

NATIONAL NUTRITION MONITORING BUREAU

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NATIONAL NUTRITION MONITORING BUREAU

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National Nutrition Monitoring Bureau - 1981 Report

The Indian Council of Medical Research(ICMR) in June 1972 had set up a National Nutrition Monitoring Bureau(NNMB) at the National Institute of Nutrition, Hyderabad, with the following main objectives: 1) to collect on a continuous basis, information on diet and nutritional status of different population groups on representative basis from different parts of the country, and 2) to conduct periodically, evaluation of ongoing national nutrition programmes. In keeping with these objectives, in the year 1981, the bureau through the state units of NNMB continued to collect food consumption and nutritional status data from the sampled* population groups from the states of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Gujarat, Orissa, West Bengal and Uttar Pradesh.

In addition, during the year under report the bureau at the request of Ministry of Social Welfare, Government of India initiated an evaluation study of a major ongoing supplementary feeding programme, viz., World Food Programme assisted Special Nutrition Programme, currently being operated in ten states of the country. The study was undertaken in the states of Bihar, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Uttar Pradesh and West Bengal.

It was initiated in September 1981 and completed in April 1982. The results of the study were published in the form of a special report "WFP assisted Special Nutrition Programme in India - an Evaluation study" (1983).

The present report includes the findings of the diet and nutrition surveys conducted in the calendar year 1981, in rural districts of different states.

R E S U L T S

Coverage

From the states (Table-1) a total of 2940 households (2115 rural and 825 urban) was covered for dietary assessment and 21,562 subjects for nutritional deficiency disorders and anthropometry. It may be noted from the table that the coverage fell short of the fixed target of 500 rural and 250 urban households per state per year. This has been partly due to administrative difficulties such as, staff going on long leave, breakdown of transport, village not accessible etc., and partly due to the NNMB staff being actively involved in training, supervision and monitoring of the field teams of SNP evaluation.

Table-2 gives names of the districts according to four different developmental categories covered in each state and the period (months) during which they were surveyed.

Income status

The distribution of households according to daily per capita income set out in Table-3, indicates that 24% of the households surveyed had an income of less than a rupee. About 37% had per capita daily income below Rs.2/-. The remaining belonged to relatively higher per capita income groups of Rs.2 to 5/- (29.6%) and Rs.5/- or more. (9.5%) .

FOOD AND NUTRIENT CONSUMPTION

Food (Table-4)

Food stuffs consumed by the population surveyed are grouped into conventional food groups and their average intakes were expressed in terms of consumption unit*.

Cereals and Millets

Cereals and Millets formed the bulk of the dietaries in all the states surveyed. Their mean consumption ranged from 483 g. in Gujarat to 653 g. in Karnataka. In general, the consumption levels were higher than the suggested level of 460 g. in the balanced diet (ICMR-1981).

Pulses

Highest average consumption (53 g.) of pulses was observed in the state of Uttar Pradesh followed by Karnataka (42 g.). In the states of Tamil Nadu,

Orissa and West Bengal the consumption level was around 25 g. much below the recommended level of 40 g., while in Andhra Pradesh, Maharashtra and Gujarat the figures were comparable to the recommended level.

Leafy vegetables

Excepting in the states of Orissa and West Bengal where the consumption levels were 44 g. and 32 g. respectively, in all the other states (except Karnataka with 10 g.) it was less than 10 g.

Other vegetables

The average consumption of the other vegetables was found to be highest (94 g.) in West Bengal followed by Orissa (81 g.), Tamil Nadu (73 g.), Karnataka (47 g.) and Uttar Pradesh (38 g.). In the other states, it was around 25 g. The recommended level in Balanced Diet (ICMR-1981) is 70 g.

Roots and Tubers

In the states surveyed, the average consumption of roots and tubers was found to be 50 g. Highest consumption of 110 g. was seen in West Bengal followed by 90 g. in Uttar Pradesh and 59 g. in Orissa. In the rest of the states, their consumption levels were below the average figure of 50 g.

Nuts and Oil seeds

In almost all states the average consumption of nuts and oil seeds was less than 5 g. except in

Karnataka where a consumption of 19 g. of nuts and oil seeds was observed.

Condiments and spices

In general, the consumption of spices and condiments was relatively more in the states of Tamil Nadu, Karnataka, Andhra Pradesh and Maharashtra as compared to others.

Fruits

The average consumption of fruits ranged from 6 g. seen in Karnataka and West Bengal to 82 g. in Orissa. In the states of Andhra Pradesh, Maharashtra, Gujarat and Orissa, fruit consumption levels were more than the average figure of 35 g. while in the rest the levels were very low.

Fish and other flesh foods

Only in the states of Tamil Nadu, Karnataka and West Bengal the intake of fish and other flesh foods was just above 15 g. while in the rest it was less than the average figure of 10 g.

Milk

Highest consumption level of milk (127 ml) was seen in Uttar Pradesh while lowest (17 g.) in the state of Orissa. In all the other states, it's intake was above 60 ml.

Fats and Oils

In general, consumption of visible fat was less than 15 gms. In the states of Tamil Nadu, Karnataka, Orissa and Uttar Pradesh it was less than 10 g.

Sugar and Jaggery

The consumption figures of sugar and jaggery ranged from 5 g. in Orissa to 36 g. in Karnataka.

Nutrients

Table-5 gives the average intake of different nutrients per cu per day in different states.

Energy (Kcal)

The average energy consumption was found to be more than the recommended level of 2400 per cu per day in the four states; Karnataka (2873), Maharashtra (2472), Orissa (2509), West Bengal (2477), while in the other states the intakes were below the recommended level. The lowest intake (2162) was observed in the state of Gujarat,

Protein (g.)

Mean protein intakes were found to be above the RDA level of 55 g. in all the states.

MINERALS AND VITAMINS

Calcium

In general, the average calcium intake was above the recommended level of 400 to 500 mg. However, Andhra Pradesh (345 mg) and Gujarat (323 mg) were the

only states where intakes were marginally inadequate.

Iron

In all the states, the mean intake of dietary iron was found to be more than the recommended level of 24.0mg. per day. The maximum intake of 42.9 mg. was found in the state of Karnataka, while the minimum of 25.2 mg. was seen in Andhra Pradesh.

Vitamin A

In general, the intakes of vitamin-A were far below the recommended level (750 /ug) . The lowest consumption level of 233 /ug was observed in the state of Uttar Pradesh, while the highest level was observed in the state of Orissa (645 /ug).

Thiamine

The highest mean intake of Thiamine (2.43 mg.) was observed in Maharashtra followed by Uttar Pradesh (2.16 mg), Karnataka (1.91 mg) and Gujarat (1.39 mg). In the other states the intakes were below the recommended level of 1.20 mg; the lowest being 0.85 mg. in the state of Orissa.

Riboflavin

In all the states the intake levels were below the recommended level of 1.40 mg. The intakes ranged from 0.70 mg in Andhra Pradesh to 1.26 mg. in Uttar Pradesh.

Nicotinic Acid

The highest consumption of 22.2 mg. was seen in the state of Uttar Pradesh followed by Maharashtra (21.1 mg),

Karnataka (18.3 mg), West Bengal (17.0 mg). In the other states, the intakes were below the RDA of 16.0 mg.

Vitamin C

The only states where the mean intakes were found to be more than the Recommended level of 40 mg were Orissa (81 mg), West Bengal (69 mg) and Uttar Pradesh (41 mg), in the remaining states it ranged from 23 in Gujarat to 37 in Tamil Nadu.

PROTEIN CALORIE ADEQUACY

To determine the adequacy or otherwise of intake of protein and calories, the following procedure was used.

Households wherein the intakes of protein and calories fell below the Mean-2SE of the recommended levels were considered as inadequate. All the households were, thus classified into different categories of protein calorie adequacy and inadequacy. In case of individuals, Mean-2SD levels were used as cut-off point to determine their protein calorie status. The results are presented in tables 6 and 7.

Households

In general, about 16% of the households were found to consume inadequate amounts of proteins, while 39% of the households consumed inadequate calories. Thus, the problem of calorie inadequacy was of larger magnitude as compared to protein

confirming the earlier observation.

When both protein and calories are considered together, it was seen that 60.7% of the households were meeting the requirements while 15.7% were not meeting requirement of these nutrients.

Individuals

Except in the states of Karnataka (13.3%) and Orissa (21.2%) the caloric inadequacy in the other states was more than 40%. The protein inadequacy however, ranged from 2.1% in Uttar Pradesh to 20.3% in West Bengal.

In general, the protein inadequacy was invariably associated with calorie inadequacy. Only in a very small percent of individuals (0.3%) that too only in Karnataka, the protein inadequacy was seen with calorie adequacy.

NUTRITIONAL STATUS

Nutritional deficiency signs

Prevalence of various nutritional deficiency signs by different age and sex groups are provided in tables 8 and 10.

Infants

Infants in general, were free from florid forms of nutritional deficiency disorders. The commonest signs seen were those of PEM namely, emaciation and marasmus. Maharashtra was the only state where the prevalence of Emaciation only seen and it's prevalence

was more than 10%, while in all other states prevalence of emaciation/marasmus was less than 5%. The prevalence of vitamin deficiency signs were not observed.

Preschool children

In general, about 90% of preschoolers were free from clinical manifestations of nutritional deficiencies except in Maharashtra and Orissa where the percentage of such children was 38% and 73% respectively.

In this age group both the forms of PEM namely, kwashiorkor and marasmus were seen in the states of Andhra Pradesh and Maharashtra. However, emaciation was observed in more number of states. Their percentage prevalence varied from 0.8 to 2.3. In Maharashtra very high percent (40.3%) of emaciation was observed.

The signs of vitamin A and B-complex deficiencies were seen in all the states. In Maharashtra (20%) and Orissa (13.1%), the vitamin A deficiency was found to be higher than in other states (less than 10%).

Highest prevalence (18.7%) of B-complex deficiency signs was seen in Maharashtra while in the other states of Tamil Nadu, Karnataka, Orissa and West Bengal its' prevalence was around 5%. In the rest of the states it was less than 2%.

School age (5-12 years)

Except emaciation no other clinical variant of PEM i.e. Marasmus and kwashiorkor was seen in this

age group. Barring Maharashtra in all the other states its prevalence was less than 1%. Signs of vitamin A deficiency were seen to range from 5% in Tamil Nadu to 40.8% in Gujarat, while the signs of B-complex deficiencies were ranging from 4.7% in Andhra Pradesh to 30.3% in Orissa.

In general, the vitamin deficiency signs including dental caries were more prevalent in boys than girls. Adolescents (12-21 yrs) and adults (21 yrs. and above)

The signs of vitamin A and B-complex deficiency and dental caries were the most common conditions seen in the adolescent and adult groups. In general, their prevalence in adolescents tended to be less than in school age groups and more than in adults.

