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# ASSOCIATION OF DIFFERENT SOCIODEMOGRAPHIC FACTORS WITH IYCF PRACTICES IN RURAL MOTHERS OF UDAIPUR WITH CHILDREN BELOW 24 MONTHS

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**ABSTRACT** Introduction : As per Optimal infant and Young Child Feeding (IYCF) as a worldwide public health recommendation, infants must be exclusively breastfed for primary six months of life to attain optimal growth, development and health. Success in the development of newborn and newborn feeding programs is based on a commitment to holistic, evidence-based, scale-based practice programs, effective in preventing the deaths of people under the age of five. Objectives: To study the knowledge, current practices of infant and young child feeding among mothers and socio-demographic factors influencing Feeding practices in children aged upto 24 months of age. Material & methods: An observational analytical study was conducted in the department of pediatrics of a tertiary level teaching hospital in Udaipur. Study population of 350 mothers having children of less than equal to two years of age were included and data was collected regarding socio- demographic factors, knowledge and practice of child feeding from mothers. Results: There was significant association between age of the mother, female child and mothers in upper socio economic class (B G Prasad classification) with early initiation of breast feeding within 1 hour of birth. female gender, higher education, employment status, upper socioeconomic status was found to be associated with exclusive breast feeding. Conclusion: Sociodemographic profile also affects IYCF practices in children which can further affect their growth. A significant association of higher education, employment status and upper socioeconomic status was found with exclusive breast feeding of children so we should focus on sociodemographic profile for counselling.

**KEYWORDS :** Infant and young child feeding; Exclusive breastfeeding; sociodemographic profile; education

## Introduction

Childhood malnutrition continues a significant public health problem globally leading to increased morbidity, mortality and disease risk, and delayed recovery despite nutritional rehabilitation.[1] In India, an estimated 8.1 million (7.5%) children under the age of 5 are affected by severe acute malnutrition and are responsible for nearly 0.6 million deaths and 24.6 million DALYs (disability-adjusted life years). According to data provided under National Family Health Survey-5 (NFHS-5, 2021-2022), the underweight prevalence rate was 35.8% and 63%, 58% and 16% of the children were underweight, wasted and stunted, respectively.[2].

Optimal Infant and Young Child Feeding (IYCF) is presented within the WHO / UNICEF Global Strategy for infant and Young Child Feeding (2003) as follows: As a worldwide public health recommendation, infants must be exclusively breastfed for primary six months of life to attain optimal growth, development and health. Thereafter, so as to satisfy their growing nutritional needs, infants must receive adequate, safe and nutritious supplementation while breastfeeding lasts for up to 2 years or more. Breastfeeding only from birth is feasible without some rare health conditions as defined by WHO and UNICEF and almost every mother can breastfeed.[3] The scientific reason for this decision is obvious, with several decades of scientific literature on the topic including the Nutrition 2008[4], Newborn Health 2005[5], Childhood Development 2007[3] reaffirming the important role of infant nutrition and with a young child as a key element of a child's life, growth and development.

A review of the evidence on the effects on the baby's health and breastfeeding growth for only six months has revealed a lower incidence of gastrointestinal disorders and allergies, which may prevent stagnant growth due to such diseases.[6] After six months of age, in order to meet all the nutritional needs of the baby breast milk needs to be supplemented with other foods, although it continues to be an important source of nutrients and contributes to illness and death.[4] There is also strong evidence for high performance in intelligence tests among those subjects who were breastfed as children.[7,8] To achieve optimal IYCF practices, each woman should have access to a community based IYCF counseling support system. Efforts are needed to upgrade skill based training of health workers and revive and update the Baby Friendly Hospital Initiative (BFHI).[9,10]

The present study was planned to assess the IYCF practices among mothers of children below 24 months and to see the association of different sociodemographic factors with IYCF practices.

