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Exercise and nutritional supplementation on community-dwelling elderly Japanese women with sarcopenic obesity

Statement of the Problem: Sarcopenic obesity (SO), or the co-existence of both sarcopenia and obesity among elderly people has been an area of interest in current geriatric and gerontological research. Recent research has shown that SO is closely associated with knee osteoarthritis, metabolic syndrome, arterial stiffness, instrumental activities of daily living disability, gait abnormalities, falls, and all-cause mortality, yet there are a very limited number of intervention studies published. The purpose of the study was to determine the effects of exercise and nutritional supplementation on body composition, blood components and physical function in community-dwelling elderly Japanese women with sarcopenic obesity.

Methodology & Theoretical Orientation: A randomized controlled trial was conducted on 139 women defined with sarcopenic obesity, who were randomly assigned to one of four intervention groups. The exercise and nutrition (Ex+N), and exercise only (Ex) groups attended a 60-minute class twice a week for three months. The Ex+N and nutrition only (N) groups took essential amino acid and tea catechin supplementation daily for three months. Body composition measured by bioelectric impedance analysis, blood components such as albumin, cholesterol, vitamin D, etc, and physical function including grip strength, knee extension strength, and walking speed were analyzed.

Findings: Significant group×time interactions were observed between the groups in usual walking speed ($P=0.012$), stride ($P=0.004$), and vitamin D ($P<0.001$). The Ex+N group showed significant decrease in body fat mass ($P=0.036$), increase in stride ($P=0.038$), and vitamin D levels ($P<0.001$). Further, both Ex+N and Ex groups were over four times as likely to reduce body fat mass as the HE group (OR=4.42, 95%CI=1.21-16.19; OR=4.50, 95%CI=1.13-17.9; respectively).

Conclusion & Significance: Although no additive effects were found, the combination of exercise and nutrition had beneficial effects on body fat, blood components and physical function in sarcopenic obese elderly women.

Biography

Hunkyung Kim is the Head of Prevention of Musculoskeletal Aging Research team at Tokyo Metropolitan Institute of Gerontology. After graduating from Kyungpook National University (South Korea) in 1986, he pursued Doctorate degree in exercise prescription and gerontology at University of Tsukuba (Tsukuba, Japan). His research focus has been on sarcopenia, frailty, urinary incontinence, falls, geriatric syndromes, locomotive syndrome, exercise, nutrition etc., with a particular interest in sarcopenic obesity in recent years.

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