In short clinically, the problem of PEM was seen in younger children, while vitamin deficiencies were increasing seen in age groups beyond preschool age. Their peak prevalence was seen in school age group. The major problem seen in adolescents and adults was of vitamin deficiencies. However, the prevalence was lesser magnitudes compared to school age groups.

ANTHROPOMETRY

The Means and standard deviations of the body measurements namely, height, weight, arm circumference, fat fold at triceps according to age and sex are presented in tables.

The values for all the measurements at all ages, were lower as compared to their counterparts in well-to-do segment of population.

Prevalence of under nutrition in preschool children

Underweight for age has been considered as one of the early and objective signs of PEM. In the present survey the body weights of all the preschool children in different states were expressed as percentage of standard weight (Indian well-to-do) and grouped into different nutritional grades viz. normal, mild, moderate and severe (Gomez's classification). Results of the analysis are set out in tables.

About 15% of children had normal body weights for age and about 5% showed severe degree of weight deficit. The percentage of children suffering from mild to moderate degrees of malnutrition was found to be about 45% and 34% respectively. Uttar Pradesh (1.4%), Orissa (3.4%) and West Bengal (2.1%) and Andhra Pradesh (3.9%) were the states where severe degree of under nutrition was found to be less than 5.0%, while in other states, it was more than 5%.

Comparison of body weight status for age between boys and girls showed, that in general, girls fared better than boys in all the states.

T A B L E S

GLOSSARY OF TERMS/SIGNS USED IN TABLES

*	:	Intake is less than 1 gram/ml
-	:	Zero
NAD	:	Nothing Abnormal Detected
NC	:	Not covered
D	:	Sample size
SD	:	Standard Deviation
CV	:	Coefficient of variation
CU	:	Consumption Unit (based on Calorie Coefficients)
P	:	
+	:	Protein Intake - Adequate
<u>P</u>	:	Protein Intake - Inadequate
C ₊	:	Caloric Intake - Adequate
C ₋	:	Calorie Intake - Inadequate

Table - 1

NNMB - COVERAGE DURING THE YEAR - 1981

State	No. of Households for diet survey				Individuals covered for Nutrition Survey	
	Rural		Urban			
	Weightment	Oral	Weightment	Oral		Total
Kerala	—	—	26	110	136	506
Tamil Nadu	308	77	46	69	500	3,635
Karnataka	244	61	60	90	455	3,533
Andhra Pradesh	296	74	54	81	505	1,671
Maharashtra	204	51	78	82	415	2,982
Gujarat	56	14	20	30	120	844
Orissa	184	46	—	—	230	1,135
West Bengal	208	52	9	12	281	1,983
Uttar Pradesh	192	48	22	36	298	2,273
Total	1,692	423	315	510	2,940	21,562

Table - 2

NNMB - RURAL - DISTRICT SURVEYED DURING THE YEAR 1981

State	Development Category			
	January-March	April-June	July-September	October-December
Kerala	Kottayam ⁺	Kozhikode ⁺	Trichur ⁺	Alleppey ⁺
Tamil Nadu	Ramnathapuram	Nilgiris ⁺	Thanjavur	Thiruchira Pally
Karnataka	Chikmagalur	Dharwar	South Canara*	Mandya ⁺
Andhra Pradesh	Karimnagar	Adilabad	West Godavari ⁺	Mahaboobnagar
Maharashtra	Bhir	Buldana	Nasik ⁺	Ratnagiri ⁺
Gujarat	Junagadh ⁺	Bulsar*	Banaskantha ⁺	Sabarkantha ⁺
Madhya Pradesh	Narasimhapur	Dhar	Durg ⁺	Guna ⁺
Orissa	Sambalpur	Mayurbhanj	Koraput ⁺	Dhenkanal ⁺
West Bengal	Howrah	Darjeeling	Purulia	Coochbehar ⁺
Uttar Pradesh	Raebareli	Shahranpur	Aligarh ⁺	Budaun ⁺

+ Not covered

* Partially covered

Table - 3

NNMB - STATEWISE COVERAGE (%) OF HOUSEHOLDS ACCORDING TO DAILY PER CAPITA
INCOME GROUP - 1981

State	Sample size	Income Group				
		Less than Re.1	Rs.1-2	Rs. 2-5	Rs .5 and more	
Tamil Nadu	385	21.3	30.9	36.9	10.9	
Karnataka	305	51.5	24.5	17.4	6.6	
Andhra Pradesh	370	17.8	40.5	30.3	11.4	
Maharashtra	255	15.7	37.6	29.8	16.9	
Gujarat	70	25.7	34.3	30.0	10.0	
Orissa	230	20.8	46.5	29.6	3.1	
West Bengal	260	26.1	43.5	26.5	3.9	
Uttar Pradesh	240	11.6	40.0	35.9	12.5	
Total	2115	24.0	36.9	29.6	9.5	

No survey was carried out in the States of Kerala and Madhya Pradesh

Table - 3(a)

NNMB - YEARWISE COVERAGE(%) OF HOUSEHOLDS ACCORDING TO DAILY PER CAPITA INCOME (1975-1981)

Year	Income Category			
	Lessthan Re .1	Rs . 1-2	Rs .2-5	Rs .5 and more
1975	41.6	32.2	20.9	5.3
1976	33.4	34.3	25.2	7.1
1977	32.3	34.5	26.2	7.0
1978	33.2	31.7	25.5	9.6
1979	35.0	35.5	23.3	6.2
1980	32.8	36.5	24.0	6.7
1981	21.0	36.9	29.6	9.5

Table - 4

NNMB - RURAL - AVERAGE INTAKE OF FOODSTUFFS (g/cu./day) - 1985

State	Cereals & Millets	Pulses	Leafy vege- tables	Other vege- tables	Roots & tubers	Nuts & oil reeds	Condi- ments & Spices	Fruits	Flesh Foods	Other Flesh foods	Milk & Oils	Sugar & Jaggery	
Tamil Nadu	557	24	8	73	22	4	23	13	11	4	65	9	16
Karnataka	653	42	10	47	36	19	28	6	13	3	74	7	36
Andhra Pradesh	528	36	2	24	17	2	19	40	1	4	71	11	10
Maharashtra	552	39	6	24	22	3	15	62	1	4	67	12	27
Gujarat	483	40	-	25	41	-	1	49	5	-	75	13	20
Orissa	631	24	44	81	59	-	6	82	5	2	17	4	5
West Bengal	575	22	32	94	110	*	4	6	12	12	61	10	17
Uttar Pradesh	486	53	7	38	90	-	4	21	-	1	127	4	19
Average	553	35	14	51	50	4	13	35	6	4	70	9	19

* Consumption less than one gram

Table - 5

NNMB - RURAL - AVERAGE INTAKE OF NUTRIENTS (cu/day) - 1981

State	Proteins (g)	Calories (Kcal)	Calcium (mg)	Iron (mg)	Vitamin-A (/ug) (Retinol)	Thia- mine (mg)	Ribo- flavin (mg)	Miccti nic Acid (mg)	Vita- min-C (mg)
Tamil Nadu	58.9	2346	506	29.1	237	1.06	0.83	13.8	37
Karnataka	76.3	2873	755	42.9	270	1.91	1.02	18.3	32
Andhra Pradesh	56.9	2238	345	25.2	240	1.17	0.70	13.6	25
Maharashtra	74.1	2172	414	39.8	551	2.42	1.09	21.1	28
Gujarat	57.6	2162	323	26.4	424	1.39	0.75	14.9	23
Orissa	57.8	2509	183	31.4	645	0.85	0.72	15.5	81
West Bengal	62.3	2477	428	28.5	386	1.10	0.81	17.0	69
Uttar Pradesh	71.5	2193	513	30.6	233	2.16	1.26	22.2	41
Average	64.4	2409	471	31.7	373	1.51	0.90	17.1	42
Recommended intake (ICMR-1981)	55.0	2400	400-500	24.0	750	1.20	1.40	16.0	40

Table - 6

NNMB - RURAL - PERCENT DISTRIBUTION OF HOUSEHOLDS ACCORDING TO PROTEIN-CALORIE
ADEQUACY - 1981

State	No. Of Households covered	P		C		P		C	
		-	-	+	-	+	-	+	-
Tamil Nadu	308	18.8	0.0	20.5	60.7	18.8	39.3		
Karnataka	244	10.7	1.2	9.0	79.1	11.9	19.7		
Andhra Pradesh	296	18.2	0.7	22.6	58.5	18.9	40.8		
Maharashtra	202	8.9	0.0	26.2	64.9	8.9	35.1		
Gujarat	56	23.2	1.8	32.1	42.9	25.0	55.3		
Orissa	182	24.7	0.0	8.8	66.5	24.7	33.5		
West Bengal	208	17.8	1.0	16.8	64.4	18.8	34.6		
Uttar Pradesh	192	3.1	0.0	48.0	48.9	3.1	51.1		
Average		15.7	0.6	23.0	60.7	16.3	38.7		

Table - 7

NNMB - PRITEIN CALORIE ADEQUACY - INDIVIDUALS - 1981

State	N	P	C	P	C	P	C	P	C
Tamil Nadu	397	10.1	-	38.3	51.6	10.1	48.4		
Karnataka	302	3.7	0.3	9.6	86.4	4.0	13.3		
Andhra Pradesh	324	11.1	-	55.7	43.2	11.1	56.8		
Maharashtra	245	4.9	-	35.1	60.0	4.9	40.0		
Gujarat	61	11.5	-	37.7	50.8	11.5	49.2		
Orissa	179	3.9	-	17.3	78.8	3.9	21.2		
West Bengal	296	20.3	-	29.7	50.0	20.3	50.0		
Uttar Pradesh	241	2.1	-	39.8	58.1	2.1	41.9		

Table - 9

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - PRESCHOOL CHILDREN

State	Tamil Nadu	Karna-taka	Andhra Pradesh	Maha-rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	130	171	538	352	54	120	334	295
NAD	90.5	86.2	89.8	38.1	87.0	73.3	90.4	91.5
Oedema	-	-	0.2	0.6	-	-	-	-
Emaciation	-	2.3	0.4	40.3	-	0.8	1.8	0.7
Maresmus	-	-	1.5	0.3	-	-	-	-
Two or more signs of PCM	-	-	-	5.1	-	-	-	-
Conj . Xerosis	0.5	0.6	3.3	7.4	1.9	16.7	2.7	0.3
Bitot's spot	1.4	1.1	3.3	5.7	5.6	3.3	2.1	1.0
Total Vitamin A deficiency	1.9	1.7	6.6	13.1	7.5	20.0	4.8	1.3
Angular stomatitis	4.9	5.7	1.7	11.6	1.9	3.3	3.9	1.4
Other B-complex deficiency	-	-	-	7.1	-	7.1	0.3	-
Total B-complex deficiency	4.9	5.7	1.7	18.7	1.9	5.0	4.2	1.4
Caries	1.6	1.5	0.2	0.3	3.7	3.3	-	0.3

