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Original Research Article

Situational analysis of undernutrition and selected infant and young child feeding practices (IYCF) in young children of Somanath Gir, Gujarat

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ABSTRACT

Background: Undernutrition in young children is a cause of concern, maternal education, and IYCF practices, lack of nutrition knowledge are some of the key aspects for poor nutritional status of young children.
Objectives: To assess themagnitude of under nutrition and IYCF practices of young children (3-5 Y) of Somnath gir, Gujarat.
Methodology: 120 mother and child pairs were randomly enrolled from the selected Anganwadi centers and preschool oSomnath gir f . Information on socioeconomic aspects,IYCF practices were elicited from mothers of young children through pre tested semi structured questionnaire. Height and weight and MUAC of these children were measured using standard methods.nutritional status was assessed using WHO growth standard 2006.
Findings: Sixteen percent of the households had Below Poverty Card (BPL) 70.8% were other backward class. The educational attainment was limited for respondent mothers. Around 2.5 percent of the surveyed mothers never attended schools, and 45.8 percent had attended until grade 7. 57 % of the children were male. The overall stunting prevalence among children less than 60 months of age in the survey areas was 11.1 percent (<-2SD). As per MUAC cut-off for children, only 1.39% are at higher risk between 37-60 months of age. (MUAC <11.5cm). One-half of the children were breastfed immediately after the birth, and 48.3% children were breastfed within one hour of the birth. Only 64.2% children were given colostrum (yellow milk) which is known as “Immunity booster for the child”. Eighteen percent of the children were fed with pre-lacteals. Breastfeeding till the completion of 6 months were attained by 95.8% children. 78.3% children mothers’ reported the initiation of complementary feeding at right age i.e. after completion of 6 months of age. Conclusion: Under nutrition in young children needs to be prevented. Mothers of young children needs to be sensitized for optimal IYCF practices.

1. Background

Undernutrition in young children is a cause of concern, maternal education, and IYCF practices, lack of nutrition knowledge are some of the key aspects for poor nutritional status of young children. The children who are not growing well are the victims of the three strands of the triple burden of malnutrition that is rapidly emerging in communities around the world, including in some of the world’s poorest countries like India, Bangladesh, and Pakistan etc. (UNICEF 2019).[1] Appropriate breastfeeding and complementary feeding practices in the first 2 years of life are conduits for good nutrition, offering protection against both undernutrition and overweight in the short and longer terms. International recommendations for breastfeeding

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and complementary feeding, known collectively as infant and young child feeding (IYCF), were operationalized by WHO/UNICEF for use in nutrition surveys (Daelmans, Dewey, Arimond, & Working Group on Infant Young Child Feeding Indicators, 2009).[2] Environmental influences, mainly the diet, are directly involved in the normal preschool development. A good nutritional status reinforces normal childhood development, meanwhile, malnutrition problems reinforces abnormal growth development including underweight, stunting and wasting. A change from breast feeding or supplementary formula into a steady diet of semisolid foods occurs during the preschool years. Preschool children are the most affected age group for any malnutrition problems being the vulnerable group within the community. The amount of food, quality of the food and food habits (likes and dislikes) are the key components for the normal physical development, cognition and school performance among preschool children. The rapid rate of growth during infancy must be matched with adequate food intake, the child (two years to six years of age). Malnutrition is largely a treatable condition. Therefore, prompt identification, prevention and treatment is vital. (WHO 2014).[1–6]

Factors that affect the of under nutrition in children are:

1. Maternal factors (mothers health, mother education,)
2. Societal factors (economic category, caste, religion)
3. Children's factors (age, gender, morbidity profile IYCF practices)
4. Family factors (types of family, birth order)

2. Objectives

The broad objective of the study was to assess the prevalence of undernutrition and its associated factors among preschool children in Somnath gir district.

