

Original Research Article

To evaluate the effect of nutritional interventional measures in improving the nutritional status of children

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Abstract:

Background & Method: The aim of this study is to evaluate the effect of nutritional interventional measures in improving the nutritional status of children.

Result: 16 out of 44 children born by normal delivery (32%) had received breast feeding within one hour of birth while none of the 6 children born via cesarean section had been started feeding within first hour of birth. A significant association was obtained between the type of birth procedure and initiation of Breast Feeding ($\chi^2=15.043$, $p=0.002$)

Conclusion: Child malnutrition is the most pressing problem of the world, damaging to both children and nations. During 2000-07 more than 25% of the world's children under the age of 5 years were underweight for their age, the proportion ranging from 1% in the developed countries to 26% in the developing nations. India accounts for nearly 60 million underweight children. The number of severely malnourished children decreased significantly at the time of discharge as compared to admission; still a number of children were still in the high risk group at the time of discharge.

Keywords: nutritional, interventional, improving & children.

Study Designed: Observational Study.

1. INTRODUCTION

Malnutrition has been defined as "a pathological state resulting from a relative or absolute deficiency or excess of one or more essential nutrients"[1] . Malnutrition forms one spectrum of the entire phenomenon of undernutrition which encompasses stunting, wasting, and deficiencies of essential vitamins and minerals (collectively referred to as micronutrients) as one form with obesity or over-consumption of specific nutrients as the other form [1]. A framework developed by UNICEF recognizes the basic and underlying causes of undernutrition, including the

environmental, economic, and sociopolitical contextual factors, with poverty having a central role.

Malnutrition is like an iceberg; most people in the developing countries live under the burden of malnutrition. Pregnant women, nursing mothers and children are particularly vulnerable to the effect of malnutrition. The adverse effects of maternal malnutrition have been well documented-maternal depletion, low birth weight, anaemia, toxemias of pregnancy, post partum hemorrhage, all leading to high mortality and mortality[3]. The effect of malnutrition is felt mostly during the formative years of life right from the intrauterine period to early childhood [4]. Malnutrition makes the child more susceptible to infection, recovery is slower and mortality is higher. Undernourished children do not grow to their full potential of physical and mental abilities. Malnutrition in infancy and childhood leads to stunted growth. It also manifests by clinical signs of micronutrient and vitamin deficiencies. Prevention and appropriate treatment of diarrhoea, measles and other infections in infancy and early childhood are important to reduce malnutrition rates as infection and malnutrition often make vicious cycle. Exclusive breast feeding in first 6 months of life is very important [5].

2. MATERIAL & METHOD

The study was conducted at Amaltas Institute of Medical Sciences, Dewas, M.P. from June 2020 to May 2021 keeping in consideration the original guidelines issued by the Government during the inception of the programme. The guidelines were revised during the follow up period in the study.

A pilot study was conducted at an NRC other than those selected for the study to pre-test the interview schedules and observation checklists. Records of anthropometric indicators of the admitted children were reviewed to observe the effect of nutritional intervention measures at the selected NRCs. Weight at the time of admission, discharge and daily weight were recorded from the NRC registers. The average weight gain was calculated for the admitted children to see if it is in accordance with the available guidelines. Mean weight at admission and discharge was calculated and appropriate statistical tests applied to ascertain if there was a significant improvement in the weights of the admitted children.

Inclusion Criteria

Of the admitted children those staying at the NRCs for a minimum duration of one week were included for further analysis on anthropometric indicators.

Exclusion Criteria

Children leaving the NRC without the consent of the NRC staff were excluded from further analysis on anthropometric indicators.

3. RESULTS

Table 1: Age wise distribution of the study subjects (n=50)

Sr.no	Age group	Boys	Girls	Total	Percent
1	0-6 months	01	03	04	08%
2	7-12 months	03	05	08	16%

3	13-24 months	09	11	20	40%
4	25-36 months	06	04	10	20%
5	37-48 months	04	02	06	12%
6	49-60 months	02	02	04	08%

40% study participants were in the age group of 13-24 months (09 boys and 11 girls) and 20% were in the age group of 25-36 months (06 boys and 04 girls). The mean age duration for the entire group was 23.95 ± 13.68 months that for boys was 26.29 ± 13.18 months while for girls it was 21.75 ± 13.94 months.

Table 2: Caste wise distribution of study subjects (n=50)

Sr.no	Caste	Boys	Girls	Total	Percent
1	General	02	03	05	10%
2	Other Backward Classes (OBC)	05	08	13	26%
3	Scheduled Caste (SC)	11	09	20	40%
4	Scheduled Tribe (ST)	07	05	12	24%

- 40% of the study population belonged to the Scheduled Caste (SC) group and 26% each to the Other Backward Classes (OBC) and 24% Scheduled Tribe (ST).

Table 3: Association between Initiation of Breast Feeding and the type of Birth procedure

Sr. no	Initiation of Breast Feeding	Birth procedure		Total
		Normal delivery	Cesarean section	
1	0-1 hour	16	00	16
2	1-24 hours	21	01	22
3	24-48 hours	02	03	05
4	> 48 hours	05	02	07
		44	06	50

$$\chi^2=15.043, p=0.002$$

16 out of 44 children born by normal delivery (32%) had received breast feeding within one hour of birth while none of the 6 children born via cesarean section had been started feeding within first hour of birth. A significant association was obtained between the type of birth procedure and initiation of Breast Feeding ($\chi^2=15.043, p=0.002$)

4. DISCUSSION

The study group comprised of 48 boys and 52 girls, 91% of them belonged to the Schedule Caste (41%), Schedule Tribe (25%) and Other Backward Classes (25%) population subgroups. 99% of the families of the belonged to Social Class V and VI (Poor and Below Poverty Line) as per modified Prasad's scale (87). 54% of the fathers and 72% of the mothers of the admitted children were illiterate, 18% and 12% of them had received education up to primary school, only 14% of fathers and 6% mothers had received education up to and above Higher secondary school level. 58% of the parents were employed as daily labourers[6].

Studies have revealed inconsistent colostrum feeding in our society. While some studies reveal colostrum feeding rates as high as 80-95% (95, 96) studies also report high rates of discard and non-use of colostrum. A study by Srivastava et al among 100 women reported that 82.89% women had discarded colostrum[7]; similarly Singh et al [8] revealed discard rates of 77%. A study conducted among 28, 630 households reported that half of the women had discarded colostrum on the advice of elders [9]. Colostrum is the initial breast secretion and considered to be nutritionally rich that provides natural immunological protection to the child. It is a complex food which provides all components necessary for infant growth, health and development. Faulty practices, traditions and myths have to be done away to achieve universal feeding of colostrum emphasizing on improved Interpersonal Communication.

5. CONCLUSION

Child malnutrition is the most pressing problem of the world, damaging to both children and nations. During 2000-07 more than 25% of the world's children under the age of 5 years were underweight for their age, the proportion ranging from 1% in the developed countries to 26% in the developing nations. India accounts for nearly 60 million underweight children. The number of severely malnourished children decreased significantly at the time of discharge as compared to admission; still a number of children were still in the high risk group at the time of discharge.

6. REFERENCES

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