

## **Nutritional Status of Children Living in Orphanages in District Budgam, J&K**

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**ABSTRACT:** *The practice of placing deprived children having minimum or no emotional and material resources, in orphanages has since long been prevailing in socio-economically poor Asian countries. A sample of 100 children residing in three different orphanages in district Budgam in the age group of 10-15 years were selected for the present study. Most of the children were found socially disturbed. With respect to weight for age as per IAP classification the situation was not that bad as 84 percent of the children were found to be normal. Similarly height for age as per Waterloo's classification revealed that more than half of the children were normal. On clinical examination 47% of children were normal, while as rest were suffering from discoloration of hair, moon face, oedema, conjunctival xerosis, xerosis of skin, cheilosis, magenta tongue, spongy bleeding gums, and mottled dental enamel. Results indicated that dietary intake was deficient for all nutrients when compared to RDA for all age groups which may be linked to poor planning of menus in orphanages.*

**Keywords:** *Orphanage, orphans, nutritional status, dietary intake.*

### **I. INTRODUCTION**

An orphanage is an institution dedicated to the care and upbringing of children who have lost their parents. Historically, such institutions were quite prevalent in Western societies in the past.

More than 50 years of research provides convincing evidence that the type of institutional care provided in western countries has a detrimental effect on cognition, behavioural, emotional and social development of young children. But in some poverty stricken countries it has been observed that the children in orphanages have better chances of cognitive development, when the children were encouraged to participate along with the staff in the decisions that influenced them in the institutions. It is possible that when managerial skills are fuelled by education and understanding, orphanages can provide a humane social environment that offers a close and stable relationship between members. With regards to growing up in an orphanage, recent studies from Africa suggest that the children who grow into adults in orphanages have remarkably well long-term like adaptations. Most recent studies on children in conflict zones have stressed that children can survive traumatic situations if they feel cared for.

While they may provide some of the nurture, typical institutions do not provide the holistic care that children are entitled to for all round development. Research has shown that children in institutions lack basic and traditionally accepted social and cultural skills to function in their societies; have lower levels of educational attainment; have problems adjusting to independence after leaving the orphanage, lack basic living skills; have more difficulties with relationship, lack parental skills and some of them often have a misplaced sense of entitlement without a parallel sense of responsibility (Powell 1999; Wright 1999).

Children raised in institutions struggle to be accepted or fit into traditional rituals and ceremonies as well as contracts and alliance arrangements. The feelings of ostracism these situations engender, further adversely affect psychological and emotional well being. It may also be the case that children raised in institutions may likely look down upon their own communities as being inferior after getting used to the trappings of an institution especially the kind that provides a materially high, western standards of care (Powell 1999).

Most common problems faced by orphans include loss of home, high dropout rate from school, lack of health care and problems with immunization, social downfall, child labours and drug abuse.

It has been seen worldwide that every person, every family, every institution recognizes the need for looking after its children. Particularly orphans, destitute or abandoned children who are looked after primarily through child care institution run by government and non-government organization and in some cases through fosters families.

There has been shown differences in nutrition related problems such as Protein Energy Malnutrition (PEM), Vitamin A and B Complex deficiencies, iron deficiency anaemia and iodine deficiency disorders between children who are living with their families and children who are living in institution run by government and non-governmental organizations.

Motivational difference between socially competent and incompetent children have also been reported and found that rejected children are less focused on relational outcomes than non-rejected children.

After the independence the government of India has launched number of schemes for welfare of orphan and destitute children. Such as “Scheme for welfare of orphan and destitute children” The sole motive of this program is to prevent destitution of children. Under this provision the destitute and orphan children are provided shelter, in order to provide good healthy atmosphere and good nutrition.

As a result of long term chronic violence in Kashmir, the number of orphans has increased markedly from last twenty years. According to UNICEF there are over 100,000 orphans in Kashmir.

United Nation Emergency Fund with its abiding concern of health and well-being of children, particularly those living under deprived conditions, proposed a series of systematic studies to be undertaken under the auspices of different research agencies including the social welfare ministry, government of India. The present study is a humble effort to generate relevant information and data on health and nutritional status of destitute children living in the establishments run by the state as well as voluntary bodies in Srinagar city.

## **II. OBJECTIVES**

- To generate relevant information and data on health status of children living in orphanages.
- To access the nutritional status of the orphans living in different institutions of Budgam City.
- To compare the nutritional status of orphans with standard growth chart and RDA.