2.1. Specific objective of the study were

1. To prepare check list for collection of information
2. To examine child and under nutrition from its physical factor
3. To study effect of maternal factors on under nutrition of child
4. To study effect of children factors on under nutrition of child
5. To study effect of family factor on under nutrition of children

3. Materials and Methods

Study was carried outin Somnath Gir. 120 mother and child pairs were randomly enrolled from the selected Anganwadi and preschool centers of. Somnath Gir Information on socioeconomic aspects, IYCF practices were elicited from mothers of young children through pre tested semi structured questionnaire. Height and weight and MUAC of these children were measured using standard methods. Nutritional status was assessed using WHOcgrowth standard 2006.[2]

4. Findings

Table 1 depictsthe Socio-demographic composition of the surveyed households. Sixteen percent of the households had Below Poverty Card (BPL) for availing the food grains from the Public Distribution System (PDS) under the National Food Security Act (NFSA). Eleven households surveyed (9.2%) were scheduled tribe. Additionally, 70.8% were other backward class (OBC), Nineteen percent were of General category, and as low at 0.83% were Schedule Caste. In total, 23.3% of the household had a nuclear family against 56.2% of rural India (NFHS 4). In comparison, 76.7% consist of a non-nuclear family from which 92 households had Joint family (an extended family, typically consisting of three or more generations and their spouses, living together in one roof and sharing their living expenses). The economy of the selected households is dependent on the Male occupation as 91.7% of mothers are engaged in household work whereas others mothers had government job (8.83%) or were self-employed (2.5%). The educational attainment was limited for respondent mothers. Around 2.5 percent of the surveyed mothers never attended schools, and 45.8 percent had attended until grade 7. Only 10.8 percent of the respondent's mothers completed graduation and post-graduation (5%). A tiny percentage of fathers (3.3 percent) reported working as a farmer labourer. While almost one-half of all fathers reported being a self-employed, a large percentage (50.8 percent) and 22% engaged in private job.

Over 75 percent of the respondents reported their religion like Hindu, while only 25 percent of the respondents were Muslim. 57 % of the children were male.

Table 2 Shows the distribution of the children in the surveyed population by age. Sixty percent of the total children were between 37-60 months, and an additional 40 percent were aged 6-36months. A little over half of the children (6-60 months) in the surveyed households were male. Children's weight, height, and MUAC measurements were used to derive nutritional status by comparing each child's anthropometric measurements to 2006 WHO child growth standards reference for his/her age and gender. It is presented in Tables 3 and 4.

The overall stunting prevalence among children less than 36 months of age in the survey areas was 6.25 percent (<-2SD).In our survey, 6.25 percent of children aged 6-36 months are severely stunted (<-3 SD).The overall stunting prevalence among children less than 60 months of age in the survey areas was 11.1 percent (<-2SD).In our survey, 8.3 percent of children aged 37-60 months are severely stunted (<-3 SD).

The overall prevalence of underweight is 2 percent (<-2SD), among children 6-36 months of age. Underweight (8.3%, <-2SD) children were ascertained more between 37-60 months' young children. MUAC of 120 children was obtained. Nutritionally as per MUAC cut-off for children, only 1.39% are at higher risk between 37-60 months of age. (MUAC <11.5cm)

The Table 5 shows theInfant and young child nutrition practices. One-half of the children were breastfed immediately after the birth, and 48.3% children were breastfed within one hour of the birth. Only 64.2% children were given colostrum (yellow milk) which is known as "Immunity booster for the child". Eighteen percent of the children were fed with pre-lacteals. Breastfeeding till the completion of 6 months were attained by 95.8% children. 78.3% children mothers' reported the initiation of complementary feeding at right age i.e. after completion of 6 months of age. All the children were enrolled at AWC and were immunized. Majority children (97.5%), were fully immunized. All children were regularly weighed at AWC

5. Discussion

The health of citizens, children and youth is of prime importance for any country as they build the base of future civilization and the future of a country. Without ensuring optimal child growth and development efforts to accelerate economic development significantly will be unsuccessful. Good nutrition is an essential requirement for good health. Undernutrition in children is the most serious and preventable conditions in the world especially in developing countries like India. It is not only an important cause of childhood mortality but also of mental growth. Infant and young child feeding (IYCF) practices which includes breast feeding and complementary feeding practices are primary determinants of healthy growth and development of children.

