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Research

Infant and Young Child Feeding (IYCF) practices amongst mothers in Hospitals of Mohali district (Punjab, India)

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India has achieved significant improvement since 2000, yet there are still areas of alarm, notably with regard to child nutrition. Adequate nutrition during infancy and early childhood is critical to each child's development of his or her full human potential. The period from birth to two years of age is widely acknowledged as a "critical window" for promoting optimal growth, health, and behavioral development. The present study was conducted on 500 mothers of infant and young children (0-24 months) visiting OPDs of government and private hospitals of district Mohali. The respondents were interviewed using a questionnaire provided by WHO (WHO, 2021). It was found that only a few mothers (n=20) practiced hand expression of breast milk irrespective of the type of hospital visiting. A majority gave pre-lacteal food among those visiting both the private and government hospitals. 89.4 percent (n=447) had ever breastfed their infants while a majority visiting government (52.1%) as well as private (53.3%) hospitals practiced exclusive breastfeeding. Reasons for stopping breastfeeding included medical advice, family advise, perceived decreased milk production or birth of another child. IYCF practices were found to be similar amongst mothers visiting the government and private hospitals. Therefore, breastfeeding counselling at antenatal clinics and peer support for exclusive breast feeding as per WHO recommendations should be included as part of breast-feeding promotional programs both in private as well as government hospitals, dispensaries and clinics.

INTRODUCTION

According to the World Bank (2009), India is one of the fastest expanding economies in the South Asian region, economically, educationally and technologically. Despite this, India has failed to tackle malnutrition and is home to more than one-third of the world's malnourished children. Global data have shown the serious consequences of malnutrition on a child's physical and brain development, which in turn, has a negative impact on cognitive development, as well as a nation's total productivity and economic development (Jamali 2020; Lodha and Vandana 2015; Makwana 2020). According to the World Bank (2012), decrease in 1percent of adult height due to childhood stunting is associated with a 1.4 percent decline in economic productivity.

Appropriate breast feeding and complementary feeding practices alone can reduce under five deaths by 19% (Jones et al. 2003). Breastfeeding has been shown to provide the best nutrition (protective and optimal) for infants due to immunologic, hormonal, and development benefits (Del Ciampo and Del Ciampo 2018). WHO recommends exclusive breast-feeding until 6 months of age and continuing to breastfeed as an essential element of the infant's diet until 2 years of age and beyond, yet overall breastfeeding rates in low- and middle-income countries (LMICs) remain below international goals (Zong et al. 2021).

Human milk, often known as breastmilk, is designed primarily for human neonates and is the physiologically 'natural' way to feed infants (Pradhan and Sobti 2021). Antibodies found in breast milk provide immunologic protection (Michels et al. 2017; Kramer and Kakuma 2012), allowing for a recovery from illness. Oligosaccharides block pathogens and poisons from binding to host receptors, hence averting infection (Zivkovic et al. 2010). Aside from the apparent benefit of instant energy, breast milk has been demonstrated to boost neurodevelopment, namely cognitive (Michels et al. 2017). Breastfeeding has also been shown to minimize the risk of ovarian and breast cancer, as well as diabetes (Chowdhury et al. 2015; Jordan et al. 2009).

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As a result, it is clear that breastfeeding is absolutely critical for maternal and new born health outcomes.

Breast milk can only sustain nutrition until a certain age, after which solid food must be incorporated to the infant's diet. This milestone occurs at the age of six months. Increased nutritional intake is then required to ensure appropriate growth and development. It is vital to highlight that early feeding might have irreversible implications, as stunting and other growth deficiencies can be difficult to overcome after the age of two. Improving IYCF behaviors in children aged 0–23 months is thus crucial for better nutrition, health, and development.

The key findings from the NFHS-5 report of Punjab shows that 53.1% of children under 3 years were breastfed within one hour of birth. About 55.5% under 6 months of age were exclusively breastfed in Punjab. Specifically considering the report of Mohali district (Sahibzada Ajit Singh Nagar, Punjab), 60.8% children under 3 years were breastfed within one hour of birth.

