

ORIGINAL RESEARCH

Study of IYCF Indicators and Sociodemographic Factors Affecting Them

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ABSTRACT

Background: Adequate nutrition during infancy and early childhood is essential to ensure the health, growth and development of the child. The objective of the present study was to assess IYCF practices among children aged to 6 months to 2 years in hospital based prospective observational study.

Materials and Method: An urban tertiary care hospital based prospective observational study was conducted among 905 caregivers with 6-24 months old children from June 2021 to may 2022. the simple random sampling technique was adopted to determine participants of study. IYCF practise was assessed using WHO criteria.

Results: Prevalence of exclusive breast feeding, prelacteal feeds and bottle feeding is 38%, 33% and 33.5% respectively. Appropriate timely complementary feeding initiation was only 46%.60% of mothers gave MMF in age 6-8 months and it decreased to 37% in age group 9-23 months. 31.9% children had minimal dietary diversity and 13.9% had minimal acceptable diet.

Conclusion: Infant and young child feeding practices were not optimal. Therefore there is a need for strengthening the promotion on IYCF practices during antenatal, postnatal care and during vaccination visit and also using mass media for giving emphasis for complementary feeding practices to mother and entire family.

Keywords: Infant and young child feeding Practices, Minimal meal frequency, minimal dietary diversity and minimal acceptable diet.

INTRODUCTION

India is a country with many cultures and traditions running down generations. There is diversity in language, customs, clothing across the states. When it comes to nutrition, the diversity increases by leaps and bounds. There is a change in the grains and vegetables used across the country, the process of cooking and also the recipes. There are many myths and false beliefs associated with nutrition. It becomes even more important when it comes to breastfeeding and complementary feeding practices. The first two years of life provide a critical window of opportunity for ensuring children's appropriate growth and development through optimal feeding. Any growth faltering that occurs at this age is irreversible, and cannot be addressed later in life.

The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) jointly developed the global strategy for infant and young child feeding practices (IYCF). This strategy recommends initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for the first 6 months of life, with the addition of nutritionally appropriate complementary feeds at 6 months with continued breastfeeding at least until 2 years of age. Adherence to these recommended practices has proven to reduce the risk of undernutrition and overnutrition with added long-term physical and psychological health benefits.

When we compare NFHS 5 data with NFHS -4, initiation of breastfeeding within one hour of birth in India increased to 41.8% which a meagre 0.2% increase even after increase in institutional births to 88.6%. There has been a small increment in exclusive breastfeeding rates amongst infants 0-6 months of age from 54.9 % (2015-16) to 63.7% (2019-2020). The timely complementary feeding rates have increased from 42.7 % (2015-16) to 45.9%(2019-2020). Total children between 6-23 months receiving an adequate diet is extremely low 11.3% in recent data. There has been a gap in implementing IYCF and WHO guidelines of complimentary feeding. Proper implementation of recommendations for breastfeeding and complementary feeding will respectively prevent 13 per cent and 6 per cent (total 19%)deaths in under-five age group, i.e., one-fifth of under-five mortality rate.

This situation seems to be more depressing when on one hand the number of institutional deliveries in India has increased tremendously with drastic surge in the breastfeeding rates and on the other hand complementary feeding rates have gone down. There has been so much focussed work done to improve and uplift the breastfeeding status in India but a little attention has been given to complementary feeding when it is one of the most important component of IYCF having an effect on growth and development of a child. Therefore, there is a desperate need for complementary feeding sensitization and skill building of all the stakeholders involved in IYCF and to plan education and counselling campaign for the caregivers so as to improve the poor complementary feeding status in country.

