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Low muscle mass and depressed mood in Korean adolescents: The fourth and fifth Korea national health and nutrition examination surveys

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Muscle mass and muscle function are related to depressed mood in studies of adults. Like older adults, Korean students are highly likely to suffer from decreased muscle mass due to social conditions. In this study, we evaluated the muscle mass status of Korean adolescents and assessed the effect of muscle on depressive mood. A total of 1,233 adolescent male and female participants from the Korea National Health and Nutrition Examination Survey (KNHANES) were enrolled in our study. Participants underwent dual-energy x-ray absorptiometry (DXA) for assessment of appendicular muscle mass and completed self-report questionnaires regarding depressed mood, stress, suicidal ideations, and attempts. We found that 17.5% of boys and 10.9% of girls had low muscle mass (LMM). Boys' depressed mood was unrelated to muscle status ($P=0.928$). However, girls with decreased muscle mass had a greater tendency for depressed mood compared to girls with optimal muscle mass ($P=0.017$). After adjusting for age, body mass index, smoking status, alcohol consumption, frequency of physical activity with resistance exercise, sleep duration, and stress, the female LMM group had a 4.05 greater risk than normal muscle girls of suffering from depressed mood (95% C.I.: 1.13-14.54, $P=0.032$). Adolescent girls who have insufficient muscle mass are more likely to report depressed mood than girls who have ideal muscle mass. Interventions for maintaining proper muscle mass are needed.

Biography

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