

# Comparative Study of Infant Feeding Practices among Rural, Tribal and Urban Mothers in Telangana

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**Abstract:** Infant feeding practices among 1168 rural, tribal and urban mothers was assessed. Mothers registered at the ICDS centers were randomly selected. They belong to scheduled castes, scheduled tribes, backward and forward castes, Nuclear families are 52% rural, 35.8% tribal and 41.5 % urban, Illiterate mothers are 48 % in rural, 72.3% in tribal and 30.4% in urban areas, rest studied upto 7<sup>th</sup> and 10<sup>th</sup> class. Child marriages, below 15 years are predominant 41.6% percent in rural, 37.3% in tribal and 21.3 % urban mothers. Monthly checks ups were reported by 72.4%rural, 41.8% tribal, and 70.6% urban mothers. Iron and Folic Acid Tablets were consumed by every one with differeneing frequencies. 95% mothers ate the supplementary food at the center. Deliveries at private hospitals accounted for 54.8 % in rural areas, 55.8% in urban. Among tribal 49.2 percent had hospital delivery either private or government. Nearly 23.6%, 49.7%, 7.4% rural, tribal and urban families still resorted to home deliveries, due to inaccessibility of the medical facilities, as the villages are remote. Initiation of breast milk within one hour of delivery is seen among 81%, 92.8% and 67.6% rural, tribal and urban mothers respectively. Majority mothers fed colostrum to the neonate considering it to be good and healthy. Praelacteal foods given to neonate are cows milk, wet nursing, nothing, glucose water, or honey. Mothers weanig by 6 months are 70.6% in rural, 73. Tribal and 67.7% in urban otherws were weaned between 6-12 months. Immunization schedule was followed by 93% rural, 82.4% tribal, and 81.1% urban mothers, for the first dose, the percentage getting second and subseqentl doses fell drastically. Mediana BMI of moters is 21.6 and the birth weight of babies is 3Kg. This study gave an indication that mothers acquired sufficient knowledge of good nutritional practices, due to availing upplementary feeding and nutrition programs. Although there is a significant shift in better nutritional practices, poverty, influence of elders, poor accessibility and availability of nutritious food is still a problem.

**Keywords:** infant feeding practices, colostrum, nuclear, joint families, nutrition programs.

## 1. Introduction

Nutrition during early years of life is crucial for children to survive, grow and develop into healthy adults who can lead rewarding lives and productively contribute to their communities. The period from birth to 2 years of age is considered as a critical window of opportunity as during this period the foundation for healthy growth and development in later years is laid down [1a] WHO recommends that optimum nutritional practices for infants and children include early initiation of breast feeding that is within one hour of birth, exclusive breast feeding for 6 months of life, followed by nutritionally adequate, safe and appropriate complementing foods with breast feeding for one year or longer. [2] As per National Family Health Survey -4 Infant Mortality Rate and Under Five Mortality rate is 41% and 50 % percent respectively. Malnutrition – under five year stunting 38 percent and underweight is 36 percent (3). Poor feeding practices with repeated infection due to lack of hygiene and sanitation in India is major cause of malnutrition [4, 5], infant and child feeding practices directly impact nutritional status and child survival less than 2 years [6] stunting at 6 months is irreversible and can have long term effects on cognitive development, school achievement, economic productivity in adulthood and maternal reproductive outcomes. [7]

Under the National Health Mission of Health and Family Welfare, Government of India, improving breast feeding practices or quality survival is initiated as an important intervention, and MAA (Mother Absolute Affection) program was launched in August 2016. (8) Presently the

stress is on infant feeding in the first 1000 days (9, 10.) Several studies on infant feeding practices are available from the northern region of India but studies from the southern states especially in rural, tribal and urban settings are few. The present study concentrates on practices among rural, tribal and urban mothers attending ICDS centers in Telangana.

## 2. Methods and Materials

Infant feeding practices up to 2 years were collected from rural, tribal and urban families in Telangana. (Table 1) Multi stage random sampling procedure was followed for selection of sample. At the first stage all districts of Telangana region were selected, at the second stage 15 projects in rural, 3 in tribal area and 20 urban areas were covered. ICDS centers from each district were selected randomly. At the third stage 10 to 12 mothers who registered at the center and who have a child below 3 years were identified. A total of 1168 mothers formed the sample. Practices followed during pregnancy and for children up to 2 years were collected from mothers. A structured, pretested, predesigned schedule was used to collect information. Height and weight of mothers and birth weight of babies was measured using standard scales.