Table - 10

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - 5-12 years - BOYS

State	Tamil nadu	Kama- taka	Andhra Pradesh	Maha rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	172	307	515	238	49	126	260	206
NAD	68.1	70.4	79.0	29.4	55.1	32.5	69.6	74.8
Emaciation	0.2	-	-	40.8	-	-	0.4	-
Conj. Xerosis	3.8	3.3	8.9	11.3	26.5	12.7	8.1	2.4
Bitot's spot	3.8	5.9	9.3	10.5	36.7	2.4	6.9	1.5
Total vitamin A deficiency	7.6	9.2	18.2	21.8	63.2	15.1	15.0	3.9
Angular stomatitis	16.3	10.8	5.6	20.2	10.2	22.2	8.1	6.3
Other B-complex deficiency	-	-	0.2	7.6	-	9.5	2.7	1.5
Total B-complex deficiency	16.3	10.8	5.8	27.8	10.2	31.7	10.8	7.8
Caries	10.0	10.4	3.1	0.4	6.1	5.6	13.9	5.3

Table - 11

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - 5-12 years - GIRLS

State	Tamil nadu	Karna- taka	Andhra Pradesh	Maha rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	358	300	405	232	51	112	251	113
NAD	79.3	73.0	86.9	45.3	63.0	22.3	76.5	82.5
Oedema	-	-	-	-	-	-	-	-
Emaciation	0.3	-	-	28.9	-	0.9	0.8	-
Conj. Xerosis	0.3	1.3	4.0	6.9	7.4	21.4	4.4	1.4
Bitot's spot	1.1	4.0	3.7	6.9	13.0	0.9	3.6	0.7
Total vitamin A deficiency	1.4	5.3	7.7	13.8	20.4	22.3	8.0	2.1
Angular stomatitis	9.8	10.7	3.0	15.5	9.3	22.3	5.2	4.9
Other B-complex deficiency	-	-	0.2	7.3	-	6.3	1.6	-
Total B-complex deficiency -	9.8	10.7	3.2	22.8	9.3	28.6	6.8	4.9
Caries	8.4	6.3	3.2	0.9	16.7	8.9	13.6	-

Table - 12

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - 5-12 Years (POOLED)

State	Tamil nadu	Karna- taka	Andhra Pradesh	Maha- rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	830	607	920	470	103	238	511	349
NAD	73.1	71.7	82.5	37.2	59.2	27.7	73.0	77.9
Oedema	-	-	-	-	-	-	-	-
Emaciation	0.2	-	-	31.9	-	0.4	0.6	-
Conj. Xerosis	2.3	2.3	6.7	9.1	16.5	16.8	6.3	2.0
Bitot's spot	2.7	4.9	6.8	8.7	24.3	1.7	5.3	1.2
Total vitamin A deficiency	5.0	7.2	13.5	17.8	40.8	18.5	11.6	3.2
Angular stomatitis	13.5	10.7	4.5	17.9	9.7	22.3	6.7	5.7
Other B-complex deficiency	-	-	0.2	7.4	-	8.0	2.2	0.9
Total B-complex deficiency	13.5	10.7	1.7	25.3	9.7	30.3	8.9	6.6
Caries	9.3	8.4	3.2	0.6	11.7	7.1	13.7	3.2

Table - 13

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - 12-21 years - BOYS

State	Tamil Nadu	Karna-taka	Andhra Pradesh	Maha rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	358	379	502	304	46	89	166	263
NAD	82.4	77.9	85.7	59.9	54.3	62.9	84.3	84.8
Conj. Xerosis	1.1	0.5	3.4	3.9	21.7	-	3.0	0.4
Bitot's spot	1.1	2.9	3.8	8.2	43.5	-	4.2	0.8
Total vitamin A deficiency	2.2	3.4	7.2	17.1	65.2	-	7.2	1.2
Angular stomatitis	7.3	6.3	3.6	15.8	2.2	13.5	4.8	0.8
Other B-complex deficiency	0.3	-	1.6	.3	-	6.7	3.0	1.5
Total B-complex deficiency	7.6	6.3	5.2	20.1	2.2	20.2	7.8	2.3
Caries	8.1	5.5	0.4	0.3	2.2	4.5	7.2	3.4

Table - 14

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - 12-21 years - GIRLS

State	Tamil Nadu	Karna-taka	Andhra Pradesh	Maha rashtira	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	273	255	353	198	48	101	151	90
NAD	83.5	75.7	83.0	52.5	45.8	98.5	85.4	85.6
Conj. Xerosis	0.7	-	2.5	5.6	27.1	-	1.3	-
Bitot's spot	0.7	-	2.5	6.1	41.7	-	0.7	-
Total vitamin A deficiency	1.4	-	5.0	11.7	68.8	-	2.0	-
Angular stomatitis	3.3	4.7	3.1	10.1	2.1	9.9	3.3	-
Other B-complex deficiency	-	-	0.8	1.5	-	4.0	4.6	3.3
Total B-complex deficiency	3.3	4.7	3.9	11.6	2.1	13.9	7.9	3.3
Caries	5.5	2.4	1.4	-	2.1	5.0	4.6	-

Table - 15

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS - 12-21 Years - POOLED

State	Tamil Nadu	Karnataka	Andhra Pradesh	Maharashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	631	634	855	502	94	190	317	353
NAD	82.9	77.0	84.6	57.0	50.0	53.3	84.9	85.0
Conj. Xerosis	1.0	0.3	3.0	7.6	24.5	-	2.2	0.3
Bitot's spot	1.0	1.7	3.3	7.4	42.6	-	2.5	0.6
Total vitamin A deficiency	2.0	2.0	6.3	15.0	67.1	-	4.7	0.9
Angular stomatitis	5.5	5.7	3.4	13.5	2.1	11.6	1.1	0.6
Other B-complex deficiency	0.2	-	1.3	3.2	-	5.3	3.8	2.0
Total B-complex deficiency	5.7	5.7	4.7	16.7	2.1	16.9	7.9	2.6
Caries	7.0	4.3	0.8	0.2	2.1	1.7	6.0	3.6

Table - 16

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS IN ADULT(21 YEARS AND ABOVE)
MALES

State	Tamil nadu	Karria-taka	Andhra Pradesh	Maha rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	393	463	534	330	76	279	314	292
NAD	87.7	80.4	85.2	77.3	50.0	86.4	77.1	89.0
Conj. Xerosis	-	-	0.6	1.2	17.1	-	-	-
Bitot's spot	-	0.4	0.9	2.1	35.5	-	-	0.7
Total vitamin A deficiency	-	0.4	1	3.3	52.6	-	-	0.7
Angular	0.5	4.1	3.0	6.7	5.3	3.2	1.3	-
Other B-complex deficiency	-	-	1.1	0.9	-	1.4	1.6	1.4
Total B-complex deficiency	0.5	4.1	4.1	7.6	5.3	4.6	2.9	1.1
Caries	5.5	0.2	0.7	-	-	6.5	19.8	0.7

Table - 17

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS IN ADULT (21 YEARS AND ABOVE)

FEMALES

State	Tamil nadu	Karna- taka	Andhra Pradesh	Maha rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	481	466	525	346	106	254	308	271
NAD	72.6	37.3	72.8	39.9	30.2	48.8	64.9	66.1
Conj. Xerosis	0.2	-	0.4	2.3	14.2	-	0.7	-
Bitot's spot	0.4	0.2	0.8	2.9	30.2	0.4	1.3	-
Total vitamin A deficiency	0.6	0.2	1.2	5.2	44.4	0.4	2.0	-
Angular stomatitis	1.2	1.5	2.5	8.7	-	0.8	3.3	0.4
Other B-complex deficiency	-	-	1.1	2.3	-	-	4.9	3.7
Total B-complex deficiency	1.2	1.5	3.6	11.0	-	0.8	8.2	4.1
Caries	10.0	1.3	1.5	-	-	16.9	27.9	-

Table - 18

NNMB - PERCENTAGE PREVALENCE OF DEFICIENCY SIGNS (21 YEARS AND ABOVE) - POOLED

State	Tamil nadu	Karna- taka	Andhra Pradesh	Maha rashtra	Gujarat	Orissa	West Bengal	Uttar Pradesh
Number	879	929	1059	676	182	533	622	563
NAD	79.4	58.8	79.0	58.1	38.5	68.5	77.1	78.0
Conj. Xerosis	0.1	-	0.5	1.8	15.4	-	0.3	-
Bitot's spot	0.2	0.3	0.8	2.5	32.4	0.2	0.6	0.4
Total vitamin A deficiency	0.3	0.3	1.3	4.3	47.8	0.2	0.9	0.4
Angular stomatitis	0.9	2.8	2.7	7.7	2.2	2.1	2.3	0.2
Other B-complex deficiency	-	-	1.1	1.6	-	0.8	3.2	2.5
Total B-complex deficiency	0.9	2.8	3.8	9.3	2.2	2.9	5.5	2.7
Caries	8.4	0.8	1.1	-	-	11.4	23.8	0.4

Table - 19 - NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MEALS)-1981 - TAMIL NUDU

