International Journal of Community Medicine and Public Health
Lokare L et al. Int J Community Med Public Health. 2016 Jan;3(1):90-93
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20151477

Research Article

Qualitative exploration of bottle feeding practices among mothers of Dharwad district, Karnataka: a focus group discussion study

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Received: 15 November 2015
Accepted: 28 November 2015

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ABSTRACT

Background: WHO has stipulated that the feeding bottle with a nipple should not be used at any age, in order to achieve optimal growth, development, and health of infants. Despite this, bottle feeding to infants is still practiced across our country due to various socio-cultural reasons. This study aims to explore bottle feeding practices among mothers of Urban, Rural and Urban Slum areas.
Methods: Qualitative Cross-sectional community based study of mothers attending anganwadi/immunization centre from urban, rural and slum areas. Data was collected by Focussed Group Discussion (FGD) regarding General knowledge on infant feeding and Bottle-feeding practices was discussed. Data was analysed by Content Based analysis and Ethnography.
Results: Practice of bottle-feeding was adopted for mother's illness and breast related health issues and some unacceptable reasons. Mothers opted for formula milk and cows' milk equally, making commercially available milk packets as their next choice. No conclusion was made out from the methods of preparation in slum. Information about practicing hygiene in bottle feeding was scientific and justifiable.
Conclusions: Practice of bottle-feeding was adopted rarely. Preparation methods were variable in all the mothers and were inconclusive in mothers from Slum. Majority practiced hygienic bottle feeding measures.

Keywords: Bottle feeding, Milk, Dilution, Practice

INTRODUCTION

According to World Health Organization (WHO) Breastfeeding is the key to a child's survival, health, growth and development.[1] WHO has stipulated that the feeding bottle with a nipple should not be used at any age, in order to achieve optimal growth, development, and health of infants.[2] Despite this, bottle feeding to infants is still practiced across our country due to various socio-cultural reasons.[3,4]

In bottle-fed children, the frequency of diarrhoea was 26.08%, compared to 21.70% in non-bottle-fed children.[5] Bottle-fed infants experienced a 4.6-fold higher risk of Pyloric Stenosis compared with infants who were not bottle-fed. The result adds to the evidence supporting the advantage of exclusive breastfeeding in the first months after birth.[6] Bottle-feeding practices during infancy may have long-term effects on Maternal Feeding Style and Child Eating Behavior. Frequent bottle emptying encouraged by mothers and/or high Bottle Feeding Intensity during early infancy increased the likelihood of mothers pressuring their 6-year-old child to eat and children's low satiety responsiveness.[7]

The tendency to use the bottle increased in relation to child's increasing age. Only 17% of the infants under the age of 3 months were offered bottle, it was 69% between 4 to 6 months and it increased to 76% in infants from 7 months to 1 year. The attributes associated with increased

bottle use were mother's older age, illiteracy and increased parity. Bottle use is a public health issue in poor and illiterate mothers of developing countries. Laws are enacted in some countries against its propagation; we need community-based strategies to bring about a socio-cultural shift in the growing prevalence of bottle use.[8] Effective strategies should also be developed discourage bottle-feeding since dental carries can occur in early childhood.[9]

Tribal and Rural families having less access to the correct health messages that are propagated through different sources, together with the tendency to mimic their urban counterparts, encounter high childhood morbidity and mortality resulting in failure to start breast feeding by mother and leading to an underweight and a stunted child.[10] Counselling women on feeding behavior in the last trimester of pregnancy holds promise as an effective intervention to ensure healthier feeding practices. Bottle feeding practice is in vogue in various parts of our country both in urban and rural areas due to various socio-cultural factors. This study aims to explore bottle feeding practices among mothers of Urban, Rural and Urban Slum areas.

METHODS

Study design is a Qualitative Cross-sectional community based study. Mothers of children up to 3 years old attending Anganwadi/immunization centre from urban, rural and slum areas for child immunization in Dharwad district. Study was from 24th July to 31st October 2015 after obtaining Institutional Ethical Committee clearance (EC13072015) . Six groups (two each in urban, rural and slum area), each group containing six mothers were selected by convenient non probable sampling technique. Mothers who didn't give consent were excluded.

Mothers were briefed about the information and procedures involved in the study individually and groups were formed accordingly. Consent for the audio recording of the group discussion was also obtained. Qualitative data was collected by Focus Group Discussion (FGD), using a structured interview schedule which was executed to complement the exploratory and descriptive nature of the research design. Audio recorder was used to record the conversation among the members of group during focus group discussion.

General knowledge on infant feeding and Bottle-feeding practices was discussed. A structured interview schedule was developed, applying a structured question approach with pre-planned probes to improve understandability. Specific measures such as well-defined concepts, pre-tested instruments were implemented to improve the reliability and the validity of the methodology. Focus group discussions were audio-recorded and the interviews were transcribed immediately after each session to maximize data capture. Data making involved unitizing, sampling and recording thus converting transcribed data into specific units of analysis. Coding categories from structured discussion schedule was created. Data inference and analysis were done using ethnography content analysis by exploration of themes and content uncovered in the data. Content was analysed in terms of manifest and latent content. Manifest content (visible surface content) included countable objects/concepts, for example: volume, frequency, foods. Latent content (underlying meaning) included reasons given for the practices, beliefs concerning nutritional knowledge, reasons for nutrition-related attitudes and how theses might have influenced the practices. Ethnography was used to obtain descriptive data by using direct quotations from group discussion. Data exploration created new categories and inferences were grouped or discussed according to the content. Only inferences reflecting the feeling of the majority were presented, supported by one or more statements (direct quotations from the participants) best describing the topics explored

RESULTS

Practice of bottle-feeding was adopted for acceptable reasons- mother illness and breast related health issues and unacceptable reasons- perceived lack of milk, low milk production. Mothers explained advantages of breast feeding over the bottle feeding and also disadvantages of bottle feeding and its effect on child health. If at all bottle feeding was made to feed their child, mothers opted for formula milk and cows' milk equally, making commercially available milk packets as their next choice. No conclusion was made out from the methods of preparation and mixing of cows' milk and milk packets with water as it varied greatly from one to another and hence actual mixing procedures were questionable. Formula milk was prepared as per instructions given behind the packet and/or as advised by doctor. Information about practicing hygiene in bottle feeding was scientific and justifiable (Table 1).

