International Journal of Medical and Health Sciences

Journal Home Page: http://www.ijmhs.net ISSN:2277-4505

Original article

Weaning pattern and practices in rural women from wardha district of Maharashtra state

Pallavi Gawande[1], Smrutiranjan Nayak[2*], Nikhil Dhande[3], Abhay Mudey[4], Ashish Nagrale[5]

[1]Public Health Expert , [3]Assistant Professor, [4]Director & Professor, Department of Community Medicine, JNMC, Sawangi (M), Wardha, Maharashtra.

[2]Associate Professor, Department of Community Medicine, KIMS, Bhubaneswar, Odisha,

[5]JTO, BSNL, Nagpur.

ABSTRACT

Introduction: Many children in rural communities of developing countries die of nutrition-related causes due to lack of nutrition education and low purchasing power of the families, which result in low-quality weaning foods and poor feeding practices. **Objectives:** To assess weaning pattern and practices in children up to the age of 2 years in a representative sample of rural communities in Wardha district and to study the determinants influencing these practices in rural area. **Material and Method:** The present cross-sectional Descriptive study was undertaken in rural area of Wardha District. Data was collected by house to house visit after informed written consent. Respondents were mother of infant and child in the age group of 0 to 23 months. Structured interview schedule was used for data collection. The main outcome variables were timely initiation of Liquid, semi-solid or soft diet and solid diet. Data is presented as proportion, percentage and test of significance was applied where ever appropriate. **Result:** Approximately found that 46.6% had initiated liquid diet timely, 53% semisolid diet and 39.5% solid diet ,56.6% of secondary educated had not initiated solid diet timely and 77.7% of working mothers too. **Conclusion:** This study noticed a high proportion of the mothers used local ingredients to formulate weaning foods for their babies. The nutritional compositions of these foods is of average quality and aren't suitable as weaning foods, particularly for child of low-income parents who do not have access to commercial weaning foods.

KEYWORDS: Weaning pattern and practices, Child-feeding practices, nutritional composition of local weaning foods.

INTRODUCTION

Many children in rural communities of developing countries die of nutrition-related causes due to lack of nutrition education and low purchasing power of the families, which result in low-quality weaning foods and poor feeding practices. The introduction of supplementary foods is often accompanied by stress and ill health for infants in developing countries, mostly because the foods are not properly tailored to the infant needs [1, 2, and 3].

Adult diets, especially in developing countries, consist of highly starchy staples which are bulky and unless properly

modified, unsuitable for infants and young children with their small gastric capacities [3]. During the complementary feeding period, children require foods that are soft, hygienic and energy and nutrient-dense to meet their high nutritional requirements [1, 2]. Moreover, weaning foods in developing countries are usually prepared under un-hygienic conditions

using water from unprotected sources thus exposing the child to weaning diarrhoea.

This presents a dilemma to both mother and infant; to wean or not to wean, which is termed the "weanling's dilemma" [2]. Exactly when to wean, how to wean and what to wean with is a subject that has pre-occupied mothers and scientists alike, for a long time.

Objectives:

1) To assess weaning pattern and practices in children up to the age of 2 years in a representative sample of rural communities in Wardha district Maharashtra State.

2) To study the determinants influencing Weaning practices in rural area.

MATERIALS AND METHODS

The present community based cross-sectional descriptive study was conducted in a rural area of Deoli Taluka in Wardha district. Five villages were randomly selected from Deoli Taluka of Wardha District. (Sonegoan, Murdgoan, Nagzari, Yesgoan, Digdoh). Study participants were infant and child in the age group 0 to 23 months and the respondents were mother of infant and child in the age group of 0 to 23 months. It was decided to interview of all 105 mothers of children in the age group of 0 to 23 months from the five randomly selected villages. At the time of visit only 85 were available. So, 85 infants and children were included in the study.

Data collection: House to house survey was conducted in selected villages. Interview method was used for data collection. A structured questionnaire was used for data collection. Informed written consent was obtained from each participant prior to data collection. First part of the questionnaire included socio-demographic and personal characteristics. Socio demographic status was assessed using the Uday pareek Socioeconomic Scale [3]

Second part contained questions on breastfeeding practices, weaning practices,socio-cultural factors, obstetric factors such as birth intervals, birth order, and health service related factors/practices including pre/postnatal counselling/care were collected by interviewing the mothers of children. Respondents were assured about confidentiality of information and its intended use for research purpose only. The women who did not give consent were excluded in the study and the data was collected by the trained interviewer in local Marathi Language

Ethical permission: The ethical permission was obtained by the Institutional Ethics Committee of DMIMSU, Wardha.

Data analysis: Data was analyzed. Statistical test applied were percentage.