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	C
00+	35	62.2	7.14	11.5	6.5	1.49	22.8	11.4	1.04	9.1	7.7	1.75	22.8
01+	38	72.9	4.55	6.2	8.2	1.24	15.1	12.0	1.00	8.3	7.9	1.44	18.2
02+	52	80.3	4.80	6.1	9.7	1.61	16.7	12.4	0.93	7.5	8.8	2.32	26.2
03+	48	87.3	5.24	6.0	11.0	1.55	14.2	12.6	1.05	8.3	8.8	2.10	24.0
04+	91	94.1	6.10	6.5	12.5	1.48	11.9	13.3	1.04	7.8	8.5	1.87	22.0
05+	54	101.2	5.85	5.8	14.2	2.07	14.6	13.3	1.06	7.9	7.7	2.11	27.4
06+	67	105.1	5.31	5.1	15.1	1.79	11.8	13.4	0.39	6.7	7.0	1.75	24.9
07+	67	108.5	5.01	4.6	15.6	1.86	11.9	13.5	0.81	6.0	6.4	1.73	27.1
08+	74	115.2	6.34	5.5	17.9	2.80	15.7	13.9	0.88	6.3	6.0	1.36	22.6
09+	67	119.4	5.54	4.6	19.3	2.16	11.2	14.2	0.82	5.8	6.1	1.20	19.7
10+	75	123.2	5.64	4.6	20.8	2.53	12.1	14.7	0.96	6.6	6.1	1.38	22.3
11+	66	128.9	5.53	4.3	22.7	2.54	11.2	15.2	0.98	6.4	5.9	1.54	26.0
12+	95	131.5	6.66	5.1	23.8	3.44	14.4	15.5	1.19	7.7	6.1	1.62	26.5
13+	60	136.4	7.93	4.8	26.6	4.52	17.0	15.9	1.49	9.4	5.9	1.33	22.7
14+	29	143.6	8.12	5.7	30.8	4.98	16.2	16.9	1.26	7.5	6.3	2.02	31.9
15+	33	148.0	6.81	4.6	32.7	5.66	17.3	17.3	1.80	10.4	6.3	2.10	33.3
16+	41	156.1	6.49	4.2	39.9	6.29	15.8	19.0	1.63	8.6	6.2	1.25	20.4
17+	33	154.7	7.01	4.5	38.1	5.94	15.6	18.9	1.45	7.7	6.2	1.55	25.0
18+	26	160.5	6.51	4.1	43.8	6.56	15.0	20.3	1.84	9.1	6.2	2.43	39.4
19+	21	161.4	6.74	4.2	42.6	6.66	15.6	20.5	1.43	7.0	6.0	1.30	21.7
20-25	58	161.2	6.31	3.9	47.0	4.87	10.4	21.8	1.49	6.8	6.0	1.64	27.5
25-30	55	162.6	6.03	3.7	48.5	5.54	11.4	22.3	1.95	8.8	5.7	1.62	28.6
30-35	48	160.2	6.92	4.3	47.6	6.79	14.3	21.8	1.83	8.4	6.0	2.22	37.1
35-40	67	162.1	6.05	3.7	50.0	7.39	14.8	22.5	2.00	8.9	6.3	2.25	35.8
40-45	51	161.2	7.76	4.8	46.6	6.36	13.6	21.7	1.60	7.4	6.4	2.86	44.7
45-50	34	159.6	6.10	3.8	45.8	7.34	16.1	21.5	1.96	9.1	6.6	2.51	37.9
50-55	26	161.6	5.70	3.5	50.0	8.64	17.3	22.3	2.14	9.6	7.3	2.79	38.4
55-60	23	160.0	6.97	4.4	47.6	7.65	16.1	21.9	2.49	11.3	7.3	3.88	53.1
≥60	37	159.9	6.78	4.2	46.1	6.30	13.7	21.2	1.91	9.0	6.7	2.69	40.3

Table - 20 - NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - TAMIL NADU

Age (yrs)	n	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00+	36	59.7	6.23	10.4	5.6	1.40	25.2	11.3	1.41	12.5	7.9	1.77	22.2
01+	43	70.3	5.77	8.2	7.4	1.34	18.1	11.7	1.25	10.7	8.1	2.30	28.4
02+	33	75.2	5.30	7.1	8.2	1.79	21.7	11.8	1.25	10.6	8.5	2.25	26.6
03+	50	85.9	6.33	7.4	10.5	1.41	13.4	12.7	1.04	8.2	8.8	2.22	25.2
04+	71	92.6	5.49	5.9	12.3	1.57	12.8	13.1	1.02	7.8	9.3	2.11	22.8
05+	54	98.9	5.68	5.7	13.4	1.76	13.1	13.4	0.93	6.9	8.5	1.86	22.0
06+	49	105.4	6.57	6.2	15.0	1.33	12.2	13.5	0.94	6.9	7.5	1.80	23.9
07+	47	109.6	6.28	5.7	16.3	2.07	12.3	13.3	0.91	6.6	7.1	1.54	21.6
08+	46	114.3	7.21	6.3	17.7	2.87	16.3	14.0	1.04	7.5	6.7	1.79	26.3
09+	60	119.9	6.59	5.5	19.7	3.33	16.9	14.6	1.14	7.8	6.9	1.96	28.2
10+	63	122.8	7.25	5.9	20.4	3.12	15.3	14.8	1.16	7.8	7.1	1.89	23.8
11+	37	129.7	6.43	5.0	23.3	4.23	18.1	15.7	1.43	9.1	7.0	1.88	26.7
12+	56	134.1	7.46	5.6	25.2	3.47	13.8	16.0	1.28	8.0	7.2	1.47	20.4
13+	40	139.4	7.85	5.6	29.2	5.20	17.8	16.8	1.54	9.4	7.9	2.59	33.0
14+	21	144.4	7.34	5.1	33.5	4.94	14.9	18.1	1.39	7.6	8.9	2.40	27.0
15+	33	146.9	8.28	5.6	37.0	6.43	17.4	18.9	2.00	10.6	9.8	3.12	31.7
16+	34	149.5	6.44	4.3	39.9	6.14	15.4	20.1	1.78	8.9	11.2	3.46	31.0
17+	23	150.9	6.12	4.1	42.1	5.14	12.2	20.7	1.92	9.3	11.3	3.87	32.7
18+	19	150.5	8.56	5.7	39.1	6.05	15.5	19.7	1.76	9.0	10.1	3.30	32.6
19+	16	148.7	7.84	5.3	43.0	3.71	8.6	20.9	1.52	7.3	11.4	4.00	35.0
20-25	97	149.0	5.48	3.7	40.6	4.39	10.8	20.0	1.62	8.1	9.7	3.62	37.2
25-30	103	150.3	5.28	3.5	41.6	6.10	14.7	20.2	1.72	8.5	9.5	4.44	46.5
30-35	72	150.3	5.64	3.8	41.8	6.21	14.9	20.3	2.08	10.2	10.1	4.56	45.1
35-40	73	150.9	5.88	3.9	42.2	7.17	17.0	20.6	1.93	9.3	9.6	3.92	40.9
40-45	49	149.9	5.86	3.9	41.7	6.13	14.7	20.4	2.00	9.3	9.2	4.26	46.2
45-50	24	149.5	5.29	3.5	42.7	9.55	22.4	20.5	2.63	12.8	10.5	4.90	46.6
50-55	20	148.0	5.06	3.4	39.9	5.98	15.0	20.0	1.68	8.4	8.9	2.18	24.7
55-60	27	149.7	4.47	3.0	41.5	8.55	20.6	20.9	2.36	11.3	10.2	4.46	43.8
≥60	43	150.2	5.86	3.9	41.6	9.16	22.0	20.5	2.58	12.6	9.9	4.17	42.1

Table - 21 — NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MALES) - 1981 - KARNATAKA

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00+	44	61.5	6.02	9.8	6.0	1.36	22.9	12.6	1.29	10.3	8.6	1.98	23.1
01+	64	73.7	6.19	8.4	8.1	1.48	18.4	12.9	1.18	9.2	7.6	1.77	23.3
02+	62	81.9	4.18	5.1	9.9	1.18	11.9	13.7	1.01	7.4	8.3	1.73	20.9
03+	56	87.7	5.09	5.8	11.2	1.49	13.3	13.7	1.04	7.6	8.1	1.94	24.1
04+	65	94.0	5.10	5.4	12.4	1.53	12.3	14.2	0.92	6.5	8.1	1.91	23.7
05+	40	10.11	5.07	5.0	14.1	1.74	12.3	14.2	0.88	6.2	7.0	1.54	22.0
06+	51	104.0	5.85	5.6	14.8	2.23	15.1	14.2	1.11	7.9	6.4	1.88	29.6
07+	39	111.8	4.84	4.3	16.8	1.65	9.8	14.6	0.83	5.7	5.8	1.72	29.7
08+	49	116.5	5.63	4.8	18.4	2.29	12.4	15.1	1.04	6.9	5.2	1.26	24.2
09+	43	119.9	5.34	4.5	19.9	2.38	12.0	15.5	1.16	7.5	5.8	1.73	30.0
10+	52	126.1	5.59	4.4	21.8	2.91	13.3	16.1	1.26	7.8	5.6	1.92	34.1
11+	25	128.1	4.79	3.7	22.2	2.10	9.5	16.0	1.01	6.3	5.4	1.80	33.2
12+	76	136.1	6.31	4.6	26.7	3.28	12.3	17.3	1.25	7.3	5.8	1.79	31.2
13+	56	138.8	7.55	5.4	28.1	5.23	18.6	18.0	2.14	11.9	5.6	1.94	34.3
14+	47	143.9	7.23	5.0	31.6	4.52	14.3	18.7	1.38	7.4	5.8	1.63	28.0
15+	25	151.8	7.42	4.9	36.5	4.88	13.4	19.9	1.63	8.2	5.9	1.89	31.9
16+	32	156.2	7.03	4.5	39.5	4.92	12.5	20.6	2.03	9.9	5.7	1.43	25.3
17+	30	160.5	6.66	4.2	43.8	5.80	13.2	21.6	1.80	8.4	6.4	1.79	28.1
18+	47	160.4	6.32	3.9	46.0	5.39	11.7	22.7	1.67	7.4	6.0	1.70	28.4
19+	28	163.5	6.55	4.0	48.5	5.17	10.7	23.3	2.84	12.2	6.4	1.89	29.7
20-25	91	163.3	6.93	4.3	49.4	6.07	12.3	24.1	2.03	8.4	5.7	2.05	35.8
25-30	62	164.6	6.70	4.1	50.9	5.87	11.5	24.8	1.80	7.3	5.7	2.06	36.4
30-35	52	163.4	6.41	3.9	50.3	5.41	10.8	24.7	1.87	7.6	5.8	2.62	45.4
35-40	64	162.9	4.68	2.9	49.8	5.40	11.0	24.5	1.86	7.6	5.9	2.66	45.2
40-45	53	162.2	6.90	4.3	48.0	6.29	13.1	24.1	1.95	8.1	5.1	1.93	38.0
45-50	47	164.5	4.86	2.9	51.6	6.63	12.9	24.4	2.32	9.5	5.9	2.60	43.9
50-55	38	159.8	6.93	4.3	46.8	7.04	15.1	23.9	2.22	9.3	5.7	2.29	39.8
55-60	31	162.1	5.76	3.6	49.4	7.80	15.8	23.9	2.47	10.4	6.5	2.66	41.2
≥60	49	160.5	6.65	4.1	46.2	7.68	16.6	22.7	2.86	11.3	5.7	2.28	39.9

