Indian Journal of Public Health Research and Development
Volume 14 No. 2, April-June 2023

Feeding Practices affecting Nutritional Status of Anganwadi Children

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How to cite this article: Abdullah, UzmaEram, Sameena Ahmad et. al. Feeding Practices affecting Nutritional Status of Anganwadi Children. Indian Journal of Public Health Research and Development 2023;14(2).

Abstract

Each Anganwadi unit covers a population of about 400 to 800 and mini Anganwadi center about 150 to 400. The work of Anganwadi centers is supervised by Mukhyasevikas. Field supervision is done by the Child Development Project Officer (CDPO**).**Nutrition-related factors contribute to about 45% of deaths in children under 5 years of age.This study was conducted to find the factors affecting nutritional status of children at anganwadi centres in Aligarh.

This study was conducted(cross sectional) at the Anganwadi centres under registered areas of the Department of Community Medicine, Jawaharlal Nehru Medical College Aligarh Muslim University, Aligarh. The study was conducted from July, 2017 to June 2018. All children of age 3-6 years registered at the Anganwadi centres of field practice area. **INCLUSION CRITERIA:**Child of 3 years to 6years (36 months to 71 months) of age and Child whose caregiver gave consent for the study.**EXCLUSION CRITERIA:**Child not registered at Anganwadi centre,Non-cooperative caregivers,Caregiver and child not present in three visit periods. Ethical clearance was obtained from Institutional Ethics Committee, JNMC, AMU, Aligarh.Informed verbal consent was taken from caregiver before interview.

It was found among the feeding practices that nutritional status was found to be associated with duration of exclusive breast feeding, age of start of complementary feeding, and total duration of breast feeding.

Key Words: anganwadi centres, exclusive breast feeding, age of start of complementary feeding,nutritional status

Introduction

Two of three preschool children in India are malnourished**[5].** Malnutrition is defined as a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients**[1]**. Undernutrition is a condition which results from insufficient food eaten over an extended period of time**[2].**As per World Health Organization (WHO) Report, approximately 45% of deaths among children under 5 years of age are linked to undernutrition as malnutrition presents with serious, long-term consequences impeding motor, sensory, cognitive, social, and emotional

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development[3]. Only 1 in 10 Indian children aged 6–23 months get adequate diet and 35.7% of children below 5 years of age are underweight as per the National Family Health Survey (NFHS) 2015-16[4]. Government of India started Integrated Child Development Services (ICDS) Scheme in 1975 so as to meet nutritional requirement of children of 0–6 years of age in addition to other Services. Each Anganwadi unit covers a population of about 400 to 800 and mini Anganwadi center about 150 to 400. The work of Anganwadi centers is supervised by Mukhyasevikas. Field supervision is done by the Child Development Project Officer (CDPO)[6]. Nutrition-related factors contribute to about 45% of deaths in children under 5 years of age [7].

This study was conducted to find the feeding practices affecting nutritional status of children at anganwadi centres in Aligarh.

Material and methods

This study cross sectional study was conducted at the Anganwadi centres under registered areas of the Department of Community Medicine, Jawaharlal Nehru Medical College Aligarh Muslim University, Aligarh.The study was conducted from July, 2017 to June 2018. All children of age 3-6 years registered at the Anganwadi centres of field practice area. INCLUSION CRITERIA:Child of 3 years to 6years (36 months to 71 months) of age and Child whose caregiver gave consent for the study.EXCLUSION CRITERIA:Child not registered at Anganwadi centre,Non-cooperative caregivers,Caregiver and child not present in three visit periods.

Sample Size Determination

Sample size was calculated the following formula

$$n = z^2 \frac{p \times (1-p)}{d^2}$$

where, n = sample

size

P = prevalence of underweight in Uttar Pradesh [NFHS-3] taken as 42.4%. d = allowable absolute error (5%) z = value of the standard normal variable at 0.05 level of significance (1.96)

$$n = (1.96)^2 \frac{424 \times (1-0.424)}{(0.05)^2}$$

Total sample size (n) was 375.

Taking non response rate of 5% of the sample size, n=375 + 18 = 393

Sampling Design: Simple random sampling.

Information was collected from the guardian of the child beneficiary of the Anganwadi Centres with a pre-tested and pre-structured questionnaire.

Ethical clearance was obtained from Institutional Ethics Committee, JNMC, AMU, Aligarh.Informed verbal consent was taken from caregiver before interview.Confidentiality was assured.