## **III. REVIEW**

Muller and Abbas (1990) found that orphaned children face many related risks including child labor. Children living with sick parents, even before they are orphaned, may be pulled out of school to engage in household chores or economic activities. This risk may be particularly more in the case of orphaned girls. Evidence also suggests that the lack of parental protection and supervision may leave an open door for abuse, neglect and exploitation and even violation of rights such as property grabbing.

Case et al (2002) reports that most orphans are placed either in extended families or in fostering households. Yet this communal arrangement, laudable as it is, may come at the cost of consumption shock to households who have taken in orphans. If the households that have absorbed orphans are already poor may translate itself into deeper poverty.

UNICEF study by Deininger et al (2003) reports that orphans are more likely to be stunted in their growth and less likely to be enrolled in school than children living with both parents. Poor nutrition and limited access to health services put orphans at increased risk of starvation, illness and death. Without nurturing from a loving parent or guardian, children’s emotional development may be stunted as well.

Bicego et al. (2003) in their study noted that double orphans were particularly disadvantaged and loss of a mother was more detrimental for schooling than loss of a father. The disadvantage was more pronounced for primary education than secondary education.

Lindblade et al. (2003) found that fostered children are more likely to be stunted, underweight, and wasted, but the effects are not statistically significant for stunting and wasting. They found that children of HIV-infected parents are significantly more likely to be underweight and wasted than children of non-HIV-infected parents. They also found that boys are more disadvantaged in nutrition, but girls are more disadvantaged in schooling. In sum, they found clear evidence that orphaned and fostered children are disadvantaged in schooling compared with children of non-HIV-infected parents in Kenya. They found no clear relationship between orphan hood and the nutritional status of children, but fostered children tend to be more undernourished than children of non-HIV-infected parents.

A study conducted by Pesce et.al. (1989) does not support the hypothesis that institutional care is systematically associated with poorer wellbeing than community care for OAC aged 6–12 in those countries facing the greatest OAC burden. Much greater variability among children within care settings was observed than among non care settings type.

Van Den et. al. (2010) found that the influence of pre-adoption foster versus institutional rearing seems more pronounced for cognitive and motor development than for physical development and hormonal stress regulation. They suggest that pre-adoption foster care is less detrimental to children’s cognitive and motor development than institutional rearing.

Findings by Sadik (2010) indicate low intake of both micro and micronutrients except protein by orphanage children in Ghana. Nutritional status indicated that 10% and 15% of the children were severely stunted and wasted respectively.

## **IV. MATERIALS AND METHODS**

The present study has been conducted to assess the Nutritional Status of Institutionalized Orphan Boys in the Age Group of 10-15 years in Budgam District of J&K State. The study was carried out in three orphanage schools.

A sample of 100 students was selected randomly from classes 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, and 9<sup>th</sup> of the institutions. The study was conducted on orphan children who were studying and living in orphan institutions. Questionnaire was divided into following categories:

A. General Information

B. Anthropometric Measurements

- **Body Weight:** Weight was recorded in Kilograms using an electronic weighing balance with minimum clothing and without shoes, standing upright with arms hanging on side.
- **Height:** Height of the sample was recorded in centimeters using a height measuring rod. The respondent was asked to stand upright on a firm level ground, against a flat vertical surface without shoes.

C. Dietary Assessment

- **24-Hour Dietary Recall:** To gather information regarding the nutritional intake of the sample 24-hour dietary recall method was used. The food intake during the last 24 hours was recorded in order to obtain the information regarding the intake of calories, proteins, iron, calcium vitamin A (B-carotene) and vitamin C.
- **Food Frequency Method:** The procedure included assessment of the frequency of consumption of different foods-daily, 3 – 4 times a week, weekly, fortnightly, monthly or occasionally. It was also used as a cross validation technique along with 24 – hour diet recall enhancing the quality of dietary data.

D. Clinical Assessment:

In clinical assessment changes in superficial tissues, especially the skin, eyes, hair, gums, nails and in the organs near the surface of the body like the thyroid gland were observed.

## V. RESULTS AND DISCUSSIONS

The findings from the present study are presented as follows:

**Table 1: Distribution of respondents as per Indian Academy Pediatrics (IAP) Classification for Weight for Age.**

Classification	AGE						
	10 Years	11 Years	12 Years	13 Years	14 Years	15 Years	Total
<b>Normal</b>	10	12	15	14	15	18	84
<b>Grade-1-Malnutrition</b>	1	1	6	1	2	2	13
<b>Grade-2-Malnutrition</b>	1	-	1	1	-	-	3
<b>Total</b>	12	13	22	16	17	20	100

The above table reveals that according to weight for age classification of Indian Academy Paediatrics, it has been found that out of 100 orphan students, 84 were normal, 13 had grade-1-malnutrition and 3 had grade-2-malnutrition.