Table - 22 NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - KARNATAKA

Age (yrs)	N	Height (cm)			Weight (kg)			Arm (cm) Mean	circumference			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV		Mean	SD	CV	Mean	SD	CV
00+	38	62.1	4.92	7.9	5.9	1.11	18.7	12.2	1.04	8.5	8.8	1.96	22.3	
01+	40	72.1	4.14	5.7	7.9	1.46	18.6	12.8	1.27	9.9	8.2	1.97	24.2	
02+	56	80.1	4.93	6.2	9.2	1.48	16.1	13.2	1.01	7.7	8.7	2.03	23.3	
03+	70	84.7	5.22	6.2	10.3	1.43	13.8	13.6	1.16	8.6	8.9	2.35	26.3	
04+	56	93.5	6.93	6.3	12.4	1.66	13.4	14.1	1.08	7.6	8.6	1.99	23.1	
05+	37	100.8	5.77	5.7	14.1	1.71	12.1	14.4	1.08	7.5	7.3	2.00	27.4	
06+	51	103.6	6.56	5.4	14.5	1.71	11.7	14.3	0.90	6.3	7.1	1.69	23.3	
07+	44	111.9	6.58	5.9	17.0	4.80	28.3	15.1	1.08	7.2	7.0	1.79	25.7	
08+	58	116.2	6.31	5.4	18.3	2.48	13.6	15.3	1.10	7.2	6.3	1.96	31.3	
09+	33	120.9	7.17	5.9	20.1	3.09	15.4	15.7	1.13	7.3	6.6	1.60	24.1	
10+	45	126.6	7.18	5.7	23.0	3.64	15.8	16.7	1.29	7.7	6.6	1.85	27.9	
11+	27	131.5	7.38	5.6	24.9	4.79	19.3	17.1	1.63	9.5	6.8	1.36	28.8	
12+	44	136.0	7.53	5.5	27.2	4.39	16.2	17.5	1.73	9.9	6.9	2.08	30.1	
13+	33	142.6	6.40	4.5	31.6	4.64	14.7	19.1	1.51	7.9	8.0	2.02	25.2	
14+	25	146.5	3.92	2.7	36.4	3.70	10.1	21.1	1.73	8.2	8.8	2.73	31.1	
15+	21	148.6	5.23	3.5	39.3	4.24	10.8	21.4	1.75	8.2	9.1	2.74	30.0	
16+	30	151.2	6.37	4.2	42.1	5.39	12.8	22.6	2.03	9.3	10.5	2.27	21.6	
17+	15	150.4	5.05	3.4	41.9	5.66	13.5	22.8	1.74	7.7	10.0	2.80	28.0	
18+	34	161.2	6.21	4.1	42.4	5.95	14.0	22.6	2.20	9.7	10.2	3.00	29.5	
19+	13	151.8	4.17	2.8	46.1	4.39	9.5	23.9	1.36	5.7	12.2	3.29	27.1	
20-25	101	151.4	5.93	3.9	42.7	4.92	11.5	22.4	1.61	7.2	9.3	2.88	30.9	
25-30	97	160.6	6.18	4.1	42.6	5.44	12.8	22.6	1.78	7.9	8.9	3.01	33.9	
30-35	61	152.5	5.51	3.6	42.8	6.74	15.8	22.4	2.04	9.1	8.8	3.02	34.1	
35-40	70	150.7	6.45	4.3	41.7	5.83	14.0	22.3	2.18	9.5	8.4	3.47	41.1	
40-45	41	150.3	4.91	3.3	42.3	7.65	18.1	23.0	2.45	10.7	8.2	3.68	44.6	
45-50	46	150.3	6.15	4.1	42.7	8.56	20.1	23.1	3.04	13.2	9.6	4.31	50.2	
50-55	28	149.2	6.34	4.3	38.2	6.88	18.0	21.6	2.71	12.6	7.4	3.73	50.3	
55-60	12	149.9	4.78	3.2	40.3	6.93	17.2	22.2	2.49	11.2	8.3	3.45	40.2	
≥60	46	149.3	5.34	3.5	39.0	6.67	11.1	21.6	2.38	11.0	7.3	2.34	36.6	

Table - 23 NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MALES) - 1981 - ANDHRA PRADESH

Age (yrs)	N	Height(cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00+	37	62.6	5.72	9.1	6.1	1.67	27.1	12.4	1.34	10.7	7.9	2.03	25.6
01+	54	75.0	4.82	6.4	8.2	1.43	17.3	12.6	1.11	8.8	7.6	2.14	28.2
02+	69	81.2	3.90	4.8	9.7	1.23	12.6	13.3	1.06	7.9	7.8	1.82	23.5
03+	63	87.9	4.07	4.6	11.2	1.53	13.6	13.7	0.96	7.0	8.1	2.41	29.7
04+	99	97.1	4.85	5.0	13.0	1.57	12.1	13.9	0.91	6.6	7.0	1.81	25.9
05+	50	102.9	5.64	5.5	14.6	2.25	15.4	14.0	0.98	7.0	6.7	1.66	24.9
06+	43	107.3	5.58	5.2	15.8	2.05	13.0	14.0	0.79	5.6	6.1	1.44	23.8
07+	85	111.3	5.05	4.5	16.7	2.00	11.9	14.2	1.00	7.0	5.5	1.62	29.3
08+	85	118.0	5.19	4.4	18.7	2.36	12.6	14.9	1.08	7.3	5.3	1.42	26.8
09+	96	122.6	5.61	4.6	20.3	2.83	13.9	15.3	1.20	7.9	5.4	1.48	27.5
10+	77	127.8	4.84	3.8	22.2	2.81	12.7	15.7	1.00	6.4	5.2	1.56	29.7
11+	72	130.7	5.79	4.4	23.7	3.25	13.7	16.1	1.24	7.7	5.6	1.56	27.9
12+	112	135.0	6.51	4.8	26.1	3.44	13.2	16.5	1.15	7.0	5.4	1.38	25.6
13+	68	138.7	6.82	4.9	27.7	4.36	15.8	17.1	1.66	9.7	5.7	1.84	32.2
14+	58	146.9	6.36	4.3	32.6	4.48	13.7	18.4	1.47	8.0	6.1	2.09	34.5
15+	37	151.6	6.73	4.4	36.0	5.04	14.0	19.1	1.66	8.7	5.8	1.62	28.1
16+	53	155.7	5.85	3.8	39.4	4.51	11.5	20.4	1.51	7.4	8.3	2.11	25.4
17+	53	160.4	6.82	4.3	42.7	5.00	11.7	21.2	2.12	10.0	6.3	1.82	29.0
18+	50	160.9	5.87	3.7	44.5	5.30	11.9	22.0	1.54	7.0	5.7	1.38	24.3
19+	24	161.7	6.04	3.7	45.9	4.77	10.4	22.7	1.56	6.9	6.0	1.26	21.1
20-25	125	161.3	6.23	3.9	46.4	5.61	12.1	23.1	1.79	7.8	5.6	1.64	29.4
25-30	74	162.6	6.37	3.9	48.8	6.40	13.1	23.6	1.97	8.3	6.4	2.80	43.7
30-35	71	161.0	6.74	4.2	48.5	6.63	13.7	23.6	1.92	8.2	6.7	3.29	49.2
35-40	62	163.3	6.12	3.8	48.8	6.90	14.1	23.5	1.85	7.9	6.5	3.48	53.7
40-45	53	161.6	8.69	5.4	50.0	7.09	14.2	23.9	2.27	9.5	6.6	2.69	41.1
45-50	67	162.0	6.46	4.0	46.7	5.76	12.3	23.1	1.89	8.2	6.5	2.62	40.6
50-55	43	160.4	6.03	3.8	46.7	6.71	14.4	22.7	2.50	11.0	6.9	3.08	44.7
55-60	32	161.5	6.31	3.9	47.0	5.83	12.4	22.7	1.81	8.0	6.1	2.60	42.5
≥60	51	161.1	5.96	3.7	45.5	7.02	15.4	21.5	2.48	11.5	6.3	2.90	46.3

Table - 24- NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - ANDHRA PRADESH

Age (yrs)	n	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00+	40	61.4	5.75	9.4	5.8	1.58	27.4	12.1	1.39	11.5	7.9	2.42	30.8
01+	52	71.6	4.08	5.7	7.8	1.38	17.7	12.6	1.19	9.4	7.6	2.26	29.7
02+	60	80.1	4.63	5.8	9.2	1.10	12.0	13.0	0.98	7.6	8.0	2.38	29.9
03+	52	87.0	4.69	5.4	10.9	1.38	12.7	13.6	1.06	7.8	8.9	2.40	27.1
04+	87	95.7	5.41	5.7	12.7	1.53	12.1	13.9	0.90	6.4	7.9	2.05	26.0
05+	44	99.8	4.62	4.6	13.2	1.57	12.0	13.6	0.94	6.9	7.1	2.10	29.8
06+	40	105.1	4.14	3.9	14.8	1.71	11.5	14.3	1.03	7.2	6.8	1.83	27.1
07+	71	111.7	4.98	4.5	16.5	2.14	13.0	14.5	1.01	7.0	5.9	1.69	28.8
08+	68	117.1	6.35	5.4	18.7	2.59	13.9	15.2	1.10	7.3	5.9	1.52	25.6
09+	55	123.9	5.35	4.3	21.8	3.01	13.8	15.9	1.54	9.7	6.8	2.00	29.3
10+	68	127.4	6.13	4.8	22.7	3.04	13.4	16.4	1.18	7.2	6.5	1.98	30.3
11+	57	131.7	5.60	4.3	23.9	3.04	12.8	16.4	1.11	6.7	6.0	1.49	24.9
12+	52	136.7	5.83	4.3	27.6	3.93	14.2	17.9	1.43	8.0	7.2	2.19	30.3
13+	43	142.4	5.91	4.2	32.0	5.46	17.1	18.8	2.14	11.4	8.6	3.09	35.9
14+	40	146.6	4.78	3.3	35.5	4.55	12.8	19.8	1.46	7.4	8.7	2.48	28.5
15+	36	147.4	5.42	3.7	36.6	4.13	11.3	20.1	1.71	8.5	9.2	2.98	22.4
16+	55	149.2	5.58	3.7	38.8	4.51	11.6	21.0	1.46	7.0	9.7	2.83	29.2
17+	10	149.6	6.44	4.3	40.0	4.68	11.7	21.1	1.24	5.9	10.7	2.25	21.1
18+	40	149.5	4.74	3.2	40.7	4.45	10.9	21.6	1.72	8.0	9.8	2.78	28.5
19+	21	148.9	4.54	3.1	42.8	5.16	12.1	22.3	1.65	7.4	11.5	3.19	27.7
20-25	134	151.0	5.37	3.6	42.2	4.77	11.3	22.0	1.51	6.9	10.3	3.09	30.0
25-30	96	150.1	5.79	3.9	40.7	4.99	12.3	21.2	1.77	8.3	9.1	3.31	36.5
30-36	74	150.0	5.60	3.7	41.3	6.13	14.9	21.8	2.07	9.5	9.8	4.41	45.0
35-40	73	149.0	6.22	4.2	41.9	7.05	16.9	22.1	2.28	10.3	10.1	4.97	49.4
40-45	61	149.6	5.32	3.6	41.8	6.23	14.9	22.1	2.21	10.0	10.2	4.66	45.8
45-50	37	149.8	5.92	4.0	41.1	6.49	15.8	22.0	2.81	12.8	9.9	4.90	49.7
50-55	31	150.1	5.71	3.8	43.5	7.30	16.8	22.8	2.60	11.4	12.7	5.83	45.9
55-60	21	149.0	5.16	3.5	37.9	4.64	12.3	20.7	1.56	7.6	8.8	3.21	36.4
≥60	41	147.5	4.79	3.3	39.5	8.83	22.4	21.2	3.65	17.2	9.6	5.40	56.1

