

Infant Feeding Practices and Beliefs in Working and Non Working Urban Lactating Mothers of Ludhiana

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ABSTRACT The present investigation was undertaken to assess infant feeding practices and beliefs of working (W) and non-working (NW) lactating mothers. A sample of 50 urban mothers of Ludhiana aged between 21-35 yrs. from middle socio-economic group were selected in the sixth month of lactation. The subjects were divided equally into W and NW groups. The mean per capita monthly income was Rs. 1367/- and Rs. 1670/- in WG and NWG, respectively. Information regarding infant feeding practices was recorded during sixth and ninth month of lactation. The prelacteal feed mostly given to the infants was honey (60% in WG and 80% in NWG). Other prelacteal feeds were plain water and *Janam ghutti*. Majority of the mothers fed colostrum in WG (93.3%) and NWG (80%). All mothers of NWG continued to breast feed till nine months of age, whereas 40% of WG discontinued before six months of age. The results of present study indicated that significantly ($p \leq 0.01$) higher number of subjects of WG fed their infants at fixed intervals. It was noted that initiation of supplementation was earlier in WG. Commercial supplements were preferred for their infants by WG. Common home-made supplements given were *Suji kheer*, rice kheer, biscuits etc. It was also observed that morbidity status of infants belonging to WG was found to be comparatively poor. Appropriate intervention measures should be taken to ensure continued success of lactation without deterioration in infant feeding practices in working lactating mothers.

Survival of infants and children remains one of the most important issues in the developing world. Feeding practices depend upon the cultural, socio-economic and environmental factors. Traditionally, it has been believed that breast feeding is the best form of infant feeding which ensures optimum growth, enhances intellectual and emotional development, improves child survival by providing protection against infectitious diseases and malnutrition for the infant (Singh et al., 1992). Feeding patterns determine the nutritional status of both health and disease. The infant feeding practices have their roots in ill defined socio-cultural pattern, religious beliefs, superstitions and taboos prevalent in a community. Food prejudices and false be-

liefs are hurdles in the way of adequate nutrition. In India, a variety of customs and practices are found in various communities.

Infant mortality rate (IMR) reflects the health and nutritional status of the community. Efforts have been directed to enhance child survival for several decades and though IMR have been declining, they still remain at unacceptability high levels in developing countries. Mosley (1985) reported that 20-25 per cent of the infants born in developing countries die before their fifth birthday as compared to only 2 per cent in the developed countries. Vinodini (1993) reported that IMR has declined from 148 in 1960 to 96 in 1990 in India. Data shows that IMR in India and Punjab are 76 and 53 per thousand live births, respectively. It has also been reported that 8 per cent children die before attaining the age of one year (Health Information of Punjab, 1994). The major crisis in infant feeding practices is early abandonment of breast feed by mother. However, there has been gradual increase in education and employment as shown by comparison of census in 1971 and 1981 (NIN, 1985). Today, in India, working women constitute 12 per cent of total female population (Fotedar, 1997). One major impact of the changes in employment was alteration in infant feeding pattern and its consequences on health and nutritional status of lactating mothers and her infant. With this background the present study was aimed at finding out the prevailing infant feeding practices in working and non working lactating mothers and hence the present communication.

METHODOLOGY

Selection of Subjects: A sample of sixty urban lactating mothers comprising of 30 working group (WG) and 30 non working group

(NWG) aged between 21 to 35 yrs belonging to middle socio-economic group in Ludhiana were selected in sixth month of their lactation period.

Infant Feeding Practices: Information regarding feeding of colostrum, breast feeding practices, pre-lacteal feed, age of supplementation for commercial and home-made foods, morbidity status of the infants, food beliefs and customs were recorded during 5th and 9th month of their lactation period.

Statistical Analysis: For comparison of feeding, weaning practices, morbidity status etc., student's 't' test and 'z' test were used. Correlations were also computed for frequency of sterilization and breast feeding with the morbidity status of the infant.

RESULTS AND DISCUSSION

The demographic information of the subjects in the present study revealed that the average per capita income of working group (WG) and non working group (NWG) was Rs. 1367/- and Rs. 1670/- per month, respectively. Chowdhary (1986) reported that income was a mirror image of family's resources and was an important factor in determining the nutritional status. There was 100 per cent literacy in both the groups. In NWG 60 per cent were graduates and 40 per cent had studied upto matric level. In WG 20 per cent were postgraduates, while 70 per cent were graduates and rest had studied upto higher secondary level. It was observed that working hours varied from 4 to 10 hours in a day.

