unaware about the healthy weaning practices or techniques. Hence it is important to provide parental education regarding weaning inorder to reduce the mortality and morbidity rate and to promote the infant nutritional status.

7. Implications of the Study

The findings of the present study may be helpful for future such studies. In this context, the findings of the study have valuable implications towards nursing education, administration and nursing research.

a) Nursing Education:

The healthcare delivery system at present is giving more emphasis on the preventive rather than the curative aspect. The nursing curriculum should include activities like preparation of booklets, handouts, pamphlets, menu planning cards, diet plans which can be given to health workers to circulate in community as well as to mothers attending the post natal clinics. Training programmes for nursing students should be conducted to enhance their knowledge about weaning process and to improve their skill in handling infants suffering from ill effects of improper weaning practices. The students must be motivated in spreading awareness about proper and healthy weaning practices in the community by arranging parental health teaching sessions, puppet shows, discussion programmes, street plays etc.

b) Nursing Practices:

Learning is an active goal directed process transforming knowledge skills and values into new behaviour. Nurses can assess the knowledge of mothers attending various post natal clinics and in community regarding weaning process. Thus various educational programmes can be conducted for the mothers based on the needs which will help in improving the mothers knowledge regarding weaning. Nurses can work in close collaboration with the health visitors, NGOs and other voluntary health agencies for promotion of healthy weaning practices in the community.

c) Nursing Administration:

Findings of the study can be used as a base while formulating various policies and programmes regarding weaning practices, infant nutrition and health promotion. Nursing administrators should encourage their staff to arrange various educational programmes for mothers on various aspects of weaning process based on study finding. They should provide sufficient material, manpower, money, methods and time to conduct educational programmes. At the same time the administration can take various measures to arrange teaching sessions, in-service programmes and workshops for nursing staffs and students.

d) Nursing Research:

The research studies helps in strengthening the existing body of knowledge and to find out more convenient alternatives or to update the knowledge. This study revealed the knowledge of mothers about weaning process, the myths or beliefs prevalent in community in context to weaning process. Thus nurses need to engage in various research studies in order to improve mother's knowledge about weaning process and to update the mothers about the existing or current recommendations in relation to weaning process so as to reduce the mortality and morbidity among infants due to improper weaning techniques.

References

[1] Shinde, M., & Anjum, S. (2007). Educational Methods and Media For Teaching In Practice Of Nursing. *Sneha Publication India (Dombivili).*
[2] Introducing solids or foods. http://www.huggies.co.in/being parent/introducing solids/which foods when.aspx.
[3] Piyush Gupta. Essential pediatrics. Jain publishers. New Delhi. 1st ed. 2004: 153.
[4] Helizabeth B Hurlock. Child growth and development. Tata Mc Graw publications. New Delhi. 5th ed. 2007: 697.
[5] Indian women's health- Weaning. http://www.indianwomenshealth.com/weaning-156.aspx.
[6] Park K. Preventive and Social Medicine. Banarsidas Bhanot publications. Jabalpur. 19th ed. 2007: 404-405.
[7] Noble S Et al. Archives of disease in childhood. London. 2007; 92(10): 850-854.
[8] Jain S. Indian journal of pediatrics. Chaudari foundation publishers. 2007; Vol.67: 19-21.
[9] Jethi SC Et al. Indian Pediatrics. New Delhi. 1987; 24(10): 921-925.
[10] Sangeetha Priyadarshini. The Nursing journal of India. 2009; vol.4.
[11] SHINDE, M., & ANJUM, S. (2007). Introduction to Research In Nursing. Sneha Publication India, (Dombivili).

[12] Bhat IA Et al. Indian Journal of Maternal and Child Health. 1992; 3(1):12-5.
[13] Stewart M Et al. Child: care, health and development. Blackwell publishers. 2008: 59-64.
[14] Bhandari N Et al. Journal of Nutrition. The American Society for Nutritional Sciences publisher. 2001; 131(7): 1946-1951.
[15] Kaka HJ Et al. Nutrition and Health. Bicester publishers. UN.1995; 10(3): 239-253.
[16] Bekele A Et al. Ethiopia medical journal.1998; 36(1):37-45.
[17] Borres MP Et al. Journal of Pediatric Health Care. 2007; 21(4): 238-244.
[18] Goulart EM Et al. Cadenos de Saude publica. 2008; vol24: 1355-1367.
[19] Vandale S Toney Et al. Salud publica Mex.1998; 105(4): 425-439.
[20] Levy RB Et al. Journal de Pediatria: 2007; 83(1): 53-58.
[21] Ijarotimi OS Et al. Journal of Food and Nutrition Science. 2006; 27(4):327-334.
[22] Tambulwadekar R.S. Pediatric Nursing. Vora medical publications. Bombay. 2nd ed. 2003: 23,36.

Author Profile

Swati Kambli is working as Principal, Dr. D.Y. Patil College of Nursing, Mumbai, Maharashtra, India