

# ASSESS THE KNOWLEDGE REGARDING BOTTLE FEEDING AMONG MOTHERS OF UNDER FIVE CHILDREN IN A SELECTED HOSPITAL IN PATHANAMTHITA DISTRICT

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**Abstract-** Bottle-feeding is an infant feeding modality that has been in existence since ancient times, and currently a significant number of infants are being fed via bottle with either breast milk or formula. Although research on bottle-feeding has continued, it exists in fragmented, often small studies that focus on singular aspects of feeding an infant using a bottle, with limited information on the bottle-feeding act. The objectives of the study was to assess the knowledge regarding bottle feeding among mothers of under five children and to find an association between the knowledge and selected demographic variables. A quantitative research approach was used for the study. The sample size was 150 mothers of under 5 children who attended pediatric OPDs and wards of the hospital were selected using purposive sampling. The knowledge regarding bottle feeding was assessed using a self-administered questionnaire. The major findings of the study were, 64.67% of mothers having good knowledge and 35.33% of mothers having average knowledge regarding bottle feeding. The study reported that there is a significant association with age of the child and has no association with age of the mother, occupation of the mother, practice of breast feeding and practice of bottle feeding. The study concludes that the sample population has good knowledge about bottle feeding.

**Keywords:** Assess; Knowledge; Bottle-feeding; Mothers of under five children.

## INTRODUCTION

### BACKGROUND OF THE PROBLEM

Bottle feeding is an infant feeding modality that has been in existence since ancient times. Currently, a significant number of infants are being fed via bottle with either breast milk or formula. Although research on bottle feeding has continued, it exists in fragmented, often small studies that focus on singular aspects of feeding as infant using a bottle, with limited information on the bottle-feeding act<sup>1</sup>.

.Systems theory was the approach used to define the act of bottle feeding and identify the parts within this act. Findings of reviews revealed that healthy bottle-feeding infants use similar tongue and jaw movements can create suction and sequentially use teat compression to obtain milk, with minimal differences in oxygen saturation and suck, swallow and breathing patterns, when compared with breastfeeding infants. Redefining bottle feeding as a holistic system identifies the interrelationship of the various parts which will improve the understanding of the reciprocal nature of infant feeding. To optimize bottle feeding outcomes, further research is required on parents' and health professionals' knowledge and understanding of the parts within the act of bottle feeding<sup>1</sup>. Babies will feel more secure if most feeds are given by the mother, father or caregiver of the baby. Pediatrician generally advise exclusive breast feeding (that is breastfeeding with no supplementary formula) for all full-term, healthy infants for the first six months of life. However, to achieve normal growth and maintain normal health, infant formulas must include proper amounts of water, carbohydrates, proteins, fats, vitamins and minerals. Also, sometimes there are medical reasons for not breastfeeding or when a woman is not able to produce a sufficient amount of breastmilk. In such cases, it is suggested to feed the baby with supplementary formula<sup>1</sup>

### STATEMENT OF THE PROBLEM

A Study to assess the knowledge regarding bottle feeding among mothers of under five children in a selected hospital in Pathanamthitta District.

### OBJECTIVES

1. Assess the knowledge regarding bottle feeding among mothers of under five children.
2. Find out the association between knowledge and selected socio demographic variables

### OPERATIONAL DEFINITIONS

1. Assess: In the study, assess refers to evaluation or estimation of the knowledge regarding bottle feeding among mothers of under five children.

2. Knowledge: In this study, knowledge refers to the response given by the mothers of under five children regarding bottle feeding assessed by structured knowledge questionnaires.
3. Bottle feeding: In this study bottle feeding refers to the preparation and administration of fluid to under 5 children via a bottle.
4. Under 5 children: In this study, under 5 children refers to the children under the age of 5 years.

### ASSUMPTIONS

1. Health is a priority for most of the people.
2. People operate on the basis of cognitive information

### RESEARCH APPROACH

Research approach means the description of the plan to investigate the phenomenon under study.<sup>29</sup> Research approach is a frequently used term in research, which is an important element of research design, which governs it.

**Quantitative research approach** was adopted in the present study to assess the knowledge regarding bottle feeding among mothers of under five children.

### RESEARCH APPROACH

Research design is the frame work or guide used for planning, implementation and analysis of a study<sup>29</sup>.

The research design adapted to the study was **descriptive research design**

### POPULATION

A population is the entire aggregation of cases in which a researcher is interested.<sup>30</sup>

The population in this study was mothers.