According to WHO, the following terms were used in this study –

1. Early initiation of breastfeeding: percentage of children under 24 months who were put to breast with in one hour of birth.
2. Exclusively breast fed for the first 2days after birth: Percentage of children born in the last 24 months who were fed exclusively with breast milk for the first 2 days after birth.
3. Exclusive breastfeeding under 6 months: breastfeeding the infant for first 6 months of life – meaning no other foods or liquids are provided, including water.
4. Mixed milk feeding under 6 months : Percentage of infants 0–5 months of age who were fed formula and/or animal milk in addition to breast milk during the previous day.
5. Continued breast feeding : Percentage of children 12–23 months of age who were fed breast milk during the previous day
6. Minimum meal frequency: feeding solid/semisolid foods 2 times per day for breastfed infants aged 6–8 months, 3 times per day for breastfed children aged 9–24 months and 4 times per day for non-breastfed children aged 6-24 months
7. Minimum dietary diversity: dietary diversity is present when the diet contains four or more of the following seven food groups - grains, roots and tubers, legumes and nuts, dairy products, flesh foods, eggs, vitamin A-rich fruits and vegetables, other fruits and vegetables
8. A minimum acceptable diet based on minimum dietary diversity and minimum meal frequency they are fed during the day or night preceding the survey:
 - Breastfed children – minimum dietary diversity and minimum meal frequency as above.
 - Non-breastfed children – minimum dietary diversity but excluding the dairy products category (4 out of 6 groups) and minimum meal frequency and 2 or more milk feeds.
9. Sweet beverages consumption (6-24 months): percentage of children 6-23 months who consumed a sweet beverage the previous day.
10. Unhealthy food consumption (6-23months) :percentage of children 6-23 months who consumed selected sentinel unhealthy food during the previous day.
11. Bottle feeding (0-23 months) : Percentage of children 0-23 month's of age who were fed bottle with nipple the previous day.

MATERIAL AND METHOD

This is a prospective hospital-based observational study. It was conducted in an urban based tertiary care hospital in South India. The study was carried out after approval from Institutional Ethics Committee. Parents of children in the age group of 6-24 months coming to the out-patient and inpatient Pediatric Department of Niloufer Hospital (tertiary care pediatric Hospital affiliated to Osmania Medical College, Hyderabad) for various vaccinations and illnesses were the participants of this study. Duration of study was 12 months (June 2021 - May 2022). The study population was taken as 905. The simple random sampling technique was adopted to determine the participants of the study. A predetermined, pretested questionnaire, validated by five expert pediatric professors of the department to enhance its clarity and comprehension. Interviewer asked the primary care giver all the questions in the language of their choice and answers were filled in Google forms which was later transferred to Microsoft excel.

Statistical Analysis

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of Frequencies and percentages. **Chi-square test or Fischer's exact test** (for 2x2 tables only) was used as test of significance for qualitative data.

Graphical Representation of Data: MS Excel and MS word was used to obtain various types of graphs

P Value (Probability that the result is true) of <0.01 was considered as statistically significant after assuming all the rules of statistical tests.

Statistical Software: MS Excel, SPSS version 22 (IBM SPSS Statistics, Somers NY, USA) was used to analyze data

Inclusion criteria: All pediatric outpatients 6-24 months of age coming for vaccination and simple ailments and All inpatients admitted .

Exclusion criteria: children with severe acute malnutrition, children with chronic ailments like congenital heart diseases, Renal diseases, chronic liver diseases etc

RESULT

Age of the child

6-12 months	498	54.8
13-24 months	407	45.2

Sex of the child

Male	558	61.7
Female	347	38.3

Birth order of the child

First	317	35
Second	372	41.1
Third	141	15.6
More than third	75	8.3

Age of the mother

18-20	65	7.1
21-30	773	85.4
31-40	67	7.4

Marital status

Married	895	98.9
Unmarried	1	0.1
Divorced/widow	9	1

Number of children

One	304	33.6
Two	387	42.8
Three	157	17.4
Four	44	4.9
More than four	12	1.3

Maternal education

Illiterate	180	19.9
Primary	201	23.2
Secondary	224	24.8
Inter	172	19
Graduation	119	13.1

Maternal profession

Unemployed/home maker	728	80.5
Unskilled	55	6.1
Semi skilled	17	1.9
Skilled	52	5.6
Clerical	32	3.5
Professional	26	2.9

In the absence of mother, caretaker for the child

Baby sitter	16	1.8
Grandparents	92	10.2
Others	40	4.4
Not applicable	762	84.2

Age of father

21-30	693	76.6
31-40	207	22.8
41-50	5	0.6

Education of father

Illiterate	157	17.4
Primary	113	12.5
Secondary	311	34.4
Inter	144	15.9
Graduation	90	19.8

