

# Farming Fit? Depression and obesity in farm men and women

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# Depression

- Worldwide
  - Leading contributor to YLDs and 4<sup>th</sup> leading DALYs in 2000
  - Set to become an even bigger problem in 2020<sup>1</sup>
- Australia
  - 1 in 5 Australians experience depression<sup>2</sup>

1. World Health Organisation, *Depression*, Accessed online 6 September 2010

2. beyondblue, 2009, *What is depression?* Accessed online 6 September 2010

# Rural People

Have poorer mental health

Higher rates of suicide<sup>1</sup>

Potential causes:

- Isolation<sup>2</sup>
- Socio-economic issues<sup>3 4</sup>
- Alcohol intake
- Low exercise levels

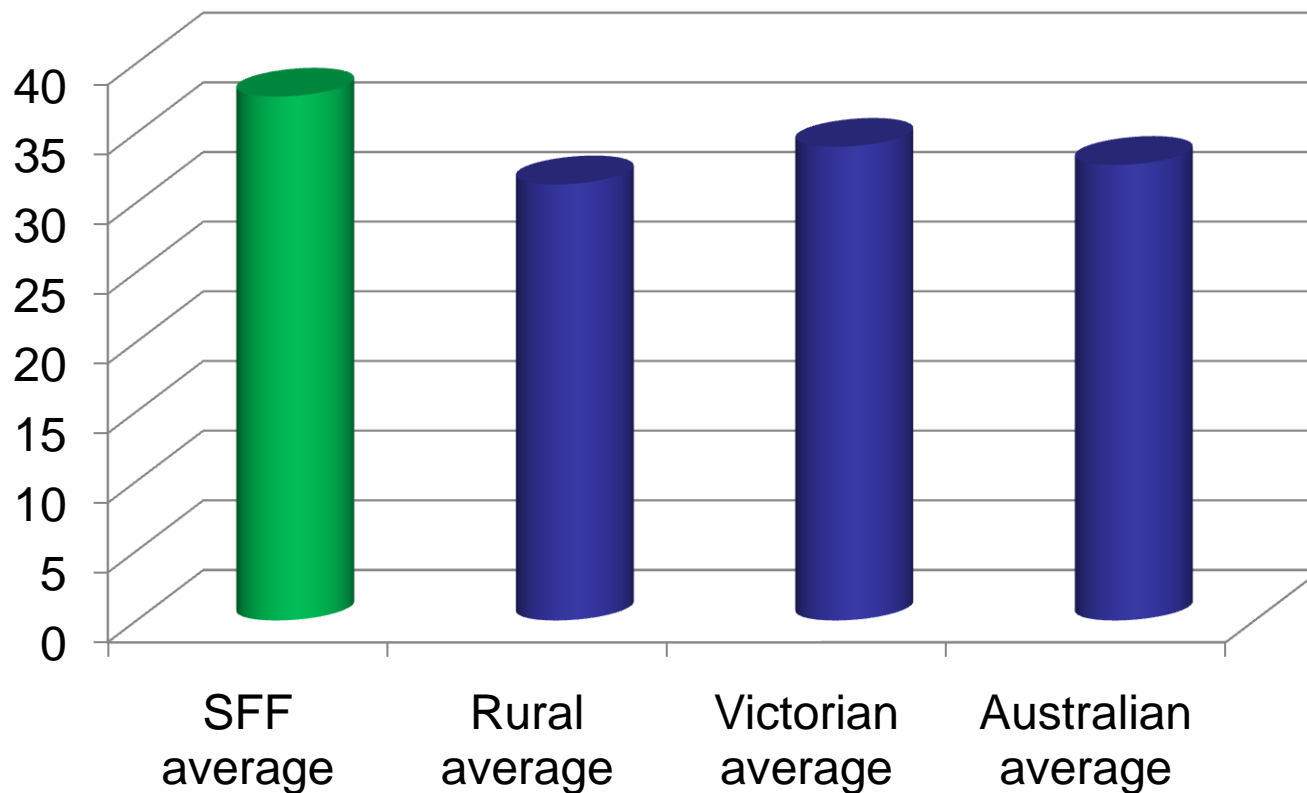
1. AIHW, 2010, *Australia's Health 2010*, Australia's health series no. 12. Cat no. AUS 122 Canberra

2. Levin, K.A. and Leyland, A.H., 2000, *Urban/rural inequalities in suicide in Scotland, 1981-1999*. Soc Sci Med (60)12: 2877-90

3. Taylor, R., et al. 2005 *Social and psychiatric influences on urban-rural differentials in Australian suicide* Suicide Life Threat Behav 35 (3): 227-90

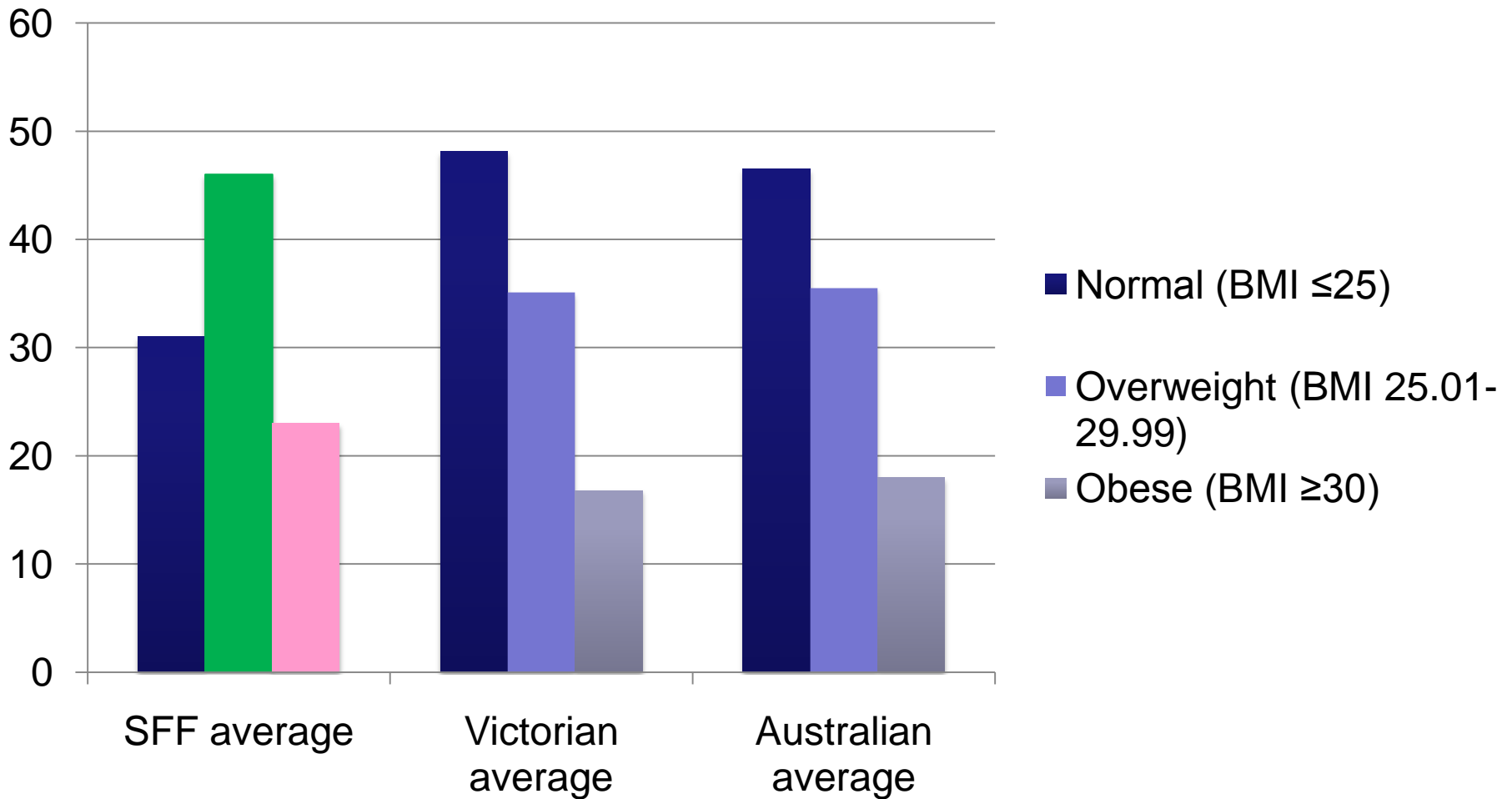
4. Bourke, L., 2003 *Toward understanding youth suicide in an Australian rural community* Soc Sci Med 57(12): 2355-65