I. Food Beliefs and Taboos: Food taboos and restrictions during lactation were high in NWG (75%) as compared to WG (48%). The common foods restricted were pulses, green leafy vegetables, meat, fish etc. as these were believed to cause gastrointestinal troubles, cold etc. to mothers and infants. Irigo et al. (1990) reported that restrictions based on food taboos were more frequent during lactation in Brazil. It was also observed that mothers employed outside home consumed more varied intakes of foods like fruits, snacks, vegetables and dairy products than mothers at home who in contrast tended to consume more from lesser range of foods particularly cereals, fruits, milk products etc.

Similar results have also been observed by Warsely (1991).

II. Infant Feeding Practices

(i) Prelacteal Feed: It was observed in the present study (Table 1) that 60% and 80% of WG and NWG fed prelacteal foods. Majority of the mothers preferred honey (77% and 79% of WG and NWG). Other prelacteal foods were plain water and *Janam ghutti*. The results of the present investigation are aligned with Singhania et al. (1990) and Kanchan (1996) who reported that honey was main prelacteal feed.

Table 1: Breast feeding practices

S. No.	Details	Working	%age	Non-working	%age	Z-values
1	Breast fed	30	100.0	30	100.0	1.08
2	Day of starting B.F.					
	a) 1st	17	56.6	19	63.3	2.88**
	b) 2nd	2	6.6	4	13.3	1.44
	c) 3rd	8	26.6	6	20.0	3.99**
	d) after 3rd day	3	10.0	1	3.3	4.55**
3	Costrum given by	28	93.3	24	80.0	2.61*
4	Prelacteal given by	18	60.0	24	80.0	3.69**
	a) Honey	14	17.7	19	79.1	0.27
	b) Plain water	2	11.1	3	12.5	0.01
	c) Janam ghutti	2	11.1	2	8.3	1.00
	Any other	-	-	-	-	-

** Significant at 1 per cent level

* Significant at 5 per cent level

(ii) Breast Feeding Practices: As evident from table 1 it was observed that all the mothers in both the groups breast fed their infants. However, breast feeding was stopped by 40% of WG before sixth month, whereas 100% mothers belonging to NWG continued to breast feed till nine months of age. It was observed that 56.6% and 63.3% of the mothers started breast feeding on the very first day. It was further seen that majority of mothers fed colostrum in WG (93.3%) and NWG (80%). The reason for not feeding colostrum in rest of the mothers was

traditional belief, as they considered it thick, cheesy, indigestible, unhygienic and not good for the baby. Yashpal et al. (1992) reported that 80% of WG mothers fed colostrum as compared to 65% of NWG mothers.

frequently according to the requirement of the infant. Majority of the mothers breast fed for 2-4 and 5-6 time in WG and NWG respectively during 6th month and the number of feeds decreased during 9th month in both the groups. Ac-

Table 2: Breast feeding schedule

S. No.	Details	Working (out of 18)				Non-working (out of 30)			
		6th	%age	9th	%age	6th	%age	9th	%age
1	Breast feeding at fixed hours	9	50.0	14	77.7	2	6.6	8	26.6
2	No. of feeding								
	a) 4	8	44.4	15	83.3	4	13.3	12	40.0
	b) 4	2	11.1	2	11.1	8	26.6	10	33.3
	c) 5	7	38.8	1	5.5	8	26.6	4	13.3
	d) 6	1	5.5	-	-	10	33.3	4	13.3
3	Intervals of feed								
	a) 2 hrly	1	5.5	-	-	12	40.0	4	13.3
	b) 3 hrly	1	5.5	1	5.5	14	46.6	12	40.0
	c) 4 hrly	6	33.3	5	27.7	4	13.3	14	46.6
	d) 4 hrly	10	55.5	12	66.6	-	-	-	-
4	Night feeding	10	55.5	4	22.2	20	66.6	16	53.3

Table 3: Z-values for breast feeding schedule

S. No.	Details	6th/6th (W/NW)	9th/9th (W/NW)	6th/9th (W)	6th/9th (NW)
1	Breast feeding at fixed hours	8.22**	6.90**	4.71**	5.57**
2	No. of feeding				
	a) 4	5.56**	5.90**	6.38**	5.28**
	b) 4	3.13**	3.97**	-	1.24
	c) 5	1.90	3.56**	11.18**	3.22**
	d) 6	5.27**	6.85**	12.97**	4.33**
3	Intervals of feed				
	a) 2 hrly	5.87**	6.85**	12.97**	5.28**
	b) 3 hrly	6.42**	5.87**	-	1.04
	c) 4 hrly	4.04**	2.64**	1.46	6.14**
	d) 4 hrly	13.19**	11.92**	1.85	-
4	Night feeding	1.59	4.28**	7.25**	2.15

**, * significant at 1 at 5 per cent, respectively

As shown in table 2 and 3 the results of the present study indicated that significantly ($P \leq 0.01$) higher number of subjects of WG fed their infants at fixed intervals during 6th and 9th months as they had to adjust the feeding hours of the infant according to their working hours. It was further observed that number of feeds were significantly ($p \leq 0.01$) higher in NWG because they stayed at home and could afford to feed their baby more

according to ICMR (1981) an average infant receives 5-7 feeds in a day. Night feeding was more prevalent in NWG, difference being significant ($p \leq 0.01$) during 9th month.