Results

Feeding Practices affecting Nutritional Status of Anganwadi children

Table 1

Time of initiation of breastfeeding	Underweight <-2SD			Stunting <-2SD			Wasting* <-2SD		
	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)
≤ 1 hour	41 31.10%	91 68.90%	132 (100)	54 40.90%	78 59.10%	132 (100)	18 18.40%	80 81.60%	98 (100)
> 1 hour	87 32.50%	181 67.50%	268 (100)	92 34.30%	176 65.70%	268 (100)	32 19.30%	134 80.70%	166 (100)
Total	128 32%	272 68%	400 (100)	146 36.50%	254 63.50%	400 (100)	50 18.90%	214 81.10%	264 (100)
	0.777			0.199			0.855		

Table-2

Colostrum given	Underweight <-2SD			Stunting <-2SD			Wasting* <-2SD		
	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)
Yes	119 32.30%	249 67.70%	368 (100)	114 86.36%	18 13.64%	132 (100)	49 20%	196 80%	245 (100)
No	9 28.10%	23 71.90%	32 (100)	32 12%	236 88%	268 (100)	1 5.30%	18 94.70%	19 (100)
Total	128 32%	272 68%	400 (100)	146 36.50%	254 63.50%	400 (100)	50 18.90%	214 81.10%	264 (100)
	0.624			0.374			0.144		

Table-3

Duration of breast feeding	Underweight <-2SD			Stunting <-2SD			Wasting* <-2SD		
	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)
No Exclusive Breast Feeding	32 36.80%	55 63.20%	87 (100)	35 40.20%	52 59.80%	87 (100)	12 20.30%	47 79.70%	59 (100)
<6 months	67 37.20%	113 62.80%	180 (100)	68 37.80%	112 62.20%	180 (100)	29 24.80%	88 75.20%	117 (100)
6 months	29 21.80%	104 78.20%	133 (100)	43 32.30%	90 67.70%	133 (100)	9 10.20%	79 89.80%	88 (100)
Total	128 32%	272 68%	400 (100)	146 36.50%	254 63.50%	400 (100)	50 18.90%	214 81.10%	264 (100)
	0.009			0.439			0.03		

Table-4

Age of starting complementary feeding	Underweight <-2SD			Stunting <-2SD			Wasting* <-2SD		
	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)
6 months	95 37.50%	158 62.50%	253 (100)	100 39.50%	153 60.50%	253 (100)	40 24.10%	126 75.90%	166 (100)
Delayed	33 22.40%	114 77.60%	147 (100)	46 31.30%	101 68.70%	147 (100)	10 10.20%	88 89.80%	98 (100)
Total	128 32%	272 68%	400 (100)	146 36.50%	254 63.50%	400 (100)	50 18.90%	214 81.10%	264 (100)
	0.002			0.099			0.005		

Table-5

Duration of breast-feeding	Underweight <-2SD			Stunting <-2SD			Wasting* <-2SD		
	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)	Present N(%)	Absent N(%)	Total N(%)
< 1 year	42 42%	58 58%	100 (100)	40 40%	60 60%	100 (100)	16 27.60%	42 72.40%	58 (100)
1-2 years	58 29%	142 71%	200 (100)	67 33.50%	133 66.50%	200 (100)	26 19.50%	107 80.50%	133 (100)
≥2 years	28 28%	72 72%	100 (100)	39 39%	61 61%	100 (100)	8 11%	65 89%	73 (100)
Total	128 32%	272 68%	400 (100)	146 36.50%	254 63.50%	400 (100)	50 18.90%	214 81.10%	264 (100)
	0.046			0.455			0.053		

Discussion

As shown **in tables 1-5**, among the feeding practices observed, nutritional status was found to be associated with duration of exclusive breast feeding, age of start of complementary feeding, and total duration of breast feeding.

Proportion of underweight children was significantly less (p- 0.009) among those who exclusively breastfed for 6 months compared to children breastfed for less than 6 months or not breastfed at all. Similar results obtained with wasting as well (p 0.030). Another study [8]reported lack of exclusive breast feeding to be measured risk factor for SAM children. Davey[9], found exclusive breast feeding not done for 6 months to be significantly associated with malnutrition.Age at which complementary feeding started significantly affected all the nutritional parameters as proportion of underweight, stunted, and wasted children was observed to be more in which feeding delayed beyond 6 months. Another study[8],found delayed introduction of complimentary feeding to be measured risk factor for SAM children. Davey [9] also found wrong age of initiation complementary feeding to be significantly associated with malnutrition (p<0.5).

Duration of breast feeding found to be having a significant inverse association with higher proportion of underweight (p- 0.046) and wasting (p- 0.053)but not with stunting.

No significant association was observed with early initiation of breast feeding and feeding of colostrum to the child in this study. However, Aprameya et al 10, found a significant association between late initiation and SAM, Osei et al11, observed that stunting was associated with early initiation of breastfeeding and Davey 9 found improper colostrum feeding to be significantly associated with malnutrition.