Profession of father

Unemployed/home maker	19	2.1
Unskilled	36	4
Semi skilled	278	30.7
Skilled	299	33
Semi professional	168	18.6
Professional	103	11.4

Residence

Urban	679	75
Rural	201	23.2
Tribal	25	1.8

Family

Nuclear family	474	52.4
Joint family	431	47.6

Religion

Hindu	553	61.1
Muslim	344	38
Christian	17	1.9
Others		

Power over the house hold

Mother of the child	33	3.7
Husband	542	59.9
Parent in laws	323	36.4

Total number of children in the family

One	226	25
Two	350	38.7
Three	173	19.2
Four	71	7.8
More than four	85	9.3

Social class according to B.G. Prasad classification.

Class 1=7533 and above	260	28.7
Class 2=3766 -7532	297	32.8

Class 3=2260-3765	267	29.5
Class 4=1130-2259	77	8.5
Class 5=1139 and below	5	0.5

First feed given to the child

Variable	Number	Percentage
Mother's milk	600	66.2
Honey	140	15.4
Animal milk	20	2.2
Sugar water	4	0.4
Another mother's breast milk	8	0.9
Others- formula feed	135	14.9

Duration between birth and breast feed

Less than 1 hour	225	24.9
1-6 hours	430	47.5
More than 6 hrs	250	27.6

Children exclusively breast fed in the first 2 days after birth

Yes	565	62.5
No	340	37.5

Duration of exclusive breastfeeding

Less than 6 months	463	51.2
Complete 6 months	342	37.8
More than 6 months	100	11

Child given mixed feed (breast feed plus top feed) during first 6 months

Yes	347	38.3
No	558	61.7

Age at which complimentary feed started

4-6 months	380	42
6 months completed	417	46.1
After 6 months	108	11.9

Reason for early initiation of complimentary feed (Before 6 months)

Breast milk not sufficient / hunger not satisfied	216	23.9
Child not gaining weight	64	7.1
Lack of knowledge	74	8.2
Working mother	13	1.4
Family pressure	44	4.9
Not applicable	494	54.6

Reason for late initiation of complementary feeds

Breast milk sufficient for the baby	38	4.3
Lack of knowledge	33	3.6
Not accepting/ spits off food	33	3.6
Can not digest food	14	1.5
Afraid of introducing new food	1	0.1
Mother doesn't have time	1	0.1
Not applicable	785	86.7

Number of types of food groups the child is receiving (Grains, roots and tubers, legumes and nuts, dairy products, flesh based, fruits and vegetables)

1 type	129	14.3
2 types	216	23.9
3 types	270	29.9
4 or more	289	31.9

Minimal meal frequency For age

Less than recommended	343	37.9
Recommended	547	60.4
More than recommended	15	1.7

Sources for advice on giving ready-made market brought complementary food

Did not give	359	39.7
TV or radio ads	218	24.1
Family or friends	366	40.4
News paper ads	12	1.3
Health care people	81	9

Number of people who feel home complementary food is better than store bought in terms of acceptability and digestion and weight gain

Yes	435	48.1
No	470	51.9

Number of people who wash hands, vessels and spoon before preparing baby food

Always	883	97.6
Sometimes	22	2.4
Never		0

Currently child breast feeding or not

Yes	649	71.7
No	256	28.3

Is Frequency of feeding biscuits, bread or packaged food

No	126	13.9
Weekly	22	2.2
Twice weekly	104	11.6
Alternate day	142	15.8
Daily	511	56.5

Was the child given sweet beverages before the age of 2 yr?

Yes	343	37.9
No	562	62.1

Source of information regarding complementary feeding

No information	26	2.9
Google	6	0.7
Radio/Television	166	18.3
Husband/family and friends	521	57.6
Anganwadi workers	307	33.9
Doctors	156	17.2
Others	23	2.5

DISCUSSION**Sociodemographic factors of children.**

54.1% children in our age group belong to 6-12 months and 45.8% belong to 13-24 months. 61.7% are male children and 38.3% are female children. Amongst the children-35%, 41.1%, 15.6%, 8.3% belong to 1st, 2nd, 3rd and more than 3rd birth order respectively.