**Table 1:** Sample Particulars

Particulars	Rural	Tribal	Urban	Total
Projects	15	3	2	20
Villages/ urban centres	75	15	10	105
Families	750	150	100	1050
Beneficiaries	855	177	136	1168

3. Results

Mothers belonged to various communities, scheduled castes (24.5 %) scheduled tribes (12.7%), backward castes (49.2 %) and forward castes. (12.6%) Forward castes were present in rural and urban villages only. (Table 2)

Table 2: Communitywise Distribution of Families

Particulars	Rural	Tribal	Urban	Pooled
	% (No)	% (No)	% (No)	% (No)
Scheduled Castes	28.7 (245)	14.2 (25)	11.8 (16)	24.5 (286)
Scheduled Tribes	3.4 (29)	63.8 (113)	4.4 (6)	12.7 (148)
Backward Castes	54.9 (470)	20.3 (39)	52.9 (78)	50.2 (587)
Forward castes	13.0 (111)	0	26.5 (36)	12.6 (147)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

Joint/ extended family system is more in tribal area (64.2%) than in rural (50 percent) or urban areas (58.5%). Allotment of one house per family by Government made many joint families, split into nuclear families to take benefit of housing scheme. In urban areas as mothers were working, many preferred joint family or one of the in laws staying with them as they require elders help for child rearing. (Table 3.).

Table 3: Demographic Particulars

Particulars	Rural	Tribal	Urban	Pooled
	%(No)	%(No)	%(No)	%(No)
a. Family Type				
Joint family	47.4 (405)	45.5 (81)	54.8 (75)	48.0 (561)
Nuclear	52.0 (445)	35.8 (63)	41.5 (56)	48.3 (564)
Extended	0.6 (5)	18.7 (33)	3.7 (5)	3.7 (43)
b. Educational Level				
Illiterate	48.0 (410)	72.3 (128)	30.4 (41)	49.7 (580)
7th Class	29.6 (251)	14.7 (26)	34.8 (47)	27.8 (325)
Upto 10th Class	22.7 (194)	13.0 (23)	27.1 (48)	22.5 (263)

Literacy levels among mothers was up to 10<sup>th</sup> class. Illiterate mothers are more among tribal's (72.3%), in rural areas the percent illiterate is 30.4 and literate are 69.6 percent, among urban mothers literate are 69.6 percent an illiterate are 30.4 percent. (Table 3 b).

Occupation of urban mothers was either construction or domestic workers (85.2%), while majority of rural and tribal mothers worked as agriculture laborers or worked in their farms (Table 4.).

Table 4: Occupational Status of Mothers

Particulars	Rural	Tribal	Urban	Pooled
	%(No)	%(No)	%(No)	%(No)
House wife	42.0 (359)	43.5 (77)	85.2 (116)	47.2 (551)
Labourer	31.5 (269)	43.5 (77)	7.4 (10)	30.5 (356)
Agriculture	25.7 (220)	11.9 (21)	6.7 (9)	21.2 (248)
Employee	0.8 (7)	1.1 (2)	0.7 (1)	1.1 (13)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

Age at marriage has a significant bearing on family size as well as on the health of women. (Table 5) Mothers getting married off at a very young age of 15 years or less was 41.6 percent in rural 37.3 percent in tribal and 21.4 percent in urban areas. Most mothers are married between 16 and 20 years. This trend may contribute to a larger family size.

Table 5: Age At Marriage

Age in Years	Rural	Tribal	Urban	Pooled
	%(No)	%(No)	%(No)	%(No)
<15 years	41.6 (356)	37.3 (356)	21.4 (29)	40 (467)
16-20 years	29.9 (255)	32.5 (58)	50.0 (68)	31.0 (362)
21-25	0.2 (1)	0	7.1 (10)	0.3 (4)
>25	28.4 (242)	30.2 (53)	21.5 (29)	28.7 (335)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

Number of children per beneficiary ranged from 1 to 6. Women having 2 children are 47.5, 42.8 and 47.3 percent in rural, tribal and urban respectively, those having 3-5 children are 15.3, 20.8, and 7.8 in rural, tribal and urban groups respectively. The larger family was found to be more in tribal area followed by rural and then urban. If the mothers at the age of less than 30 years have three children on an average the trend is towards larger family by the time they reach the end of reproductive period that is 45 years.