# Sustainable Farm Families™ (SFF) – Kessler K.10≥16



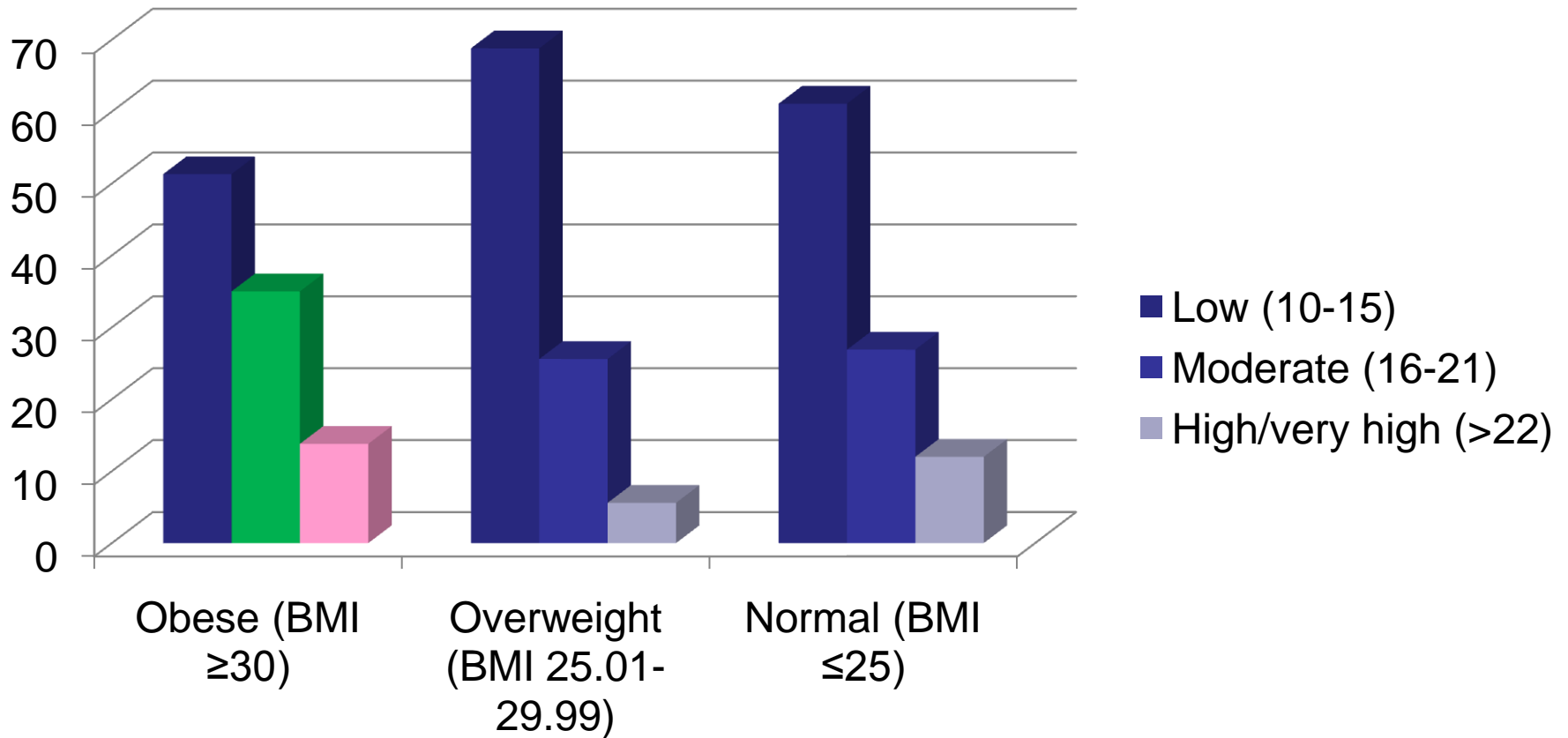
1. Christensen, H., Griffiths, K.M. and Gulliver, A. 2008 *Plenty of activity but little outcome data: a review of the "grey literature" on primary care anxiety and depression programs in Australia*. Med J Aust, 188 (12 suppl): S103-6
2. Kilkinen, A., A. Kao-Philpot, A. O'Neil, B. Philpot, P. Reddy, S. Bunker, and J. Dunbar, *Prevalence of psychological distress, anxiety and depression in rural communities in Australia*. Australian Journal of Rural Health, 2007. 15(2): p. 114-119.

## SFF - BMI



# SFF K.10/BMI Correlation

n=342



## Objectives

- To explore the link between physical activity, stress and obesity.
- In 2009, secured funding through the *beyondblue* Victorian Centre of Excellence in Depression and Related Disorders


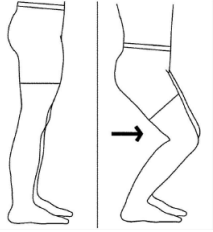
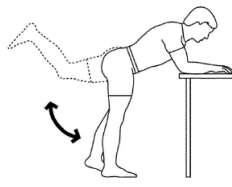
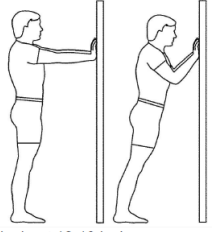
# Recruitment

- Must have;
  - Attended SFF program
    - Currently farming
    - Aged between 18-75
  - BMI>25
- Recruitment started in Feb 2010 in Northern Victoria
- Programs were randomly pre-assigned to control/intervention groups



# Intervention group

- Free exercise program
  - Strength building
  - Stretches
- Phone coaching
  - Goal setting/review
- Exercise video

<p><b>670 - Walking</b></p>  <ul style="list-style-type: none"> <li>• Walk at a comfortable pace.</li> <li>• If you have a limp try to maintain equal time on each leg to eliminate limp.</li> <li>• Walk for _____.</li> </ul> <p>Perform 1 set of 20 Minutes, once every other day.</p>	<p><b>822 - Full double squat</b></p>  <ul style="list-style-type: none"> <li>• Stand with feet shoulder distance apart.</li> <li>• Slowly bend knees to 90 degrees.</li> <li>• Hold for 5 seconds, and return to standing position.</li> <li>• Repeat.</li> </ul> <p><b>Special Instructions:</b>        Maintain proper low back posture.        Perform 2 sets of 20 Repetitions, once every other day.        Rest 1 Minute between sets.        Perform 1 repetition every 4 Seconds.</p>
<p><b>448 - Forward bend leg kickback</b></p>  <ul style="list-style-type: none"> <li>• Lean over table, bending at hips, stand on uninvolved leg.</li> <li>• Bend knee slightly on involved leg.</li> <li>• Lift involved leg up and backward as shown.</li> <li>• Return to start position and repeat.</li> </ul> <p>Perform 2 sets of 20 Repetitions, once every other day.</p> <p>Rest 1 Minute between sets.        Perform 1 repetition every 4 Seconds.</p>	<p><b>999 - Wall push up</b></p>  <ul style="list-style-type: none"> <li>• Stand facing wall, about 12-18 inches away.</li> <li>• Place hands on wall at shoulder height.</li> <li>• Slowly bend elbows, bringing face to wall.</li> <li>• Push back up to start position and repeat.</li> </ul> <p>Perform 2 sets of 20 Repetitions, once every other day.</p> <p>Rest 1 Minute between sets.        Perform 1 repetition every 4 Seconds.</p>