## Materials and Methods

### Study design, settings and participants:

It was a hospital based cross-sectional study conducted over a period of one year from December 2021 to November 2022 in pediatric department of a tertiary care teaching hospital in Southern Rajasthan, India. 350 mothers of children below 24 months coming from rural area were included in the study. Infants and children with congenital anomalies and metabolic disorders influencing growth, history of recurrent respiratory infection, diarrhea in preceding 15 days, measles in 3 months prior to the date of survey, aopted children or those whose mothers were sick, Children suffering from chronic illnesses like e.g. congenital heart diseases, chronic renal failure, tuberculosis, mal absorption syndromes and hematological disorders, children who underwent for any kind of surgical procedure in life, children who migrated along with their families after birth were excluded from the study.

### Data collection

rural mothers having upto twenty four months old children attending the outdoor clinic for routine immunization, routine check-ups or for treatment of minor illnesses were interviewed after taking informed written consent.

### Study tools

Data was collected by using IYCF Questionnaire. The questionnaire developed in English and translated to Hindi and was explained in Hindi and local Mewari language for quick understanding of subject to participants. The questions focused on the following domains: 1. Socio demographic domain Age of mother, age of child, sex of child, educational status of mother, occupation status of mother, education status of father, birth order, place of delivery, socioeconomic status, type of delivery, family type, ANC follow up, Exclusive Breast Feeding education obtained at ANC. 2. Feeding practices. Time of initiation of breast feeding after delivery of baby, any pre-lacteal feeds given, continued breast feeding among children aged 12-24 months, exclusive breast feed less than 6-month, minimum meal frequency, minimum dietary diversity, minimum acceptable diet among children in age group 6-24 months. 3. Anthropometric measurements of participant children was taken by using standards: Anthropometric data of the Baby included Weight in gm, Length in cm, MAC in cm, Head Circumference in cms. Weight was documented using an Electronic Weighing Scale and measured to the accuracy of up to 10 gms. Length was measured by making use of the Infantometer. The Mid Upper Arm Circumference was measured with a non-stretchable tape at a midpoint between the acromion and olecranon process of the

non-dominant arm kept relaxed by the side of the body. Three groups were made as per the mid upper arm circumference: those < 11.5 cm were labelled as severe malnourished, children with MUAC between 11.5 cm to 13.5 cm were labeled as moderated malnourished and children with >13.5cm were defined as normal in terms of nourishment.[11] Head Circumference was measured by placing the tape around the head over the glabella anteriorly and the occiput posteriorly through overlap method. All parameters were measured to the nearest 0.5 cm. Socio economic status was assessed by Modified B. G. Prasad Socio-economic status scale using updated current price index of 2021 [12].

**Statistical analysis**

Data were analyzed and statistically evaluated using SPSS software, version 17 (Chicago II, USA). Quantitative data was expressed in mean, standard deviation and difference between two comparable groups were tested by Mann Whitney 'U' test while qualitative data were expressed in percentage and difference between proportion was tested by chi square test or fisher exact test. 'P' value less than 0.05 was considered statistically significant.

**Ethical issues**

All participants were explained about the purpose of the study. Confidentiality was assured to them along with informed written consent. The study was approved by the Institutional Ethical Committee.

**Observation & results**

The mean age of mothers was 24.88±1.92 years. Majority of mothers were in the 20-24 years age group (56%). Out of 350 study participants, 199 (56%) belonged to three generation family and 31% to joint family. Only 11% belonged to nuclear family. Majority i.e 310(88.57%) belonged to lower middle class and lower class (table 1). The age of children in study ranged from upto six to twenty four months. The mean age of children was 10.28± 9.02 months. Girl children were more (56.4%) as compared to male children (43.7%). 92% of the children were fully immunized however 8% of children were either only partially immunized/not immunized or their immunization status was unknown.

In term of IYCF practices, 95.8% of mothers had given colostrum to their children while only 4.2% had not given it. 85.8% of mothers had started breastfeeding within one hour after birth while 14.2% had started after one hour of birth.