**Table 2: Distribution of respondents as per Waterloo Classification for Height for Age**

Classification	AGE						
	10 Years	11 Years	12 Years	13 Years	14 Years	15 Years	Total
<b>Normal</b>	6	10	12	12	11	10	61
<b>Mild-Malnutrition</b>	2	3	6	3	5	6	25
<b>Moderate Malnutrition</b>	2	-	2	-	1	1	6
<b>Severe Malnutrition</b>	2	-	2	1	-	3	8
<b>Total</b>	12	13	22	16	17	20	100

As far as height is concerned according to Waterloo's classification for Height for Age, it was found that out of 100 orphan students, 61 were normal, 25 had mild-malnutrition, 6 had moderate malnutrition, and 8 had severe malnutrition as is revealed from the above table.

During clinical examination various prominent symptoms among orphan students were found. The important symptoms found were: dis-pigmentation of hair, moon face, oedema, conjunctival xerosis, xerosis of skin, cheilosis, magenta tongue, spongy bleeding gums, and mottled dental enamel. Out of 100 orphans 47% were normal while 53% were suffering from symptoms as shown in table 3.

**Table 3: Distribution of respondents as per the Clinical Examination**

Signs/Symptoms	No of children in different age groups						
	10 years	11 years	12 years	13 years	14 years	15 years	Total
Normal	3	7	10	9	7	11	47
Dis-pigmentation of hair	2	3	1	4	3	6	19
Muscle wasting	-	-	-	-	-	-	-
Moon face	2	3	2	-	-	-	7
Flunky paint dermatitis	-	-	-	-	-	-	-
Oedema	1	-	-	-	-	-	1
Bitots spots	-	-	-	-	-	-	-
Conjunctival xerosis	4	-	6	3	4	-	17
Xerosis of skin	2	-	4	2	1	1	10
Cheilosis	-	2	-	3	1	1	7
Magenta tongue	-	2	5	7	3	2	19
Loss of ankle & knee jerks	-	-	-	-	-	-	-
Atrophic lingual papillae	-	-	-	-	-	-	-
Spongy bleeding gums	4	6	12	4	10	9	45
Open funtanelle	-	-	-	-	-	-	-
Bow legs	-	-	-	-	-	-	-
Knock knee	-	-	-	-	-	-	-
Pale conjunctiva	-	-	-	-	-	-	-
Thyroid enlargement	-	-	-	-	-	-	-
Mottled dental enamel	7	3	4	3	6	-	23

During 24-hour recall method, it was found that orphans were consuming less energy, proteins, fats, vitamins and minerals. It was found that on an average they consumed 1927.45 kcal energy as against RDA of 2100-2600 kcal. They consumed proteins 50.55g/day instead of 60-65g/day as per RDA. They were consuming 11.46 mg of Iron, 469.8 µg of vitamin A and 13.5 mg of vitamin C instead of 28-30mg/day, 600 µg/day and 40 mg/day respectively as per RDA for Indian Children and Adolescents.

**Table 4: 24-Hour Dietary Recall (Average)**

Meal	Menu	Ingredients	Amt. (g)	Energy (kcal)	Protein (g)	Iron (mg)	Vit. A (µg)	Vit.C (mg)		
Morning tea	Tea Chapatti	Milk,	50	33.5	1.6	0.1	26.5	1		
		Wheat flour	40	136.4	4.84	0.016	11.6	-		
Lunch	Boiled rice, dal and salad	Rice,	150	510	9.6	1.5	-	-		
		Rajmah,	75	259.75	17.175	3.825	-	-		
		Onion,	10	4.8	0.18	0.12	1.5	0.2		
		Oil	10	90	0	0	-	-		
		Radish	10	1.7	0.07	0.04	0.3	1.5		
Evening tea	Namkeen tea	Carrot	10	4.8	0.09	0.13	189	0.3		
		Milk,	50	33.5	1.6	0.1	26.5	1		
		Wheat flour	40	136.4	4.84	0.016	11.6	-		
		Dinner	Boiled rice, sabzi and salad	Rice,	150	519	9.6	1.5	-	-
		Potato,		50	97	0.8	3.825	12	8.5	
Onion,	10	4.8		0.18	0.12	1.5	0.2			
Oil	10	90		0	0	-	-			
Radish	10	1.7		0.07	0.04	0.3	1.5			
Total		Carrot	10	4.8	0.09	0.13	189	0.3		
				1927.45	50.55	11.46	469.8	13.5		

The results collected through food frequency questionnaire were found almost similar when compared with 24-hour recall.

