# Iron and Calcium Intakes of Female Gaelic Football Players: A Crosssectional Study



Leanne Kealy

4th October, 2023



## **OVERVIEW**



## INTRODUCTION

Why Female Gaelic Football?

 One of the fastest growing sports in Ireland



- Why iron and calcium?
  - WHO: iron deficiency affects 30% of the global population



• It is a physically strenuous sport



Poor calcium intakes observed



#### **PROBLEM AND AIMS**

#### **Current Research is limited**



Only one other similar existing study (Gibbons and McMonagle, 2018)

- Small sample size
- Underreporting



Aims: to determine if female Gaelic football players meet the Dietary Recommended Values (DRVs) of iron and calcium as recommended by the European Food Safety Authority (EFSA, 2019).



#### METHODOLOGY

- Dietary Assessment: Epic Norfolk FFQ
- Participants:
  18-40 year olds
- Recruitment
- Timeline:
  - January April



#### **DATA ANALYSIS**

#### Section 1 of 4 × Nutrition Status FFQ ÷ This questionnaire asks for some background information about you, especially about what you eat. Your answers will be treated as strictly confidential and will be used only for research. Please answer every question. If you are uncertain about how to answer a question then do the best you can, but please do not leave a question blank. MEAT AND FISH - Please estimate your average food intake as best you can for the last year, \* and please answer every question Never o... 1-3 tim... Once a ... 2-4 tim... 5-6 tim... Once a ... 2-3 tim... 4-5 tim... 6+ per d... $\bigcirc$ 0 0 0 $\bigcirc$ $\bigcirc$ Beef: ro... $\bigcirc$ $\bigcirc$ $\bigcirc$ 0 0 $\bigcirc$ 0 $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ Beef bu... $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ 0 $\bigcirc$ $\bigcirc$ 0 $\bigcirc$ $\bigcirc$ Pork: ro... $\bigcirc$ 0 $\bigcirc$ 0 0 0 $\bigcirc$ Lamb: r... $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ 0 0 $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ Chicken... $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ $\bigcirc$ Bacon

- Google Forms Survey
- Pilot Study
- Excel
- FETA Software
- SPSS version 28
- Variables were stratified



#### **DEMOGRAPHIC RESULTS**



Average Hours of Training: 4.98 ± 2.24 hours



#### Average age: 24.7 ± 5.81

# Senior club was the most participated level (35%)





#### Micronutrient Intakes:

## 85% of 1000mg Calcium

## 62% of 16mg of iron

Mineral	DRV (Mg)	Mean (Mg)	DRV %
Calcium	1000	854.30	85.43
Iron	16	9.90	61.19



No significant differences across categories of level of football, hours of training, age or BMI.



#### RESULTS



Significant positive correlation: Minerals intakes with energy intakes.





BMI

Significant positive correlation: Level of Gaelic football with hours a participant trained.





#### **CONCLUSION & RECOMMENDATIONS**







Female Gaelic footballers do not meet their dietary requirements of iron or calcium. Research regarding iron and calcium intakes of female Gaelic athletes is still extremely limited. Further research obtaining a larger sample size is needed

#### HOW TO CREATE AN AWESOME FINAL YEAR PROJECT

Choose a topic you have interest in



#### Set yourself deadlines



# Research Carry out a pilot study





# **Any Questions?**

Alshwaiyat, N.M., Ahmad, A., Wan Hassan, W.M.R. and Al-Jamal, H.A.N., 2021. Association between obesity and iron deficiency. Experimental and Therapeutic Medicine, 22(5), pp.1-7.

Brewer, J. (1994) 'Nutritional aspects of women's soccer', Journal of Sports Sciences, 12(sup1), pp. S35-S38.

Condo, D., Lohman, R., Kelly, M. and Carr, A. (2019) 'Nutritional Intake, Sports Nutrition Knowledge and Energy Availability in Female Australian Rules Football Players', Nutrients, 11(5). DOI: 10.3390/nu11050971.

Duggan, J. D., Moody, J. A., Byrne, P. J., Cooper, S.-M. and Ryan, L. (2021) 'Training Load Monitoring Considerations for Female Gaelic Team Sports: From Theory to Practice', Sports, 9(6). DOI: 10.3390/sports9060084.

Gibbons, E. and Mc Monagle, G. (2018) 'Dietary intakes of calcium, iron and vitamin D in club and county female Gaelic footballers', Proceedings of the Nutrition Society, 77(OCE3), pp. E76.

Gomez-Hixson, K., Biagioni, E. and Brown, M. L. (2022) 'Significant differences in dietary intake of NCAA Division III soccer players compared to recommended levels', Journal of American College Health, 70(1), pp. 150-157.

#### REFERENCES

Kroke, A., Klipstein-Grobusch, K., Voss, S., Möseneder, J., Thielecke, F., Noack, R. and Boeing, H. (1999) 'Validation of a self-administered food-frequency questionnaire administered in the European Prospective Investigation into Cancer and Nutrition (EPIC) Study: comparison of energy, protein, and macronutrient intakes estimated with the doubly labeled water, urinary nitrogen, and repeated 24-h dietary recall methods', Am J Clin Nutr, 70(4), pp. 439-47.

Ladies Gaelic Football Association, 2023. 'History' [Online] Available from: https://ladiesgaelic.ie/the-lgfa/ [Date accessed: 2/2/23]

McClung, J. P., Gaffney-Stomberg, E. and Lee, J. J. (2014) 'Female athletes: A population at risk of vitamin and mineral deficiencies affecting health and performance', Journal of Trace Elements in Medicine and Biology, 28(4), pp. 388-392.

National Health Service, (2021) 'Iron Deficiency Anaemia' [Online] Available from: https://www.nhs.uk/conditions/iron-deficiency-anaemia/

Petkus, D. L., Murray-Kolb, L. E. and De Souza, M. J. (2017) 'The Unexplored Crossroads of the Female Athlete Triad and Iron Deficiency: A Narrative Review', Sports Medicine, 47(9), pp. 1721-1737.

Sale, C. and Elliott-Sale, K. J. (2019) 'Nutrition and Athlete Bone Health', Sports Med, 49(Suppl 2), pp. 139-151.

Thompson, S. H. and Gabriel, M. (2004) 'Risk factors for the female athlete triad among female collegiate and noncollegiate athletes', Physical Educator, 61(4), pp. 200-212.