

ETHNIC SPECIFIC VALUES OF ANTHROPOMETRY IN A COASTAL NIGERIAN CITY

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Background:

Ethnic specific anthropometric values have been used by the International Diabetes Federation (IDF) to aid in the diagnosis of the metabolic syndrome. No such values are available for Sub-Saharan Africa including Nigeria.

Objectives:

To determine the mean and normative values of anthropometry among the inhabitants of a coastal Nigerian city.

Methods:

A cross sectional survey comprising 1134 subjects (645 males and 489 females) representative of the entire population of Calabar metropolis aged 15–79 was studied. A multistage sampling method was applied to select the subjects. Using a modification of WHO STEPS instrument the information obtained included anthropometric indices. Anthropometric indices were expressed as mean (standard deviation). The comparison of means between groups was done using independent student t test. The normative values of indices of nutriture were determined using confidence interval, and the level of significance was taken as $P < 0.05$.

Results:

The mean (95% CI) values of Body Mass Index (BMI) for males and females were 27.0kg/m^2 (95% CI 26.5-27.2) and 28.5kg/m^2 (95% CI 28.0-29.0) respectively. The mean (95% CI) value of Waist Circumference (WC) for males was 91.0cm (95% CI 90.2-91.8), of females was 89.8cm (95% CI 88.8-90.8). The mean (95% CI) values of Waist Hip Ratio (WHR) for males was 0.90 (95% CI 0.88-0.89) while that of females was 0.85 (95% CI 0.87-0.89). The mean (95% CI) values of height for males was 1.70m (1.70-1.72) and for females was 1.60m (1.64-1.65), $P < 0.01$. The mean (95% CI) values of Hip Circumference (HC) for males was 101.1cm (101.5-103.3) and for females was 105.6cm (102.8-104.4), $P < 0.01$.

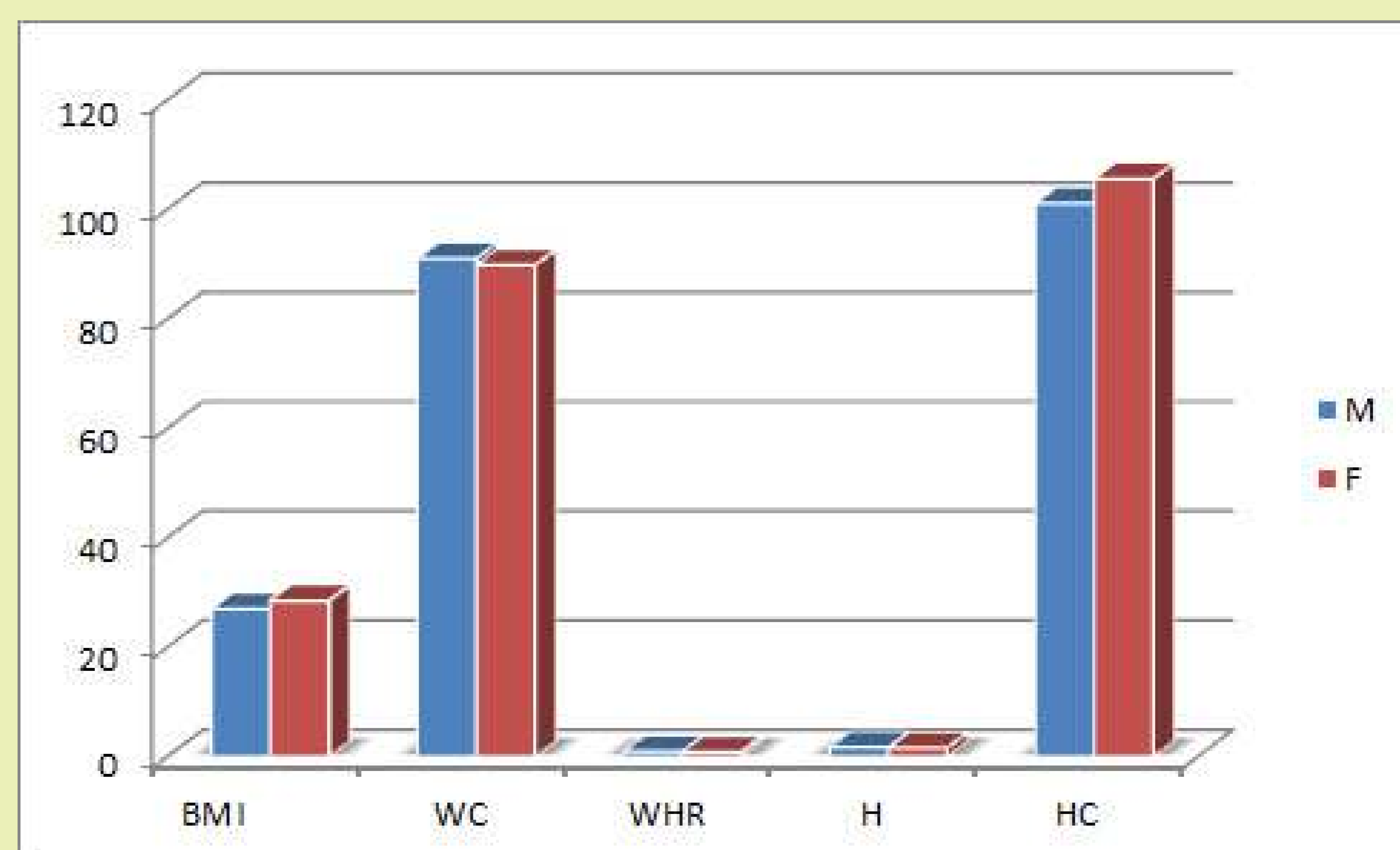
Table 1: Normative values of anthropometry in males

Variables	Mean – 2SD	Mean (SD)	Mean + 2SD	Median	92.5% confidence interval
Weight (Kg)	49.2	78.8 (14.8)	108.4	78.7	77.7-79.9
Height (m)	1.54	1.7 (0.08)	1.86	1.71	1.70-1.72
BMI (kg/m ²)	18.2	27.0 (4.4)	35.8	26.9	26.5-27.2
WC (cm)	70.4	91.0 (10.3)	111.6	91.3	90.2-91.8
HC (cm)	83.4	101.1 (9.0)	119.1	103.6	102.8-104.4
WHR	0.79	0.89 (0.05)	0.99	0.89	0.88-0.89

Table 2: Normative values of anthropometry in females

Variables	Mean – 2SD	Mean (SD)	Mean + 2SD	Median	92.5% confidence interval
Weight (Kg)	45.8	77.4 (15.8)	109.0	77.0	76.0-78.8
Height (m)	1.46	1.6 (0.07)	1.74	1.64	1.64-1.65
BMI (kg/m ²)	17.5	28.5 (5.5)	39.5	28.3	28.0-29.0
WC (cm)	66.8	89.8 (11.5)	112.8	92.0	88.8-90.8
HC (cm)	83.6	105.6 (11.0)	127.6	103.0	101.5-103.3
WHR	0.73	0.85 (0.06)	0.97	0.89	0.87-0.89

Figure 1:



Conclusion

The mean values of anthropometry in the study population are different from those from other parts of Nigeria and other parts of the world.