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Does Anganwadi make a difference in the nutritional status of children?

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ABSTRACT

ICDS centres, commonly known as Anganwadi Centres (AWC) started in the year 1975 mainly to fulfil the nutritional requirement of children along with essential integrated health services. The objective of this research is to know "how Anganwadi centres are working for improving the nutritional status among children". The secondary data collected through National Family Health Survey is used to analyse the effectiveness of Anganwadi Centres on child nutrition. Both bivariate and multivariate analyses have been carried out for this paper. Over the years, the proportion of children accessing supplementary food from the Anganwadi/ ICDS has been declined. Further, recent data shows that percentage of children receiving food is high among the poor households as compared to better-off households. However, the results of both bivariate and multivariate analyses show that there is no substantial difference in nutritional status of children between ICDS-covered and non-covered areas. There is no significant positive impact of supplementary nutrition through Anganwadi Centres on malnutrition status of children. Therefore, government should take steps for regular monitoring to ensure quality services through the Anganwadi centres. Then only, all the children will access adequate supplementary food and that would definitely make a change in the nutritional status of children.

Keywords: *Nutrition, Anganwadi, Children, Supplementary Food*

1. BACKGROUND

India has made remarkable progress in economic front since last two decades. However, the nutritional status of children has not improved as expected with rapid economic development even if there are many policies to improve nutritional status of children. ICDS is one of the most important supplementary nutrition programmes for children below six years to improve the nutritional status. It is expected that if all children access supplementary nutrition from the ICDS/ Anganwadi centres, then it will fill the unmet need for nutrition among children. But persistent high level of under-nutrition among children below six years reveals that the programme may not effective. However, the findings from earlier studies give mixed result.

Different studies show different results on the effectiveness of the Anganwadi centres. One study covering rural, urban and tribal areas in multi-states shows that, the reduction in prevalence of severe malnutrition is comparatively more significant in Anganwadi covered population than in other population group [1].There has been an improvement in the nutritional status of children living in rural, urban and tribal areas and in those belonging to depressed sections of the community. Another study argued that, the benefit of the supplementary nutrition is seen to be limited in very young children. Their attendance at AWC and intake of supplementary nutrition are poor [2] . Improper storage facilities, poor quality and shortages of supplementary nutrition, erratic food supplies, bad communication, pilferage and other such logistic problems in certain states have been noticed and it require corrective administrative measures.

There are program gaps in the coverage of supplementary nutrition in rural Anganwadi areas, particularly its regular supply to children, pregnant and lactating mothers [3]. NITI Aayog study on the quick review of AWC shows that, 31% of AWCs are not intervening on children's malnutrition, which is one of the most important objectives of the programme [4]. The programme aims to provide morbidity treatment along with supplementary nutrition, so that the programme will make a better impact in the nutritional

status of children. The literature shows, morbidity and mortality have been found to be higher in non- Anganwadi areas, and declines have been observed in Anganwadi areas [5] . The incidence of vaccine preventable diseases was not found to have declined in Anganwadi areas, despite increased immunization. NITI Aayog report in 2014 highlighted that, 23% of AWCs do not have the required medicines for the children. It indicates, the Anganwadi centres are not functioning as per the provisions.

National Family Health Survey-5 depicts a picture of the government's indifference to children. This survey captures data of the first five years of NDA government. In 2014-15, Rs. 13000 crore were provided for supplementary feeding which had been reduced to Rs. 11000 crore in 2019-20, which in all likelihood has increased the rate of malnutrition. The health sector's share in the country's budget is not in the line with the needs of the people. During the period 2008-09 to 2019-20, only 1.2 to 1.6 per cent of the GDP has been spent on health services by the central and state governments, which need to be increased. Instead of reducing this amount in every successive budget, it should be increased because the population of the country is increasing continuously. In India, despite substantial funding of its early childhood development program, which has a large supplementary feeding component, levels of child under-nutrition have fallen only slightly [6] . The impact of being included in the program and receiving supplementary feeding is insignificant on child stunting measures, though the program can break the intractable barriers of child stunting only when the child successfully receives not only just the supplementary feeding but also his caregiver collects crucial information on nutritional awareness and growth trajectory of the child [7] . Thus, it is evident that the programme is not working to reduce child under-nutrition in all states. Therefore, we need to inspect "how Anganwadis are working to reduce child under-nutrition in India".