**Practices during pregnancy:** Pregnant mothers who registered at the center/ PHC around 3rd month are 92%. Pregnant women going for regular checkup is seen among all women interviewed, but the frequency differed. Regular monthly visits are seen in 72.4 percent of rural, 41.8 percent in tribal women while others took checkups either every 4<sup>th</sup>, 7<sup>th</sup> and 9<sup>th</sup> months or whenever required. (Table 6).

Table 6: Prenatal check ups

Frequency	Rural	Tribal	Urban
	%(No)	% (No)	%(No)
Monthly	72.4 (619)	41.8 (74)	70.6 (96)
4,7,9 months	13.5 (115)	22.0 (39)	11.8 (16)
when required	14.1 (121)	36.2 (64)	17.6 (24)
Total	100 (855)	100 (177)	100 (136)

Majority (95%) Pregnant Women consumed supplementary food at the Anganwadi center while some were given take home food. Mothers expressed that when food is taken home it is not possible to eat alone, many seem to exhaust the monthly ration by 15 days.

Iron and Folic Acid tablets are consumed by all mothers but the number of tablets consuming is different. Mothers consuming between 3<sup>rd</sup> to 6<sup>th</sup> month constitute 77.9 percent, 68.4 percent and 43.2 percent by rural tribal and urban mothers. Others took between 7<sup>th</sup> and 9<sup>th</sup> month or any 100 days. The reasons for not consuming is that they did not believe in taking them or some felt work pressure or they forget to take. Many expressed that medicines given at Government hospital are not good, so preferred medicines prescribed by private doctor (Table 7)

Table 7: Consumption of Iron, Folic Acid Tablets

Frequency	Rural	Tribal	Urban	Pooled
	% (No)	% (No)	% (No)	% (No)
3-6 months	43.2 (412)	68.4 (121)	77.9 (106)	54.7 (629)
6-9 months	3.5 (30)	18.1 (32)	10.3 (14)	6.5 (76)
100 days	4.3 (37)	13.5 (24)	11.8 (16)	6.6 (77)
Did not take	44 (376)	0	0	32.2 (376)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

Most mothers preferred Private hospital for deliveries, the percentages are 54.8 by rural mothers 23.8 by tribal mothers

and 55.8 by urban mothers. Most of the tribal mothers had home deliveries as the villages are very remote and not easily accessible. Others selected government hospital,PHC, sub center or home deliveries. (Table8)

**Table 8: Place of Delivery**

Particulars	Rural	Tribal	Urban	Pooled
	%No	%No	%No	%No
Home Delivery	23.6 (202)	49.7 (88)	7.4 (10)	25.7 (300)
Sub Center	0.2 (2)	0	2.2 (3)	0.4 (5)
PHC	3.5 (30)	1.1 (2)	0	2.7 (32)
Government Hospital	17.9 (153)	25.4 (45)	34.6 (47)	21 (245)
Private Hospital	54.8 (468)	23.8 (42)	55.8 (76)	49.9 (586)

**Person conducting delivery (Table9). Rural, tribal or urban mothers** In the rural area government doctor (18.1%), nurse (11.7) or private doctor (23 %) conducted deliveries while in the tribal area majority depended on ANM or Dai 25.4% and 41.2% respectively. In the urban area concentration is on government doctor, nurse or private doctor together constituted 68.3 %, others depended on dai, ANM or trained dai.

