**Funding Source: Wellcome Trust grant**

**Proposed start date: 1 October 2022**

**Closing date for applications: 8 April 2022**

**Eligibility:** UK applicants only

**Department/School:** Health Sciences

**Supervisors:** Prof. Gerry McCann (gpm12@leicester.ac.uk), Dr Emer M Brady (emb29@le.ac.uk), Dr Emma Redman (emma.redman@uhl-tr.nhs.uk)

**Project Title:** Impact of a low-energy meal replacement plan on symptoms, exercise capacity and skeletal myopathy in a multi-ethnic cohort with obesity and HFpEF

**Project Description:**

Heart failure with preserved ejection fraction (HFpEF) is highly prevalent, associated with high burden of frailty and with limited treatment options. Obesity and type 2 diabetes predispose to HFpEF and compound the odds of adverse outcomes. The WALK-ON (loW-energy diet for improving exercise intolerance and Key symptoms in obese adults with heart failure and preserved ejectiON fraction) study is a funded mixed method randomised controlled trial of low energy meal replacement plan (MRP) for improving cardiovascular structure and function, skeletal myopathy, sarcopenia, frailty and symptoms in a multi-ethnic population with obesity and HFpEF. As part of WALK-ON, this PhD fellowship will use a combination of clinical tools and state of the art MRI techniques to assess the impact of a MRP on sarcopenia, frailty and skeletal myopathy in people with obesity and HFpEF in response to weight loss. There is scope for the successful candidate to combine data from related projects, develop artificial intelligence approaches to imaging analyses and undertake a systematic review of dietary interventions in heart failure. The successful candidate will be based at Glenfield hospital joining a dynamic, diverse and inclusive highly successful group, working across the cardiovascular and lifestyle themes of the NIHR Leicester Biomedical Research Centre.

**References:**

1. Patel T, Umeh K, Poole H, et al. Cultural Identity Conflict Informs Engagement with Self-Management Behaviours for South Asian Patients Living with Type-2 Diabetes: A Critical Interpretative Synthesis of Qualitative Research Studies. Int J Environ Res Public Health. 2021;18(5).

2. Pandey A, Shah SJ, Butler J, et al. Exercise Intolerance in Older Adults With Heart Failure With Preserved Ejection Fraction: JACC State-of-the-Art Review. J Am Coll Cardiol. 2021;78(11):1166-1187.

3. Shah SJ, Borlaug BA, Kitzman DW, et al. Research Priorities for Heart Failure With Preserved Ejection Fraction: National Heart, Lung, and Blood Institute Working Group Summary. Circulation. 2020;141(12):1001-1026.

4. Athithan L, Gulsin GS, McCann GP, et al. Diabetic cardiomyopathy: Pathophysiology, theories and evidence to date. World J Diabetes. 2019;10(10):490-510.

5. Lam CSP, Chandramouli C. Fat, Female, Fatigued: Features of the Obese HFpEF Phenotype. JACC Heart Fail. 2018;6(8):710-713.

6. Bilak JM, Gulsin GS, McCann GP. Cardiovascular and systemic determinants of exercise capacity in people with type 2 diabetes mellitus. Ther Adv Endocrinol Metab. 2021;12:2042018820980235.

7. Blaum CS, Xue QL, Michelon E, et al. The association between obesity and the frailty syndrome in older women: the Women's Health and Aging Studies. J Am Geriatr Soc. 2005;53(6):927-934.

8. Buch A, Keinan-Boker L, Kis O, et al. Severe central obesity or diabetes can replace weight loss in the detection of frailty in obese younger elderly - a preliminary study. Clin Interv Aging. 2018;13:1907-1918.

9. Gulsin GS, Brady EM, Swarbrick DJ, et al. Rationale, design and study protocol of the randomised controlled trial: Diabetes Interventional Assessment of Slimming or Training tO Lessen Inconspicuous Cardiovascular Dysfunction (the DIASTOLIC study). BMJ Open. 2019;9(3):e023207.

10. Gulsin GS, Henson J, Brady EM, et al. Cardiovascular Determinants of Aerobic Exercise Capacity in Adults With Type 2 Diabetes. Diabetes Care. 2020;43(9):2248-2256.

**Funding details:**

*Students on this programme will be supported by a generous funding package. This will include:*

* *Postgraduate research fee waiver at standard College of Life Sciences UK rates for three years of the PhD*
* *Wellcome Trust stipend covering your salary for all three years of the PhD*
* *Research grant for training, research and travel costs*

**Entry requirements:**

Applicants are required to hold/or expect to obtain a UK Bachelor Degree 2:1 or better in a relevant subject.

The University of Leicester [English language](https://le.ac.uk/study/research-degrees/entry-reqs/eng-lang-reqs) requirements apply where applicable.

This programme is open to:

* allied health professionals
* nurses
* midwives
* junior doctors
* general practitioners

Fellows recruited to the programme must be practicing healthcare professionals and be registered with a national professional regulatory body (e.g. the General Medical Council, Health and Care Professions Council) in the UK/Republic of Ireland.

Medical graduates must be registered on a UK/Republic of Ireland specialist training programme or must be a registered GP.

All fellows must have completed their undergraduate degree and be registered with the relevant professional body.

**Application advice:**

For full application advice and the link to our online application please go do: <https://le.ac.uk/study/research-degrees/funded-opportunities/leicestershire-healthcare-inequalities-improvement-dtp>

With your application, please include:

* CV
* Personal statement explaining your interest in the project, your experience and why we should consider you
* Degree Certificates and Transcripts of study already completed and if possible transcript to date of study currently being undertaken
* Evidence of English language proficiency if applicable
* In the reference section please enter the contact details of your two academic referees in the boxes provided or upload letters of reference if already available.

In the funding section please specify that you wish to be considered for **Wellcome Trust LHII DTP**

In the proposal section please provide the name of at least one or at most two of the projects you are interested in (please indicate title and name of supervisor).

Upload the Widening Participation form (found on the above link) to the proposal section

**Project / Funding Enquiries to :** **lhiip@leicester.ac.uk**

**Application enquiries to** **pgradmissions@le.ac.uk**

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