# Data collection

- Anthropometric measurements
- Biochemical measurements
- Self reported questionnaires

# Saliva cortisol tests



Sarstedt saliva tubes given to participants



Transferred to storage tubes



Received via mail



Packed for the freezer



Centrifuged

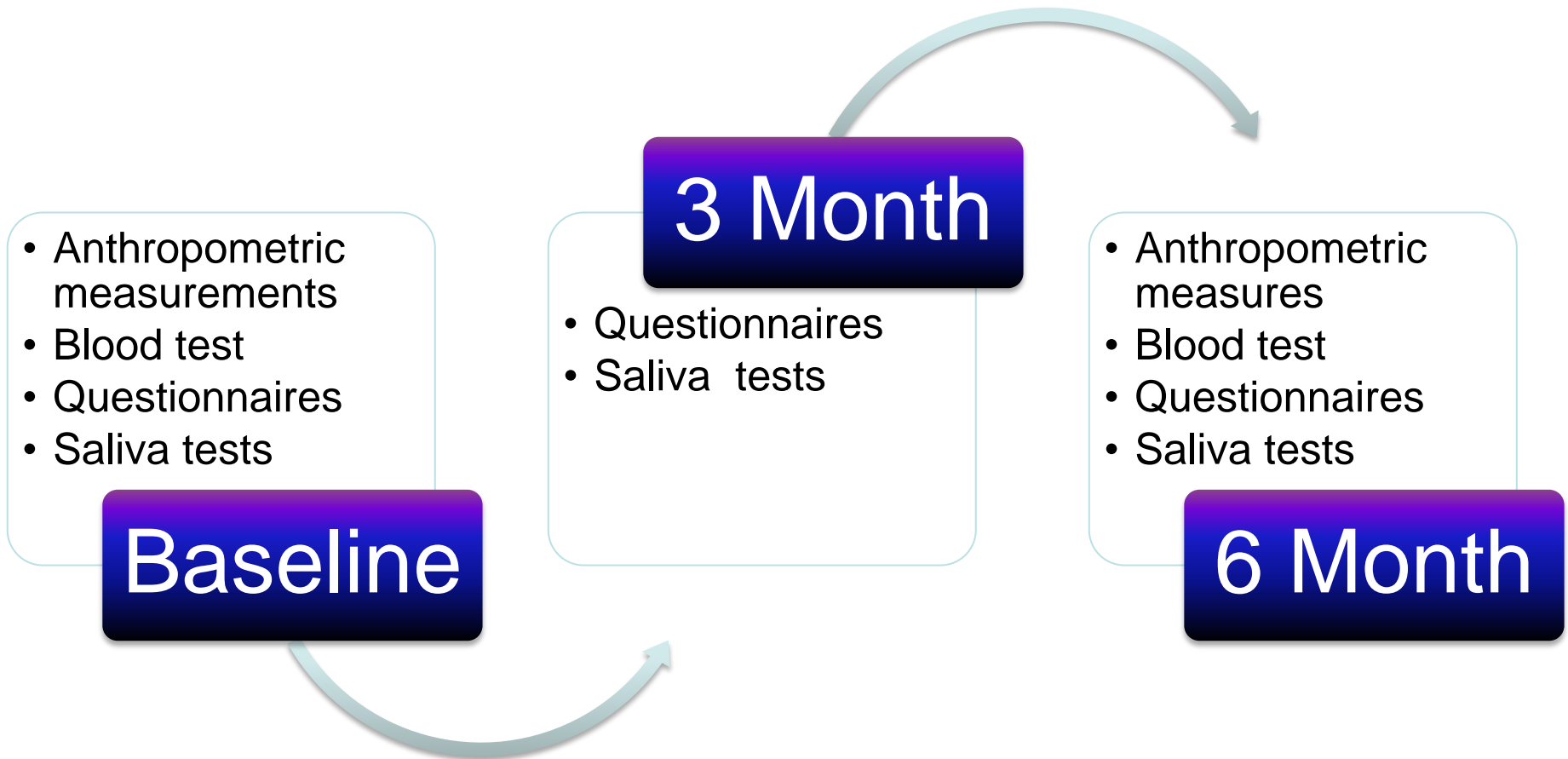


Stored at -80°

# Self reported questionnaires

- Diet information
  - Diet diary
  - Diet questionnaire
- Physical activity levels
- DASS21
- Health conditions/behaviours
  - Alcohol intake
  - Medications
- Pre-Exercise Screening questionnaire  
(intervention group only)

# Data collection timeline



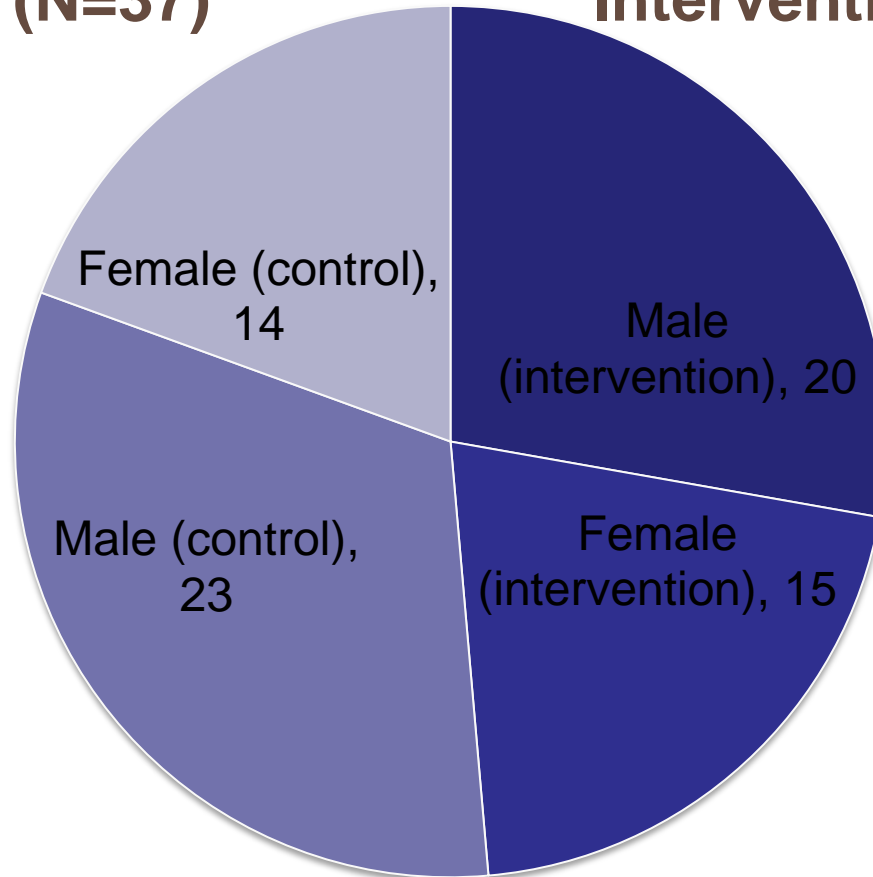
Farming Fit? Depression and obesity in farm men and women

