

## **A STUDY ON ANTHROPOMETRIC MEASUREMENTS AND CLINICAL IMPLICATIONS OF AIDS PATIENTS**

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The HIV/AIDS is a slow onset disaster, which means a threatening hazard, is causing serious disruption on all aspects of societies life and progress. For the purpose of information pathological condition, clinical implications and Anthropometric measurements were selected. The mean weight of normal subjects is 59.60kg and the height is 167.30cm. these normal subjects showed normal height and weights and the AIDS patients showed 7 kg. lower weight and height as per the ICMR norms. 60% people are reporting that they had clinical complications. Around 33-49% both females and males complained of joint pains.

**Key words:** AIDS, epidemiology, counselling, dietary management

### **INTRODUCTION**

The spread of HIV in India has been diverse, with much India having a low rate of infection and the epidemic being most extreme in the southern states. As of December 2004, 92% of all nationally reported AIDS cases have been found in 10% of the 28 states and 7 Union territories. The greatest number were in Maharashtra and Gujarat in the west, Tamil Nadu and Andhra Pradesh in the south and Manipur in the North East (NACO, 2005). In the southern states the infections are mostly due to heterosexual contact while infections are mainly found amongst injecting drug users in Manipur and Nagaland (UN AIDS, 2004).

HIV-I transmission from an infected mother to her baby is estimated to be 21-43% in less developed countries with more than half of transmission probably occurring late in pregnancy or during labour and delivery (Rouzioux *et al.*, 1993; Bertolli *et al.*, 1996).

There are increasing number of Children infected with the human immunodeficiency Virus (HIV) especially in the countries most effected by the epidemic in 2002, are estimated 3.2 million children under 15 yrs of age were living with HIV/ AIDS a total of 8,00,000 were newly infected and 6,10,000 died (UNAIDS, WHO 2002).

Early symptoms of HIV are very similar to other illness effects which makes it difficult to diagnose HIV infection. Most people do not experience any symptoms right after becoming infected. The first symptoms that show up occur about 90 days after infection and appear similar to those of the flu including fever headaches, loss of energy swollen lymph glands.

### **MATERIALS AND METHODS**

For the purpose of the study patients with AIDs were recruited. A total of 120 samples of both males and females (61+59) respectively were collected from the organization (SHIP) Gorentla, Guntur. Subjects were divided into two age groups < 30,

>30 years from both men and women categories. From the low income group height, weight BMI, IBW and nutritional index were taken as Anthropometric measurements. In clinical implications physical features were noted down like appearance, eyes, skin, hair, nails, tongue, and lips.

## RESULTS AND DISCUSSION

Height and weight are good indicators of health. In the present study data is collected to know the status of HIV/ AIDS subjects.

**Table I :** Percent of subjects at different grades of BMI in AIDS patients and normal subjects.

S. No.	Body mass Index	AIDS (n = 120)	Normal's (n = 60)
n with parentheses			
1.	<16.0 (Chronic energy deficiency grade III severe)	9(7)	...
2.	16.0-17.0 (chronic energy deficiency grade II moderate)	2(2)	2(3)
3.	17.0-18.5 (Chronic energy deficiency grade I)	13(11)	6(10)
4.	18.5-20.0 (Low weight normal)	68(57)	30(50)
5.	20.0-25.0 Normal	17(14)	21(35)
6.	25.0-30.0 (obese grade I)	7(6)	1(2)
7.	>30 (obese grade II)	4(3)	0

Table I reveals percent of subjects at different grades of BMI in AIDS and normal subjects about 7% of the subjects were in <16 BMI (chronic energy deficiency grade III). 2% were between 16.0 - 17.0 BMI (Chronic energy deficiency grade-II) 11% of the AIDS subjects were in 17 - 18.5 BMI (chronic energy deficiency grade-I) and 57% of the subjects were in 18.5-20 BMI (low weight normal grade).