Sociodemographic statistics of parents**Mothers**

Majority of the mothers fell into the age group of 21-30 years (85.4%). 7.1% belonged to 18-20 years group and 7.4% belonged to 31-40 group. 98.9% were married and had their partners.

19.9% mothers are illiterate. 23.2%, 28%, 19%, 13.1% have completed primary, secondary, intermediate and graduation. 80.5% of them are homemakers and 84.2% mothers are the primary care takers of their children. For others, grand parents are the care takers on 10.2%.

Father

Father's in the current study also have similar educational status – 17.4% are illiterate. 97.8% are working. Majority belonged to semi skilled and skilled working group followed by some semi professional and professional. 75% are from urban area, 23.2% rural and 1.8% from tribal areas. 52.4% belong to joint family and 47.6% to nuclear family. We used revised BG Prasad classification for socioeconomic status – class 1 – 28.7%, class 2 – 32.8%, class 3 – 29.5%, class 4 – 8.5%, class 5 – 0.5%. 61.1% were Hindus, 38% were Muslims, the rest were Christians. Power over the household is usually with husband's – 59.9%, then parent in laws – 36.4% and mothers least – 3.7%. Surprisingly it is the mothers who cook for the entire family and the child but they have little say in the household even if they are educated.

Early Breast Feeding

According to NFHS – 5, early breast feeding rates in India and Telangana are 41.8% and 37.1% respectively. Our study showed 24.9% initiated breast feeding early, 47.5% breast fed within 6 hours of birth and 27.6% breast fed after 6 hours of life. Contrary to such low rates, Khandelwal et al (23) found early breast feeding rates as 77.9% where as Shanker mane et al (24) and Kumari SMV et al (16) also found similar rates as 33.78% and 40.8%.

Mothers belonging to nuclear family = initiated early (32.5% vs 16.5%) and illiterate mothers and those with primary or secondary education (25%, 25%, 29%) started early with in 1 hr when compared to mothers with graduation (16%). This implies that all mothers irrespective of their education should have antenatal and postnatal counselling regard early breast feeding.

Prelacteal Feeds

Prelacteal feeds – 66.2% mothers in our study gave colostrum (breast milk) as the first feed to the newborn. Major prelacteal feed given in our study was honey, formula milk, animal milk and sugar water. Honey was often given as a part of religious process. Prelacteal feeds were given as mother and elders in the family believed breast milk production would start after 2-3 days.

Study done in Uttar Pradesh (9) found that 40% women gave prelacteal feeds to newborns, Karnataka (10) showed 32% gave prelacteal feeds. Most common prelacteal feeds were honey, sugar water, religious water.

Exclusive breast feeding in the first 2 days

62.5% did exclusive breast feeding in the first 2 days of life. Exclusive breast feeding in the first 2-3 days is usually associated with continued exclusive breast feeding till 6 months and beyond. Hence this parameter was included in our study. But only 37.8% mothers exclusively breast fed till 6 months completion, 51.2% breast fed for lesser than 6 months and 11% continued it over 6 months. Vaidile Jakaite et al (21) found that 61.4% exclusively breast fed in the first 2-4 days and it corresponded to similar rates of 62.8% at 3 months and 61.7% at 6 months. Raihan MJ et al (16) found that feeding children with anything except for breastmilk during the first 3 days after birth is both crudely and independently associated with being not exclusively breastfed later. This correlation did not happen in our study probably owing to more Institutional births in our study group and hence more exclusive breast feeding rates in the first 2 days which did not continue as the mothers did not get enough support from family and friends to continue it.

Children with higher birth order ie 2 (66%) and 3 (70.6% vs 50% for 1st), parents in the age group of 21-30 years (65% vs 40% and 37%), non working mothers (65% vs 50%) exclusively breast fed in the first 2 days of life. Maternal (graduates – 33% vs illiterate 60%, primary education 81%) and paternal education (graduates – 48% vs illiterate and primary education 71%) was inversely correlating with it ie parents with higher education did not exclusively breast feed their children in the first 2 days. p value was significant for the above factors.

Exclusive breast feeding

37.8% mothers in our study exclusively breast fed their children till 6 months. 51.2 % mothers either gave top feed or started complementary feeding early along with breast feed. 11% continued it beyond 6 months.