According to a World Bank Report, India's Integrated Child Development Services (ICDS) needs to undergo significant changes to address the current malnutrition crisis in India. (World Bank 2010). The present study was undertaken because adequate data on IYCF from Mohali District are not available.

OBJECTIVE

The objective of this study was to assess the knowledge and practices of mothers regarding breastfeeding and bottle-feeding of infants and young children aged 0-24 months visiting the government and private hospitals of district Mohali (Punjab).

METHODS

The present study was a hospital based cross- sectional study conducted on 500 mothers of infants and young children of age 0-24 months visiting out-patient departments for routine checkup and immunization to government and private hospitals of district Mohali. The data were collected from September to December 2020. All the respondents were interviewed individually by explaining each question in local language. 305 and 195 respondent mothers were haphazardly (randomly selected respondents as and when they arrived at the hospital) interviewed from randomly selected government hospitals and private hospitals respectively. All the respondents visiting the hospitals on the day of visit were included in the study if they consented to participate. Standardized questionnaire (WHO, 2021) was operationally- modified to include region specific information. The questionnaire contained well- defined questions, consisting of both open ended and mainly closed questions arranged logically. An attempt was made to keep the questions simple, easy to understand, unambiguous and well-structured. Information was collected on socio-demographic profile (age, religion, educational qualification of mother, occupation of mother, family income, socio-economic status, and type of family) and the knowledge and practices of breastfeeding and bottle-feeding. The questionnaire was orally administered by the authors in English, Hindi or Punjabi.

Standard indicators were used (WHO, 2021):

- Prelacteal feeding is the administration of any substances other than breast milk to new born babies during the first 3 days after birth.
- Colostrum is the first milk produced after birth.
- Exclusive breastfeeding refers to the provision of nothing but breast milk to the infant. The WHO indicator is the percentage of infants 0–5 months of age who were fed exclusively with breast milk during the previous day.
- The indicator "child ever breastfed" refers to percentage of children born in the last 24 months who were ever breastfed.

Data were also obtained on breastmilk hand expression because it is recommended to promote lactation, relieve breast engorgement, and collect milk for future infant feedings. For analysis of the collected data, SPSS software was used.

RESULTS AND DISCUSSION

SOCIO-DEMOGRAPHIC PROFILE

The mean age of the children included in the study was 7.12 months (± 4.63 month). 23% (n= 115) 0-3 months, 25.4% (n= 127) 3-6 months, 25% (n= 125) 6-9 months, 16.6% (n= 83) 9-12 months, 3.8% (n=19) 12-18 months, and 2.4% (n= 12) above 18 months. The mean age of the mothers was 26.43 (±3.16) years. 47.8 % (n=239) of the children were female. The religious affiliation of the mothers is shown in Figure 1. More children visiting government hospitals (77%) than private hospitals (57.9%), lived in an extended family.

While mothers visiting private hospitals were more likely to have a higher education, a majority visiting both types of hospitals had completed intermediate or higher levels of education. (Table 1)

As expected, participants with higher family income preferred private hospitals, as shown in Figure 2. Among those attending government hospitals, a much higher proportion were unemployed, as shown in Table 2.

INFANT AND YOUNG CHILD FEEDING PRACTICES

89.4 percent (n=447) of mothers had ever breastfed their infants. Mothers who did not ever breastfed had their infants either admitted in the SNCU ward or reported no milk production from breast. Thus, as per doctor's advice, they opted for commercial, ordinary pasteurized, homogenised cow milk or commercial infant products.

