



TITLE: The Effect of COVID19

Name: Rabia Anwer

Affiliation: Program Manager at THB GLOBAL The Health Bank

Country: Pakistan

Email ID: rabiaanwer70@gmail.com

ABSTRACT

OBJECTIVE: To determine the validity of Bioelectrical Impedance Analysis (BIA) versus Body Mass Index (BMI) to assess overweight and obesity status in adults against a Reference method (DXA) Dual Energy X-ray Absorptiometry.

DESIGN: Validation study.

SETTING: Shifa Hospital and Jinnah Post Medical Centre Karachi Pakistan.

PARTICIPANTS: 206 adult participants' ≥ 20 yrs.

RESULTS: BIA showed better sensitivity of 90.1% and 100% specificity with no false positive but 9% false negative as compared to BMI which indicated 80.3 % sensitivity with a false-negative rate of 19.6% and specificity of 100 %. BIA also showed better sensitivity 80.9%-97.1% with 100% Specificity and PPV across all age groups. The correlation coefficient between BMI and DXA BF% ($r=0.67$) was moderate and less than the correlation coefficient between BIA and DXA BF% ($r=0.87$). Kappa agreement showed weak to a fair agreement between BMI and DXA BF% (0.1 overall; 0.22 men; 0.14 women) compared to BIA which had a better agreement between BIA BF% and DXA BF% (0.43 overall; 0.46 men; 0.34 women). BIA BF % demonstrated a better discriminatory power than BMI (AUC of ≥ 0.91) and were better predictors of body fat than BMI.

CONCLUSION: Bioelectrical impedance analysis is a more accurate method than BMI and may be used consistently throughout the country in primary care and research to identify the correct number of overweight and obese in Pakistani population.



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BIOGRAPHY

Commander Rabia Anwer is a Registered Dietitian Nutritionist and has a 20 year plus experience of working in Pakistan Navy hospital as a commissioned officer. She is MS Clinical Nutrition and has completed her MSPH from Jinnah Sind Medical University Karachi, Pakistan in 2021. She has been part of Executive Committee of Pakistan Nutrition and Dietetic Society PNDS (2013-2021) as General Secretary, Vice President, and President. She is heading the Diabetes Connected Program at the THB Global, The Health Bank Pakistan. She is the recipient of the country's prestigious award "Tamgha Intiaz Military" in 2016.

Presenter Name: Rabia Anwer.

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Contact number: +92 3335289010.