5.1. National prevalence

Data reported in the Factsheet of National Family Health Survey (NFHS-4, 2015-16),[3] the children under 5 who are stunted is 38.4% and has decreased 10% (i.e. 48%) in span of 10 years (NFHS-3).[3] Chronic long time deficiency leads to stunted children. Children (under 5 years) who were wasted is 21% and who were severely wasted is 6%. Data reflected 36% children (under 5 years) were too thin for their age (Underweight)

5.2. Regional prevalence

The graph illustrates the trends of undernutrition in India, Gujarat and Junagadh (Figure 1)

As observed Stunting rates are high, this has long-term effect on physical and cognitive health. Although the stunting rates are comparatively lesser than Asia (55%).

Table 1: Socioeconomic information

Particulars	**N (%)**
Sex of the child	
Male	68 (56.67)
Female	52 (43.3)
Age of the child (in months) (mean)	38 months
Religion	
Hindu	90 (75)
Muslim	30 (25)
Christian	0
Sikh	0
Any other	0
Economic Status	
APL	100 (83.3)
BPL	20 (16.67)
AAY	0
Social Category	
General	23 (19.2)
ST	11 (9.2)
SC	1 (0.83)
OBC	85 (70.8)
Any other	-
Total monthly income of the family	
Less than ₹5000	4 (3.33)
₹5000 to ₹10000	19 (15.8)
₹10000	-
Above ₹10000	97 (80.8)
Type of Family	
Joint	92 (76.7)
Nuclear	28 (23.3)
Extended	0
Education Status of Father	
Primary	29 (24.2)
Upper primary	27 (22.5)
Secondary	27 (22.5)
Higher Secondary	15 (12.5)
Graduate	14 (11.67)
Post Graduate	7 (5.83)
PhD	1 (0.83)
Diploma	0
Any other	0
Education Status of Mother	
Primary	55 (45.8)
Upper primary	10 (8.33)
Secondary	27 (22.5)
Higher Secondary	8 (6.67)
Graduate	13 (10.8)
Post Graduate	6 (5)
PhD	0
Diploma	0
Illiterate	3 (2.5)
Occupation of Father	
Private Job	24 (20)
Government Job	1 (0.83)
Farm Labourer	4 (3.33)
Self-Employed	61 (50.8)
Business	29 (24.2)

Table 1 Cont.....	
Any other	3 (2.5)
Occupation of Mother	
Government Job	7 (5.83)
Agricultural Labourer	0
Farm Labourer	0
Business	0
Housewife	110 (91.7)
Self-Employed	3 (2.5)
Any other	0

Table 2: Age and sex wise distribution of children

	Male n (%)	Female n (%)
6-36 months (n=48)	21 (43.8)	27 (56.3)
37-60 months (n=72)	46 (63.9)	23 (31.9)

Table 3: Anthropometric meassurementof children (6-36 months)

Particulars	Average n (%)
Severe Stunting (Height/Length-for-age) (N=48)	3 (6.25)
Moderate Stunting (Height/Length-for-age) (N=48)	3 (6.25)
Mild Stunting (Height/Length-for-age) (N=48)	9 (18.8)
Severe Undernourished (weight-for-age) (N=48)	0
Moderate Undernourished (weight-for-age) (N=48)	1 (2)
Mild Undernourished (weight-for-age) (N=48)	6 (12.5)
Severe Wasting (Height/Length-for-age) (N=48)	3(6.25)
Moderate Wasting (Height/Length-for-age) (N=48)	6(12.5)
Mild Wasting (Height/Length-for-age) (N=48)	12(25)
MUAC (cm) (N=48)	
<11.5	-
11.5 – 12.5	5 (10.4)
>12.5	43 (89.6)

