

Anthropometric Measurements of Kashmiri Pandit Infants (0 – 18 Months)

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ABSTRACT The present study was conducted to analyse anthropometric measurements of 75 Kashmiri Pandit infants between the ages of 0-18 months residing in migrant camps in Jammu, Jammu and Kashmir. Snowball sampling technique was used to select the sample. The anthropometric measurements viz, Length, Weight, Head circumference, Chest circumference and Mid arm circumference were recorded using standard techniques and compared with the ICMR standard. The anthropometric measurements i.e., Height, Weight and Mid arm circumference was higher where as Chest and Head circumference was similar to ICMR standard in case of girls but for boys all measurements were less than ICMR standard. Girls were both heavier and taller except in the age group of 12-18 months. The high degree coefficient of correlation was found between height and weight in all age groups except for 3-6 and 12-15 months of age groups where a low degree correlation was found. In case of Head and Chest circumference a low degree correlation was found in all age groups except for 6-9 months of age where a high degree positive correlation was found.

INTRODUCTION

Anthropometric measurements are useful criteria for assessing nutritional status. It is one of the simplest methods of assessment of growth and development especially in infants. They are concerned with the measurements of the variations of physical dimensions and the gross composition of the human body at different age levels and degrees of nutrition. Certainly the physical dimensions of the body are much influenced by nutrition, particularly in the rapidly growing period of infancy. Selected body measurements can therefore give valuable information concerning certain types of malnutrition in which body size and gross body composition are affected.

Researchers have indicated that anthropometry has become conventional practical tool for evaluating the nutritional profile of populations, particularly of infants and children in developing countries.

The present investigation is a study of anthropometric measurements of Kashmiri migrant infants in the age group of 0 -18 months. Therefore in this paper anthropometric measurements of infants have been obtained and used to assess the growth pattern of infants. The main objective of the present study is to compare the anthropometric measurements of infants with ICMR standard.

MATERIALS AND METHODS

Seventy five infants between the age of 0-18 months of Kashmiri migrant Pandits residing in migrant camps in and around Jammu City (Jammu and Kashmir) were enrolled for the study through snowball sampling technique. Anthropometric measurement i.e., Length / Height, Weight, Mid arm circumference, Chest circumference and Head circumference were recorded using standard techniques. For this purpose, Salter spring scale for weight, infantometer for length and non-stretch fibre glass tape for measuring Head, Chest and Mid arm circumference were used. Statistical tests such as mean, standard deviation and coefficient of correlation was calculated to know the degree of significance.

RESULTS AND DISCUSSION

The data collected on growth pattern of Kashmiri migrant infants is analysed and interpreted with the help of tables under following headings:

1. Basic information about the infant and his family.

2. Anthropometric measurements.

Maximum number of infants i.e. 22.6 percent belong to the age group of 3 – 6 months and minimum number (6.7 percent) belong to the age group of 0 – 3 months. It also reveals that maximum number of infants i.e. 56 percent were female and only 44 percent were male as shown in Table 1.

Table 1: Age and sexwise distribution of infants (N = 75)

Age (in months)	Number of infants		Total
	Male	Female	
0 – 3	4	1	5
3 – 6	9	8	17
6 – 9	4	5	9
9 – 12	4	10	14
12 – 15	9	7	16
15 – 18	3	11	14
Total	33	42	75
Percentage	44	56	

Majority of infants belonged to nuclear families which show that more and more families have shifted from joint to nuclear families. Before migration the trend of joint family system was prevalent but after migration due to the shortage of houses available, the families had to change the old family system. The data also reveals that the strength of the members in joint families was not more than 5 – 7 members who included infants, their parents and their grand parents. From the total number, maximum fathers were graduate followed by undergraduates (24 percent)

whereas 6.7 percent of fathers were postgraduate and only 1.3 percent of them were illiterate. More mothers were uneducated than fathers i.e. 8 percent of mothers were illiterate whereas only 1.3 percent of the fathers belonged to this category.

The mean $\pm$ standard deviations of anthropometric measurements of all children as compared to ICMR standard (Sharma and Vali, 1991) are presented in Table 2, 3. It is evident from the data presented in the Table 2 that the girls were found to be taller and heavier than boys in all age groups except in 12 - 18 months of age. The mean weight of girls was more than ICMR standard except in 12 - 18 months old infants, where as the mean weight was less than ICMR standard in all age groups.

