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THE HEALTH IMPACT OF WEARABLE DEVICES ON PATIENTS WITH METABOLIC SYNDROME: A CLINICAL TRIAL IN KOREAN ADULTS

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Few studies have examined the effect of wearable devices on chronic diseases. We postulated that electronic activity monitors with automated feedback via a wearable device may improve metabolic syndrome (MetS). We included 53 smartphone users with a diagnosis of MetS. Subjects were prescribed regular walking with a wearable device on their arm or waist for 12 weeks. Trained nurses provided individual feedback regarding physical activity via telephone consultation on alternate weeks. Blood pressure (BP), body composition, fasting plasma glucose, and lipid profiles were recorded. The primary outcome was MetS resolution. The secondary outcome was an improvement in the metabolic components. 20 subjects (35.2%) completed the trial (median age 46 years, range 36-50 years). After 12 weeks, systolic and diastolic BP decreased from 137 mmHg and 85 mmHg to 127 mmHg and 77 mmHg, respectively (p=0.015, p=0.022). Fasting plasma glucose decreased from 119 to 108 mg/dL (p=0.337, p=0.658) and triglycerides decreased from 187 to 173 mg/dL (p=0.543, p=0.084). In 14 subjects (74%) there was improvement in the components of metabolic impairment and resolution of MetS occurred in 9 subjects (47%). Wearable devices may be an efficient strategy for treating patients with MetS, with good patient adherence and sustained engagement.