## **VI. DISCUSSION**

The practice of placing deprived children having minimum or no emotional and material resources, in large residential institutions like orphanages, institute homes and charity educational institutions has since long been prevailing in socio-economically poor Asian countries. As a result of chronic conflict in many areas and the natural disaster (earthquake) there has been an exponential increase in the number of orphans in Kashmir.

The sample in the present was selected from three orphanage schools of Budgam District. The total strength of sample was 100 of age group 10-15 years.

The children had lost either one parent or both either due to conflict or Kashmir earthquake of 2005. Most of the children were found socially disturbed. Some of the children were found to be irritated while some preferring solitude.

With respect to weight for age it was found that according to Indian Academy Paediatrics' classification out of 100 orphans, 84 were normal, 13 had grade-1-malnutrition and 3 had grade-2-malnutrition which reflects that situation is not that bad in these orphanages. The present study is supported by the findings by Lindblade (2003) who found that there was no clear relationship between orphan hood and the nutritional status of children

Even with respect to height for age as per Waterloo's classification it was found that out of 100 children, more than half (61) were normal, 25 had mild-malnutrition, 6 had moderate malnutrition, and only 8 were suffering from severe malnutrition.

During clinical examination it was found that 47% were absolutely normal, 53% were suffering from dys-pigmentation of hair, oedema, conjunctival xerosis, xerosis of skin, cheilosis, magenta tongue, spongy bleeding gums, and mottled dental enamel. Similar findings have been reported by Shukla and Shukla (2011) wherein it was seen that orphanage children showed signs of skin problems like patches, rashes and infected wounds. 83 percent had dandruff 25% had pediculosis, fifty percent of them had dental caries, 33.50% gingivitis and 57.70 were malnourished.

During 24-hour recall it was found that orphans were consuming less energy, proteins, fats, vitamins and minerals as per RDA for Indian Children and Adolescents. Results indicated that dietary intake of children was deficient for all nutrients when compared to RDA for all the age groups. This may be linked to the poor planning of menus and purchasing procedures found in orphanages. Similar findings have been reported by Otien et al (1999) in their study on orphanage children in Ghana

The results collected through food frequency questionnaire were found almost similar when compared with 24-hour dietary recall.

With respect to personal hygiene 48% were having uncombed hair, 17% had untrimmed hair while as only 35% were having washed and combed hair. 69% had clean eyes, 23% were with dry and red eyes, while as only 18% of them had sparkling eyes. 61% had unclean ears, and only 39% of orphans were having clean ears. 70% of the orphan students were having unclean and untrimmed nails, while as 30% were having trimmed and clean nails. This reveals poor and unhygienic conditions of children residing in these orphanages.

## **VII. CONCLUSION**

The study concludes that the nutritional status of the institutionalized orphan boys of age group 10-15 years of Budgam district was not that bad when compared with different standards. Results indicated that dietary intake was deficient for all nutrients when compared to RDA for all age groups which may be linked to poor planning of menus found in orphanages. The hygienic conditions of these children was also found to be poor

Further in our study it was found that sometimes the children were provided with surplus fruits, energy, and protein rich foods, but sometimes they were not getting even a single fruit for months. It is evident from these observations that if the institutions have a quality residential setup, proper care giving, balanced food and modern education, they will be more effective in meeting the emotional needs of orphans.

## **RECOMMENDATIONS**

- Check nutritional status of orphanage students at least once in a year.
- Increase dietary intake in orphanages by giving high calorie diets and by providing variety in the diet
- The caregivers of the orphanage had no knowledge on the issues related to child nutrition; hence the teachers and administrative departments of the orphanages should take counseling from an expert dietitian.
- Every Kashmiri family is effectively an NGO in its own way. To ensure continued support for orphans, the institutions with sustained support of the whole society needs to initiate efforts to become autonomous.
- The orphanages should establish links with qualified public health nutrition professional that can provide screening, referral and counseling for nutrition and health related problems for both the children and caregivers.
- The management of the orphanage should encourage research to improve the conditions in the orphanage.

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