(iii) *Artificial Feeding (AF)*: As evident from table 4, it was observed that majority of the subjects in WG (73.3 %) significantly ($p \leq 0.01$) started AF in the second month as compared to NWG (33.3%). The reason for early start of AF and WG might be that they had to abandon or decrease breast feeding because of their work schedule, thus to fulfil the requirements of the infant they had to start AF at an earlier age. It was observed that the number of artificial feeds during ninth month continued to be higher ($p \leq 0.05$) in WG as compared to NWG. Further, the results indicated that buffalo milk was preferred in both the groups and dilution was more prevalent in NWG but no negative effects of the dilution were noticed because boiled water was used. Sugar was used as sweetening agent by 80% of NW and 66.6% of NWG. The reason for not

using sugar in rest of the mothers was because of the misconception that it could cause diarrhoea. It was further observed that majority (60%) of NWG boiled milk in every feed and the corresponding figures was 33.3% in WG. It was observed that 53.3 and 86% of mothers in WG and NWG fed milk in bottle to their infants. This could be due to the reason that WG wanted their children to be independent at an earlier age, so they preferred to feed milk, in cup or glass. Frequency of sterilization of bottle was significantly ($p \leq 0.01$) higher in NWG than WG as 70% of the mothers in WG sterilized only once a day while 43.3% in NWG sterilized after every feed. It was observed that none of the mothers in WG sterilized bottle after every feed. It was also observed that 43.3% and 6.6% of the mothers in WG and NWG started feeding artificial milk at the age of 3 months. Yashpal et al. (1992) reported early supplementation to the infants belonging to WG.

(iv) Commercial Foods: As evident from ta-

ble 5, it was observed that majority of the mothers in WG (90%) preferred commercial foods like cerelac, Nestle etc. as compared to NWG (66.6%). It was also observed that WG preferred variety as they had more knowledge of different brands and number of feeds per day was also higher in WG. On the other hand, home made supplements viz. *suji kheer*, rice *kheer*, mashed fruits, soaked bread, porridge, *khichri*, biscuits etc. were preferred more by NWG as compared to WG. A similar prevalence of infant feeding practices has also been reported from other studies (Kumar et al., 1992; Fotedar et al., 1997). It was also observed that only 10 per cent of WG had taboos about their infants diet whereas a corresponding figure was 24 per cent in NWG. It was further indicated that significantly ($p \leq 0.01$) majority of mothers in WG continued supplements during diarrhoea, cold, cough and other sickness. A similar trend was also observed by Mehta (1996).

III. Morbidity Status of Infants: Morbidity status

Table 4: Artificial feeding

S. No.	Details	Working		Non-working		Z-value			
1.	Artificial feeding	30	100.0	30	100.0				
2.	Age of starting								
	a) Earlier	22	73.3	10	33.3			6.22**	
	b) At 3rd month	2	6.6	7	23.3			5.07**	
	c) At 4th month	4	13.3	6	20.0			1.84	
	d) At 5th month	2	6.6	7	23.3			5.07**	
		6th	%age	9th	9th	6th	6th	6th	9th
3.	Artificial feeding	18	60.0	23	76.6	5	16.6	12	40.0
	i) No. of feeding day								
	a) 2 feeds	-	-	-	-	5	16.6	4	13.3
	b) 3 feeds	6	20.0	2	6.6	3	10.0	3	10.0
	c) 4 feeds	10	33.3	12	40.0	2	6.6	3	10.0
	d) 5 feeds	4	13.3	2	6.6	18	60.0	10	33.3
	e) More than 5	10	33.3	14	46.6	2	6.6	10	33.3
	ii) Amount feed								
	a) -100	-	-	-	-	18	60.0	10	33.3
	b) 100-150	10	33.3	6	20.0	4	13.3	8	26.6
	c) 150-200	16	53.3	18	60.0	8	26.6	12	40.0
	d) 200-250	4	13.3	6	20.0	-	-	-	-
	iii) Milk used								
	a) Cow			5	16.6			5	16.6
	b) Buffaloes			22	73.3			25	83.3
	c) Powdered			3	10.0			-	83.3
	d) Any other			-	-			-	-