NFHS -5 says the rate is around 63.7% in India and 68.2% in Telangana. Exclusive breast feeding till 6 months of age in a study by Wardha et al in central India and sailaja et al(14) were 36.6% and 37.3% similar to our study. Belgavi et al and Smv Kumari et al(15) found higher rates 65.9% and 60.6% of exclusive breast feeding similar to the data of NFHS-5. Ganesan et al(23) found 70 (73.68%) were exclusively breastfed until 6 months of age in a study done in urban tertiary care hospital in South India.

Mothers belonging to rural areas (66.7% vs urban-43.6 % ,tribal- 37.5%),nuclear families(59.5% vs joint - 37.1%),1,2 socioeconomic group(54.2%,63% vs 3rd - 34.1%,4th - 30%) ,Hindu religion (55.7% vs muslim - 38.4%,Christians- 25%), birth order 1st,2nd,3rd (47%,50.4%,55% vs more than 3rd -22.7%) exclusively breast fed till 6 months comparatively with a significant p value.

Mixed feeding

38.3% children were given mixed feeding in our study. Saudamini Naik et al (31)in their study done in pune found 74% mothers followed mixed feeding . In a study done in 858children under 2 yrs in UAE (32), they found 57.8% mothers gave mixed feeding during the first 6 months. Significant determinants were working mothers and those with a maid at home. In our study, female children, working mothers (48% vs 36%), children from joint family(43% vs 34%,Muslims and Christians (46% 50% vs Hindus -33%)and socioeconomic group 1 (53.4% vs 2nd-28%,3rd-34%)gave mixed feeding often with p value significant

Continued breast feeding

Only 58.4% of babies in the age group of 13-24 months were continued to be breast fed.Females and males were equally breast fed in this aspect.Most of the mothers stopped breast feeding as the elders in the home tell them that once breast feeding is stopped,the child will start eating complementary food better.82.7% in the age group of 6-12 months were breast fed. In a study done in Uttar Pradesh, Ratan et al(33) found 72.5% mothers in both urban and rural area breast fed till 2 years.

Significant determinants with p values less than .01 are maternal education and working status of mother. Mothers who were working (72% vs 55%) and mothers who were illiterates (68% vs graduates - 36%) continued to breast feed beyond 1 year.

Minimal diet diversity, minimal meal frequency and minimal acceptable diet

Minimum dietary diversity (MDD) was 31.9% in children between 6 -24 months of age and Minimum meal frequency (MMF) was 60% in the age group of 6-8 months and it decreased to 37% in the age group of 9-23 months. Khan AM et al(34) found MDD and MMF to be 32.6% ,48.6% respectively. Selvaraj et al(7) found MDD to be 25 % in a study done in Tamilnadu in 2017.solanki et al(8) found MDD to be 72.5% and MMF 87% in a study done in a small, population of 102 in pune. Shanker mane et al (24)found MDD -29.9% and MMF- 34.1% in a similar study done in immunization clinics in Hyderabad in 2014.

Minimum acceptable diet (MAD) indicator is the proportion of children aged 6-23 months who receive a Both minimal meal frequency and minimal dietary adversity. NFHS-5 found it to be 11.3% and 9.2% respectively in India and Telangana.MAD was found to be 13.3% in breast fed children in our study.

There was no statistically significant corelation found between MDD and factors like sex, maternal education, residence. Statistically significant correlation was found between MDD and advice during immunization (Yes-38.2% vs No -26.1%)

When it comes to minimal meal frequency, the maternal and paternal education, and religion had significant correlation. Parents with secondary education or higher education and those who with Hindu religion fed their children adequate number of times.

Bottle feeding

33.5% mothers in our study said currently their child is on bottle feed.