# **PRELIMINARY RESULTS**

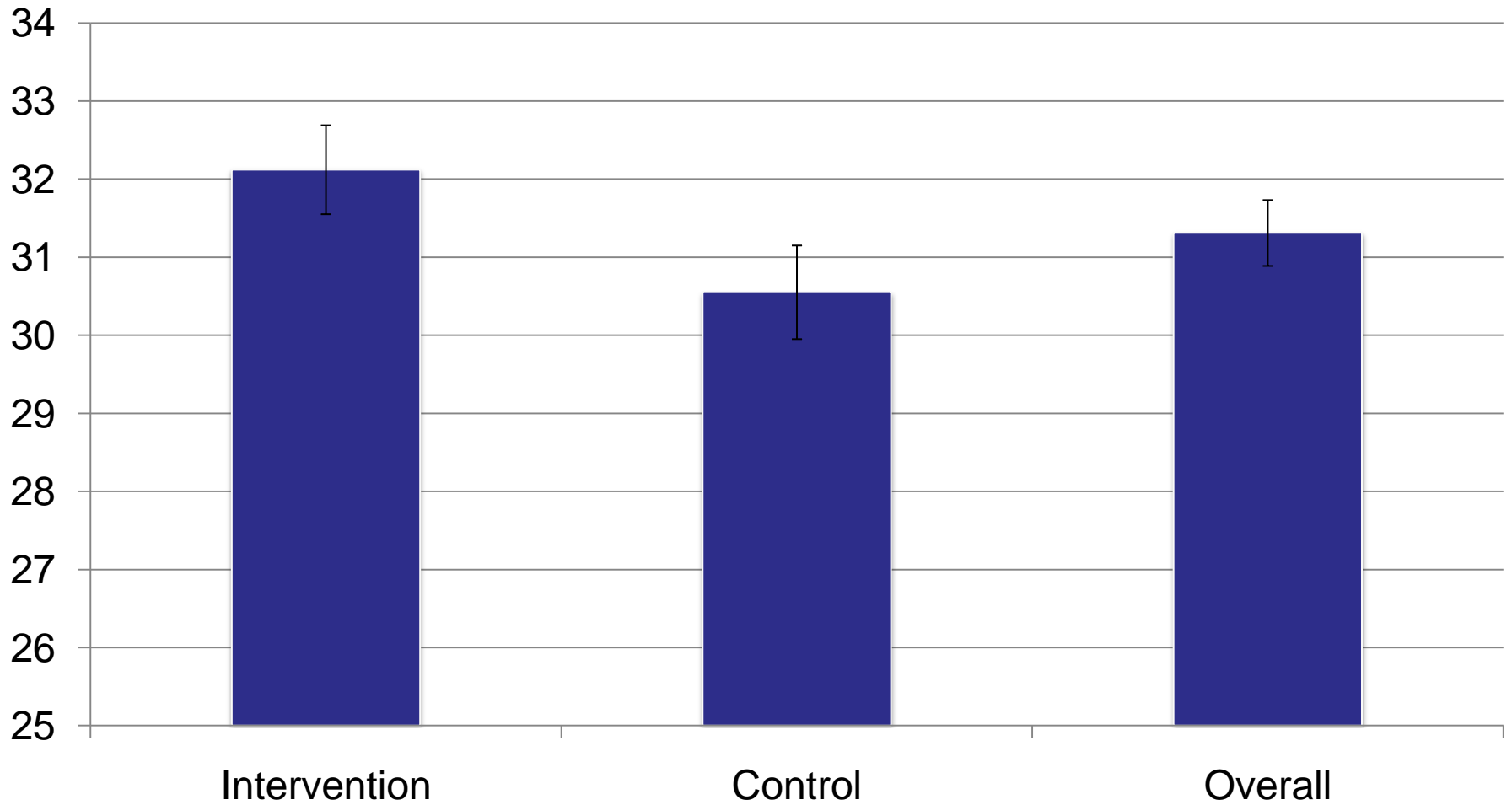
# Participant demographics

**Control Group (N=37)**

**Intervention Group (N=35)**

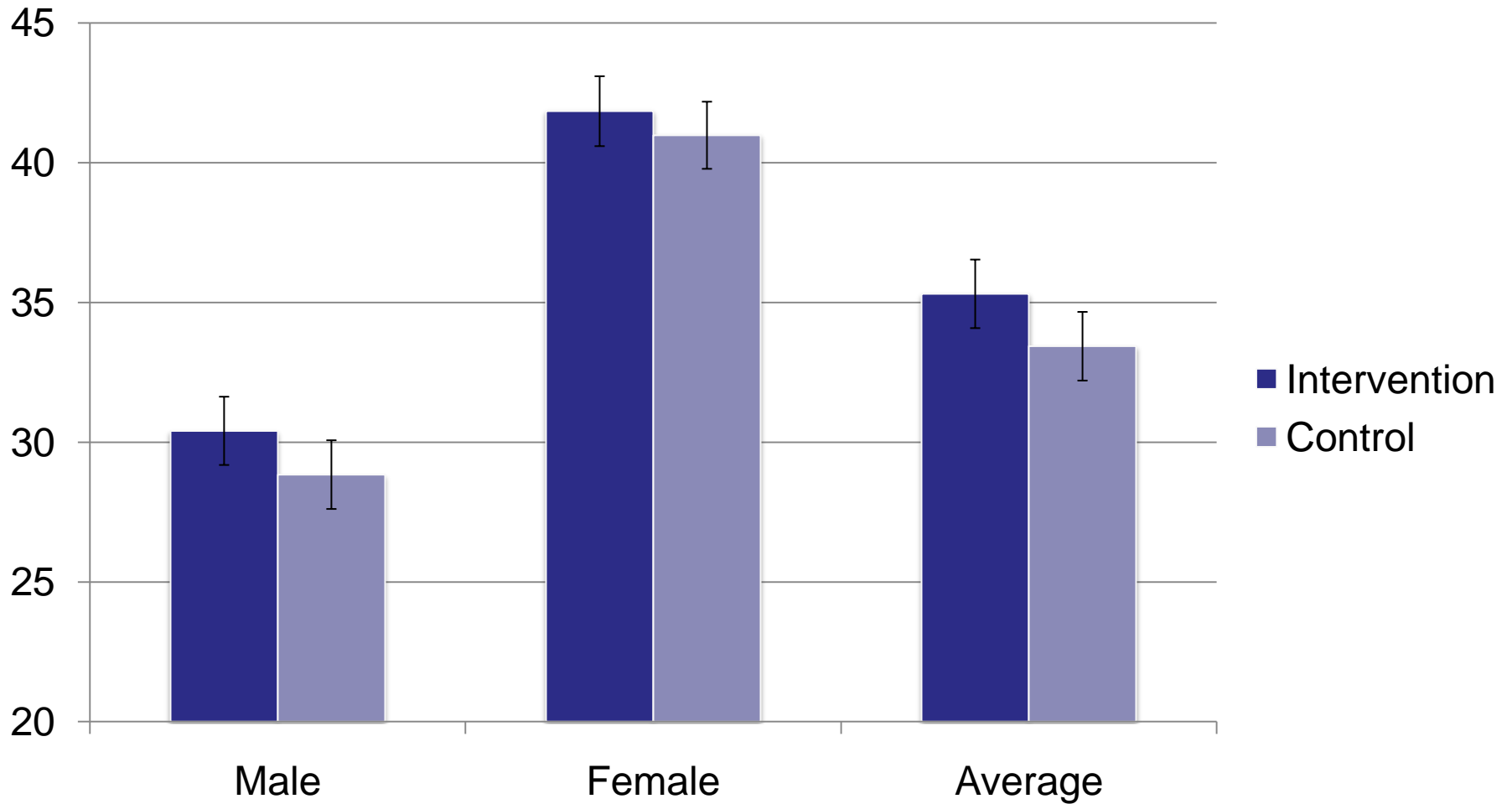


# Average BMI

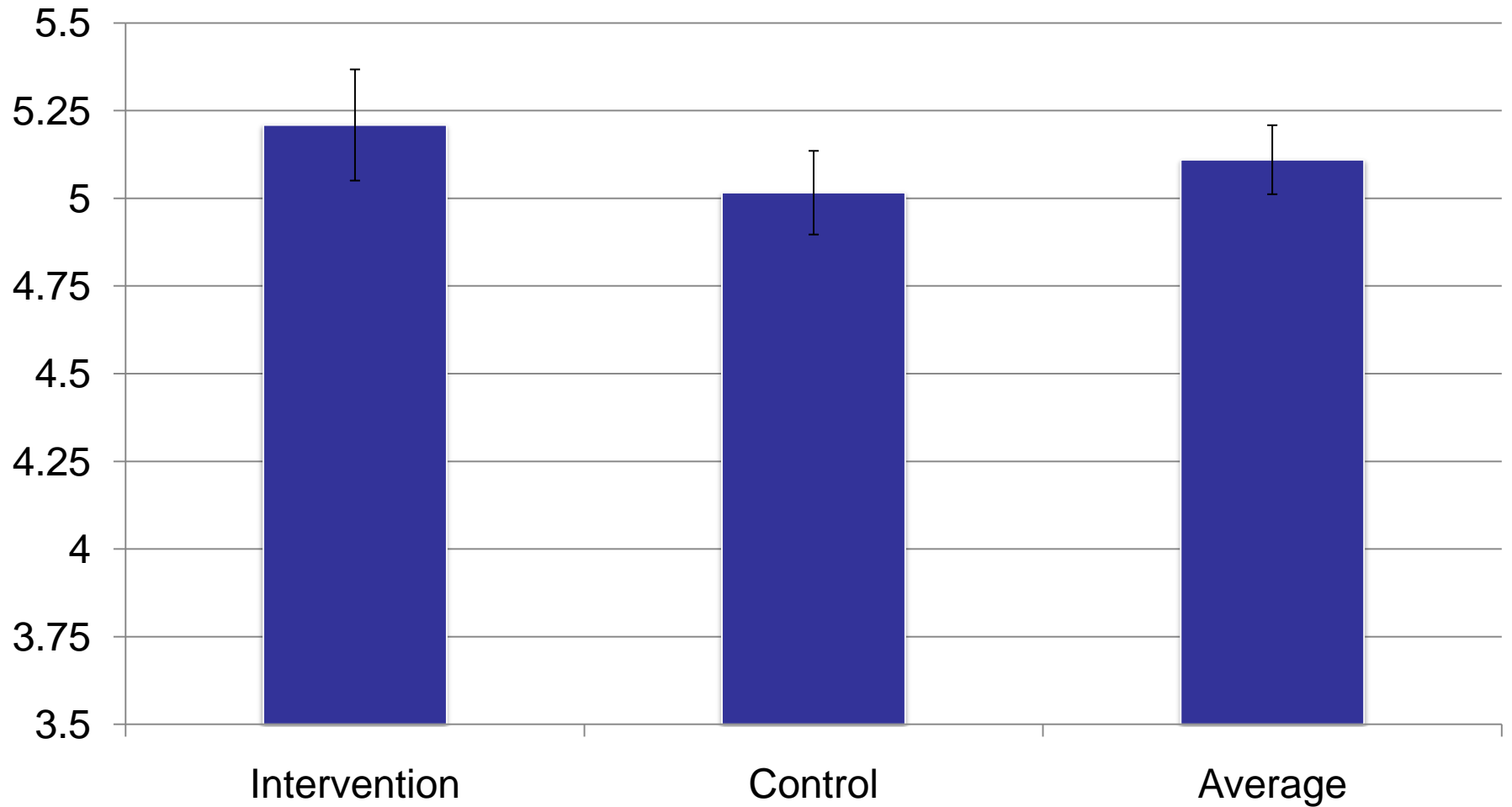




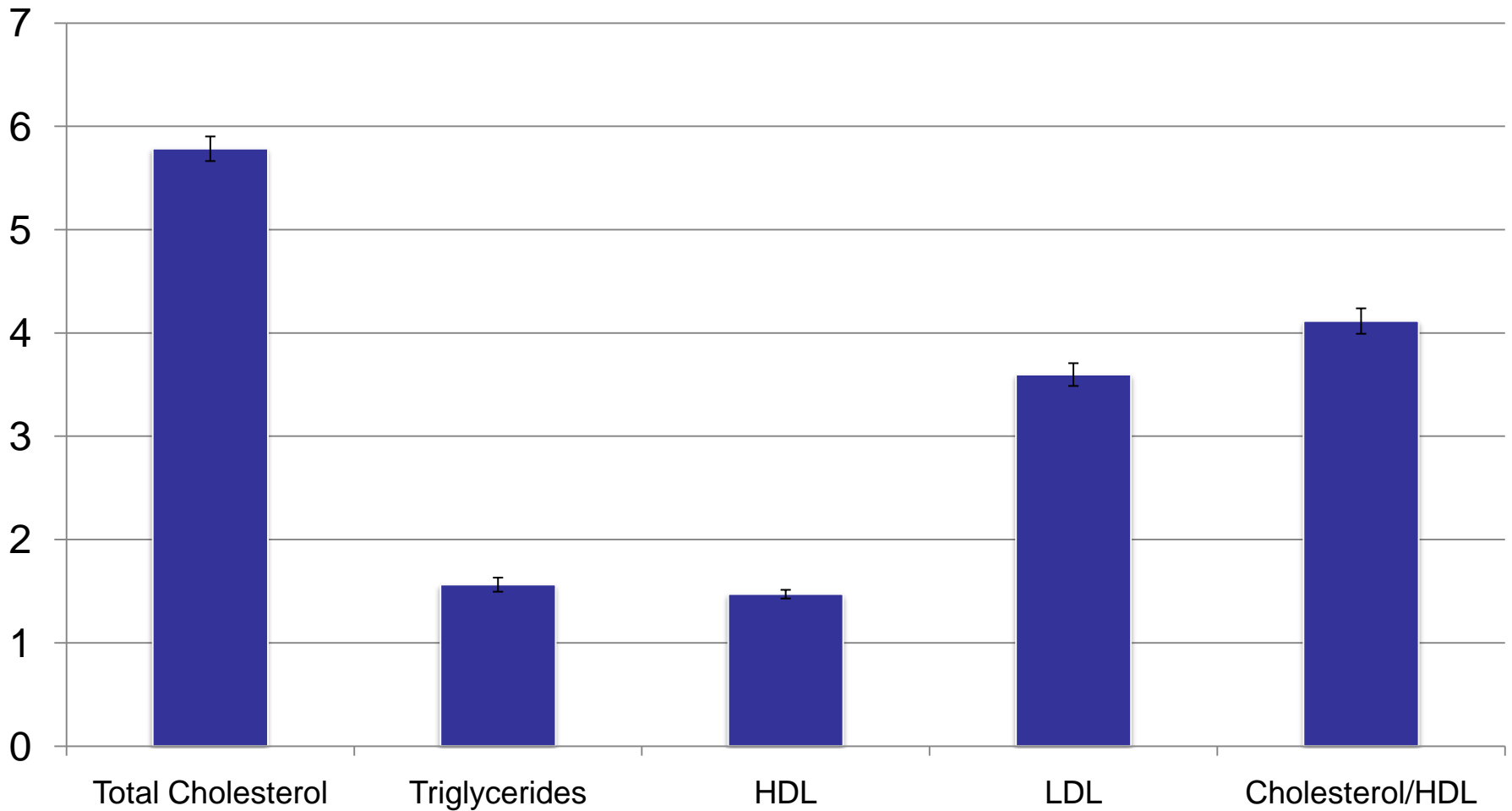
