Comparative Health-Related Fitness Profiles of Korean Women Aged 70+ Living in South Korea and Korean Immigrants in Canada

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ABSTRACT

INTRODUCTION This study aims to compare key fitness components between older Korean immigrant women in Canada and their counterparts residing in South Korea to identify differences in fitness profiles and enhance understanding of factors influencing physical health in this population.

METHODS Thirty-one Korean immigrant women in Canada (79.3 ± 4.3 years) completed handgrip strength, Chair Stand, Timed Up-and-Go, Sit-and-Reach, and 6-Minute Walk assessments. Comparative data were obtained from thirty-three women in South Korea (74.5 ± 2.7 years) who completed the Korean National Fitness Award tests. Group differences between Korean immigrants (KI) and Korean residents (KR) were analyzed using independent t-tests.

RESULTS Significant group differences were observed across most fitness variables. KR participants exhibited significantly higher performance than KI participants in relative handgrip strength (KI = 35.2 ± 6.9 kg; KR = 41.9 ± 8.9 kg; $p = 0.001$), the Chair Stand Test (KI = 13.5 ± 3.4 repetitions; KR = 23.3 ± 5.9 repetitions; $p < 0.0001$), the Timed Up-and-Go Test (KI = 7.8 ± 2.2 s; KR = 5.7 ± 1.2 s; $p < 0.0001$), and the 6-Minute Walk Test (KI = 477.6 ± 86.3 m; KR = 554.6 ± 77.8 m; $p < 0.0001$). However, one fitness component—flexibility—was significantly higher in the experimental group, with KI participants outperforming KR participants on the Sit-and-Reach Test (KI = 27.3 ± 11.3 cm; KR = 15.4 ± 9.3 cm; $p < 0.0001$).

CONCLUSIONS The findings show that Korean residents in South Korea outperformed Korean immigrants in Canada across most health-related fitness components, suggesting a potentially slower age-related decline in the KR group. Further research using more rigorous, controlled designs is needed to address confounding factors.

PURPOSE

The purpose of this study is to investigate differences in fitness components between Korean immigrant women aged 70 years and older residing in Canada and Korean women of the same age residing in South Korea. The findings will enhance our understanding of the observed differences and provide valuable evidence for future studies exploring the underlying factors contributing to these differences.

METHODS

Table 1. Characteristics of the participants (KI; n=31 & KR; n=33) (M±SD)

	Korean Immigrants in Canada	Korean Residents in South Korea
Age (yrs)	79.3 ± 4.3	74.5 ± 2.7
Height (cm)	154.3 ± 5.1	152.6 ± 5.4
Weight (kg)	56.6 ± 7.9	55.3 ± 5.9
BMI (kg/m^2)	23.6 ± 2.9	23.8 ± 2.7
Abdomen (cm)	83 ± 8.4	82.2 ± 8.6
Body Fat (%)	31.5 ± 10.5	32.9 ± 6.7

Table 2. Experimental procedures for Korean immigrants in Canada

Participant Screening	• PAR-Q • Lifestyle Questionnaire
Pre-assessment Procedures	• Explanation of the purpose and procedures of the fitness assessments • Warming-up exercises for 10 minutes
Fitness Assessments	• Body Composition (e.g., Height, Weight, BMI, Abdomen circumference, and Fat%) • Flexibility (e.g., Sit-and-Reach) • Dynamic Equilibrium (e.g., Timed Up-and-Go) • Strength in Upper & Lower bodies (e.g., Handgrip strength, Dumbbell Arm Curl, and Chair Stand Test) • Cardio endurance (6-Minute Walk Test)

Table 3. Data collection for Korean residents in South Korea from Korean Sports Promotion Foundation (*KSPO*)

Data Collection	• Handgrip strength (Strength in upper body) • Chair Stand Test (Strength in lower body) • Timed Up-and-Go (Dynamic equilibrium & agility) • 6-Minute Walk Test (Cardio endurance) • Sit-and-Reach (Flexibility)

Table 4. Data analysis

Data Analysis	• R Studio was used for all statistical analyses • An independent T-test was performed to examine differences between the KI and KR groups

RESULTS

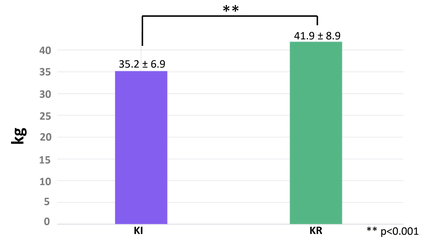


Figure 1. Handgrip Strength*

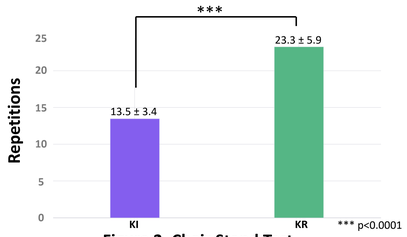


Figure 2. Chair Stand Test

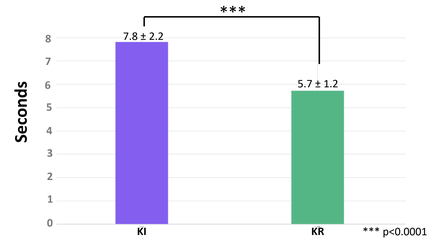


Figure 3. Timed Up-and-Go

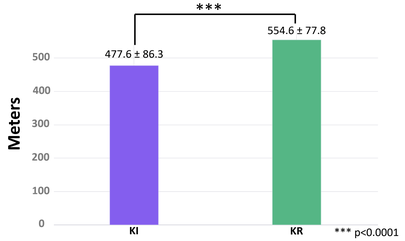


Figure 4. 6-Minute Walk Test

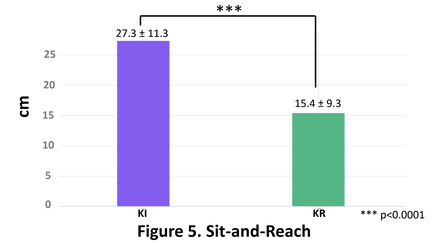


Figure 5. Sit-and-Reach





CONCLUSION

The findings show that Korean residents in South Korea outperformed Korean immigrants in Canada across most health-related fitness components, suggesting a potentially slower age-related decline in the KR group. Further research using more rigorous, controlled designs is needed to address confounding factors.