

# Heavy Menstrual Bleeding and iron status in exercising women in Singapore

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## Introduction

- Heavy Menstrual Bleeding (HMB; menorrhagia) affects a quarter of the general population and is a leading cause of iron deficiency anaemia (IDA) in otherwise fit and healthy young women.
- The onset of IDA can be insidious and as a result many women may be suffering in silence.
- HMB is assumed to not be a problem in exercising women. We have however recently found it to significantly affect this populace.
- HMB can lead to reduction in mood, productivity, energy levels and quality of life, increasing fatigue and anxiety. This could entirely or partly be caused by the increase in iron loss.

## Aims

1. Determine the prevalence of HMB, iron deficiency and IDA in a group of Singaporean exercising women.
2. Identify whether IDA is associated with HMB and a reduction in quality of life.

## Methods

- 184 premenopausal Singaporean females were selected at random after signing up for a race.
- Completed a female health and fatigue questionnaire, and had blood tests taken to measure iron status.

## Results

- 22.3% HMB
- Those with HMB more likely to be iron deficient (serum ferritin <16ng/ml) or have IDA (haemoglobin <12.0g/dL and serum ferritin <16ng/ml) ( $p < 0.05$ )

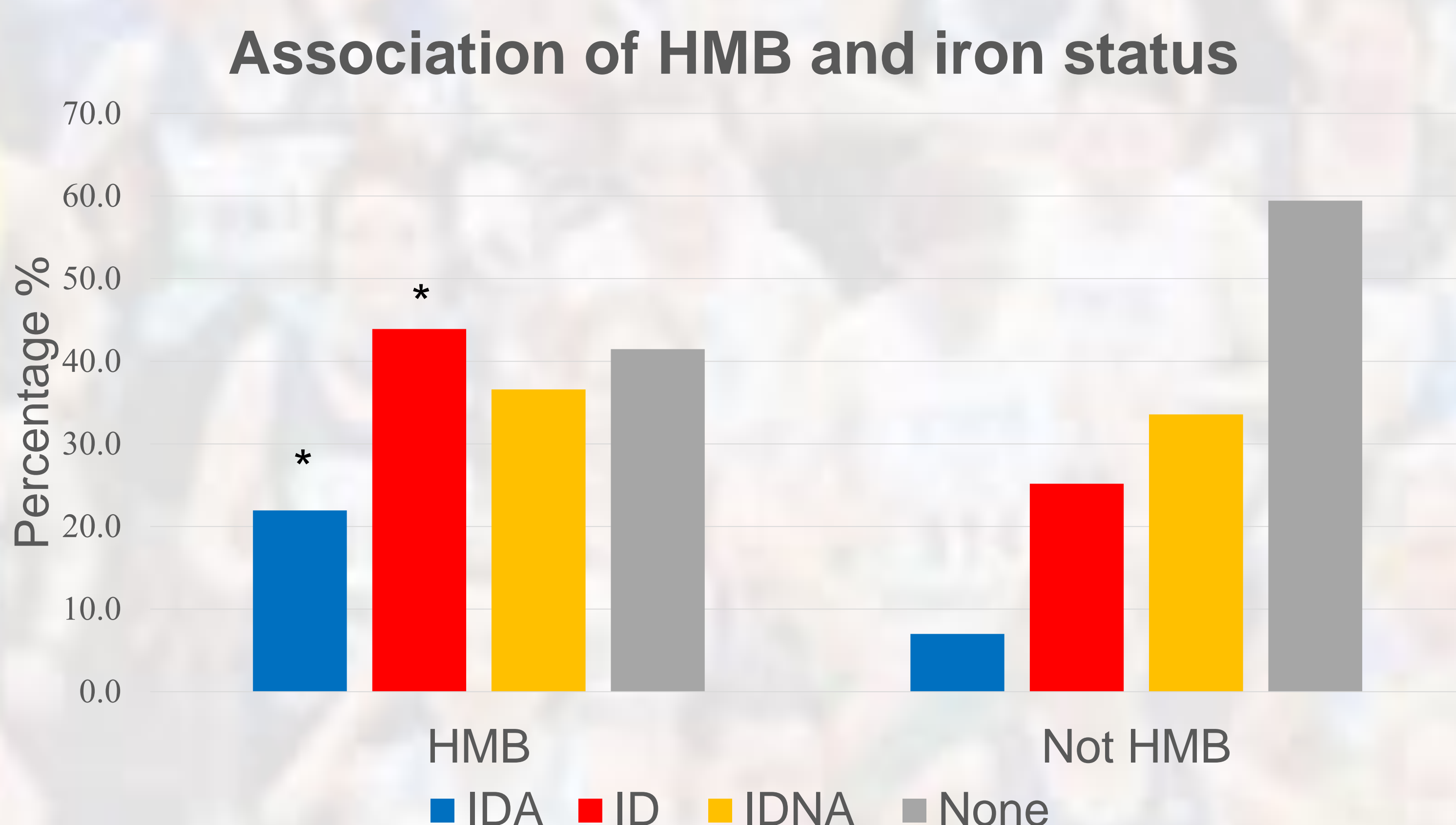


Fig. 1 – Increased prevalence of iron deficiency (ID), iron deficiency non anaemia (IDNA) and iron deficiency anaemia (IDA) within HMB population. \* $p < 0.05$