**Table 9 : Person Conducting Delivery**

Particulars	Rural	Tribal	Urban	Pooled
	% (No)	% (No)	% (No)	% (No)
ANM	4.8. (41)	25.4 (45)	0.7 (1)	7.4 (86)
Dai	19.3 (165)	41.2 (73)	4.4 (6)	20.9 (244)
Govt.Doctor	18.1 (155)	4.5 (8)	33.6 (46)	17.9 (209)
Nurse	11.7 (101)	1.1 (2)	15.5 (21)	10.5 (123)
Private Doctor	23.0 (196)	1.1 (2)	19.2 (26)	19.3 (225)
Trained Dai	23.1 (197)	26.7 (47)	26.6 (36)	24 (281)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

**Infant Feeding Practices:** In traditional rural societies, breast milk is given only on the third day as it was believed that mother will produce milk only after she takes rice which is on the third day .Contrary to this belief 81percent, 92.8and 92% rural, tribal and urban mothers gave breast milk within one hour after delivery. ( Table 9).

Initiation of breast milk within 3 hours or in fact 24 hours can be considered as awareness and shift to better practices. The fact that majority mothers started breast feeding within 3 hours or within 24 hours indicates that majority neonates are getting colostrum.

**Table 10: Initiation of Breast Milk**

Particulars	Rural	Tribal	Urban	Pooled
	% (No)	% (No)	% (No)	% (No)
Within ! Hour after Delivery	81.0 (692)	92.8 (164)	67.6 (92)	7.4 (86)
1-3 Hours of delivery	8.7 (75)	3.6 (6)	8.8 (12)	20.9 (244)
After 24 hours	0.9 (8)	0.7 (1)	1.1 (2)	17.9 (209)
After 3 Days	9.4 (80)	2.9 (6)	22.5 (30)	9.9 (116)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

Mothers who initiated breast milk on the second and subsequent days were seen to give cow’s milk, wet nursing, nothing, others like glucose, honey or plain water (Table 11)

**Table 11: Prelacteal Foods Given to Neonate**

Particulars	Rural	Tribal	Urban	Pooled
	% (No)	% (No)	% (No)	% (No)
Breast Milk	64.9 (555)	76.3 (135)	52.2 (71)	65.2 (761)
Cow’s Milk	2.8 (24)	0.6 (1)	5.9 (8)	2.8 (33)
Wet Nursing	0.7 (6)	0	0.7 (1)	0.6 (7)
Nothing	0.7 (6)	0	1.5 (2)	0.7 (8)
Others	30.9 (264)	23.1 (41)	39.7 (54)	30.7 (359)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

**Feeding of colostrum:** Feeding to be givento neonate largely depends upon the place of delivery orthebirth attendant but is surprising to note thatin spite of a larger number of tribal womengoing for home deliveries conducted by dais,the percent feedingcolostrum is to thetune of 100 percent. Among rural women it is 89.5 percent and inurban women 92.5 percent. Those who did not give colostrum believed that colostrum is not healthy or do not know.

**Table 12: Feeding and Concept of colostrum**

Particulars	Rural	Tribal	Urban	Pooled
	% (No.)	%No	% (No)	% (No)
Colostrum Given	89.5 (765)	100 (177)	92.5 (125)	94.6 (1105)
Colossssrum not given	10.6 (90)	0	7.8 (11)	5.4 (63)
Beliefs				
Colostrum good	93.3 (797)	96.4 (170)	96.3 (130)	93.3 (1097)
Colostrum not healthy	4.2 (36)	2.2 (4)	2.0 (3)	3.7 (43)
Do not Know	2.6 (22)	1.4 (3)	2.0 (3)	2.4 (28)
Total	100 (855)	100 (177)	100 (136)	100 (1168)

Lactating mothers started semi solids as early as 6 months, inallthree areas as many as 70.6,73.0, and 67.7 rural, tribaland urban mothers introduced semi solids by 6 months. The rest of the mothers are weaning eitherfrom 6- 12 months or after one year .

Immunization status of childrenindicate that as high as 93 percent inrural, 82.4 percent in tribal and 81.1 percent inurban received BCG. Childrenreceiving immunization drastically decreased from 2<sup>nd</sup> and subsequent doses . Finally when it came to the 4<sup>th</sup> dose the percentage came down to 58.5 percent inrural, 51.5 percent tribal and 72.1 percent in urban areas. Median Body Mass Index of mothers is 21.6 which shows they are conscientious of taking a proper diet. Average birth weight was 3kg .

Results indicated the influence of Maternal and Child Health and ICDS programs initiated in 70’s The MAA program serves as a refresher coursefor modern mothers.

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