Rao et al (11)in their study on 200 mothers in 2011 in coastal South India found 22% mother used bottle feed. khandelwal et al(22) found 33.6% bottle feeding rates at 12 months similar to our study. Achalkalk et al(12) on the contrary found the rates less - 14.1%.Higher rates were found by Garg et al -48%,Sandra et al (rural-42%,urban- 50%). Gusto study(35)done in Singapore in 842 infants and mothers of different ethnicity showed that 85.6% and 87.4% were fed using bottles at 9 and 12 months respectively. 30% were adding food items to bottle like sugar, risks, pureed cereal etc. Higher bottle feeding rates can lead to higher chances of infections ,hygiene issues ,diarrhoea amongst infants. studiezs have also shown that prolonged bottle feeding belong 12- 14 months also increases the chances of higher BMI by 3% for each additional month delayed. In our study, there was a statistically significant correlation between bottle feeding and maternal education(graduation-42.3% and Illiterates-47.1% vs primary and secondary - 32%),type of family(joint - 46.5% vs nuclear 31.4%),religion and socioeconomic status .children in joint family, Muslim and Christian religions(50.5%,75% vs 30%),lower

socioeconomic status ,mothers who are illiterate (47.1%)and those with graduation(42.3%) are bottle feeding their children.

Complementary feed initiation

38.3% children were given mixed feeding in the first 6 months of life. complementary feeding was timely initiated in only 46.1 %.42% of the mothers introduced it early and the main reason was that they found breast milk was not sufficient and child's hunger was not satisfied with breast milk alone. other reasons in descending order of responses were child not gaining weight with breast milk alone, lack of knowledge and family pressure to introduce solids early. Mothers who introduced complementary feed late thought that breast milk was sufficient, some did not have knowledge about the time of initiation, some thought child can not digest and others waited as the child would spit off .The significant determinants of timely initiation were better maternal education, urban family, nuclear family, upper socioeconomic status, those who received nutritional advice during immunization.,sailaja k et al (14)and smv Kumari et al (15)found similar rates of 40.9% and 46.2% for timely initiation of complementary feeding, mahishma k (13)et al in her study in rural telangana found 56.4% .Higher rates were found by varthika et a(36) in her study in Rishekesh as 70.1% and Kolkata urban slum based study found 71.6%.Extreme low rates were found in a Delhi based study as 16.5% and Aggarwal et al as 17.5%. In our study, female children were started on complementary feed at 6 months in 53.3% and in males it was 41.6%.This difference was statically significant with p value 0.002.Males were exclusively breast fed beyond 6 months of age. Timely initiation of complementary feed was done by mothers residing in rural area(51.9% vs urban-45.2%)those belonging to class 1 and 2 socioeconomic group(1st-54.2%,2nd -59.3% and 3rd- 30.7%), nuclear family(55.7% vs joint- 35.5%),Hindu religion(50% vs Muslim- 40.7%).All these determining factors had significant p value.

Commercial complementary food

More than half ie 51.9% mothers in our study felt store bought ready to use cereal food is better for children in terms of acceptability, digestion and weight gain and hence used it over home made food. Similar to our study, vartika et al (36)and Kumar A et al found ready to use food usage rates to be 55.6% and 53.8% respectively. Sandhya R et al (17)and sailaja et al(14)found the rates comparatively less ie 32.3% and 18.6% respectively. Most of the commercially available food are sweet and have more sugar content in it. WHO has advised against the use of sugar in children under 1 year. Moreover infants when given such sweet porridge type cereal refuse to accept other tastes and textures. This makes transition to family pot food difficult.The main advantage with such food is that they are fortified with iron ,vit A etc and this makes chances of micronutrients deficiency and anemia less.

Mothers in the higher age group(31-40 age group – 84% vs 52%,58%),mothers with higher education(graduates -71% vs illiterate 41%),working mothers(71% vs 49%),mothers in joint family(57% vs 40%) and those belonging to socioeconomic class 1(68%) and 4(62%) vs others (2nd '30%, 3rd -46%,5th-25%)felt household food was better in terms of digestion, acceptability and weight gain and avoided the use of commercial food.

Biscuits, snacks, packaged food.

56.4% children in our study were fed some form of packaged food daily,15.8% fed them alternate day,11.6 % feed twice a week. Only 13.9% children were not fed these packaged food at all.A recent study done interviewing 3460 mothers from Bihar has revealed that 66% of children between the age groups of 6-11 months consume one biscuit atleast per day while NFHS -4 suggests only 40 % children of this age group are receiving complementary feed,30%are receiving minimal meal frequency. Similarly 74.1% mothers in Kathmandu (38)revealed that their children between the age groups of 6-24 months take biscuits daily and sailaja et al(14) in her study found 77% children were fed biscuits.