RESULTS

82.35% mothers are in the aged group of 21 – 29yrs, 64.70% mothers are SSC educated, 52.94% mothers are from lower middle SES, 88.36% are non-working mothers, 38.82% mothers are from nuclear family and 48.23% mothers are first birth order where 41.17% mothers are second birth order(Table no 1).

Table 1: Variable studied for the breastfeeding characteristics

Variable	Total no.	Percentage
Age (years)		
Less than & = 20yrs	7	8.23
21- 29 yrs	70	82.35
30 & more than yrs	7	8.23
Education of mother		
Illiterate	05	05.88
Primary	06	07.05
Upto SSC	55	64.70
Upto HSC	14	16.47
Graduate and above	05	05.88
Religion		
Hindu	64	75.29
Buddhist	21	24.71
Socioeconomic status (SES)		
Upper Middle	04	04.70
Middle	09	10.58
Lower Middle	45	52.94
Lower	27	31.78
Working women		
Yes	10	11.64
No	75	88.36
Type of family		

Nuclear	33	38.82
Joint	52	61.18
Birth order		
First	41	48.23
Second	35	41.17
Third	6	7.06
Fourth	3	3.53

64.28 % of mothers are below 20 yrs age group are timely initiated Liquid diet as compare to 20-30 yrs aged group and above 30yrs mother, 61.90 % of mother aged above 30 yrs aged group are timely initiated semi-solid diet as compare to below 20 yr aged group and 21-30 yrs aged group mothers, 53.24 % of above 30 yr aged group mothers are timely initiated solid feeding as compare to other aged group mothers(Table no 2).

Table 2: Proportion of mothers of different aged group and their practice to feed proper weaning food

Sr.No.	aged group and their ability to feed proper weaning food	Liquid diet		Semi – solid diet		Solid diet	
		Yes	No	Yes	No	Yes	No
1	< 20 yr	64.28%	35.71%	54.76%	45.23%	51.94%	48.05%
2	20 – 30 yr	49%	51.42%	43.33%	54.76%	44.67%	55.32%
3	> 30 yr	50%	50%	61.90%	38.09%	53.24%	46.75%

66.67% of undergraduate mothers are timely initiate liquid diet as compare to lower educated mothers, 64.28 % of high school mothers are timely initiated semi-solid diet as compare other educated and Illiterate mothers where 59.09 % of high school mothers and 58.18 % of undergraduate mothers are where timely initiated solid weaning foods as compare to other educated and illiterate mothers(Table no.3).

Table 3: Proportion of mothers of Education and their practice to feed proper weaning food

Sr.No.	Mothers education	Liquid diet		Semi – solid diet		Solid diet	
		Yes	No	Yes	No	Yes	No
1	Illiteracy	53.33%	46.67%	46.67%	53.33%	47.27%	52.73%
2	Primary	52.78%	47.22%	55.56%	44.44%	48.49%	51.51%
3	Secondary	45.75%	54.25%	38.18%	61.82%	40%	60%
4	High school	59.52%	40.48%	64.28%	35.72%	59.09%	40.91%
5	Undergraduate	66.67%	33.33%	63.34%	36.66%	58.18%	41.82%

51.78 % of non- working mothers are more experienced in liquid feeding as compare to working mothers, 47.11 % of non-working mothers are timely initiated semi-solid diet as compare to working mothers, 45.33 % of non-working mothers are timely initiated solid weaning foods as compare to working mothers.(Table no. 4)

Table 4: Proportion of mothers of Working Status and their practice to feed proper weaning food

Sr.No.	Mothers of working status	Liquid diet		Semi – solid diet		Solid diet	
		Yes	No	Yes	No	Yes	No
1	Working	38.33%	61.67%	35%	65%	35.45%	64.54%
2	Non-working	51.78%	48.22%	47.11%	52.89%	45.33%	54.67%

54.16 % of mothers in joint family timely initiated liquid diet as compare to Nuclear family, 48.07 % of Joint family mothers are timely initiated semi-solid feeding as compare to Nuclear family mothers, 47.90 % of mothers in Joint family are timely initiated solid weaning feeding as compare to Nuclear family mothers.(Table no.5). 56.19 % of 2^{nd} baby mothers are timely initiated liquid diet, 52.85 % of 2^{nd} baby mothers are timely initiated semi-solid feeding and 49.87 % of 2^{nd} baby mothers are timely initiated solid

weaning feeding as compare to 1st,3rd and 4th baby mothers.(Table no.6).