**Table 1: Sociodemographic profile of study subjects**

| | Frequency (n) | Percentage (%) |
|---|---|---|
| Mean age in years | 24.88±1.92 years | |
| Family type | | |
| Nuclear family | 40 | 11.2 |
| Joint family | 111 | 31.4 |
| Three generation family | 199 | 56.4 |
| Socioeconomic status | | |
| Upper Class | 2 | 0.57 |
| Upper Middle Class | 6 | 1.71 |
| Middle Class | 32 | 9.14 |
| Lower Middle Class | 212 | 60.57 |
| Lower Class | 98 | 28 |

**Table 2: Association between socio-demographic variables with initiation of breastfeeding within one hour**

| Socio-Demographic variable | | Initiation of breastfeeding within one hour | | | $X^2$ value | P-value |
|---|---|---|---|---|---|---|
| | | Given | Not given | Total | | |
| Age of mother | <=24 years | 175 (81.01%) | 41 (18.98%) | 216 | Fisher exact test | 0.002 |
| | >=25 years | 124 (92.53%) | 10 (7.46%) | 134 | | |
| Sex of the child | Male | 148 (86%) | 24 (13.95%) | 172 | Fisher exact test | 0.01 |
| | Female | 167 (93.82%) | 11 (6.17%) | 178 | | |
| Mother's education | Illiterate & Primary school | 171 (92.93%) | 13 (7.06%) | 184 | Fisher exact test | 0.05 |
| | Middle school & Higher schools | 143 (86.14%) | 23 (13.85%) | 166 | | |
| Mother's occupation | Working | 169 (88.48%) | 22 (11.51%) | 191 | 2.15 | 0.14 |
| | Not working | 132 (83.01%) | 27 (16.98%) | 159 | | |
| Socio-Economic status | Upper | 184 (96.84%) | 6 (3.15%) | 190 | Fisher exact test | <0.001 |
| | Lower | 128 (80%) | 32 (20%) | 160 | | |

Chi square test was used to calculate P-value.

There was significant association between age of the mother (p value 0.002), female child (p value 0.01) and mothers in upper socio economic class (B G Prasad classification) with early initiation of breast feeding within 1 hour of birth. No significant relation between other socio demographic factors with early initiation of breast feeding was found (table 2).

**Table 3: Association between socio-demographic variables with practice of Exclusive Breastfeeding for 6 months**

| Socio-Demographic variable | | Exclusive breastfeeding for 6 months | | | $X^2$ value | P-value |
|---|---|---|---|---|---|---|
| | | Given | Not Given | Total | | |
| Age of mother | <=24 years | 124 (81.57%) | 28 (18.42%) | 152 | 0.09 | 0.76 |
| | >=25 years | 164 (82.82%) | 34 (17.17%) | 198 | | |
| Sex of the child | Male | 112 (77.77%) | 32 (22.22%) | 144 | 5.02 | 0.02 |
| | Female | 179 (86.89%) | 27 (13.10%) | 206 | | |
| Mother's education | Illiterate & Primary school | 127 (68.64%) | 58 (31.35%) | 185 | Fisher exact test | <0.001 |
| | Middle school & Higher schools | 159 (96.36%) | 6 (3.63%) | 165 | Fisher exact test applied | |
| Mother's occupation | Working | 161 (94.15%) | 10 (5.84%) | 171 | Fisher exact test applied | <0.001 |
| | Not working | 111 (62.01%) | 68 (37.98%) | 179 | | |
| Socio-Economic status | Upper | 165 (93.75%) | 11 (6.25%) | 176 | Fisher exact test applied | <0.001 |
| | Lower | 114 (65.51%) | 60 (34.48%) | 174 | | |

In our study we found significant association of female gender (p value 0.02), higher education (p value<0.001), employment status (p value<0.001), upper socioeconomic status (p value<0.001) with exclusive breast feeding (table 3).

