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INTRODUCTION & AIMS

Paramedics are among the most frequently injured health professionals in Australia.

Awkward and heavy manual handling tasks are some of the primary causes of work-related paramedic injuries. Little research has investigated the health and fitness profiles of Australian paramedics, and despite its importance, how to monitor and facilitate fitness levels to reduce injury and illness risk. The aim of this study was to compare the health and fitness of male and female Australian paramedics to inform the development of future targeted health and fitness interventions.

METHODS

A group of regional Australian paramedics (n=109; 59 male; mean±SD 37.0±10.2 years; BMI 28.3±5.4 kg/m²) with no contraindications to exercise underwent health and fitness screening. Resting blood pressure (Omron HEM-7322, Japan) was taken after five minutes quiet sitting. Body composition (body fat %) was measured by bioelectrical impedance (Inner Scan V, Tanita, Japan). Upper body strength (maximum push-ups; modified for females), lower body strength (single-leg (SL) wall squat; total of left and right; sec), core muscular strength (prone plank hold; sec) and flexibility (sit and reach; cm) were each assessed. The mean of two measures was recorded for blood pressure, body composition and flexibility. Outcomes were compared to ACSM normative data and between sex using multivariate ANOVA.

RESULTS

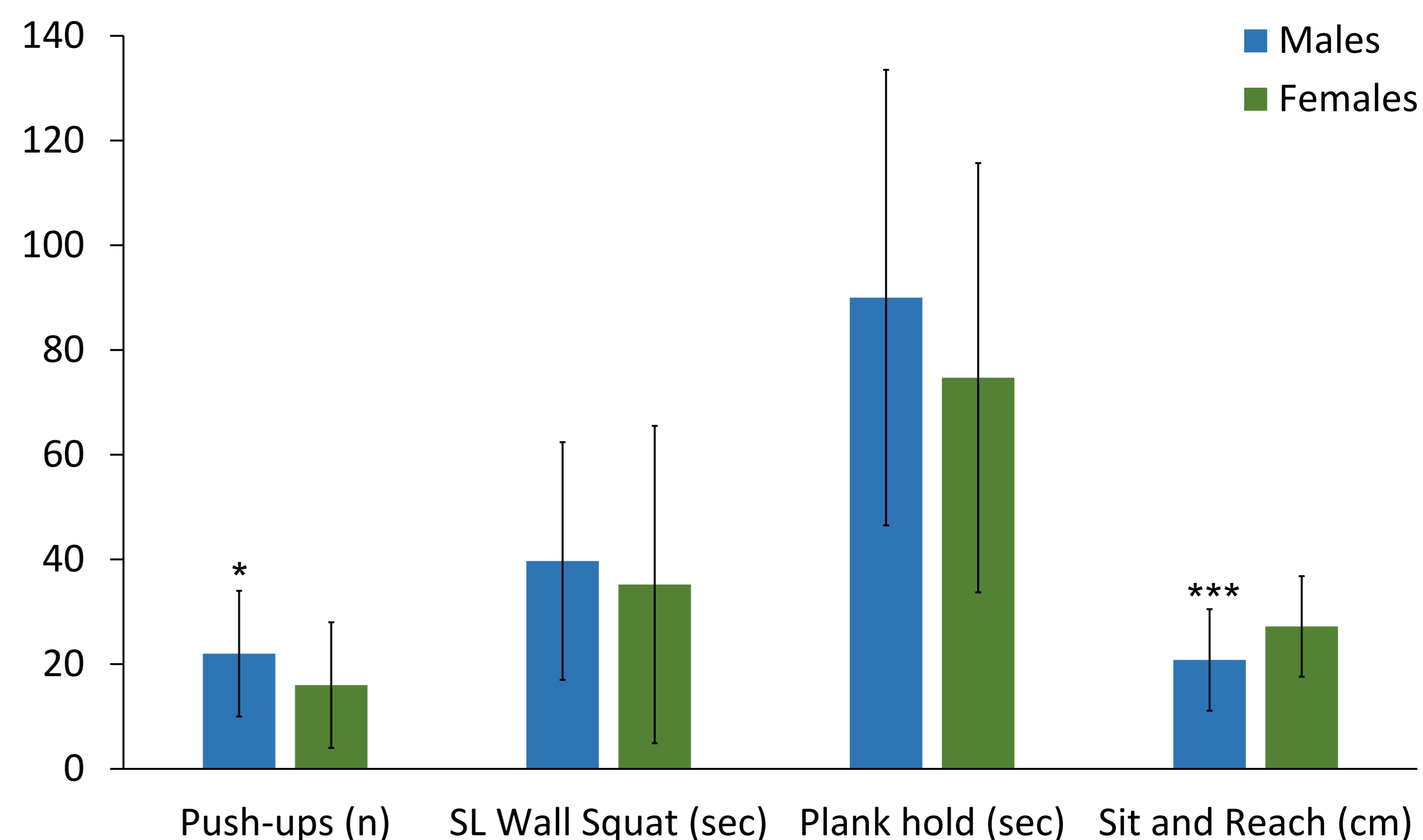
Cardiometabolic Measures

	Males (n=59)	Females (n=50)
Systolic BP	136±11mmHg**	123±13mmHg
Diastolic BP	85±8mmHg	80±7mmHg
Relative Body Fat	23.7 ± 6.5%*** (poor)	34.7 ± 8.3% (very poor)

p<0.01; *p<0.001

Males had higher resting blood pressure and lower body fat percentage. Both males and females were classified as pre-hypertensive and had high levels of relative body fat based on age.

Fitness Measures



Data are presented as mean±SD. *p<0.05; ***p<0.001

Males had greater upper body strength than females (push-ups; 22±12: very good vs. 16±12: good); similar lower body strength (SL wall squat; 39.7±22.7sec vs. 35.2±30.3sec; both below average); similar core strength (prone plank hold; 90±43.5sec vs. 74.7±41sec; both below average); and less lower body flexibility (sit and reach; 20.8±9.7cm vs. 27.2±9.6cm; both fair).

CONCLUSION

A lack of core strength and lower body strength and flexibility may be underlying factors associated with an increased risk of sustaining work-related musculoskeletal injuries for both male and female regional Australian paramedics, although associations are yet to be made. Furthermore, cardiometabolic disease risk may be elevated in this relatively young population due to the high body fat and pre-hypertensive blood pressure levels observed in this study. Future research should aim to identify biopsychosocial factors that may be contributing to these health and fitness findings, as well as prospectively investigate potential associations between health and fitness outcomes and injury and illness occurrence.

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