Clinical implications and pathological conditions in 69% of females and 56% of males are normal 51% (females) subjects had pale eyes, redness of the eye in 12% (females) and 18% (males) and bito'tspot in 3% (females) and 35 (males). Most of the AIDS subjects had normal skin. Around 25% had itching skin (Phrynoderna). These symptoms indicate both Vitamin-A, E and essential fatty acids deficiencies like hypodermal and xerophemia. 27% of the females and 59% of the males had normal hair 29% of females and 10% of the males had dry-hair, 34% of females and 30% of the males showed brittle and thin hair. More subjects are deficient in both protein and zinc (trace minerals or micro minerals). 81% of females and 89% of males have normal nails. Whereas 17% females and 11% of the males had brittle nails only 2% of the females had spoon shaped nails. These patients have deficiency of calcium. 14% of females and 47% of males have normal tongue where as 60% females and 33% males had pale tongue. Rest of the subjects showed deep red to magenta coloured tongue. Many of these subjects were AIDS patients showed from pale and magenta colour tongue indicating deficiency of iron. 34% of the females and males had normal lips. Where as the rest of the people have dry scale and swollen lips, indicating B-complex vitamins deficiency 22% and 20% of both females and males expressed that they have burning feet syndrome which is an indication of niacin deficiency (B-Complex deficiency). Around 14 and 5% both females and males complained of joint pairs indicating calcium deficiency, Hypo calcium/ rheumatoid authorities. Pathological conditions like CVD is shown in 14% of

**Table II :** Clinical implications of AIDS patients.

S.No.	Clinical features	Females (n = 59)	Males (n = 61)
		n with % in parentheses (n = 120)	
1.	<b>General appearance</b>		
	a) Normal	41(69)	34(56)
	b) Thin	10(17)	17(28)
	c) Obese	8(14)	10(16)
2.	<b>Eyes</b>		
	a) Normal	20(34)	34(56)
	b) pale	30(51)	14(23)
	c) Redness	7(12)	11(18)
	d) Bito'tspot	2(3)	2(3)
3.	<b>Skin</b>		
	a) Normal	32(54)	33(54)
	b) Itching skin	15(25)	14(23)
	c) Dry	7(11)	8(13)
	d) Scaly	11(10)	6(10)
4.	<b>Hair</b>		
	a) Normal	16(27)	36(59)
	b) Dull/ Dry	17(29)	6(10)
	c) Brittle	18(30)	10(16)
	d) Thin	8(4)	9(15)
5.	<b>Nails</b>		
	a) Normal	43(81)	84(89)
	b) Brittle	10(17)	7(11)
	c) Spoon Shaped	1(2)	0
6.	<b>Tongue</b>		
	a) Pink	8(14)	29(47)
	b) Pale	36(60)	20(33)
	c) Deep Reddish	4(7)	4(7)
	d) Magenta	11(19)	8(13)
7.	<b>Lips</b>		
	a) Pink	20(34)	21(34)
	b) Dry	24(41)	30(49)
	c) Scaly	13(22)	8(13)
	d) Swollen	2(3)	2(3)
8.	<b>Normal</b>	46(78)	49(80)
	Burning feet syndrome	13(22)	12(20)
9.	<b>Normal</b>	51(86)	58(95)
	Joint Pains	8(14)	3(5)
10.	<b>Normal</b>	51(86)	58(95)
	CVD	8(14)	3(5)
11.	<b>Normal</b>	58(98)	59(97)
	Kidney problems	1(2)	2(3)
12.	<b>Normal</b>	120	60(98)
	Diabetes	0	1(2)

females and 5% of males. 2-3% of the subjects complain of kidney problems and around 2% of males complained of diabetes.

To sum up about the clinical manifestation of the AIDS patients most of these subjects showed deficiency of proximate nutrients like caloric, protein, fat essential fatty acids mineral deficiencies like calcium, Iron and zinc and Vitamins like Vitamin-A, B-complex Vitamins (B1, B12, Niacin) and Vitamin-C.

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