**Table 4: Association between socio-demographic variables with practice of Initiation of complementary feeding**

| Socio-demographic variables | | Initiation of complementary feeding | | | X2 Value | P-value |
|---|---|---|---|---|---|---|
| | | <6 months | 6-8 months | >8 months | | |
| Age of mother | <=24 years | 10 (7%) | 64 (38%) | 94 (55%) | 13.28 | 0.001 |
| | >=25 years | 7 (4.1%) | 36 (21.2%) | 127 (74.7%) | | |
| Sex of the child | Male | 6 (4%) | 31 (21%) | 110 (75%) | 1.74 | 0.41 |
| | Female | 5 (2.6%) | 32 (16.4%) | 154 (81%) | | |
| Mother's education status | Illiterate & Primary school | 4 (2.3%) | 26 (15%) | 143 (82.7%) | 0.47 | 0.78 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Middle school & Higher schools | 3 (1.8%) | 29(17.5 %) | 133 (80.7%) | | |
| Mother's occupation | Working | 7 (3.6%) | 27 (14.2%) | 156 (82.2%) | 2.15 | 0.35 |
| | Not working | 2 (1.3%) | 18 (12.1%) | 128 (86.4%) | | |
| Socio-economic | Upper | 4 (1.9%) | 14 (6.9%) | 184 (91.2%) | 3.77 | 0.15 |
| | Lower | 1 (0.7%) | 17 (12.5%) | 118 (86.8%) | | |

**Those children who were not CF were excluded (12). Therefore n=338 There was significant association between age of > 25 years of mother and initiation of complimentary feeding in infants more than 8 months. No association between gender, mothers education, mothers occupation and family socio economic status with age of initiation of complementary feeds (table 4).

## Discussion

There was significant association of early initiation of breast feeding with female child (p value 0.01). Our results are consistent with study conducted by Priti K et al [13] in Wardha in rural area. The timely initiation of breast-feeding was seen significantly more for female child (62.3%) compared to male child (37.6%) (p value <0.05). However our result was different from study conducted in Urban population in Karnataka by Bhanuja Bhagwat et al[14] 2019 they found that early initiation of breastfeeding was more in males (56.1%) as compared to females (45.5%). The main reason of early initiation of breast feeding in female child may be due to the fact that people consider top feeding better (especially cow's milk) for weight gain of newborn than breast feeding so male child is top fed more as compared to female.

We also found significant co relation between upper socioeconomic status and early initiation of breast feeding. There was no significant difference between other socio demographic factors with early initiation of breast feeding. Our results were different from study conducted by Priti K et al [13] who concluded there is no significant difference between education status, socioeconomic status with early initiation of breast feeding this could be due to difference in literacy rate and inclusion of more of the population with lower socioeconomic status, religious or cultural beliefs among different states.

62% of mothers had EBF for >6 months and 14% infants were given EBF > 6 months. 3% started early weaning at around 4 months. Majority of infants were started on cow milk. The most common reason for early weaning was said insufficient breast milk. Also that majority of mothers continued to feed their children with breast milk even when the child was ill. Only 3% mothers did not gave their breast milk when the child was suffering from mild illness. The study was similar to study conducted by Madhu et al.[15] where 40% respondents knew that EBF to be continued for 6 months. 53% of mothers prematurely started weaning the child due to insufficient feed. However in other study Bashir A et al.[16] 89.6% mothers gave EBF till 6 months, 10.4% infants were EBF for > 6 months. Also we found significant association of higher education, employment status and upper socioeconomic status with exclusive breast feeding. Our results were similar to studies conducted by Shivani Sunil Akulwar et al.[17]

## Conclusion:

Based on the finding of our study it can be concluded that sociodemographic profile also affects IYCF practices in children which can further affect their growth. A significant association of higher education, employment status and upper socioeconomic status was found with exclusive breast feeding of children so we should focus on sociodemographic profile for counselling.

## Limitations:

As the information collected from the mothers relies mainly on their ability to recall the practices related to infant and young child feeding, the mothers whose children are nearing two years of age might not be able to recall certain events. Hence some amount of recall bias can be expected.

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