Table 5: Proportion of mothers of Family Type and their practice to feed proper weaning food

Sr.No.	Mothers family type	Liquid diet		Semi – solid diet		Solid diet	
		Yes	No	Yes	No	Yes	No
1	Nuclear	43.58%	56.42%	42.30%	57.7%	44.75%	55.25%
2	Joint	54.16%	45.84%	48.07%	51.93%	47.90%	52.1%

Table 6: Proportion of mothers of Birth order and their practice to feed proper weaning food

Sr.No.	Mothers birth order	Liquid diet		Semi – solid diet		Solid diet	
		Yes	No	Yes	No	Yes	No
1	1st	43.90%	56.1%	42.68%	57.32%	44.78%	55.22%
2	2nd	56.19%	43.81%	52.85%	47.15%	49.87%	50.13%
3	3rd	47.22%	52.78%	41.67%	58.33%	42.42%	57.58%
4	4th	22.22%	77.78%	16.67%	83.33%	9.09%	90.91%

DISCUSSION

This study emphasizes that the main reasons for initiating weaning were mother's perception that there was insufficient milk and that the child was always hungry. Most mothers were also given advice by the health clinic staff on weaning, including the timing and the suitable weaning foods to provide. Most of the mothers are in the aged group of 21 – 29yrs, SSC educated, from lower middle SES, non-working and from nuclear family and also most of the mothers are first birth order.

Study reveals that most of women in rural area are well aware regarding the importance of timely initiation of complementary feeding. However, women in employment face significant challenges to practice exclusive breast feeding and timely and appropriate complementary feeding. In India women in the workforce has increase significantly in the last decade and most of them work in informal sector such as farm worker, domestic help, of other daily wage workers. Moreover, women in rural area women are overburdened, as they have to earn for the family as well as to feed the entire family in addition to care for kids.

Study of Danielle et al says that returning to work was one of the main reasons for early initiation of complementary feeding and reduce breast feeding [7]. Other studies reported that full-time working mothers breastfed an average of 16.5 weeks, which was 8.6 weeks less than nonworking mothers and employed women also introduced complementary foods at younger ages [8, 9]. Similar to our findings, many studies have identified that factors that influence early initiation complementary feeding among working women are timing of return to work or employment, daily working hours and to some extent type of job [10, 11,12, 13].

Many mothers are below 20 yrs age group are timely initiated Liquid diet as compare to 20-30 yrs aged group and above 30yrs mother, above 30 yrs aged group are timely initiated semi-solid diet as compare to below 20 yr aged group and 21-30 yrs aged group mothers, and also above 30 yr aged group mothers are timely initiated solid feeding as compare to other aged group mothers.

Studies from rural India also stated that lower socioeconomic status, undesirable socio-cultural beliefs, maternal illiteracy, and ignorance are reason for the poor knowledge and practices regarding complementary feeding [9, 12, 13, 14].

Most of undergraduate mothers are timely initiate liquid diet as compare to lower educated mothers, 64.28 % of high school mothers are timely initiated semi-solid diet as compare other educated and Illiterate mothers where high school mothers and undergraduate mothers are where timely initiated solid weaning foods as compare to other educated and illiterate mothers.

Most of non- working mothers are more experienced in liquid feeding as compare to working mothers, non-working mothers are timely initiated semi-solid diet as compare to working mothers and also non-working mothers are timely initiated solid weaning foods as compare to working mothers. In most of families, when mothers are out for work, elder persons, mostly grandmothers, take care of child.

Nevertheless due to old age it is challenging from them to maintain the frequency, adequacy, dietary diversity, timing,

hygiene of complementary feeding. Similar finding reported by Patel et al that children aged 6-23 months, minimum dietary diversity rate was 15.2%, minimum meal frequency 41.5% and minimum acceptable diet 9.2% and possible reason may be older age of caregiver in addition to lack of accurate information, social beliefs and practices about complementary feeding [15].

Many mothers from joint family timely initiated liquid diet as compare to Nuclear family mothers, Joint family mothers are timely initiated semi-solid feeding as compare to Nuclear family mothers, and Joint family mothers are timely initiated solid weaning feeding as compare to Nuclear family mothers

This study reveals that most of the 2nd baby mothers are timely initiated liquid diet, 2nd baby mothers are timely initiated semi-solid feeding and 2nd baby mothers are timely initiated solid weaning feeding as compare to 1st,3rd and 4th baby mothers. Because due to improper knowledge of weaning feeding practices mothers in her 1st delivery are unable to give proper care, but in second baby she provided proper care and give timely initiation of weaning foods. Later on in case of 3rd and 4th delivery, increased workload of previous children, leads inability to provide her best care to later babies.

CONCLUSION

This study conclude that the main reasons for initiating weaning were mother's perception that there was insufficient milk and that the child was always hungry. Most mothers were also given advice by the health clinic staff on weaning, including the timing and the suitable weaning foods to provide.