### SAMPLE AND SAMPLING TECHNIQUE

Sample

Sample is a part or subset of population selected to participate in research study.<sup>30</sup>

In this study, samples were mothers of under five children attending OPD's and wards of MGM Muthoot hospital, Kozhencherry.

In this study, the sample consisted of 150 mothers of under five children attending OPD's and wards of MGM Muthoot hospital, Kozhencherry.

Sampling technique

The process of selecting sample from target population to represent the entire population.<sup>30</sup>

In this study, sampling technique was purposive sampling.

### DESCRIPTION OF THE TOOL

The tool consists of two sections

Section A: Socio demographic data

Section B: Self Structured Questionnaire

Section A consist of demographic variables such as age of the mother, education of the mother, age of the child, practice of breast feeding and bottle feeding.

Section B consist of 18 questions related to knowledge on bottle feeding. Each correct answer was given a score of „1“. The total score was 18.

The score was interpreted as Follows:

0-6 = Poor knowledge

7-12 = Moderate knowledge

13-18 = Good knowledge

### CONTENT VALIDITY

Content validity refers to the degree to which the items of an instrument adequately represent the universe of content for the concept being measured.<sup>31</sup> Content validity of the tool was established by obtaining suggestions from the experts. The prepared tool along with the problem statement, objectives, assumptions and operational definitions were submitted to 7 experts. Based on their suggestion, modifications were made and the tool were finalized with the help of guides. The final tool consist of Socio demographic data includes 5 items and structured knowledge questionnaire includes 18 items.

### DATA COLLECTION PROCESS

Data collection is a precise systematic gathering of information relevant to the research through objective questions for the purpose of validating the hypothesis of the study.<sup>31</sup>

Data collection was started after obtaining formal permission from the concerned authority of MGM Muthoot hospital, Kozhencherry, Pathanamthitta district. The study was conducted among 150 mothers who met the inclusion criteria. The data collection was extended over a period of 7 days. Initially good rapport was established with the participants, the purpose of the study was explained and informed consent was taken. The samples were given the questionnaire such as Baseline Proforma to assess the baseline data and self-structured questionnaire to assess knowledge regarding breast feeding. It took 10 - 15 minutes to complete the questionnaire. Daily 35-45 samples were obtained. The subjects were co-operative during the study.

**PLAN FOR DATA ANALYSIS**

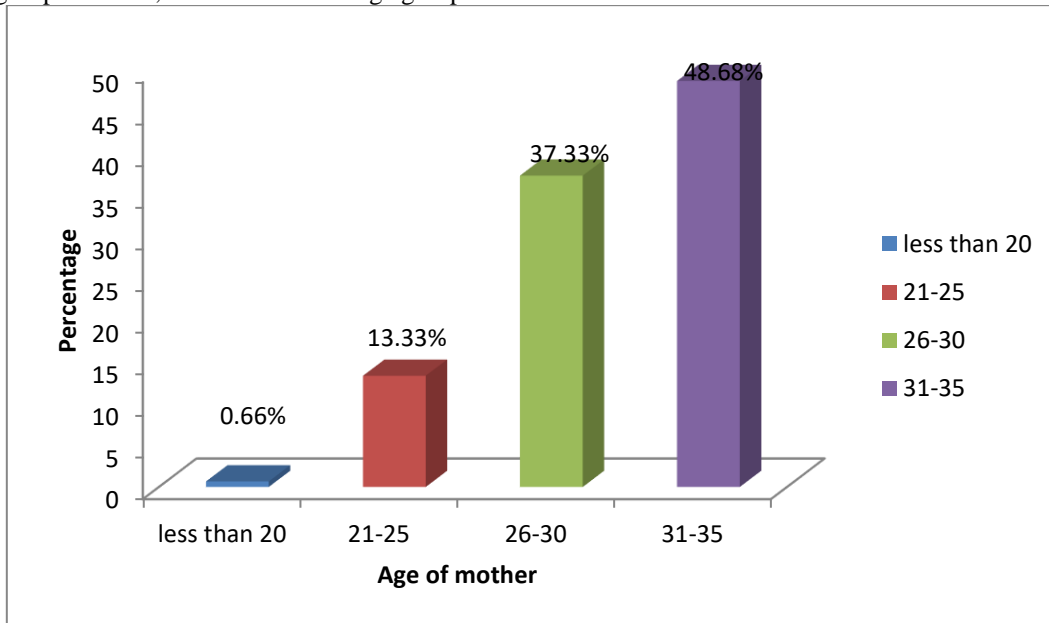
Analysis is a process of organizing and synthesizing data so as to answer research questions and test the hypothesis.<sup>32</sup> The data was analyzed by descriptive and inferential statistics manually using MS Excel, 2007 version. Frequency and percentage were used to define baseline data and knowledge scores. As the knowledge was in the ordinal data non-parametric test was adopted for the association of the knowledge scores with demographic variables, Chi-square test was computed.