Table - 25- NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MALES) - 1981 – MAHARASHTRA

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00+	38	64.1	4.57	7.1	6.5	1.29	19.8	13.1	0.89	6.8	10.5	3.13	29.8
01+	34	73.5	4.21	5.7	8.2	1.37	16.7	13.1	1.02	7.8	8.0	1.87	23.5
02+	52	80.9	5.24	6.5	9.7	1.49	15.3	13.7	1.12	8.2	8.6	2.41	28.0
03+	52	88.7	5.24	5.9	11.3	1.37	12.2	13.9	1.05	7.5	9.0	1.83	20.4
04+	57	96.3	7.01	7.3	12.8	1.80	14.0	14.1	0.74	5.2	8.1	2.11	26.2
05+	33	100.9	5.81	5.8	13.8	1.70	12.3	14.1	1.00	7.1	7.4	2.24	30.2
06+	33	106.3	7.16	6.7	15.4	2.43	15.8	14.4	1.38	9.6	6.8	2.45	36.3
07+	30	113.4	5.70	5.0	17.3	2.04	11.8	14.8	1.24	8.4	6.2	2.10	34.1
08+	46	120.8	6.81	5.6	19.3	2.56	12.3	15.0	1.10	7.3	5.4	1.84	33.9
09+	24	121.1	7.41	6.1	19.5	2.68	13.5	15.0	1.27	8.5	5.4	1.30	24.1
10+	37	128.2	4.68	3.7	23.1	2.77	12.0	15.8	1.17	7.4	5.5	1.64	29.8
11+	31	130.4	8.16	6.3	23.2	3.66	15.8	15.9	1.09	6.9	5.7	1.73	30.2
12+	36	134.8	7.07	5.3	25.7	3.57	13.9	16.6	1.56	9.4	6.0	2.04	33.8
13+	38	144.2	9.14	6.3	31.0	6.05	19.5	17.8	1.99	11.2	6.2	2.39	38.4
14+	37	148.0	8.84	6.0	33.2	6.24	18.8	18.5	1.94	10.5	5.9	1.41	24.1
15+	26	155.3	7.97	5.0	39.4	7.67	19.4	20.0	4.15	10.7	5.6	1.27	22.6
16+	44	157.2	7.46	4.8	41.6	6.62	15.9	20.6	2.20	10.7	5.8	2.00	34.4
17+	30	163.0	6.92	4.2	45.6	6.15	13.5	22.1	2.20	10.0	6.3	2.02	32.2
18+	37	164.1	5.75	3.5	46.9	5.28	11.3	22.4	1.56	6.9	5.4	1.56	28.6
19+	22	162.8	5.27	3.2	44.9	5.40	12.0	22.2	2.16	9.7	5.5	1.44	26.4
20-25	63	163.2	6.33	3.9	48.8	6.26	12.8	23.4	2.07	8.9	5.8	2.17	37.6
25-30	40	165.1	5.60	3.4	49.2	5.64	11.5	23.3	2.02	8.7	5.1	1.76	34.2
30-35	40	165.4	7.90	4.8	52.3	7.01	13.4	24.4	2.09	8.6	6.7	3.10	46.3
35-40	45	163.9	5.19	3.2	51.5	7.66	14.9	24.4	2.26	9.2	7.0	3.80	54.3
40-45	42	161.9	6.88	4.2	48.9	8.20	16.8	23.6	2.23	9.4	7.0	3.94	56.3
45-50	36	164.7	4.93	3.0	80.8	8.32	16.4	23.8	2.66	11.2	7.8	4.60	59.1
50-55	29	163.2	7.64	4.7	51.6	9.45	18.3	23.9	2.72	11.4	7.8	3.97	50.7
55-60	21	162.8	6.72	4.1	47.7	6.71	14.1	23.0	2.31	10.1	6.4	2.97	46.2
≥60	44	163.2	6.74	4.1	49.5	11.12	22.4	22.7	3.15	13.9	7.5	4.53	60.7

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Table 26 NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - MAHARASHTRA

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	25	64.8	5.71	8.8	6.2	1.26	20.2	12.8	1.02	8.0	10.1	2.96	27.9
01+	25	71.2	5.45	7.7	7.5	1.59	21.1	12.9	1.15	8.9	9.0	2.77	30.7
02+	29	77.4	7.13	9.2	8.7	1.54	17.8	13.1	1.24	10.3	9.8	2.50	25.6
03+	41	86.8	8.42	9.7	11.0	1.63	14.8	13.9	1.20	8.6	10.1	2.59	25.6
04+	48	95.2	6.85	7.2	12.5	1.83	14.7	14.0	0.94	6.7	8.8	2.24	26.5
05+	29	100.2	6.21	6.2	13.5	2.05	15.1	14.3	0.89	6.2	8.0	2.47	30.8
06+	28	105.6	7.76	7.4	15.2	2.38	15.7	14.7	1.06	7.1	8.1	2.53	31.3
07+	24	110.4	6.86	6.2	16.5	2.17	13.1	14.9	0.68	4.6	6.9	1.82	26.2
08+	32	118.2	6.63	5.1	18.8	2.86	15.2	15.4	1.24	8.1	6.8	2.10	30.8
09+	43	122.9	6.26	5.1	20.2	2.56	12.7	15.7	1.16	7.4	6.9	1.73	25.0
10+	35	126.2	7.27	5.8	21.9	3.51	16.0	16.3	1.40	8.6	7.1	2.31	32.6
11+	31	130.0	8.39	6.5	24.5	3.92	16.0	16.7	1.51	9.1	6.9	2.07	30.3
12+	39	137.4	8.19	6.0	26.7	5.51	19.2	17.9	1.72	9.6	7.5	1.94	25.8
13+	27	140.7	6.87	4.9	20.4	5.32	17.5	18.6	1.92	10.3	7.3	3.95	42.0
14+	24	150.6	6.07	4.0	37.4	5.05	13.5	19.9	2.14	10.8	9.0	2.90	32.1
15+	14	148.5	4.69	3.2	39.4	6.51	16.5	21.7	2.19	10.1	12.3	3.26	31.2
16+	26	150.3	5.73	3.8	39.6	5.42	13.7	22.1	2.10	9.5	9.9	3.42	34.6
17+	17	151.4	5.51	3.6	41.6	5.58	13.4	22.1	1.99	8.2	10.6	3.55	33.8
18+	14	151.5	5.31	3.5	44.1	5.86	13.3	22.2	1.37	6.2	11.0	2.41	22.0
19+	7	151.8			42.8			21.9			11.4		
20-25	66	152.8	5.96	3.9	43.1	4.70	10.9	22.3	1.26	6.1	11.0	3.58	33.5
25-30	60	149.6	5.10	3.4	42.1	5.41	12.9	22.4	2.32	10.4	11.6	4.68	40.3
30-35	65	151.5	5.19	3.4	42.5	5.03	11.9	22.5	1.66	7.4	10.7	4.16	39.0
35-40	53	151.6	5.58	3.7	42.4	6.16	14.5	22.9	2.27	9.9	10.9	4.83	44.5
40-45	33	149.5	6.02	3.4	42.4	7.60	18.0	23.2	2.96	17.8	12.0	6.53	54.4
45-50	35	150.3	5.43	3.6	42.0	6.42	15.3	22.5	2.44	10.9	10.9	5.22	48.1
50-55	19	147.0	4.83	3.3	39.9	5.68	14.2	22.0	2.10	9.6	11.2	5.37	47.8
55-60	18	148.7	5.07	3.4	39.4	8.12	20.6	22.4	2.35	10.8	11.5	6.12	53.2
≥60	37	146.8	4.88	3.3	38.7	7.06	18.2	21.3	3.11	14.6	9.3	6.04	64.6

Wherever the sample covered is less than 10 SD and CV are not provided.

Table - 27 — NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MALES) - 1981 - ORISSA

Age (yrs)	N	Height (cm)		CV	Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	7	62.0			5.9			12.3			6.3		
01+	15	70.5	5.64	8.0	8.2	0.94	11.5	13.1	0.78	5.9	6.9	2.75	40.0
02+	10	81.6	5.25	6.4	10.6	1.80	16.9	14.0	0.81	5.8	5.8	0.79	13.6
03+	16	89.6	4.78	5.3	11.9	1.41	11.9	13.8	0.84	6.1	6.1	1.24	20.4
04+	14	94.1	5.41	7.8	12.8	1.85	14.4	13.9	0.88	6.3	6.1	0.33	13.7
05+	19	100.9	3.68	3.7	14.2	1.20	8.5	13.9	1.14	8.3	5.6	0.61	10.9
06+	20	108.2	7.28	6.7	16.5	2.01	12.2	14.5	0.78	5.3	5.6	0.76	13.7
07+	17	114.1	5.78	5.1	17.7	2.36	13.4	14.7	1.05	7.1	5.5	0.94	17.1
08+	22	119.4	6.37	5.3	20.1	3.16	15.7	15.9	1.55	9.8	5.3	1.25	23.5
09+	16	122.3	5.86	4.8	20.7	2.10	10.1	15.3	0.89	5.8	4.9	0.93	18.8
10+	18	126.1	7.88	6.3	22.4	3.89	17.4	15.8	1.26	8.0	5.1	0.88	17.4
11+	15	134.6	5.94	4.4	26.9	3.74	13.9	17.0	0.95	5.6	4.8	0.68	14.1
12+	7	135.9			27.2			16.8			5.1		
13+	7	143.0			29.9			17.4			5.1		
14+	11	146.0	6.40	4.4	33.7	5.41	16.1	18.9	1.98	10.5	5.0	0.77	15.5
15+	11	152.6	6.44	4.2	37.2	4.42	11.9	20.4	1.23	6.1	5.4	0.50	9.4
16+	13	154.7	6.32	4.1	41.8	4.91	11.7	20.9	1.51	7.2	5.5	0.97	17.5
17+	14	161.3	7.63	4.7	44.2	3.49	7.9	21.7	1.17	5.4	6.2	1.25	20.1
18+	8	161.4			47.5			23.2			5.6		
19+	6	158.7			44.4			23.0			5.3		
20-26	40	161.5	6.03	3.7	50.6	4.74	9.4	23.7	1.41	5.9	5.5	0.88	16.0
25-30	39	160.5	4.18	2.6	49.9	4.27	8.6	23.5	1.29	5.5	5.5	1.12	20.5
30-35	36	158.4	5.34	3.4	49.9	6.78	13.6	24.2	1.55	6.4	5.9	2.07	35.1
35-40	39	160.0	7.02	4.4	48.9	6.19	12.6	24.1	1.51	6.3	5.6	1.12	20.1
40-45	32	159.4	4.45	2.8	50.2	5.80	11.6	24.5	1.83	7.5	5.8	1.27	21.8
45-50	29	157.7	5.52	3.5	48.4	6.25	12.9	23.6	1.51	6.4	5.6	1.64	29.3
50-56	20	157.2	5.93	3.8	47.3	5.79	12.2	23.5	1.78	7.6	5.4	1.27	23.6
55-60	25	159.0	5.41	3.4	50.6	8.68	17.0	23.9	2.51	10.5	6.2	2.37	38.0
≥ 60	20	157.4	5.66	3.5	45.8	6.02	13.1	22.2	2.22	10.0	5.4	1.40	25.9

