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. 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. 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.

REFERENCES

Table I: Literature review on sarcopenia in Pakistan.

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