As shown in Table 3, 28.8% of mothers breastfed immediately, 26% breastfed within one hour of birth, and 36% breastfed within 2-6 hours after birth. 4.8% initiated breastfeeding after more than 6 hours of birth. Approximately half of the mothers (50.6%) fed their children with pre-lacteal food in the form of *ghutti* (a digestive tonic);

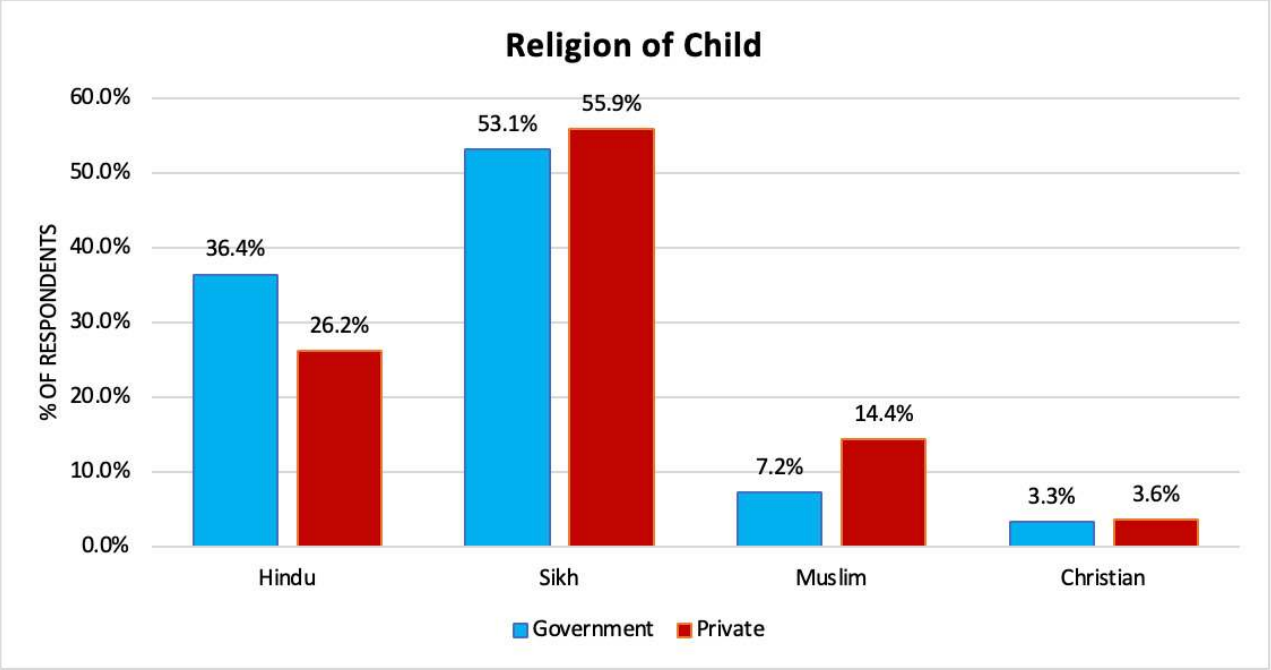


Figure 1. Distribution of data according to religion of child

Table 1. Type of hospital attended according to mother's educational qualification (n=500)

Mother's Educational Qualification	Type of hospital			
	Government		Private	
	Frequency	Percent	Frequency	Percent
Illiterate	42	13.8%	0	0.0%
Primary School Certificate	43	14.1%	0	0.0%
Middle School Certificate	24	7.9%	0	0.0%
High school certificate	37	12.1%	17	8.7%
Intermediate or diploma	79	25.9%	58	29.7%
Graduate	70	23.0%	63	32.3%
Profession or Honours	10	3.3%	57	29.2%
Total	305	100.0%	195	100.0%

honey or other foods commonly used in their culture. A majority of mothers from government (63.9%) as well as private hospitals (63.6%), answered "no" when asked if they knew of the existence and importance of colostrum.

Most mothers visiting government (59.7%) as well as private hospitals (61.5%), were aware of exclusive breastfeeding. In the case of the government hospital, they said they were made aware of it by the health practitioners or visiting ASHA workers. (an Accredited Social Health Activist is a community health worker employed by the Ministry of Health and Family Welfare as a part of India's National Rural Health Mission. They create awareness on health and its social determinants and mobilise the community towards local health planning and increased utilisation and accountability of the existing health services.)