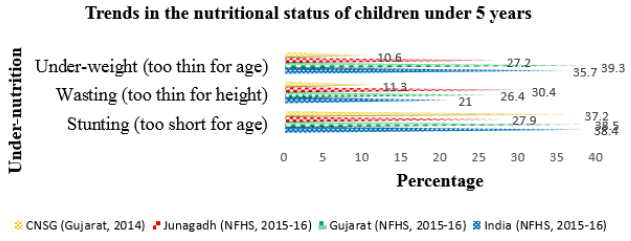

Fig. 1: Trends in the nutritional status of children under 5 years (Source: CNNS[3] Factsheet, 2014 and NFHS Factsheet, India, Gujarat and Junagadh: 2015-16)

Table 4: Anthropometric meassurementof children (37-60 months)

Particulars	Average n (%)
Severe Stunting Height-for-age (N=72)	6 (8.3)
Moderate Stunting Height-for-age (N=72)	8 (11.1)
Mild Stunting Height-for-age (N=72)	20 (27.8)
Severe Undernourished (weight-for-age) (N=72)	0
Moderate Undernourished (weight-for-age) (N=72)	5 (6.9)
Mild Undernourished (weight-for-age) (N=72)	25 (34.7)
Severe Wasting (Height-for-age) (N=72)	3 (4.2)
Moderate Wasting Height-for-age (N=72)	4 (5.6)
Mild Wasting Height-for-age (N=72)	15 (20.8)
MUAC (cm) (N=72)	
<11.5	1 (1.39)
11.5 – 12.5	2 (2.8)
>12.5	69 (95.8)

Table 5: Infant and young childnutrition

Particulars	N (%)
Initiation of breast milk to the child	
Immediately after birth	61 (50.8)
Within 1 hour of birth	58 (48.3)
Any other	1 (0.83)
Pre-lacteal given to the child	22 (18.3)
Colostrum given to your child	77 (64.2)
Was child given only breast milk till completion of 6 months?	115 (95.8)
At what age complementary feeding was initiated to your child	
After completion of 6 months	94 (78.3)
Starting of 6 months	26 (21.7)
Any other	
First food item given to child at the initiation of complementary food	
Cereals (n=120)	82 (68.3)
Pulses (n=120)	66 (55)
Does your child go at AWC?	120 (100)
If no, reason for not going at AWC	-
Was your child immunized?	120 (100)
If, yes then how was it immunized?	
Fully immunized	117 (97.5)
Partially immunized	3 (2.5)
Incomplete immunized	-
Do you regularly weight your child?	120 (100)
If, yes at which place?	AWC (all 120)

Comparatively Narmada's wasting prevalence is high than India and Gujarat (27% underweight, 30% wasting and 28% stunting) under 5 years children. It is evident from the graph that India and Gujarat under nutritional status is more or less same.

Ahmad et al. (2016)[7] did a formative research in Indonesia. A cross-sectional study with the sample size of 392 children aged 6-23 months. They reported prevalence of children who were underweight (26.3%), wasting (22.5%) and stunting (27.8%). The prevalence of underweight and stunting were higher among boys at the age of 12-23 months while wasting was higher among girls at the age of 6-11 months. (Sharma et al., 2006)[8] found that the prevalence of nutritional status of 1 to 5 years, 123 (62 boys and 61 girls) children were enrolled of tribal community (Raj Gond) of Madhya Pradesh. High prevalence of underweight children (37.4%), stunted children (46.3%), wasted children (41.5%) and Low MUAC (50.4%) was found by the authors. The result revealed that different grades of malnutrition were seen more in boys than girls.