wherever the sample covered is less than 10, SD and CV are not provided

Table - 28 - NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - ORISSA

Age (yrs)	N	Height (cm)			Weight (kg)			Aru circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	10	60.8	4.07	6.7	4.8	1.48	31.0	11.1	1.18	10.6	5.5	1.08	19.6
01+	13	72.6	7.62	10.5	7.6	1.45	18.9	12.2	1.02	8.3	5.7	0.85	15.0
02+	17	79.1	6.71	8.5	9.3	2.05	22.2	12.7	1.04	8.2	5.8	1.18	20.3
03+	17	87.7	5.15	5.9	10.4	1.55	14.9	13.4	1.01	7.6	6.1	1.03	17.0
04+	14	93.4	7.31	7.8	12.1	1.99	16.5	13.8	0.88	6.4	5.8	0.89	15.4
05+	25	99.0	5.89	6.0	14.0	1.61	11.5	13.7	1.08	7.9	5.2	1.04	20.0
06+	9	111.7			16.7			14.4			5.0		
07+	11	107.5	6.20	5.8	15.8	2.13	13.5	14.3	1.10	8.0	5.5	0.83	15.0
08+	23	118.6	4.90	4.1	19.2	3.31	17.3	15.4	1.23	8.0	5.7	1.10	19.3
09+	16	125.4	4.93	3.9	21.9	2.66	12.2	15.9	1.59	10.0	5.6	1.31	23.3
10+	12	128.7	5.17	4.0	23.6	2.27	9.6	16.1	0.75	4.6	5.1	1.00	19.6
11+	8	134.6			26.6			17.4			5.3		
12+	23	139.5	6.44	4.6	29.3	5.14	17.6	18.0	1.87	10.4	5.6	0.95	17.0
13+	10	141.4	4.49	3.2	31.7	5.13	16.2	18.5	1.77	9.6	6.4	1.35	21.1
14+	11	147.6	5.61	3.8	37.9	4.89	12.9	20.6	1.70	8.3	6.7	1.85	27.5
16+	6	145.6			38.2			21.1			6.8		
16+	12	149.0	4.74	3.2	42.1	7.15	17.0	22.3	2.27	10.2	8.1	2.07	25.6
17+	7	151.5			41.7			21.9			6.6		
18+	11	147.7	7.32	5.0	40.8	5.13	12.6	21.8	1.76	8.1	7.2	2.04	28.4
19+	3	152.8			41.8			22.5			6.7		
20-25	57	150.0	5.11	3.4	42.2	5.35	12.7	22.1	1.85	8.4	6.8	2.20	32.2
25-30	42	149.0	4.35	2.9	42.2	5.34	12.7	22.2	1.35	6.1	6.2	2.00	32.4
30-35	39	150.0	4.57	3.1	42.1	4.26	10.1	22.4	1.40	6.3	6.2	0.90	14.5
35-40	33	148.6	5.00	3.4	41.0	6.38	15.6	22.4	2.22	9.9	7.0	2.86	40.6
40-45	33	149.6	5.78	3.9	42.3	7.35	17.4	22.6	2.16	9.6	7.1	2.57	36.4
45-50	23	149.1	3.83	2.6	42.5	5.87	13.8	22.8	2.49	11.0	7.6	2.79	36.7
50-55	19	150.7	4.41	2.9	41.8	6.87	16.4	21.8	2.56	11.8	6.0	1.75	29.4
5540	11	148.2	4.52	3.1	40.3	3.03	7.5	21.9	1.22	5.6	5.9	1.04	17.7
≥60	14	148.8	5.10	3.4	40.0	6.77	16.9	21.3	1.91	9.0	6.1	1.29	21.0

Wherever the sample covered is less than 10 SD and CV are not provided

Table - 29 -NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MEALS) - 1981 - WEST BENGAL

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	27	62.3	5.97	9.6	5.9	1.40	23.7	11.6	1.18	10.2	4.9	1.09	22.4
01+	38	74.4	3.76	5.0	8.2	1.24	15.1	12.6	1.02	8.2	4.7	0.84	17.9
02+	43	82.8	6.99	7.2	10.0	1.52	15.2	12.9	0.98	7.6	4.7	1.09	23.8
13+	43	89.6	4.82	5.4	11.6	1.26	11.0	13.5	0.82	6.1	4.8	0.89	18.4
04+	44	96.1	4.87	5.1	12.9	1.51	11.7	13.7	0.86	6.2	4.4	0.71	16.0
05+	39	101.2	3.92	3.9	13.8	1.38	10.0	13.6	0.81	6.0	4.0	0.69	18.4
06+	44	106.6	6.46	5.1	15.4	1.68	10.9	14.0	0.79	5.6	3.7	0.74	19.9
07+	36	111.9	4.98	4.5	16.5	1.68	10.2	13.9	0.84	6.1	3.3	0.66	17.1
08+	39	118.0	6.12	5.2	18.7	2.25	12.0	14.8	1.06	7.2	3.4	0.56	16.4
09+	36	117.8	4.16	3.5	18.9	2.09	11.0	14.7	1.14	7.7	3.4	0.69	20.0
10+	33	123.8	6.37	4.4	20.9	2.28	10.9	15.2	0.91	6.0	3.3	0.54	16.2
11+	33	128.7	5.60	4.4	23.0	2.92	12.7	15.8	1.09	6.9	3.3	0.54	26.1
12+	32	134.8	6.94	5.2	26.0	4.18	16.1	16.6	1.40	8.4	3.4	0.49	14.4
13+	24	137.3	7.68	6.5	26.6	4.19	15.8	16.6	1.38	8.3	3.4	0.71	20.9
14+	29	145.3	8.74	6.0	31.6	4.74	15.0	17.8	1.17	6.6	3.3	0.45	13.6
15+	16	154.6	6.97	4.5	37.8	6.30	16.7	19.5	1.61	8.3	3.7	0.73	19.7
16+	20	159.4	9.78	6.1	44.0	8.87	20.2	21.2	2.50	11.8	4.3	1.46	33.8
17+	16	160.3	6.96	3.7	44.6	5.90	13.2	21.6	1.69	7.9	3.9	0.73	18.6
18+	12	161.1	6.67	4.1	42.8	6.78	15.9	21.2	1.85	8.7	3.9	0.56	14.1
19+	5	163.8			48.5		-	23.1			3.8		-
20-25	32	161.7	7.72	4.8	48.2	5.93	12.3	23.2	1.51	6.5	3.9	0.73	18.6
25-30	21	157.2	8.04	5.1	46.9	8.89	19.0	23.6	1.96	8.3	4.3	1.61	37.8
30-35	41	162.0	5.96	3.7	48.9	7.07	14.6	23.6	1.70	7.3	4.2	1.35	32.6
36-40	68	161.6	6.24	3.9	47.0	6.27	11.2	23.0	1.56	6.8	3.8	0.83	24.4
40-45	62	161.0	5.66	3.5	46.6	4.93	10.6	22.7	1.64	7.2	3.9	1.04	26.5
46-50	44	159.3	7.34	4.6	45.6	7.12	16.6	22.9	1.86	8.2	3.9	0.81	21.1
50-55	23	159.6	6.04	3.8	47.1	7.86	16.7	22.9	1.87	8.2	4.1	0.96	23.6
55-60	14	160.3	4.48	2.8	49.3	7.06	14.3	23.2	2.28	9.8	4.2	1.10	26.4
≥60	13	161.7	6.68	3.5	49.7	6.43	13.0	23.1	1.86	8.0	4.4	0.98	20.9

Wherever the sample covered is less than 10, SD and CV are not provided

Table - 30 NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - WEST BENGAL

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	21	62.3	4.50	7.2	5.7	1.06	18.6	11.3	1.05	9.3	4.5	0.71	15.7
01+	35	73.5	4.67	6.4	7.9	1.24	15.6	12.0	1.14	9.6	4.4	1.18	26.8
02+	42	80.8	5.10	6.3	9.3	1.47	15.8	12.6	0.95	7.5	4.7	1.12	23.8
03+	45	88.0	4.91	5.6	11.1	1.27	11.6	13.4	0.85	6.3	5.3	1.33	25.0
04+	42	94.2	4.72	5.01	12.5	1.50	12.0	13.6	1.11	8.1	4.7	1.11	23.5
05+	40	99.4	4.98	5.0	13.1	1.43	11.0	13.4	0.92	6.9	4.0	0.96	23.7
06+	22	103.6	5.09	4.9	14.5	1.63	11.2	13.9	0.84	6.0	3.9	0.68	17.2
07+	41	108.8	5.44	5.0	16.0	2.06	12.9	14.3	1.11	7.8	3.8	0.81	21.2
08+	41	113.7	6.26	5.5	17.2	2.41	14.0	14.6	1.17	8.0	3.6	0.84	23.0
09+	38	120.0	5.90	4.9	19.4	2.51	12.9	15.1	1.00	6.6	3.6	0.68	18.7
10+	31	126.9	5.58	4.4	22.2	3.07	13.9	15.8	1.13	7.1	3.8	0.69	18.2
11+	33	127.9	7.22	5.7	23.4	3.51	15.0	16.3	1.26	7.8	3.7	0.62	16.7
12+	27	133.4	7.95	6.0	25.2	4.09	16.3	16.4	1.29	7.9	3.7	0.57	15.6
13+	24	140.9	7.93	5.6	31.9	5.72	18.0	18.5	1.78	9.6	4.8	1.62	33.5
14+	19	142.2	6.53	4.6	32.5	5.37	16.5	18.6	1.47	7.9	4.5	0.91	20.3
15+	18	145.1	5.69	3.9	35.2	4.43	12.6	19.6	1.76	9.0	5.2	1.72	33.2
16+	16	147.8	6.62	4.5	39.6	5.62	14.2	20.9	1.73	8.3	5.3	1.34	25.2
17+	12	148.8	5.28	3.6	40.0	5.67	13.9	21.3	1.52	7.1	5.6	1.82	32.4
18+	18	151.0	6.52	4.3	43.9	7.09	16.1	22.2	2.07	9.3	6.2	2.03	32.8
19+	6	145.9			44.3			22.4			7.2		
20-25	48	149.7	4.78	3.2	41.2	4.93	12.0	21.3	1.77	8.3	5.4	2.06	38.1
25-30	71	149.4	5.04	3.4	41.2	5.00	12.1	21.5	1.73	8.1	4.9	1.68	34.5
30-35	71	149.4	4.83	3.2	40.8	5.79	14.2	21.3	1.77	8.3	4.9	2.09	42.4
35-40	62	148.3	6.04	4.1	40.3	6.78	16.8	21.4	2.06	9.6	4.9	2.63	53.3
40-45	28	147.5	4.54	3.1	39.2	5.99	15.3	21.1	2.35	11.2	4.9	2.71	54.9
45-50	20	148.6	4.92	3.3	39.8	6.56	16.5	21.4	2.25	10.5	4.4	1.86	42.7
50-55	7	146.2			35.7			20.2			3.9		
55-60	9	148.8			38.6			21.1			4.4		
≥60	2	145.3			31.4			18.2			4.3		