Nearly the same percentage of mothers (52.1% Government and 53.3% Private) practised exclusive breast feeding for 4-5 months. A few mothers visiting the private hospital reported that though they practiced exclusive breastfeeding for 4-5 months, they then started with commercial baby products, as they had to join back to their work.

58% of the mothers who had visited government hospitals and 61.5% for private, said they knew how to hand express breast milk for their child. However, only 3.6% of mothers from government hospital and 4.6% mothers from private hospital had practiced it.

Of the full sample (n=500), 168 mothers had stopped breastfeeding their children. 39.8 % (n=67) of these mothers had done so due to medical advice, 20.8% (n=35) due to family advice, 38% (n=64) due to perceived decreased milk production, and 1.1% (n=2) mothers because of the birth of another child

53% (n=265) of the full sample had never used a bottle for feeding their child. In Figure 3, among those who had

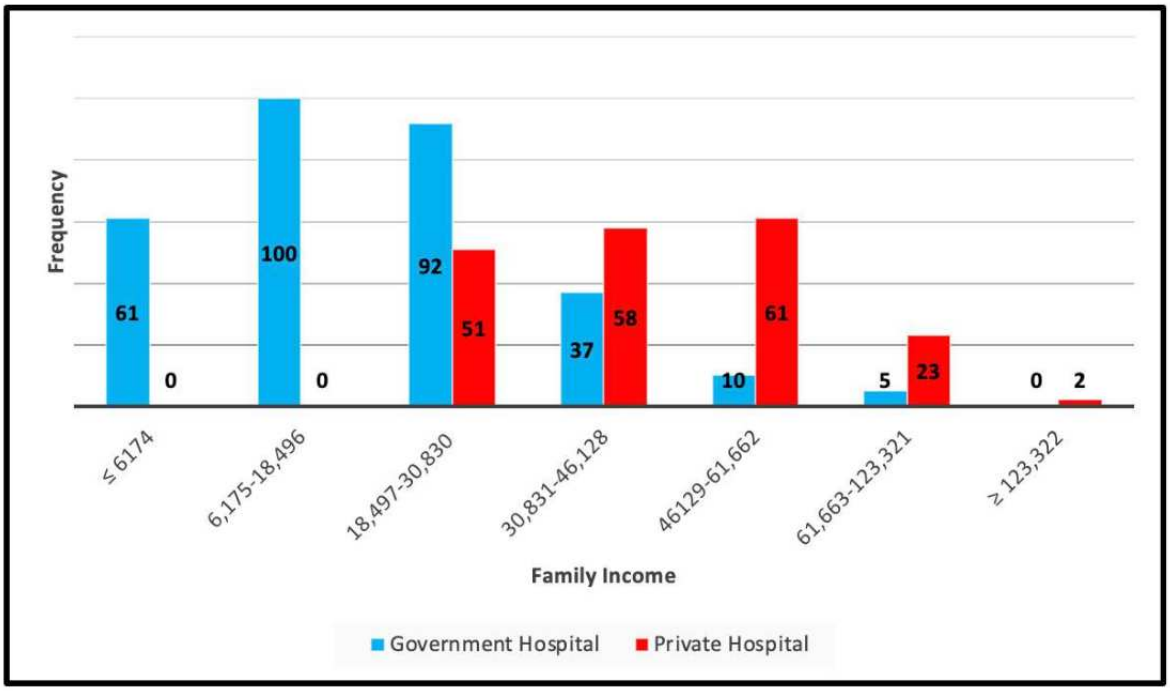


Figure 2. Distribution of data according to family income

Table 2. Type of hospital attended according to occupation of mother (n=500)

Occupation of Mother	Type of hospital	
	Government Hospitals	*Private Hospitals*
Unemployed	119	17
Elementary Occupation	33	23
Plant & Machine Operators and Assemblers	37	29
Craft & Related Trade Workers	46	27
Skilled Agricultural & Fishery Workers	15	26
Skilled Workers and Shop & Market Sales Workers	26	16
Clerks	19	0
Technicians and Associate Professionals	5	19
Professionals	5	20
Legislators, Senior Officials & Managers	0	18
Total	305	195