**FINDINGS OF THE STUDY**

Data analysis is considered under the following heading:

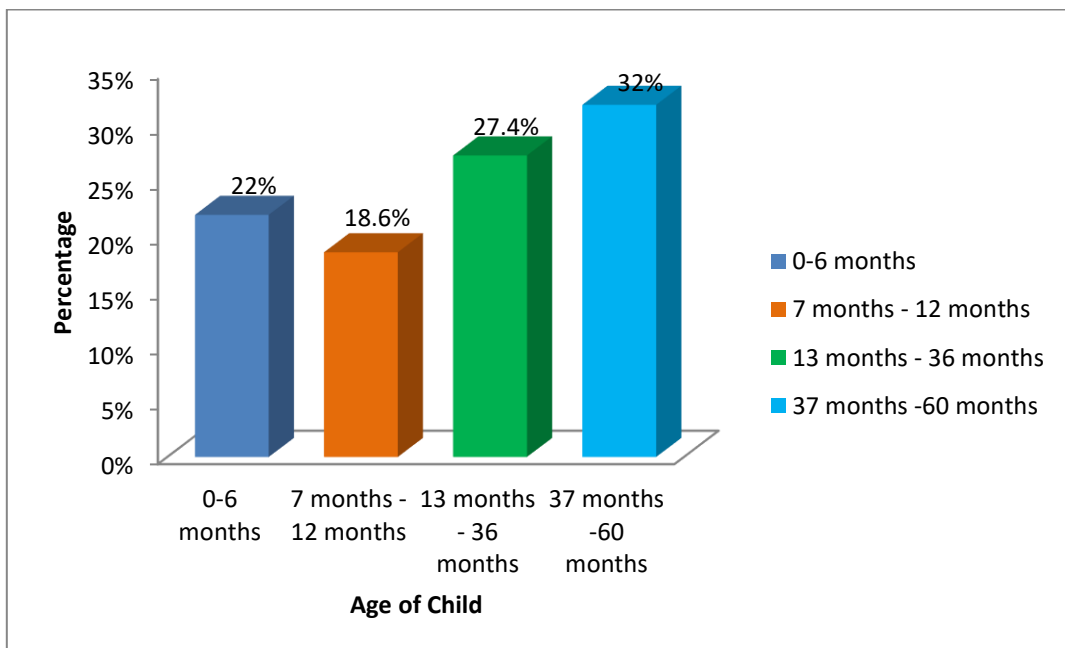
**Section 1: description of demographic variables.**

1. Majority 48.68% samples were within the age group less than 31-35, 37.33% were within the age group 26-30, 13.33% were within the age group of 21-25, 0.66% within the age group less than 20.



2. Majority 69.3% samples were professionals, 10% samples were unemployed, 8% samples were semi professionals, 6.11% samples were clerical /shop/farm, 4.6% samples were unskilled workers, 1.33% samples were skilled workers, 0.66% samples were semi skilled workers.

3. Majority 32% of samples were mothers of children with 37-60 months of age, 27.4% of samples were mothers of children with 13-36 months of age, 22% of samples were mothers of children with 0-6 months of age, 18.6% of samples were mothers of children with 7 months – 12 months of age.



4. Majority 52.66% of samples were breastfeeding their child and 47.34% of samples were not breastfeeding their child
5. Majority of 74% of samples were not bottle feeding their child and 26% of samples were bottle feeding their child.

The Chi-square value showed that there is significant association between age of the child. There is no significant association between age of the mother, occupation of mother, practice of breast feeding and bottle feeding with knowledge regarding bottle feeding.

The findings of the study revealed that there is a relationship between demographic variables and knowledge regarding bottle feeding.