** Significant at 1 per cent level

Table 5: Commercial foods given to infants

S. No.	Details	Working	%age	Non-working	%age	Z-value
1.	Given	27	90.0	20	66.67	5.27**
2.	Type (brand)					
	a) Cerelac	13	48.1	17	85.0	5.44**
	b) Nestle	3	11.1	1	5.0	2.52**
	c) Farex	5	18.5	1	5.0	4.05**
	d) Cerelac and Nestle	4	14.8	1	5.0	3.39**
	e) Cerelac and other foods	2	7.4	-	-	
3.	No. of feeds day					
	a) 1	1	3.7	5	25.0	4.05**
	b) 2	13	48.1	10	50.0	0.26
	c) 3	5	18.5	4	20.0	0.33
	d) More	8	29.6	1	5.0	5.38**
4.	Amount/feed					
	a) 5 g	-	-	2	6.7	-
	b) 10 g	4	14.8	9	45.0	5.08**
	c) 15 g	16	59.3	6	30.0	3.99*
	d) 20 g	5	18.5	2	10.0	2.26*
	e) More	2	7.4	1	5.0	1.45
Continuation of supplements during sickness						
1.	Diarrhoea	22	73.3	12	40.00	5.26**
2.	Fever	23	76.6	20	66.6	1.92
3.	Cold/cough	27	90.0	23	76.6	3.68**
4.	Any other	25	83.3	7	23.3	9.33**

** Significant at 1 per cent level

* Significant at 5 per cent level

Table 6: Morbidity status of infants

S. No.	Status	Working			Non-working		
		Freq.	Occa.	Never	Freq.	Occa.	Never
1.	Cough	8 (20.6)	22 (73.3)	-	5 (16.6)	23 (76.6)	2 (6.6)
2.	Cold	6 (20.0)	22 (73.3)	2 (6.6)	2 (6.6)	25 (83.3)	3 (10.0)
3.	Fever	3 (10.0)	24 (76.6)	3 (10.0)	-	16 (53.3)	14 (46.6)
4.	Diarrhoea	4 (13.3)	23 (76.6)	3 (10.0)	2 (6.6)	17 (56.6)	11 (36.6)

F = Frequent, O = Occasional, N = Never

of infants has been depicted in table 6. It was seen that occurrence of cough (26.6%), fever (10%) and diarrhoea (13%) was significantly ($p \leq 0.01$) more frequent in the infants belonging to WG. Further, it was observed that cough (6.6%), fever (46.6%) and diarrhoea (36.6%) never occurred to the infants of NWG during the course of the study. Hence the infants of NWG had much better health status than the infants of WG. The reason for this might be that infants of WG received less personal attention of mothers because of less time availability and extra exertion of dual pressure of job and home. Another reason could be less feeding of breast milk in WG as compared to NWG. Burr et al. (1993) and

Srivastava et al. (1994) reported low morbidity status in exclusively breast fed babies.

IV. Relationship Between Frequency of Sterilization and Morbidity Status: It was observed that frequency of sterilization was significantly ($p \leq 0.01$) negatively correlated to fever and diarrhoea, the value of r being (-.43). Frequency of sterilization was also negatively related to cough and cold ($r = .16$), the value being non-significant. It was observed that infants belonging to WG had poor morbidity status as frequency of sterilization was significantly ($p \leq 0.01$) lower in WG as compared to NWG. Breast feeding was found to be related to morbidity status. It was found that morbidity status, length of working

hours and type of family affected the health and growth of infants in working mothers.

Thus it is concluded from the present study that breast feeding is advantageous effect in reducing not only infant morbidity rate, but also illnesses and infections like cold, cough, diarrhoea etc. Poor morbidity status among infants of WG could be due to less personal attention of mothers, poor personal hygiene, mother's poor health status, more dependence on commercial foods and less use of nutritious home-made products, less frequency of breast feeding because of less time availability as compared to NWG. Appropriate intervention measures should be taken to ensure continued success of lactation without deterioration of infant feeding practices in working lactation mothers.

SUGGESTIONS

Working mothers should not ignore breast feeding because of their job as it is very beneficial for health and growth of the infants. They should take out time to breast feed their infants. Further, jobs of long working hours should not be continued during the first year of infant's life as it not only affects mothers' own health but also had deleterious effects on infant's growth. Joint families should be preferred by working mothers as they not only allow full development of the infants but help in sharing mothers household chores too. Importance of breast feeding should be promoted in nutrition programme.

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