Table 3. Time of initiation of breastfeeding of child by type of hospital

	Government		Private	
	Frequency	Percent	Frequency	Percent
Immediately	85	27.9%	59	30.3%
Within One Hour	78	25.6%	52	26.7%
2-6 Hours	114	37.4%	66	33.8%
More than 6 Hours	15	4.9%	9	4.6%
Never	13	4.3%	9	4.6%
Total	305	100%	195	100%

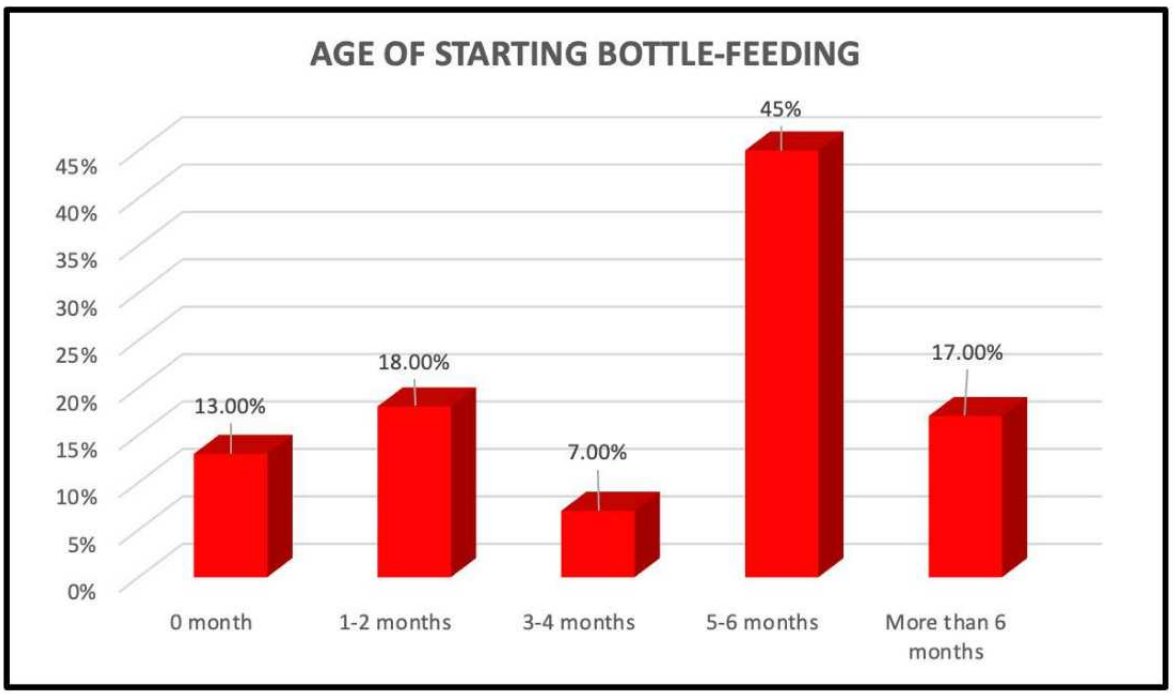


Figure 3. Age of initiation of bottle feeding (n=235)

received a bottle, (45%) had started on it when they were 5-6 months old.

CONCLUSIONS

Malnutrition (overweight/obesity, micronutrient deficiencies, and undernutrition) are usually man-made diseases, "which often starts in the womb and ends in the tomb". Malnutrition and associated factors cause a lot of morbidity, growth flattening, developmental retardation and significant mortality. Inadequate nutrition is a problem throughout India. Although efforts have been made for a long time, still a major causative factor, suboptimal infants feeding practices, are far from satisfactory in the country.

From the present study, it was found that the practices of infant and young child feeding amongst mothers visiting the government hospitals and private hospitals in one district, Mohali, were comparable in a number of factors. It is particularly important that breastfeeding counselling at antenatal clinics and peer support for exclusive breast feeding as per WHO recommendations should be included as part of breast-feeding promotional programs both in private as well as government hospitals, dispensaries and clinics.

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