# Body Fat Percentage



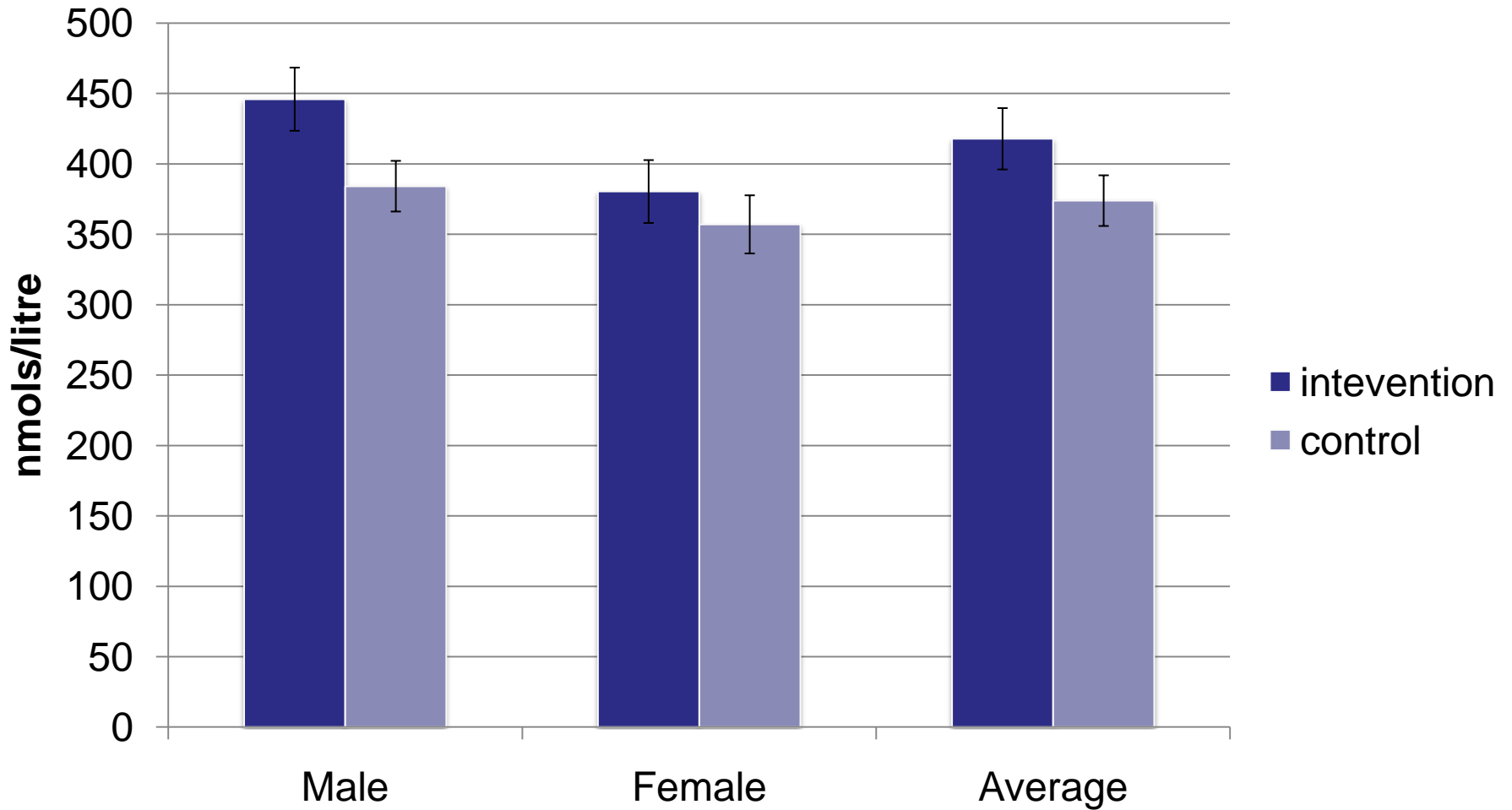
# Baseline Fasting BGL



# Blood Cholesterol

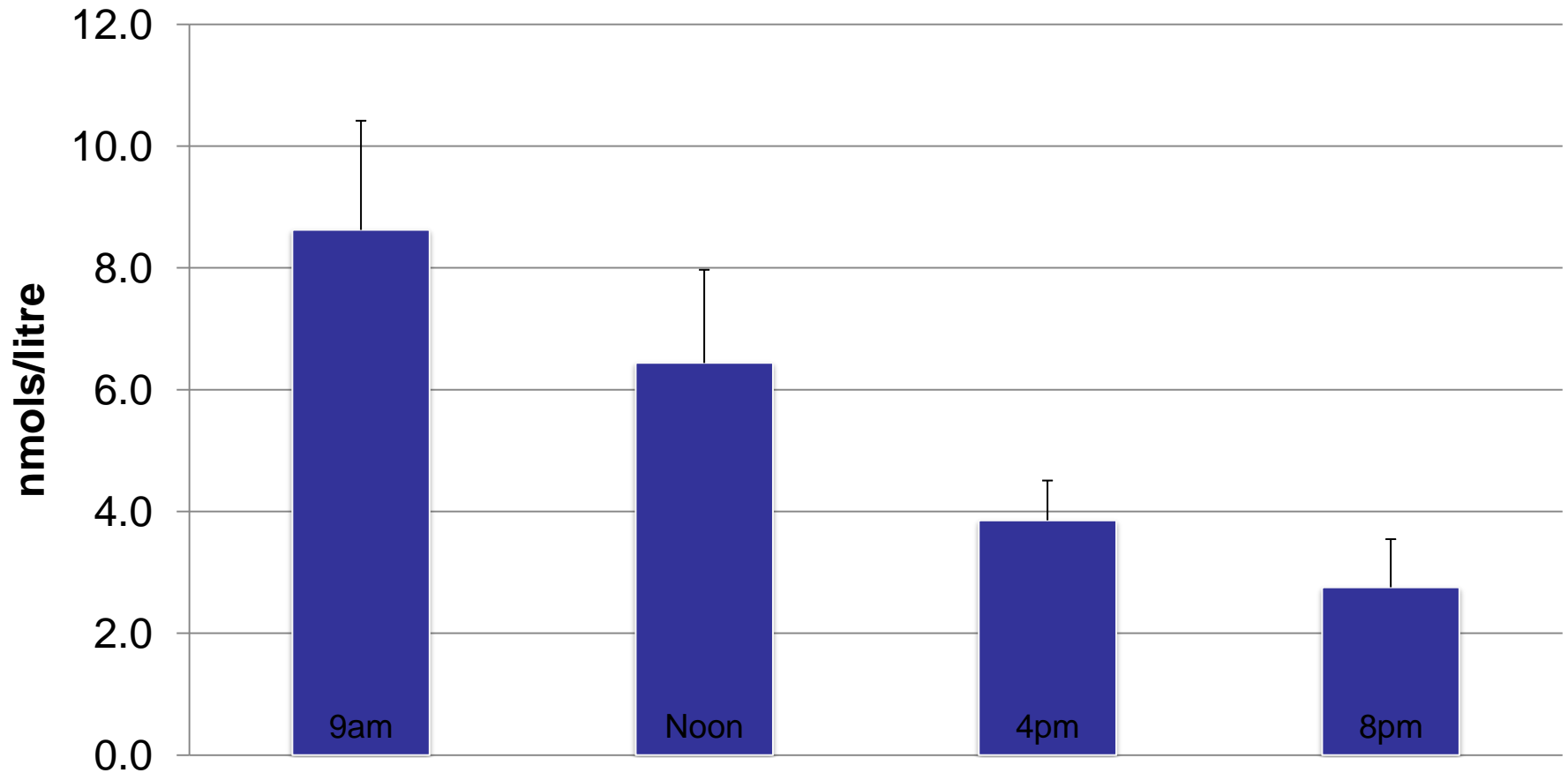


# Blood Cortisol

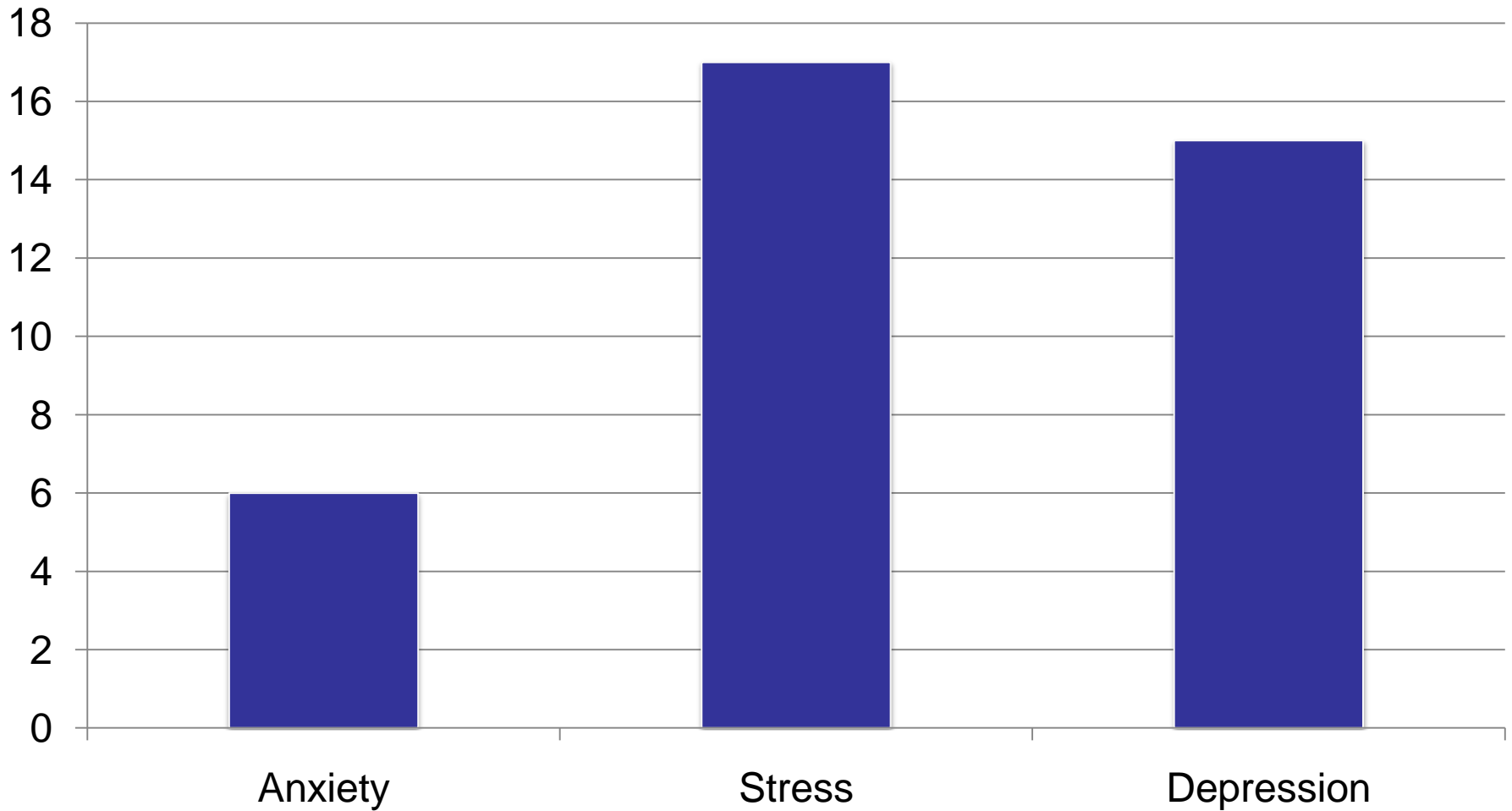


# Preliminary saliva results

## Cortisol (n=13)

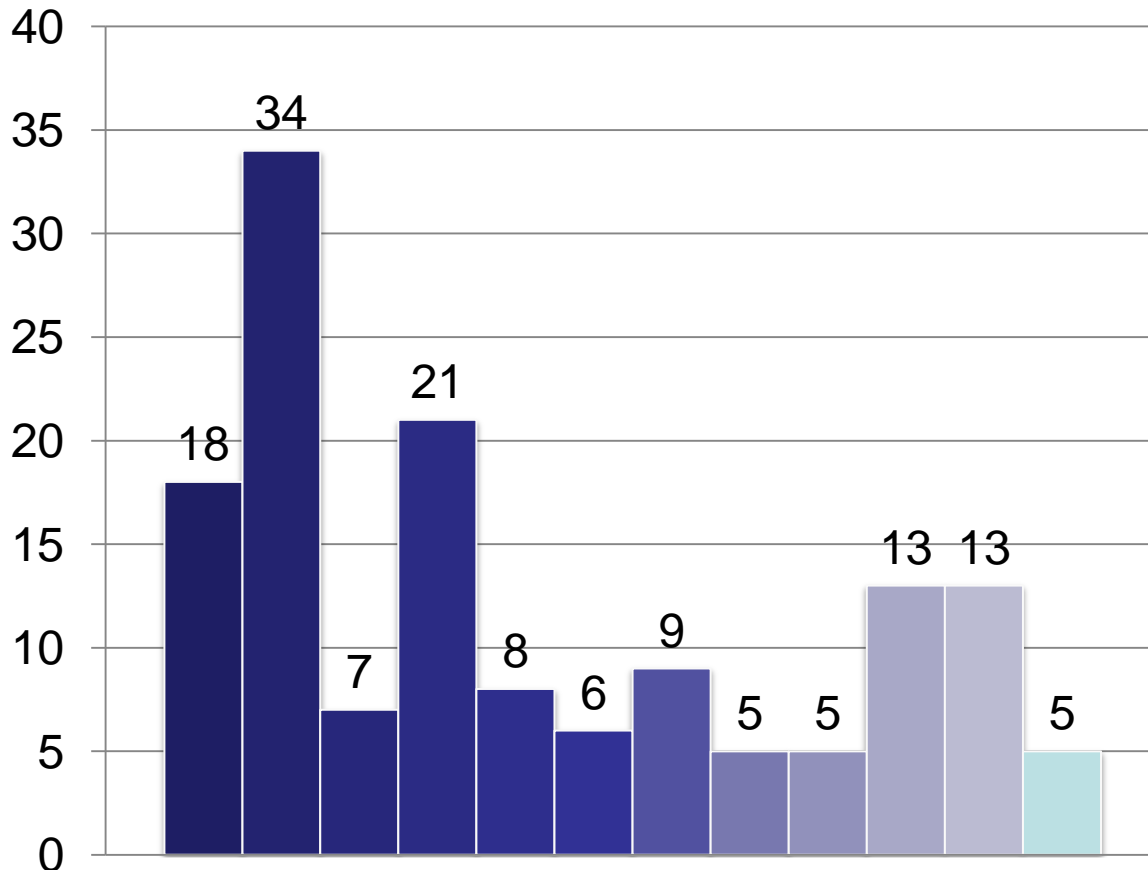