### **Section II: Description of knowledge regarding bottle feeding among mothers of under five children.**

The knowledge of mothers regarding bottle feeding was assessed, among them 97(64.67%) have good level of knowledge and 53(35.33%) have average level of knowledge on bottle feeding

### **Section III: Association of knowledge regarding bottle feeding with the selected demographic variables.**

The chi-square value shows that there was a significant association between the knowledge scores of mothers on selected hospital with age of child ( $p < 0.05$ ) and has no association with age of mother, occupation of the mother, practice of breast feeding and practice of bottle feeding

## **NURSING IMPLICATIONS**

The findings of the present study generate some implications to the health care delivery system. It has implications in nursing practice, nursing administration, nursing education, and nursing research.

### **Nursing practice**

1. Nurses can increase the knowledge regarding bottle feeding among mothers and it help them to decrease the chance of infection occurring from bottle feeding.
2. Nurses should inform the mothers about the safe bottle feeding practices and prevention of ill effects regarding bottle feeding.
3. Specific guidelines regarding prevention of complications related to bottle feeding should be implemented among the nurses.
4. Health education should be provided to the nurses in clinical area to improve their knowledge regarding bottle feeding.

### **Nursing administration**

1. Nurse administrator can encourage the nursing personnel to use most effective nursing practice.
2. Improve the knowledge level of staff nurses by conducting continuous nursing education program.
3. Clinical nurse should prepare effectiveness of learning practices to provide information to the public.

### **Nursing education**

1. The nurse can also act as an educator by educating the mother.
2. The nurse educator should focus on improving the knowledge of mothers on bottle feeding along with feeding practice sessions and measures to avoid the ill effects of bottle feeding.
3. The knowledge level of student nurses, regarding bottle feeding should be improved by conducting webinar, orientation programs and quiz competitions.

### **Nursing research**

1. The nurse researcher can work towards developing a tool to measure the knowledge, safe feeding practices and prevention of complications.
2. There is a need for research in this area so that the strategies for educating nurses to improve their knowledge regarding various aspects of bottle feeding

## **CONCLUSION OF THE STUDY**

The study was aimed at assessing the knowledge regarding bottle feeding among mothers of under 5 children and the association of knowledge regarding bottle feeding with selected demographic variables. After obtaining permission from the concerned authorities the study was conducted among 150 mother's of under five children socio demographic variables and self administered questionnaires was used.

And the results show that there is good knowledge regarding bottle feeding among mothers.

## **REFERENCES:**

1. Judith Kotowski, Cathrine Fowler, Christina Hourigan, Fiona Orr, Bottle-feeding an infant feeding modality: An integrative literature review, maternal and child nutrition ,Volume 19 , 25 July 2019 Issue
2. Soderquist N. Advantages of bottle-feeding [Internet]. BIBS. 2022 [cited 2023 Jan 11].
3. Ferreira MU, Rubinsky-Elefant G, de Castro TG, Hoffmann EHE, da Silva- Nunes M, Cardoso MA, et al. Bottle feeding and exposure to Toxocara as risk factors for wheezing illness among under-five Amazonian children: a population-based cross-sectional study. J Trop Pediatrics [Internet]. 2007 [cited 2023 Jan 7]; 53(2):119–24.
4. Kebebe T, Assaye H. Intention, magnitude and factors associated with bottlefeeding among mothers of 0-23 months old children in Holeta town, CentralEthiopia: a cross sectional study. BMC Nutr [Internet]. 2017; 3(1):53.
5. Infant feeding survey – 2005, main report [Internet]. NHS Digital. [cited 2023 Jan 11].
6. Infant and young child feeding – 09 June 2021, WHO (Cited 2021 June 09)

