

# Need for Development and Validation of Sarcopenia Screening Tools in Pakistan

Sir,

Sarcopenia is an age-associated decline in skeletal muscle mass and strength which may lead to impaired mobility and/or fractures. Elderly population with difficulty in performing daily activities and individuals who are bed-ridden are also considered sarcopenic. Sarcopenia is associated with many non-communicable diseases and nutritional deficiencies.<sup>1</sup> Physical screening tools for assessment of skeletal mass to identify sarcopenia are dual energy X-Ray absorptiometry, computed tomography, magnetic resonance imaging, bioelectrical impedance analysis, and physical anthropometric measurements. To assess muscle strength, knee flexion and handgrip strength are used. In addition, physical performance by short physical power battery (gait speed, timed gait up with go test and stair climbing test) may also be used for identifying sarcopenia.<sup>2</sup> Serum calcium, 25-hydroxy vitamin D (25(OH) D), interleukin-6, secreted protein acidic rich in cysteine, macrophage migratory inhibitory factors and interleukin growth factor-1 have been recommended globally as biomarkers for sarcopenia. In Pakistan, the majority of the physical screening tools are accessible but most of the biomarkers (except calcium and 25(OH)D) are not available in Pakistan.

Strong evidence from Pakistan regarding the prevalence of sarcopenia is minimal (Table I). There is a need to validate screening tools of sarcopenia in our population and determine the burden of sarcopenia in our population, which is phenotypically and genotypically different from Caucasians and even

South East Asians. Being a low middle-income country, sarcopenia will be an extra burden on the economy of the health system if appropriate preventive measures are not taken at the appropriate time.

## COMPETING INTEREST:

The authors declared no competing interest.

## AUTHORS' CONTRIBUTION:

NZ: Drafted the manuscript.

LJ, AHK: Reviewed the manuscript.

All the authors have approved the final version of the manuscript to be published.

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**Table I: Literature review on sarcopenia in Pakistan.**

Author	Setting	Population	Screening tool used	Methodology	Findings
Shehnai <i>et al.</i> <sup>1</sup>	Ganga Ram Hospital Lahore	Geriatric population; >50 years male and females	Questionnaire filled on their exercising habit, BMI, Dietary intake	Cross-sectional studies	28% perform physical exercise on regular basis. 28% skip one meal of the day 49% spent 1 hour of the day under the sun
Basharat <i>et al.</i> <sup>3</sup>	Sargodha Institute of Physiotherapy	Geriatric population; >50 years male and females	Exercise, protein intake, Vitamin D intake	Review article	50% of the population are having appropriate diet full of proteins and vitamins
Alam <i>et al.</i> <sup>4</sup>	8 different sites of Peshawar city	Geriatric male population; >then 50 years old	Anthropometric measures of weight, height and circumference. Recall of the food intake in the last 24 hours	Cross-sectional study	More 50% of the participants are malnourished. Very few have adequate nutrient u=intake
Ali <i>et al.</i> <sup>5</sup>	Three different hospitals in Karachi	Geriatric population; 60 years and above male and females	BMI	Cross-sectional survey	No significant relationship was found between obesity and frailty

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