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LETTERS TO THE EDITOR

Use of anthropometric measurements to predict OSA in defined community populations

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The authors thank Zheng et al[1] for their interest in our work[2] and commend Zheng et al for investigating the use of neck-height ratios (NHRs) and waist-height ratios (WHRs) in predicting obstructive sleep apnea (OSA) by sex within a Chinese sleep clinic population. We hope that researchers across the globe investigate cut points that define their community populations accurately and use different cut points, as necessary.

We suspect that our NHR (≥ 0.21) and WHR (≥ 0.52) cut points from the Sleep Heart Health Study (SHHS)[2] may differ in other populations. The SHHS cut points for NHR and WHR by male and female did not vary more than 0.01–0.02 in our community sample of 6,167 participants, 47% of whom were male.[2] Having a community population that is not preselected for a high OSA risk, such as sleep clinic patients, also may explain partially the differences between our results.

Ideally, future research would account for sexual differences for NHR and WHR cut points by evaluating data from younger males, older males, premenopausal females, and postmenopausal females. Liu et al[3] noted that body mass index, neck circumference, waist circumference, and the waist-to-hip ratio were correlated positively with the apnea-hypopnea index in all men (n = 4,600) and more strongly in younger men ($P < .001$). However, no effect by age was shown for the women (n = 1,156; $P > .05$).[3] NHR and WHR were not assessed in this Chinese study.[3] According to Polesel et al,[4] postmenopausal women (60.1 ± 0.7 years) have a statistically significant higher incidence of OSA than premenopausal women (34.5 ± 0.5 years; $P < .001$). In their study, the adjusted odds ratio for the WHR cut point of 0.58 was more predictive of mild and moderate OSA in premenopausal women (n = 344), and the adjusted odds ratio for the waist circumference cut point of 95 cm was more predictive of all OSA severity levels in postmenopausal women (n = 166).[4] But 90.7% of the premenopausal women and 47.6% of postmenopausal women did not have OSA, and NHR was not assessed.[4]

Their participants were mainly Caucasian and Afro-Brazilian women.[4]

Because of these heterogeneous results, researchers around the globe should consider designing future studies to look at the interactions of sex, age, and race. Designing anthropometric ratio studies that are stratified by sex, age, and race would result in anthropometric cut points predicting OSA severity risks within specified community populations. We encourage researchers to determine appropriate cut points for community populations to capture less-advantaged persons who may not have access to sleep clinics. Together, we can develop appropriate anthropometric indices and ratios, which will facilitate screening persons quickly and cost effectively through health care records and expedite referral to sleep clinics.

CITATION

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DISCLOSURE STATEMENT

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