# DASS 21



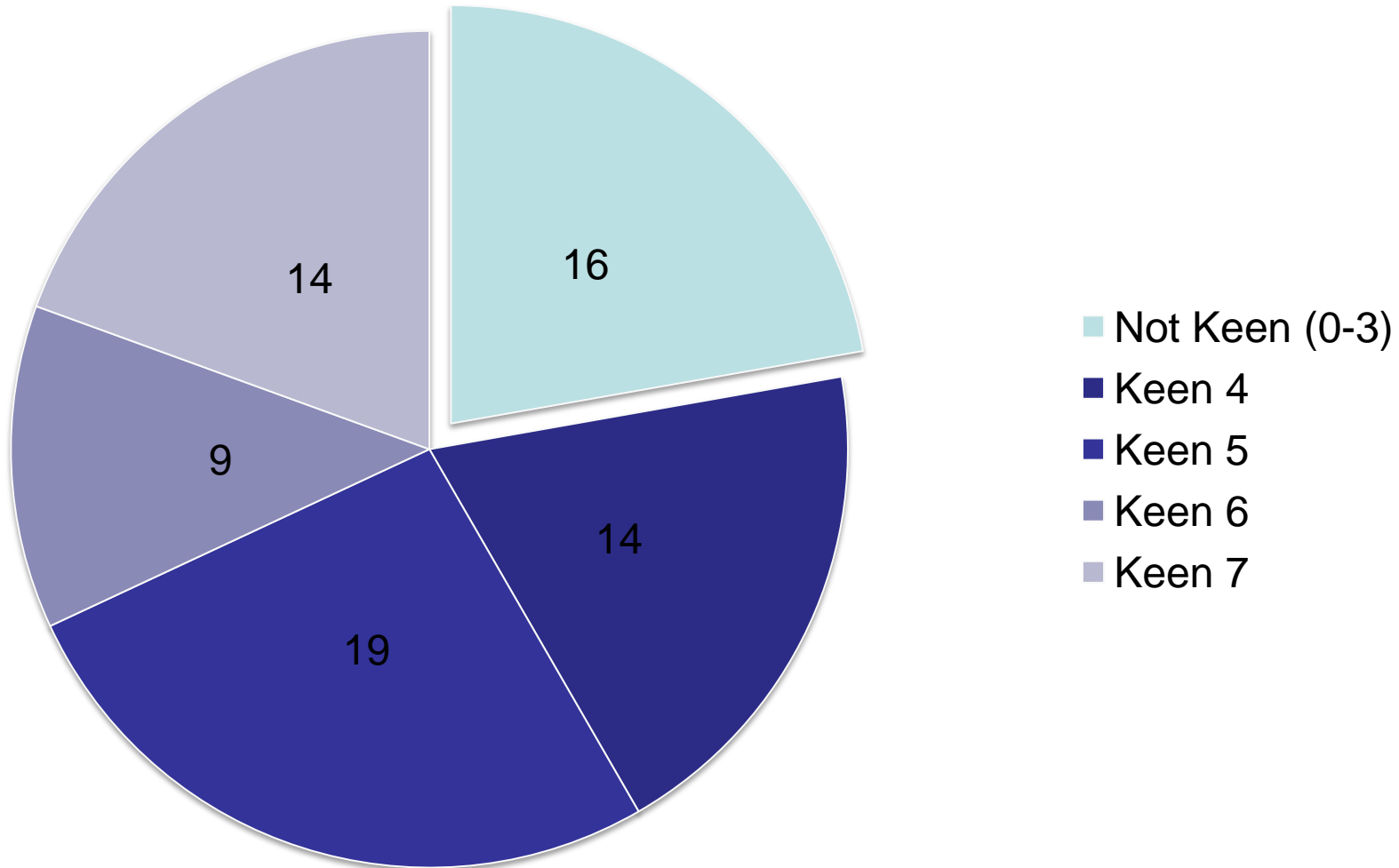
# Reasons for not exercising

n = 144



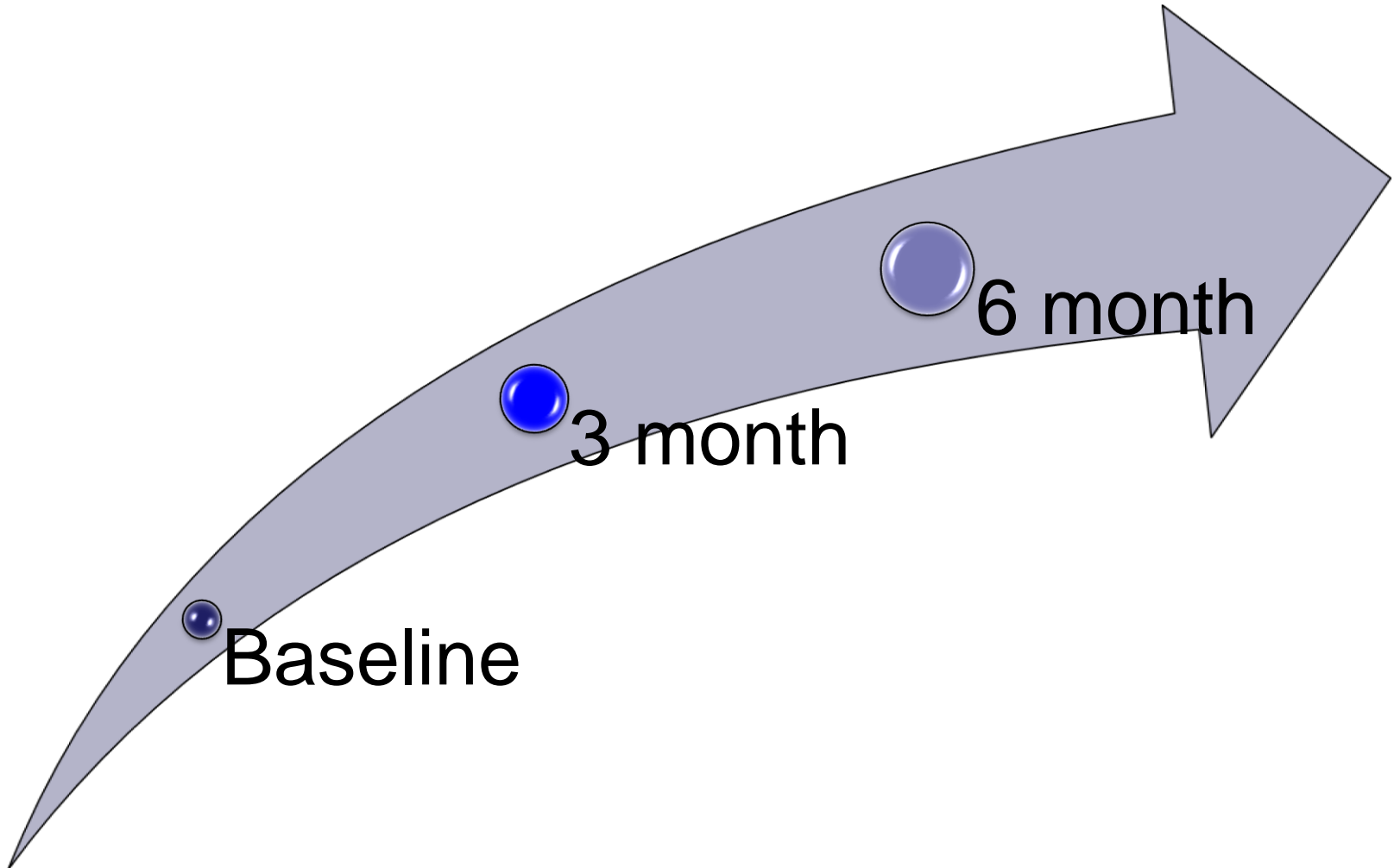
- Too tired
- Not enough time
- Out on the road most of the time
- Not motivated
- Not enough flexible time in work hours
- Health issues
- Haven't thought about/don't know simple strategies
- Exercise outside work hours
- Distance from work
- Seasonal work pattern
- Other
- Not applicable/no response

# How keen are they to increase exercise levels?





# Where to next?



## Conclusion

- Preliminary data indicates that:
  - Participants had an average BMI of 31.31
  - 78% of participants would like to increase their physical activity
- It is too early to tell whether fitness coaching is having an impact on the distress levels of farm men and women

# Acknowledgements

Farming Fit? Participants

*beyondblue*: the national depression initiative

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