Pre-school children nutritional status was assessed of 27 out of 197 tribal villages of Madhya Pradesh (Gond tribe). Total 1022 children of 1-5 years were examined. The study highlighted high prevalence of stunting in the children with 51.6%, wasting 32.9% and more than sixty percent of the children had less weight as per their age. (Rao, et al., 2005).[1] (Ratnu in 2012)[9] conducted a community based cross sectional study in Junagadh district of Gujarat on 0-5 years of children (total 459). The study estimated more than half of the children suffered from any kind of undernutrition (58.2%) and 27.9% severe undernutrition. The study spotlighted prevalence of stunted and wasted children was 49% and 10.7% respectively. Whereas prevalence of less weight per age was 26.4%. Surat region of Gujarat covering with rural and urban areas were taken to examine the under 5 years of children using systematic random sampling method. Total 3133 children were assessed. The study calls attention to the prevalence of underweight, stunting and wasting was 44%, 39% and 22.5% respectively. Also the prevalence was significantly ($p<0.01$) higher among rural children (46.7%, 40.3%, & 23.7% respectively) as compared to urban children (32%, 32.5% & 16.4% respectively). (Meshram II, Rao, Reddy et al., 2016)[7–13]

A crosssectional study conducted in urban slums of Jamnagar. The study revealed prevalence of malnutrition seen in the half of the children (54%) between 1 and 5 years of age. Of them, majority of them were in malnutrition grade-I (26.22%), followed by grade-II (21.33%) and grade-III (6.45%). It was also observed by author that prevalence of malnutrition was higher in female children compared to male children (statistically significant). (Damor et al., 2013)[11]

6. Conclusion

It can be included that under nutrition is prevalent in young children of Sonmath gir**.**IYCF practices are also suboptimal. There is aneed to sensitize mothers of young children about optimal IYCF practices and effective utilization of Anganwadi services.

7. Source of Funding

None.

8. Conflict of Interest

None.

References

1. Rao VG, Yadav R, Dolla CK, Kumar S, Bhondeley MK, Ukey M, et al. Undernutrition & childhood morbidities among tribal preschool children. *Indian J Med Res*. 2005;122(1):43–7.
2. Ramachandran P, Hema HS. Assessment of nutritional status in Indian preschool children using WHO 2006 Growth Standards. *Indian J Med Res*. 2006;134(1):47–53.
3. National Family Health Survey(2015-16) and NFHS 3 by Indian Institute of Population Sciences; Maternal and Child Health Indicators. Available from: http://rchiips.org/nfhs/.
4. UNICEF -State of Worlds Children Report; 2019. Available from: https://www.unicef.org/coronavirus/COVID-19-pandemic-scarred-world-children.
5. UNICEF Malnutrition report; 2006. Available from: https://data.unicef.org/topic/nutrition/malnutrition/.
6. Global nutrition targets 2025: policy brief series (WHO/NMH/NHD/14.2). Geneva: World Health Organization; 2014. Available from: https://www.who.int/publications/i/item/WHO-NMH-NHD-14.2.
7. Ahmad A, Madanijah S, Dwiriani CM, Kolopaking R. Complementary feeding practices and nutritional status of children 6-23 months old: formative study in. *Nutr Res Pract*. 2018;12(6):512–20. doi:10.4162/nrp.2018.12.6.512.
8. Sharma B. Nutritional Status of Preschool Children of Raj Gond - a Tribal Population in Madhya Pradesh. *India Mal J Nutr*. 2006;12(2):147–55.
9. Apurvadan, Ratnu N. Institute for Medical Sciences and Technology Thiruvananthapuram, Kerala, India ; 2012.
10. Comprehensive National Nutrition Survey 2014 Gujarat state; 2018. Available from: https://nhm.gov.in/WriteReadData/l892s/1405796031571201348.pdf.
11. Damor RD, Pradeep P, Lodhiya KK. A study on assessment of nutritional and immunization status of under five children in urban slums of Jamnagar city; 2013. p. 35–9.
12. Daelmans B, Dewey K, Arimond M. New and Updated Indicators for Assessing Infant and Young Child Feeding. *Food Nutr* . 2009;30(2):1–26.
13. Meshram II. Prevalence of Under Nutrition and its Predictors among Under 5 Year Children in Surat Region. *J Clin Nutr Diet*. 2016;2:2.

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