Comparison

Powdered milk followed by cows' milk and milk packet was choice in bottle feeding among urban, rural and slum participants respectively. Participants read instructions to prepare the powdered milk (Table 2).

DISCUSSION

Bottle feeding practice is in vogue in various parts of our country both in urban and rural areas due to various socio-cultural factors. In the study out of 150 infants, 102 (68%) were being offered the bottle for feeding purposes. A community-based study from West Bengal among 647 children aged less than 2 years revealed 10.2% children were bottle fed.[4] A hospital-based study from Karachi, Pakistan showed the prevalence of bottle use in infants belonging to low income peri-urban community to be 68%. But in the present study bottle feeding was last

feeding choice and used only when there is perceived lack of milk or breast illness.[8]

There is a strong tradition of breastfeeding in India, especially in the rural areas. But owing to the rural-urban migration of the poor, the increased interaction of this group with the concomitants of modernization including mass media communication networks, access to job opportunities, commercial products and their availability, has set into process a consumerist behavior based on imitation rather than need or rational decision-making.[11]

Table 1: Practice of Bottle-feeding.

Category	Content analysis	Ethnography
Bottle feeding as feeding choice	Bottle feeding was rarely practiced- advised only when mother is sick and low milk production (41.6 %), when mother is sick or diseases of breast (30.5%), perceived lack of milk (25%)	*"The baby always cried for more milk with none coming from the breast"* *"Breast feeding is the only choice for us and when it is not met we go for bottle feeding"*
Type of milk used	Choice for cow's milk and formula milk was accepted by most of mother and rest 44 % opted for commercially available milk packets	*"Cow's milk is next to mothers breast milk"*
Preparation	Dilution methods of cow's milk and packet milk were highly variable from one to another and actual mixing procedures are questionable- no conclusion has been drawn. Formula milk was prepared as per the instructions behind the packet and/or as advised by the doctor. Practice of Mixing milk with sugar and fruits was carried out by less than half of mothers (41.6%)	*"1 cup of water and 8 to 10 tea spoons of milk powder"*
Hygiene practiced with bottle feed	Bottles were washed in boiled water separately for hygiene purpose by88.8% participants. Preparations were freshly prepared and fed. Overnight kept and left over preparations were discouraged and discarded.	*"Nipple of the bottle are contaminated by germs in air"*

Table 2: Bottle-feeding practices in rural, urban and urban slums.

Category	Rural	Urban	Slum
Type of milk used	Half opted cow's milk, rest by followed by milk packets and few opted powdered milk.	Powdered milk was their first choice followed by milk packet and cows' milk.	Milk packet was preferred over cow's and formula milk.
Preparation	A method of dilution of milk with water was variable and actual method of mixing was questionable.	As per instructions given at the back of sachet or as told by doctors.	No conclusion has been drawn on method of mixing milk and water.

Various factors among mothers may contribute to this difference such as modernization, locality(either urban, rural or slum area), high educational status of mother and their subsequent need for early return to their occupational job which demands for early introduction of bottle feeding and practice of weaning in less than 6 months, unaddressed breast related health issues during antenatal check-up which results in increased breast

related problems during lactation period which hence invariably abolishes the concept of exclusive breast feeding for six months, easy availability of feeding bottles and blind follow-up of cultural and traditional practices from ancestors irrespective of mothers educational status complemented by absence of Anganwadi center (under Integrated Child Development Service Scheme) activities has influenced the family to continue to bottle feed, unaware of its consequences on nutritional status.[10,12]

However, there is still a ray of hope as studies have reported positive impact of lactation counselling of mothers about correct feeding practices of infants and young children.[13] This can form a basis for educating mothers and care takers about the correct feeding practices and hazards of bottle feeding on child health specially belonging to families living in remote and in poor environmental conditions. It also calls for sensitization of health personnel about this issue through in-service training and the local community through peer counsellors.[14,15] Effective teaching aids for behavior change should be developed and made available to those responsible for educating the tribal, urban slum and rural masses.[10]

CONCLUSION

Practice of bottle-feeding as a last option was adopted for acceptable reasons- mother illness and breast related health issues and unacceptable reasons- perceived lack of milk, low milk production. Majority mothers opted for formula milk and cows' milk equally, and commercially milk packets as their next choice. No conclusion was made out from the methods of preparation in mothers of Slum areas. Majority practiced hygienic bottle feeding measures.

ACKNOWLEDGEMENTS

We acknowledge Indian Council Medical Research for their support as this study is a part of ICMR STS 2015.

Funding: ICMR STS 2015
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Lokare L, Hippargi A. Qualitative exploration of bottle feeding practices among mothers of Dharwad district, Karnataka: a focus group discussion study. Int J Community Med Public Health 2016;3:90-3.