Education plays important role in understanding the basic of weaning food practices, Highly educated mothers were found with better understanding of feeding weaning food. Working status of mothers also interrupt mothers in taking proper care of child comparatively Non-working mothers do timely initiation. However, neither of the group follows appropriate timely initiation of weaning food. Type of family also play important part in timely initiation of weaning feeding; Joint family have relatives to guide, hence, mothers become aware about the proper initiation of Weaning feeds for baby.

Due to improper knowledge of weaning feeding practices mothers in her 1st delivery are unable to give proper care, but in second baby she provided proper care and give timely initiation of weaning foods. Later on in case of 3rd and 4th delivery, increased workload of previous children, leads inability to provide her best care to later babies.

REFERENCES

1. Morley D, Bicknell H, Woodland M. Factors influencing the growth and nutritional status of infants and young children in a Nigerian village. Trans R Soc Trop Med Hyg 1968; 62: 164-95.
2. Naismith DJ. Kwashiorkor in Western Nigeria: a study of traditional weaning foods with particular respect to energy and linoleic acid. Br J Nutr 1973: 80: 567-76.
3. Okeke EC, Okafor US. Current breast-feeding and weaning practices in Anambra State. Nigerian J Nutr Sci 1989: 10: 21-3.
4. UDAY PAREEK scale for rural areas Downloaded: http://publichealth-india.blogspot.in/2012/02/uday-pareek-scale-for-rural-areas.html
5. Tin Tin Oo and Khin Mg Naing, "The Pattern of Breast-feeding and its Nutritional Adequacy in Rural Communities," (Ministry of Health, Department of Medical Research, Rangoon, Burma, 1979).
6. Breast feeding practices in urban community of surat city- njcmindia.org/uploads/01-02_111-113.pdf · PDF file.
7. Weber D, Janson A, Nolan M. Female employees' perceptions of organisational support for breastfeeding at work: findings from an Australian health service workplace. … Breastfeed.… [Internet]. 2011 [cited 2013 Oct 3]; Available from: http://www.biomedcentral.com/content/pdf/1746-4358-6-19.pdf
8. Fein SB, Roe B. The effect of work status on initiation and duration of breast-feeding. Am. J. Public Health [Internet]. Murdoch Children's Research Institute, Melbourne, Australia.; 1998;88(7):1042–6. Available from: http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1508266&tool=pmcentrez&rendertype=abstract
9. Batal M, Boulghourjian C, Akik C. Complementary feeding patterns in a developing country: a cross-sectional study across Lebanon. East.Mediterr.Health J. [Internet]. 2010 Feb [cited 2013 Oct 2];16(2):180–6. Available from: http://www.ncbi.nlm.nih.gov/pubmed/20799572
10. Auerbach KG, Guss E. Maternal employment and breastfeeding. A study of 567 women's experiences. Am. J. Dis. Child. [Internet]. 1984 Oct [cited 2013 Oct 1];138(10):958–60. Available from: http://www.ncbi.nlm.nih.gov/pubmed/6475857
11. Duckett L. Maternal employment and breastfeeding.NAACOGS.Clin.Issu.Perinat.Womens.Health Nurs.[Internet]. 1992 Jan [cited 2013 Oct

1];3(4):701–12. Available from: http://www.ncbi.nlm.nih.gov/pubmed/1476850

12. Igbedioh S. Influence of mother's occupation and education on breast-feeding and weaning in infants and children in Makurdi, Nigeria. Nutr.Health [Internet]. 1994 [cited 2013 Oct 3]; Available from: http://nah.sagepub.com/content/9/4/289.short
13. Visness C, Kennedy K. Maternal employment and breast-feeding: findings from the 1988 National Maternal and Infant Health Survey. … J. Public Heal. [Internet]. 1997 [cited 2013 Oct 3];

    Available from: http://ajph. Apha publications.org/doi/abs/10.2105/AJPH.87.6.945?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3Dpubmed
14. Kuriyan R, Kurpad A V. Complementary feeding patterns in India. Nutr.Metab.Cardiovasc.Dis. [Internet]. 2012 Oct [cited 2013 Oct 2];22(10):799–805. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22748607
15. Patel A, Pusdekar Y, Badhoniya N, Borkar J, Agho KE, Dibley MJ. Determinants of inappropriate complementary feeding practices in young children in India: secondary analysis of National Family Health Survey 2005-2006. Matern.Child Nutr.[Internet].2012 Jan [cited 2013 Oct 2];8Suppl 1:28–44. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22168517

---

*Corresponding author: Dr. Smrutiranjan Nayak
E-Mail: dr.smrutiranjannayak@gmail.com