2. METHODS

The study uses fourth and third round of National Family Health Surveys (NFHS) data, which provide the child nutritional status and access to supplementary food through Anganwadi. Three anthropometric measures are used in the NFHS for assessing child nutritional status. Height-for-age, weight-for-height and weight-for-age are collected through NFHS. Weight-for-height for wasting, weight-for-age for underweight and height-for-age is used for measuring stunting. Mostly, under-weight is taken as the measures for under-nutrition status of children. Weight-for-age is a composite index of height-for-age and weight-for-height to measure child nutritional status, which includes both acute and chronic malnutrition. Here we have taken weight-for-age to measure the underweight status of children.

Moreover, different analytical methods are used to show the relationship between nutritional status of children and access to Anganwadi services. The percentage, cross-tabulation and binary logistic regressions are used for the analysis purpose. Binary logistic regression is used to assess the effect of supplementary food on nutritional status of children.

3. RESULTS

The nutritional status of children in India is very poor as compared to other middle-income countries. India is home to 46.6 million stunted children, a third of world's total as per Global Nutrition Report 2018. Nearly half of all under-5 child mortality in India is attributable to under nutrition. Any country cannot aim to attain economic and social development goals without addressing the issue of malnutrition. There is very slow progress in nutritional improvement among children since two decades [8] [9] [10] , , (Table-1). The status of stunting among children has declined by 14 percent point, whereas there is increasing rate of wasted children. The under-weight children were declined by 18 percent over two decades. The current situation on under nutrition calls for in-depth analysis of the different programmes strategy for effective supplementary nutrition programme for children.

Table 1: Trends of under nutrition among children, India

	NFHS-1(1992-93)	NFHS-2(1998-99)	NFHS-3(2005-06)	NFHS-4 (2015-16)
Under-weight	53.4	47.0	42.5	35.7
Stunted	52.0	45.5	48.0	38.4
Wasted	17.5	15.5	19.8	21.0

Therefore, here an in-depth analysis of access to Anganwadi programme among children is discussed. The role of Anganwadi centres in providing supplementary nutrition and its effectiveness on reducing under-nutrition has been analysed below.

4. THE USE AND BENEFITS OF ANGANWADI SERVICES

Third and fourth round of National Family Health Surveys data provide evidences on access to ICDS services among the children below six years. The recent NFHS-4 data shows that fifty four percent of children are receiving any services from the Anganwadi Centres [11] . It indicates, around half of the children are not getting any Anganwadi services in India. There is no much difference in access to services among children belonging to different social groups and economic classes. Overall, forty eight percent of children are getting supplementary nutrition and forty percent of children are getting health check-ups from the Anganwadi programme. Though there is low access to supplementary food and health check-ups among children belonging to general caste and richer section; but the difference is minimal. Sixty four percent of mothers received counselling after the child was weighed at the Anganwadi centres. There is no much difference between social groups and economic classes in receiving counselling after child was weighed.

The pattern of receiving different component of Anganwadi services has been changed since last decade. There are 53 percent of children receiving supplementary food during 2005-06 and it declined to 48 percent during 2015-16 (Table-2). The percent of children getting health check-ups declined from 43% to 40%. However, there is significant increase in percent of mothers (from 29% to 64%) received counselling after child was weighed during the last decade (from 2005 to 2015).
Thus, it may be concluded that in the last decade the access to supplementary food and health check-ups has been declined and counselling for children growth has been increasing. This may happen due to increasing standard of living of people, children are

getting adequate food at their home or the standard of service provision get deteriorated so that children are not coming to the Anganwadi centres for supplementary nutrition. However, with increasing the knowledge about child nutrition and physical growth, mothers are more demanding counselling services from the Anganwadi centres. It indicates, there is changing attitude towards child care among mothers through Anganwadis.

Table-2: Access to different component of Anganwadi services in NFHS-3 and NFHS-4

Types of services received	NFHS-3	NFHS-4
Supplementary Food	52.6	48.1
Health check-ups	43.0	39.7
Counselling after child(0-59 months) was weighed	29.5	63.9

Further disaggregated data shows, Children between 3-5 years are going to Anganwadi centres regularly for early childhood care and education including supplementary nutrition. Only 38% of children are assessing the early childhood care and education in India. It is surprising that, just 20% children (pre-primary age group) are getting food on daily basis from the Anganwadi centres. Children getting food once a week is 10%. Further, around 13% of children are getting food occasionally. It reflects that either the Anganwadi centres are not opening on daily basis or children are not coming to Anganwadi centres regularly. This may be one of the reasons the nutritional status of children is not improving.

