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WHOLE-BODY VIBRATION EXERCISE IN THE ELDERLY PEOPLE

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IBMS Osaka 2003

Most of femoral neck fractures in the elderly are caused by fall. Although exercise is considered to prevent fall by maintaining muscle power and balance and functional fitness, many old subjects are unable to exercise effectively. The aim of this study is to investigate the effects of the Whole body vibrations (WBV) in the elderly people. Twenty-one people aged 72.6 years old attending health program in local community were included in this study. Eleven carried out the exercise (Ex.) by low frequency oscillation loading device (Galileo 900, Novotec Pforzheim Germany, Fig.1) and the other ten did not (Cnt.). Ex. was exposed to a bout of the 20-30Hz vibrations standing on the platform 3 times a week. Calcaneal bone mineral density was measured using QUS (AOS-100, Aloka Japan), statical and dynamic balance test, functional fitness tests was performed before and after 6 months exercise program. Calcaneal bone mineral density did not differ between 1st and 2nd measurement, but balance-function improved significantly after 6 months exercise in Ex. These results suggest that WBV possibly prevents fall and femoral neck fracture by improving standing balance in elderly subjects.

Fig.1 Low frequency oscillation loading device (Galileo 900, Novotec Pforzheim Germany)