RESULTS: The waist circumference presented a negative trend in the three age groups analyzed. Hip circumference (cm) presented a negative trend in the age groups of 60 to 69 and 70 years and over, while WHR showed a negative trend in the age groups of 50-59 and 70 and 70 years and over. In the age group of 50 to 59 years, the mean WHR was 0.88 cm, with a decrease of 0.01 cm every year. In the age group of 60 to 69 years, the mean waist circumference was 87.90 cm, and there was a decrease of 0.05 cm in each year; the mean hip circumference was 98.82 cm, with a decrease of 0.02 cm every year. In the age group of 70 years and over, the mean waist circumference was 88.62 cm, with a decrease of 0.07 cm every year; the mean WHR was 0.89 cm, with every year decrease of 0.01 cm.

CONCLUSION: Over the three decades analyzed, elderly active women of all age groups showed a tendency to decrease CV risk, although it still remained at a high risk, suggesting a positive impact of a PA program on CV risk.

| Table 7: Trend analysis of adiposity-related characteristics of non-sedentary elderly according to age group |
|---|---|---|---|---|---|---|---|
| | 50 to 59 years | 60 to 69 years | 70 years and over | Model 1 | Model 2 | Model 3 |
| Waist Circum. (cm) | r = 0.89 | -0.42 | 0.38 | 0.0966 | y = 87.90 - 0.26 | 0.51 | 0.0000 | y = 88.62 - 0.07 | 0.64 | 0.0001 |
| Hip Circum. (cm) | r = 102.12 - 0.05 | 0.12 | 0.1531 | 0.61 | 0.0001 | y = 98.82 - 0.02 | 0.71 | 0.0001 |
| WHR | r = 0.88 - 0.01 | 0.35 | 0.0648 | y = 100.11 + 0.01 | 0.91 | 0.0011 | y = 88.60 - 0.09 | 0.60 | 0.0001 |

848 Board #82 May 29 3:30 PM - 5:00 PM
Different Exercise Training On Reaction Time In Older Adults With Mild Cognitive Impairment
Linda Lin1, Michael S W Lo2, Nai-Hsin Yang1, Guei-Jang Li3. 1National Cheng Kung University, Tainan, Taiwan; 2Kun Shan University, Tainan, Taiwan.
Email: lin22@mail.ncku.edu.tw

(Purpose) To examine the effects of reaction ability after 2 weeks of different types of exercise intervention in community-dwelling elderly with mild cognitive impairment.

METHODS: 12 participants aged over 60 years old were classified as probable mild cognitive impairment (MCI) using the Saint Louis University Mental Status (SLUMS) examination. Participant were assigned to 3 groups (CG, n = 22, 74.5±8.7 years; RTG, n = 24, 72.00±7.15 years; MEG, n = 26, 72.75±6.56 years). Exercise groups performed twice-weekly resistance training or multicomponent exercise training for 1.2 hours a week. Follow-up assessments were conducted using certified fitness instructors, and the control group performed twice-weekly tablet personal computers course for 12 weeks. The primary outcome measure was the speed and the reaction time measurement study was performed by Vienna-test system (VTS), the total body reaction time was measured with both feet on a measuring instrument (HELMA NH 3000II).

RESULTS: After the training period, of the 72 participants, 53 completed 12-week trial (18 in the MEG group, 18 in RT group, 17 in CG group). The total body reaction time for the MEG (117.03±21.93%), and RTG (90.4%) had decreased significantly than the CG (+1.13%) (p<.05), and the simple movement time for the MEG (7.41%), and RTG (0.81%) had decreased significantly than the CG (+25.58%) (p < .05).

CONCLUSIONS: These findings indicate that participating in the multicomponent exercise and resistance exercise program on building community for health promotion can improve reaction time in elderly with cognitive impairment. These findings suggest that short time twice-weekly MET and RTG are promising and effective strategies in community-based health promotion activities with mild cognitive impairment.

849 Board #83 May 29 3:30 PM - 5:00 PM
Bone-targeted Exercise For Older Men With Osteopenia And Osteoporosis: LIFTMOR For Men Trial Preliminary Findings
Amy T. Harding1, Benjamin K. Weeks2, Lisa J. Weis2, Conor Lambert1, Steven L. Watson2, Belinda R. Beck, FACSM1. 1Griffith University, Gold Coast, Australia; 2The Clinic, Brisbane, Australia.
Email: amy.harding@griffithuni.edu.au

(Purpose) The LIFTMOR (Lifting Intervention For Training Muscle and Osteoporosis Rehabilitation) for Men trial was designed to compare the effects of 2 novel bone-targeted exercise programs on risk factors for falls and fracture in men with low bone mineral density (BMD).

METHODS: LIFTMOR for Men is a 3-month, 8-month, semi-randomised, intervention trial. Men ≥50 years of age with low BMD, screened for conditions and medications known to affect bone were recruited. Eligible participants were randomised to 2-weeks, supervised high-intensity resistance and impact training (HiRIT) or bioDensity (bD) machine-based isometric exercise. Intervention responses are compared with those of a self-selected, non-randomised control (CON) sample of age-matched men following their habitual lifestyles. Outcomes at baseline and follow-up include: anthropometry; DXA-derived lumbar spine (LS) and femoral neck (FN) BMD; physical function (back extensor strength [BES], lower extremity strength [LES], timed-up-and-go [TUG], and 5-times sit-to-stand (STS)); and safety and compliance. Pre-protocol analyses of preliminary outcomes were conducted using repeated measures ANCOVA, controlling for age, calcium consumption, prior physical activity, and initial values for BMD (adjusted mean change at SE and adjusted p-values were presented).

RESULTS: 93 men (67.14±7.5yr, 82.1±11.6kg; 175.2±6.7cm) with low BMD (FN T-score ≤-1.60) were recruited, and designated CON (n=26) or randomly assigned to HiRIT (n=34) or bD (n=33). To date, 67 have completed the study and are included in these preliminary findings (21 CON; 24 HiRIT; 22 bD). Compliance is 75.6±17.9% for HiRIT and 81.1±12.1% for bD (NS). Between-group differences have appeared in several outcome measures but are included in the following improvements in LS BMD (HiRIT 0.04±0.01 g/cm² vs CON 0.01±0.01 g/cm²; p<0.01) and STS (HiRIT 1.64±0.3 vs bD 0.4±0.3; p=0.01) have reached significance. Within-group improvements have been observed for LS and FN BMD in both HiRIT and bD, all functional outcomes for HiRIT (all p<0.05), and in LES, TUG, and STS for bD (all p<0.05). There have been no adverse events.

CONCLUSION: Although preliminary, findings suggest that both novel bone-targeted exercise programs improved BMD and physical function in older men with osteopenia and osteoporosis. Data collection is ongoing.

850 Board #84 May 29 3:30 PM - 5:00 PM
Behavioral Responses on a Virtual Reality Induced Cognitive Task Between Young and Older Adults
Brett Baker, Yeonhak Jung, Preeti Chopra, Darla Castelli. The University of Texas at Austin, Austin, TX. (Sponsor: John Bartholomew, FACSM)

(Purpose) Using VR, we determined if young and older adults differ on behavioral responses of reaction time and accuracy during standing, walking and fast walking conditions that require dual-task completion.

METHODS: Thirty-two young adults (Mean age = 21.03) and thirty older adults (Mean age = 69.6) participated in this study and were instructed to stand or walk on a Motek instrumented treadmill integrated with a 180° VR projection screen. Participants performed three eight-minute physical activity conditions; standing, walking and fast walking. During the conditions, 60 red