Table 3 indicates that the Head circumference of boys was similar to ICMR standard in all age groups except for 12 - 18 months old infants. In case of girls it was more than the ICMR standard in all age groups except for 12 - 18 months of age. Chest circumference of girls was higher than boys in all age groups. The mean value of chest circumference of all boys and 12 - 18 months old girls was less than the ICMR standard. Mid Arm circumference was slightly less than ICMR standard was for both boys and girls, but overall it was marginally higher in girls.

After the calculation of mean weight and height the coefficient of correlation was calculated.

Table 2: Mean $\pm$ standard deviation of height and weight of infants as compared to ICMR standard

Age (in months)	No. of children	Length / Height (cm)		Weight (kg)	
		Boys	Girls	Boys	Girls
0-6	22	64 $\pm$ 4.6	65.3 $\pm$ 4.4	5.7 $\pm$ 1.1	6 $\pm$ 0.2
6-12	23	71 $\pm$ 2.3(73.9)	74.4 $\pm$ 2.46(72.5)	7.4 $\pm$ 1.3(8.4)	8.5 $\pm$ 3.1(7.8)
12-18	30	76.3 $\pm$ 3.2(81.6)	76 $\pm$ 1.95(8.1)	9.7 $\pm$ 1.1(10.1)	9.0 $\pm$ 0.9(9.6)

Number given in parenthesis indicates the standard of ICMR for Length / Height and Weight.

Table 3: Mean $\pm$ standard deviation of head circumference, chest circumference and mid arm circumference of infants as compared to standards.

Age (in months)	Head circumference (cm)		Chest circumference (cm)		Mid arm circumference (cm)	
	Boys	Girls	Boys	Girls	Boys	Girls
0-6	44.6 $\pm$ 6.6	42 $\pm$ 2.5	39.5 $\pm$ 4.7	40.3 $\pm$ 4.7	12 $\pm$ 1.2	13.8 $\pm$.7
6-12	44.2 $\pm$ 1.8(44.4)*	45.4 $\pm$ 1.4(43.6)*	42.2 $\pm$ 1.6(43.33)*	45.4 $\pm$ 1.4(42.33)*	14.0 $\pm$ 1.1(14.9)**	14.0 $\pm$.86(14.9)**
12-18	43.2 $\pm$ 2.29(45.9)*	43.2 $\pm$ 3.18(45.2)*	43.5 $\pm$ 2.3(45.58)*	44.2 $\pm$ 1.4(45.2)*	14.0 $\pm$.68(15.1)**	14.2 $\pm$ 1.48(14.5)**

Figures given in parenthesis indicate the standard - * for ICMR & ** for Ghosh (1985).

Table 4: Coefficient of correlation between length / height and weight and between head circumference and chest circumference of infants in different age groups

Age (in months)	No. of children	Parentage	Mean		Co-efficient of correlation	Mean		Co-efficient of correlation
			Weight (kg)	Length / Height(cm)		Head circum (cm)	Chest circum (cm)	
0-3	5	6.6	4.7	59	0.984	43	36	0.347
3-6	17	22.6	6.2	57	0.329	44	41	0.280
6-9	9	12	8.2	73	0.757	45	44	0.635
9-12	14	18.6	7.8	74	0.710	45	43	0.436
12-15	16	21.3	9.5	76	0.419	44	43.4	-0.007
15-18	14	18.6	9.2	77	0.535	46	45	0.426

ted between parameters. It was found that there was a positive high degree correlation between weight and height in all age groups, except for 3 – 6 and 12 – 15 months of age, where a low degree coefficient of correlation was found. A low degree of correlation was found in all age groups except for 6-9 months of age where a high degree positive correlation was found. A low degree negative correlation was found in 12-15 months of age.

Therefore, it can be concluded that the anthropometric measurements of Kashmiri migrant infants is comparable to ICMR standard especially in girls and is slightly lower than the standards in boys especially up to the age of 12

months as boys were found to be better off at 12 - 18 months of age.

REFERENCES

- Ghosh, Shanti: *The Feeding and Care of Infants and Young Children*. Pp. . 5 – 15 & 124 – 130. 5th Ed. Voluntary Health Association of India, New Delhi (1985),.
- ICMR Standard cited from Sharma, Rekha and Vali, S.A.: Assessment of nutritional status of children (0-6 years) of urban slums by anthropometry. *Ind. J. Nutr. Dietetics*, **28**: 276 (1991).
- Sharma, Rekha and Vali, S.A.: Assessment of nutritional status of children (0-6 years) of urban slums by anthropometry. *Ind. J. Nutr. Dietetics*, **28**: 276 (1991).