7. Suresk K Sharma. Nursing research and statistics, 1st edition. Noida: Reed Elsevier India (P) Limited pp, Publishers:2011, P: 35 – 45.
8. Yalew Mihret, FentaneshEndalew, and et all. Sociodemographic Factors Associated with Bottle Feeding Practices in Infants Under Two Years of Age: A hospital-based study in Woldia, Ethiopia. Published online 2020 Mar 31. doi: 10.5195/cajgh.2020.440
9. Namrata Kalpesh Makwana, Shree M.P. Shah. Determinants of bottle feeding among 0- 24 months children. International Journal of Pediatric, research 2020 Volume 7 Number 1 January.
10. NasrulNasrula& Fahmi Hafid. Factors associated with bottle feeding in children aged 0–23 months in Indonesia. Children and youth service review .
11. Tadesse Kebebe& Hirut Assaye. Intention, magnitude and factors associated with bottle feeding among mothers of 0–23 months old children in Holeta town, Central Ethiopia: a cross sectional study. Published: 05 July 2017.
12. Maristela Cavalheiro Tamborindeguy França, Elsa Regina Justo Giugliani. Bottle feeding during the first month of life: determinants and effect on breastfeeding technique.
13. Baghianimoghadam M-H, Nadrian H, Rahaei Z. The effects of education on formula and Bottle-Feeding behaviors of nursing mothers based on PRECEDE model [Internet]. Org.br. [cited 2023 Jan 7].
14. Ahmed A. Hassan, Zainab Taha , Assessment of Bottle-Feeding Practices in Kassala, Eastern Sudan: A Community-Based Study, Open Access Maced J Med Sci. 2019
15. Ellison RG, Greer BP, Burney JL, Goodell LS, Bower KB, Nicklas JC, et al. Observations and conversations: Home preparation of infant formula among a sample of low-income mothers in the Southeastern US. J Nutr Educ Behav [Internet]. 2017;49(7):579-587.e1.
16. Isadora Martins Ribeiro, Ana Paula Martins Gomes, Feeding Practices of Potential Risk to Dental Caries in Early Childhood and its Relationship with Sociodemographic Variables andPrematurity,
17. Laxmikant Lokare Aravind Hippargi Qualitative exploration of bottle-feeding practices among mothers of Dharwad district, Karnataka: a focus group discussion study, International Journal of Community Medicine and Public Health.
18. Ms. Vajramala, A Comparative study to assess the level of Knowledge and Practice on Bottle feeding – Infant among working and non-working mothers in selected community areas at Coimbatore.
19. Kassier S MSc Dietet, Veldman F PhD Nutrit. Cry, the beloved bottle: infant- feeding knowledge and the practices of mothers and caregivers in an urban township outside Bloemfontein, Free State province. South Afr J Clin Nutr [Internet]. 2013; 26(1):17–22.
20. Ayaz F, Ayaz SB, Furrukh M, Matee S. Cleaning practices and contamination status of feeding bottles of admitted children in Rawalpindi, Pakistan. Int J Infect Dis [Internet]. 2020 [cited 2023 Jan 9];101:314–5.
21. Tahir Z, Gardy M, Omer A, Immunohematology R. Efficacy of cleaning and disinfecting infant bottle feeding by mothers in raparin teaching hospital at Erbil city/Kurdistan region [Internet].
22. S Aswathy, KN Panicker, Infant and Young Child Feeding Practices- An Interventional BehaviourChange Communication Approach,
23. Anselm S Berde, Factors Associated with Bottle Feeding in Namibia: Findings from Namibia 2013 Demographic and Health Survey.
24. Rajalakshmi Lakshman, David Ogilvie, Mothers’ experiences of bottle feeding: a systematic review of qualitative and quantitative studies.
25. Sharada Pandey, Kalpana Tiwari, Determinants of infant and young child feeding practices in Nepal: secondary data analysis of Demographic and Health Survey 2006,
26. Fikadu Andea, Hailu Nida and Challi Jira, Infant Bottle-Feeding Practice, Agaro Town, Southwest Ethiopia.
27. Upul Senarath, Michael J Dibley, Determinants of infant and young child feeding practices in Sri Lanka: secondary data analysis of Demographic and Health Survey 2000.
28. Kothari C. R. Research Methodology, Methods and technique, 2nd Edn : New Delhi: Newage International (P) Limited, Publishers; 2004
29. Sharma S. K Nursing Research and Statistics, 1st Edn: New Delhi: Elsevier Publication; 2012
30. Denise. F. Polit and Chery / Tatanobeck Nursing Research, South India Edn. 8th Edn, Lippincott Williams, 200, pg. 552
31. Burns N, Groovs K K, Understanding Nursing Research – Building An Evidenced Based Practice, USA, WH Saunders, 2005
32. Wood G. L, Heber J, Cameron C. Nursing Research: Methods and Critical Appraisal for Evidence based Practice ,Elsevier Publication, 2014, 8th edition pg. 73
33. Polit D E, Hungler B.P, Nursing Research Principles and Methods. 6th Edition Philadelphia, Lippincott Company 2007.
34. Alemnesh Abebe Taye, wondwosen Asegidew, Formula Feeding Practice and associated factors among mothers with infants 0-6 months of age in Addis Ababa, Ethiopia; a community based cross sectional study, Italian journal of Pediatrics.