

Diagnostic performance of calf circumference, thigh circumference, and SARC-F questionnaire to identify sarcopenia in elderly compared to Asian working group for sarcopenias diagnostic standard

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Abstrak

ABSTRACT

Background: sarcopenia is one of many geriatric problems that may lead to major clinical outcomes. Calf and thigh circumference have good correlation with muscle mass, whereas SARC-F questionnaire is very predictive of muscle function. There has not been a study that evaluates the diagnostic performance of calf and thigh circumference in combination with SARC-F questionnaire in detecting sarcopenia. The aim of this study was to investigate the diagnostic performance of calf and thigh circumference in combination with SARC-F questionnaire compared to standard diagnostic methods of sarcopenia according to the Asian Working Group for Sarcopenia (AWGS) to predict sarcopenia in patient aged 60 years or older.

METHODS: this cross-sectional study was conducted in Geriatric Clinic Cipto Mangunkusumo Hospital, Jakarta, Indonesia during April-June 2018. Analysis was performed using receiver operating characteristic (ROC) curve to determine the cut-off point as well as sensitivity (Sn), specificity (Sp), positive and negative predictive value (PPV and NPV), positive and negative likelihood ratio (LR+ and LR-) of calf and thigh circumference as an indicator of low muscle mass, and SARC-F questionnaire score to detect decreased muscle function. RESULTS: from 120 participants, there were 46 men (38.3%) and 74 women (61.7%). The combination of calf circumference with cut-off point below 34 cm in men and below 29 cm in women, thigh circumference below 49 cm in men and below 44 cm in women with SARC-F questionnaire score of 4 have Sn, Sp, PPV, NPV, LR+, and LR- of 15.79%; 99.01%; 75.00%; 86.21%; 15.95; and 0.85 respectively. CONCLUSION: combination of calf and thigh circumference with SARC-F questionnaire showed good diagnostic accuracy in predicting sarcopenia in elderly outpatients.