Breast and complementary feeding, if adequately promoted and practiced, can prevent up to 19% of all childhood deaths in low-income countries[12]. It is estimated that in low-income countries, where the relative benefits of optimal feeding are greatest, fewer than 50% of children under 6 months of age are exclusively breastfed [13,14]. Pre-lacteals are unnecessary as they can reduce breast-milk intake and increase the risk of infection in infants [15].

Conclusion

India is a vast country with socio-cultural diversity and public sector alone may not be able to cater the needs of the community, therefore local NGO's and Self Help Group may be involved for some ICDS activities like procurement and supply of supplementary nutrition.Emphasis on proper hand washing practice should be given at the centres before meals and the mothers of the children should also be counselled for the same. Mothers should be counselled regarding exclusive breast feeding and proper complementary feeding which contribute to the nutritional and developmental status of children. Attention should focus on socio-economic empowerment especially education of the girl child,

discouraging use of pre-lacteals, promoting use of oil to increase energy content of complementary food and the timeliness of complementary feeding so as to optimise the benefits of breastfeeding and complementary feeding 16.

Ethical clearance- Taken from Institutional Ethics Committee, JNMC, AMU, Aligarh(copy attached).

Source of funding- Self

Conflict of Interest - Nil.

References

1. Definition of Malnutrition. Available from: http://wwwwhoint/news-room/fact-sheets/detail/malnutrition Cited Here
2. Park K. Malnutrition Park's Textbook of Preventive and Social Medicine. 200415th ed M/s Banarsidas Bhanot:427 Cited Here
3. Stalin P, Bazroy J, Dimri D, Singh Z, Senthilvel V, Sathyanarayanan S. Prevalence of underweight and its risk factors among under five children in a rural area of Kancheepuram District in Tamil Nadu, India IOSR-J Dental Med Sci. 2013;3:71–4 Cited Here
4. Only 1 In 10 Indian Children Aged 6-23 Months Gets Adequate Diet. Available from: http://wwwindiaspendcom/cover-story/only-1-in-10-indian-children-aged-6-23-months-gets-adequate-diet-41066 Cited Here
5. Jakhar P. Nutritional status of children in rural Haryana: A cross-sectional analysis Indian J Matern Child Health. 2011;13:11 Cited Here
6. Fact sheet on malnutrition.(2021). Accessed: 26.10.2021: https:/ /www. who. int/news-room/factsheets/detail/malnutrition/ .
7. Park K:Park's Text book of Preventive and Social Medicine . Banarsidas Bhanot Publishers, Jabalpur; 2019.
8. Bhandari D, Chib D, Mehta D. To assess the epidemiological risk factors and feeding practices in SAM children of Gorakhpur area. International Journal of Advanced Research. 2016;4(3):231-234.
9. Davey S,Davey A, Adhish S, Bagga R. Impact of Nutritional Services of Anganwadi workers in Improving the Nutritional Status of Infants in Delhi: A Study by Mixed Method Technique. International Journal of Research Foundation of Hospital and Healthcare Administration. 2015;3(2):57-64.
10. Aprameya HS, Kamath SP, Kini PK, Baliga BS,Shenoy U V, Jain A. Socioepidemiological determinants of severe acute malnutrition and effectiveness of nutritional rehabilitation center in its management. Int J Heal Allied Sci. 2015;4:148–53.
11. Osei A, Pandey P, Spiro D, Nielson J, Shrestha R,Talukder Z et al. Household Food Insecurity and Nutritional Status of Children Aged 6 to 23 Months in Kailali District of Nepal. Food Nutr Bull. 2010;31(4):483-494
12. Gareth J, Stekette RW, Black RE, Bhutta Za, Morris SS, and the Bellagio Child Survival Study Group. How many child death can we prevent this year? Lancet 2003; 362: 65–71
13. Sellen DW. Comparison of infant feeding patterns reported for nonindustrial populations with current recommendations. J Nutr 2001; 131: 2707–15.
14. Haggerty PA, Rutstein S. Breastfeeding and complementary infant feeding, and the postpartum effects of breastfeeding. Calverton, MD: Macro International, Inc; 1999 .
15. Martines J, Rea M, de Zoysa I. Breastfeeding in the first six months: no need for extra fluid. Brit Med J 1992; 304: 1068–69 .
16. Cohen R, Brown KH, Canahuati J, Rivera LL, Deway KG. Effects of age of introduction of complementary foods on infant breastmilk intake, total energy intake, and growth: a randomised intervention study in Honduras. Lancet 1994; 344: 288–93.