The bivariate analysis shows, there is no significant impact of Anganwadi programme on child malnutrition (Table-3). Among the children belonging to low standard of living, 54.1 per cent are undernourished where Anganwadi centres exist as compared to 55.6 per cent without Anganwadi coverage area in India. It is clear that the child under nutrition is not substantially different between the areas covered by Anganwadi centres and the areas not covered by Anganwadi centres.

Table- 3: The percentage of children undernourished in Anganwadi coverage and non-coverage area with reference to standard of living of household.

	AWC Coverage	Low SLI	Medium SLI	High SLI
INDIA	Not covered	55.6	45.2	27.1
	Covered	54.1	45.2	29.3

Note: SLI stands for Standard of Living Index

As the NFHS 4 survey has not collected AWC coverage data, so NFHS 3 data has been used

Overall result from Table-3 reflects that, there was no significant impact of Anganwadi programme on improving children's nutritional status. Further, nutritional status is also influenced by household conditions and socio-demographic factors. This need to be reviewed in detail to know the reason for not using any Anganwadi services among 50% of children. Further, it is also essential to know whether those using Anganwadi services among them less proportionate of children are malnourished as compared to those who are not using. A detailed analysis has been carried out to know the impact of Anganwadi centres on child nutritional status.

5. EFFECTIVENESS OF ANGANWADI

The main purpose of the Anganwadi programme is to reduce child under nutrition. Since the NFHS had obtained measurements of weights and heights for children, the survey data allow us to see if the level of undernourishment varies by availability of Anganwadi in the village/ urban neighbourhood. Here, the percent of children under-weight (weight for age below minus two standard deviations from the WHO international reference population median) is analysed in reference to those who access services and those who don't access the services from the Anganwadi programme.

It is likely that for children those belonging to middle or upper classes, they are getting adequate nutrition at home and presence of Anganwadi centre does not really matter. But among the poor availability of food at homes may not be adequate, where AWC may fulfil their need. In order to see whether Anganwadi makes an impact among children belonging to poor households, an analysis was done only for children belonging to low standard of living households (Table-4).

Table-4: Results of logistic regression analysis showing the effect of Anganwadi on malnutrition among children belonging to low standard of living households, NFHS-4 (2015-16)

	Exp B	Sig	S E
Access to service			
No®			
Yes	1.087	.000	.013
Caste			
Others®			
SC	1.199	.000	.024
ST	1.323	.000	.026
OBC	1.123	.000	.022
Religion			
Hindu®			
Muslim	.942	.004	.021
Others	.870	.000	.037

Place of Residence Urban® Rural	. .998	. .947	 .024
Mother's Education Illiterate® Primary Secondary Higher	 .816 .660 .489	 .000 .000 .000	 .018 .015 .056
Sex of the Child Male® Female	 .972	 .029	 .013
	N=106643, R^2= 0.012, -2 Log likelihood= 132938.75		

After keeping other socio-economic factors constant, the existence of Anganwadi centres shows the difference in nutritional status of children (Table- 4). NFHS-4 data shows that, the children who access the services they are more under-nourished as compared to those who don't access the services. But the difference is very minimal.

Thus, Anganwadi has not brought positive impact on the nutritional status of children particularly belonging to poor households. The provision of services may not as far with the standard, so that it has negative impact on nutritional status among the children. This calls for urgent action by the government for proper monitoring of the Anganwadi centres.

6. CONCLUSION

The presence of Anganwadi centres is not effective in reducing under nutrition among children. Access to supplementary nutrition is very low as per the NFHS-4 data. The access to supplementary nutrition among the under-nourished children on regular basis can make a positive impact. There is adequate calorie and protein provided through this supplementary food. This can address the unmet need for nutrition, which is arising from the home food. Slightly higher proportions of children belonging to deprived groups are accessing the food on regular basis as compared to other castes. This may be due to food shortage at the households; children belonging to deprived groups are coming to Anganwadi centres regularly for the food.

The bivariate & multivariate analysis result shows that, there is no difference in under-nutritional status of children who access the supplementary food and who don't access the food. Further, an in-depth analysis has been done to assess the impact of supplementary nutrition on nutritional status of children in poor households, as they have thrust of need for supplementary food. The result reveals that, there is no significant difference in nutritional status between those access and those who don't access food from Anganwadi among children belonging to poor households. Thus, there is no direct impact of Anganwadi centres on child malnutrition.

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