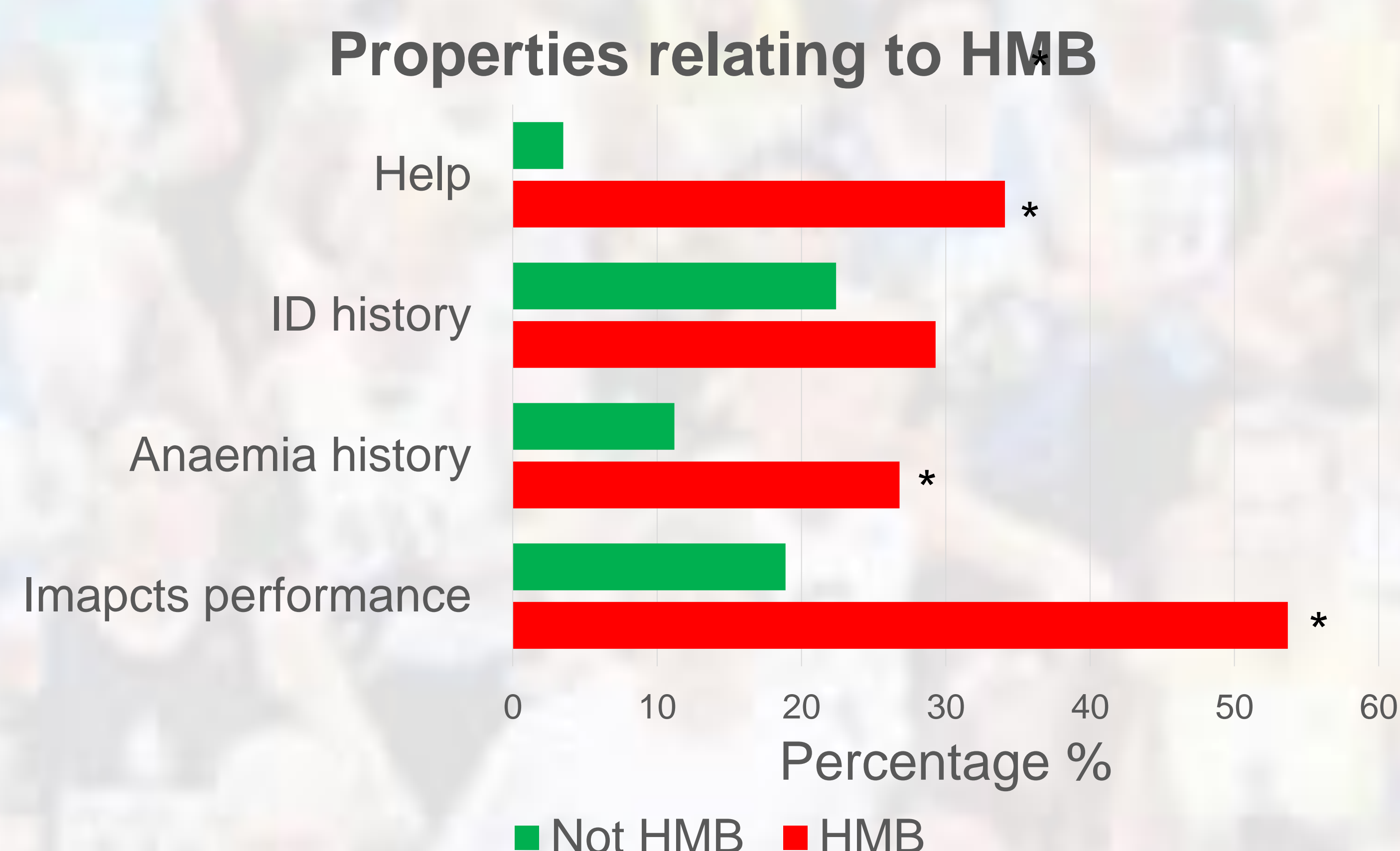


Fig. 2 – HMB is associated with increased likelihood of seeking medical help, reported ID and IDA and negative impacts on training and performance. \* $p < 0.05$

## Conclusions

### Women 'not aware of iron deficiency'

Thestraittimes, Nov 26, 2015.

- HMB was prevalent in this population with more than 1 in 5 meeting the diagnostic criteria.
- HMB can be associated with an increased likelihood of having ID and IDA.
- HMB was also associated with negative impacts on exercise performance, yet only 1 in 3 have sought medical help.
- No correlation was found between MFI score and IDA/ID presence but HMB was associated with increased fatigue.

## Future Work

- More participants required to validate results to assess the use of HMB at predicting ID and IDA.
- Evaluation of whether reported negative impacts on exercise are due to unknown ID or IDA. Further data needed to assess whether repletion of iron stores will improve functional outcome.