Wherever the sample covered is less than 10, SD and CV are not provided

Table - 31 - NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (MALES) - 1981 - UTTAR PRADESH

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	28	63.6	6.43	10.1	6.1	21.6	21.6	11.9	1.36	11.5	6.0	1.39	21.4
01+	42	72.4	3.88	5.4	8.3	12.6	12.6	12.7	0.87	6.9	7.1	1.51	21.1
02+	33	80.6	4.12	5.1	10.1	12.4	12.4	13.9	0.82	6.4	6.9	1.28	22.8
03+	46	88.7	3.28	3.8	12.2	10.5	10.5	13.6	1.02	7.5	6.6	1.60	24.1
04+	41	95.1	3.32	3.5	13.1	8.9	8.9	13.7	0.73	5.3	6.5	1.69	25.0
05+	23	101.2	2.75	2.7	14.5	8.7	8.7	14.0	0.70	5.0	5.6	0.73	13.3
06+	32	108.2	3.22	3.5	16.2	11.5	11.5	14.1	0.92	6.6	5.4	1.28	23.5
07+	39	113.0	2.93	2.6	17.9	7.2	7.2	15.0	0.74	4.9	5.6	1.09	19.4
08+	38	118.9	2.89	2.4	19.7	11.7	11.7	15.3	0.85	5.6	5.2	0.88	16.9
09+	21	123.0	3.96	3.2	20.8	8.4	8.4	15.4	1.07	7.0	5.1	1.04	20.5
10+	32	128.1	2.46	1.9	23.5	7.2	7.2	16.3	0.97	6.0	5.5	1.39	25.3
11+	19	132.9	1.94	1.5	25.2	12.1	12.1	17.4	1.39	8.0	5.6	1.21	21.5
12+	43	136.0	4.52	3.3	28.3	13.4	13.4	17.8	1.67	9.2	5.9	1.48	25.0
13+	28	143.4	3.81	2.7	30.6	7.3	7.3	17.8	1.23	6.9	5.4	0.74	13.6
14+	31	149.6	7.10	4.8	35.0	13.2	13.2	19.0	1.40	7.4	5.2	1.05	20.2
15+	21	153.5	4.22	2.8	37.6	8.8	8.8	20.1	0.92	4.6	5.2	1.00	19.0
16+	23	157.3	3.49	2.2	42.5	6.0	6.0	21.0	1.41	6.7	5.3	0.96	18.3
17+	25	160.0	3.90	2.4	44.7	6.1	6.1	21.9	1.63	7.4	5.2	0.87	16.7
18+	31	161.2	4.72	2.9	45.8	4.4	4.4	23.0	1.19	5.2	5.0	1.24	24.2
19+	16	163.3	5.37	3.2	47.5	6.8	6.8	23.8	1.42	6.0	5.4	1.02	19.1
20-25	63	163.4	4.86	3.0	48.2	8.9	8.9	23.6	1.63	6.9	5.0	0.91	18.4
25-30	41	165.2	4.70	2.8	50.8	9.9	9.9	24.0	2.04	8.5	5.2	1.39	26.6
30-35	48	162.2	5.87	3.6	47.3	11.2	11.2	23.6	1.94	8.2	4.7	1.23	26.1
35-40	41	164.2	6.10	3.7	49.0	8.9	8.9	23.5	1.71	7.3	5.0	1.42	28.3
40-45	34	161.8	5.03	3.1	48.4	10.5	10.5	23.7	1.26	5.3	4.7	1.24	26.2
45-50	32	162.6	5.95	3.7	47.8	13.9	13.9	23.4	2.21	9.4	4.4	1.21	27.7
50-55	28	162.4	5.22	3.2	48.2	11.0	11.0	23.5	1.75	7.4	5.2	2.01	38.5
55-60	13	162.1	7.48	4.6	48.3	10.8	10.8	23.3	1.48	6.4	4.2	0.73	17.1
≥ 60	36	161.0	7.36	4.6	46.0	12.7	12.7	22.6	2.10	9.3	4.8	1.92	39.7

Table - 32 NNMB - MEAN ANTHROPOMETRIC MEASUREMENTS BY AGE (FEMALES) - 1981 - UTTAR PRADESH

Age (yrs)	N	Height (cm)			Weight (kg)			Arm circumference (cm)			Skinfold at Triceps (mm)		
		Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
00	20	60.4	3.87	6.4	5.5	1.12	20.6	10.9	1.50	13.7	6.4	1.99	31.0
01+	28	71.8	4.11	5.7	7.8	1.41	18.0	12.1	1.09	9.1	6.2	1.82	30.0
02+	35	78.9	3.32	4.2	9.7	1.43	14.7	12.9	0.84	6.5	6.7	1.60	23.8
03+	35	86.2	3.75	4.3	11.3	1.39	12.3	13.3	0.92	6.9	6.8	2.08	30.4
04+	30	94.8	4.02	4.2	13.2	1.13	8.8	13.7	0.96	7.0	6.1	1.79	29.3
05+	28	101.8	2.93	2.9	14.7	0.97	6.6	14.3	0.84	5.9	6.3	1.61	25.5
06+	18	107.9	2.44	2.3	16.4	1.68	10.3	14.9	1.35	9.0	6.3	1.46	23.0
07+	19	112.3	2.86	2.6	17.8	1.80	10.2	14.9	0.93	6.2	6.2	1.47	23.8
08+	31	117.8	4.00	3.4	19.2	1.66	8.6	15.2	0.88	5.8	5.8	1.20	20.8
09+	18	123.2	4.03	3.3	21.4	2.52	11.3	15.9	1.23	7.8	5.6	1.42	25.6
10+	15	127.6	2.92	2.3	23.4	1.68	7.2	16.2	0.80	4.9	5.9	1.71	28.8
11+	14	133.8	3.73	2.8	26.0	2.65	10.2	17.2	0.96	5.6	5.9	1.03	17.5
12+	16	137.6	4.67	3.4	28.4	2.28	8.0	17.8	0.92	5.2	6.6	1.26	19.3
13+	14	144.2	3.20	2.2	33.1	2.70	8.2	19.2	1.56	8.1	6.1	1.10	17.9
14+	11	144.9	3.15	2.2	34.5	5.20	15.1	19.6	2.08	10.6	6.9	2.77	10.1
15+	11	147.9	3.52	2.4	39.0	2.62	6.7	20.6	1.19	5.8	6.2	0.98	15.9
16+	6	149.2			40.7			21.9			7.5		
17+	4	152.0			40.3			22.1			7.5		
18+	11	147.8	4.34	2.9	42.7	5.00	11.7	22.5	1.80	8.0	6.8	1.94	28.5
19+	7	151.3			43.2			22.1			6.1		
20-25	42	149.1	4.80	3.2	43.8	5.40	12.3	22.9	1.85	8.1	7.6	2.31	37.0
25-30	41	148.8	4.80	3.2	42.7	5.09	11.9	22.6	1.77	7.9	7.0	2.38	34.0
30-35	47	149.1	4.59	3.1	42.3	5.13	12.1	22.3	2.15	9.6	6.6	2.41	36.6
35-40	40	149.6	5.13	3.4	43.1	5.39	12.5	23.1	2.19	9.5	7.3	2.69	37.0
40-45	30	148.0	3.92	2.7	40.9	4.86	11.9	22.4	1.65	7.4	6.1	2.41	39.7
45-50	33	148.4	5.79	3.9	43.4	5.98	13.8	23.0	2.22	9.6	7.6	4.13	54.5
50-55	13	147.4	7.04	4.8	38.3	5.74	15.0	21.6	2.58	11.9	5.9	2.97	50.8
55-60	14	147.2	5.12	3.5	39.6	4.89	12.4	21.8	1.73	8.0	6.0	1.71	28.5
≥60	21	145.5	5.08	3.5	36.7	4.77	13.0	20.4	1.86	9.1	6.0	2.66	44.4

Wherever the sample covered is less than 10, SD and CV are not provided

Table - 33

NNMB - PERCENTAGE DISTRIBUTION OF 1-5 YEARS CHILDREN ACCORDING TO GOMEZ
CLASSIFICATION - 1981 - BOYS

State	Number surveyed	Normal	Mild	Moderate	Severe
Tamil Nadu	229	8.7	38.9	42.8	9.6
Karnataka	247	11.3	41.3	11.3	6.1
Andhra Pradesh	285	11.9	42.1	41.0	4.9
Maharashtra	195	11.8	40.0	12.6	5.6
Orissa	55	14.5	50.9	32.8	1.8
West Bengal	168	14.3	41.0	39.9	1.8
Uttar Pradesh	161	13.0	50.9	35.5	0.6
Pooled	1340	11.8	42.8	40.4	5.0

Table - 34

NNMB - PERCENTAGE DISTRIBUTION OF 1-5 YEARS CHILDREN ACCORDING TO GOIEZ
CLASSIFICATION - 1981 - GIRLS

State	Number surveyed	Normal	Mild	Moderate	Severe
Tamil Nadu	197	11.7	46.7	34.5	7.1
Karnataka	222	17.1	49.5	28.4	5.0
Andhra Pradesh	251	19.5	53.8	23.9	2.8
Maharashtra	153	20.9	39.9	32.7	6.5
Orissa	61	19.7	37.7	37.7	3.9
West Bengal	164	20.1	53.7	23.8	2.4
Uttar Pradesh	128	31.3	48.4	18.0	2.3
Pooled	1176	19.3	48.6	27.7	4.4

Table - 35

NNMB - PERCENTAGE DISTRIBUTION OF 1-5 YEARS CHILDREN ACCORDING TO GOMEZ
CLASSIFICATION - 1981 - POOLED

State	Number surveyed	Normal	Mild	Moderate	Severe
Tamil Nadu	426	10.1	42.5	39.0	8.4
Karnataka	469	14.1	45.2	35.2	5.5
Andhra Pradesh	536	15.5	47.6	33.0	3.9
Maharashtra	348	15.8	39.9	38.2	6.0
Orissa	116	17.2	44.0	35.4	3.4
West Bengal	332	17.2	48.8	31.9	2.1
Uttar Pradesh	289	21.1	49.8	27.7	1.4
Pooled	2516	15.3	45.5	34.5	4.7