Field studies in Gujarath and MP have have shown that parents often the father spends 20 rupees or more per day to buy processed items for their children. these food items are high in saturated fats,trans fatty acids,sugar and salt.

Children with higher birth order(4th-90%,3rd-82%,2nd-78%,1st- 60%), whose fathers and mothers were either illiterate (78%)or primary school dropouts (75%)and those with socioeconomic status low (5th-100%,4th 71% vs 1st – 63%),fed their children such unhealthy food more frequently .Most care givers assume giving such food is showering love and affection on them which is unfortunately false as they are not nutritious.

Juices and sweetened beverages

37.9% children in our study were fed sweetened beverages before 2 years of age.GUSTO study(35)revealed that 68.6% infants were fed juices or sweetened beverages at 9 months and it remained almost same at 12 months. In the Infant Feeding Practices Study II, 2 groups of children were identified: children who consumed (sugar sweetened beverages)SSBs during infancy and non-SSB consumers. The obesity prevalence at 6 years was twice as high in SSB group compared to non-SSB consumers. IAP(37) and AAP clearly recommend no added sugar juices for children under 2 years of age.

Statistically significant correlation was found between sweetened beverages consumption and residence, type of family, religion, socioeconomic status. They are more often given to male children (42.1% vs 31.2%), children in joint family (50.1% vs 27.6%), children belonging to Christian or Muslim religions (44.7% vs 32.7%), class 3,4,5 socioeconomic groups (54.2%, 63.3%, 100% vs 1st – 32.5% and 2nd – 22.1%).

Source of information regarding complementary feeding

Most of the people in our study depend on family and friends (57.6%) about knowledge on complementary feeding. Hence it is important to educate others family members including husband about nutrition. 33.9% seek advice from anganwadi workers and 17.2% from doctors. The number of interactions between anganwadi workers and caregivers should be increased so that mothers become more confident about feeding. 18.3% rely on radio and television, so government should circulate more scientific and proven data and educational videos in them. They should be made more pediatric protocol based and based on scientific data. Mahishma et al (13) stated main source of information was family and friends (40%), qualified persons (28.6%), cultural practices (23.6%) and media (7.8%) in their study (14).

Study done in turkey (39) regarding the same found that the following were the sources - Traditional methods (54.1%), Paediatrician (54.1%), family physician (22.6%), social media (19.9%), nutrition books (31.4%), web sites (36.5%). Most of the caregivers look up to their family and friends for traditional methods. In this internet Era, internet in the form of social media and websites are also important.

What this study adds

1. Higher parental education status does not necessarily positively correlate with good feeding habits for their children. Both the parents should be counselled regarding early and exclusive breast feeding beginning from antenatal period irrespective of their education.
2. Joint families provide support to the mother during pregnancy and lactation but they are not translating to increased early breast feeding and exclusive feeding rates. This is probably because mothers usually follow the suggestions given by elders in the family and most of them have cultural or familial breast feeding and complementary feeding practices which are not according to IYCF norms.
3. Formula feeds, commercial complementary feeds, ready to eat packeted processed food and sweetened beverages are marketed so much to attract parents and kids, that belonging to lower socioeconomic strata is not a barrier for them to buy.
4. There should be general public awareness, family education, school and working place education on IYCF practices. Anganwadi Healthcare workers should be time and again trained about these practices. Whenever there is a point of contact of public with health care system, all these practices should be reemphasized through posters, videos, role plays in local languages.

Pros

1. Sample size is huge.
2. IYCF indicators have been studied with sociodemographic factors affecting them significantly.

Cons

1. Place of birth details and type of birth details were not taken.
2. IYCF indicators – egg and flesh food consumption, vegetables and fruit consumption were not taken separately as they were added later on.
3. Minimal dietary diversity- newer definition says more than 5 food groups should be taken to fit under this and old definition says 4 food groups.

CONCLUSION

Infant and young child feeding practices were not optimal. Therefore there is a need for strengthening the promotion on IYCF practices during antenatal, postnatal care and during vaccination visit and also using mass media for giving emphasis for complementary feeding practices to mother and entire family.

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