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## Dr Falk/Guts UK Awards 2024

### MEDICAL STUDENT ESSAY PRIZE WINNER:

## LYDIA BROWN

#### PROJECT:

### Prevalence and Burden of Disorders of Gut-Brain Interaction Amongst Medical Students at the University of Sheffield.



*Ms Brown undertook this project whilst intercalating for an BSc in Medical Sciences Research, at the Academic Unit of Gastroenterology, Sheffield Teaching Hospital and the University of Sheffield. Ms Brown will return to her medical degree 4th year studies in September at the University of Sheffield Medical School.*

#### Ms Brown explains:

'My research project focused on disorders of gut brain interaction (DGBI) amongst medical students – and specifically the prevalence of these disorders and any associated burden, such as psychological distress, somatisation, eating disorders and poor quality of life. I chose this project as I was interested in gastroenterology and wanted to learn more about functional disorders. I thought this would be an exciting opportunity to develop my research skills and work within a leading academic department in the UK.

'DGBI is a group of disorders classified by chronic gastrointestinal symptoms in the absence of organic disease and can be related to any combination of the following: motility disturbance, visceral hypersensitivity, altered mucosal and immune function, altered gut microbiota, and altered central nervous system processing. Irritable Bowel Syndrome (IBS) and Functional Dyspepsia (FD) are the most recognised DGBI, but there is a total of 22 DGBI which can arise from six distinct anatomical regions in the GI tract.

'DGBI is common, with around 40% of the global population thought to be affected, a third of whom have DGBI arising from multiple anatomical regions. DGBI are known to represent a significant healthcare burden, as well as being associated with a considerable physical and mental health impairment and reduced quality of life. This effect is greatest in those with overlapping DGBI.

'There is some evidence that medical students have higher rates of DGBI than an equivalent adult population, but the majority of relevant studies have focussed on individual disorders, such as Irritable Bowel Syndrome (IBS), with little research developed using the internationally recognised Rome IV DGBI diagnostic criteria. In addition, although there is evidence of an association between DGBI and psychological distress, this link has not been explored within medical students – a population known to suffer from high rates of anxiety and depression.

'Individuals currently enrolled within the Sheffield medical school were invited to complete an online anonymous survey, where information on demographics, past medical history, and gastrointestinal symptoms were collected. Additional validated questionnaires screened for somatisation, psychological distress, eating disorders, quality of life, and burnout. Regarding DGBI, individuals were asked 17 questions from the original 86-point Rome IV questionnaire. Based on these answers - and in the absence of known organic GI

disease - we were able to consider 17 DGBI according to Rome IV criteria, across 4 anatomical regions. Within this, some umbrella terms were used instead of individual Disorders. We then further sub-divided DGBI into painful or non-painful DGBI, based on whether individuals experienced painful symptoms from any gastrointestinal organ domain at least one day per week. The online survey was disseminated to 1621 medical students and completed by 378 students, giving a response rate of 23%. The mean age of respondents was 21 years, with 73% being female and 70% of white ethnicity.

'My project found that medical students have much higher rates of DGBI than the general adult population – with 76% of the study cohort having symptoms compatible with at least 1 DGBI. In addition, we found very high rates of overlapping DGBI, and that the burden of DGBI was greatest in those with multiple, painful DGBI. We also found an association between DGBI and burnout, which isn't something that has been previously reported. Historically, DGBI have been an under-recognised source of poor health, and we hope that this research will help highlight the burden of these disorders.

'We hope that increased recognition of these highly prevalent disorders may lead to improved health status, study engagement and improved support for medical students.'

#### Ms Brown's Project Supervisor project supervisor, Senior Lecturer and Consultant Gastroenterologist at the University of Sheffield, Dr Imran Aziz comments:

'It was a pleasure to host Lydia in the Sheffield Gastroenterology department where she was a much-liked and popular team member, demonstrating enthusiasm, diligence, and independence. Lydia's work demonstrated a high prevalence of Disorders of Gut-Brain Interaction (DGBI) amongst medical students. The presence of DGBI was associated with mood disturbances, eating disorders, reduced quality of life, and burnout through study disengagement and exhaustion. Lydia's findings will help increase awareness of DGBI amongst medical students and universities, hopefully leading to improved support, health status, and study engagement.'

#### Ms Brown states:

'I am incredibly grateful to be a recipient of this award and it is an honour for my essay to have been chosen. It has given me confidence in my research abilities.

'I hope to continue to be involved in research once I graduate, and the support of the Dr Falk/ GUTS foundation has shown me that there are opportunities to get involved in research at many levels, including whilst at medical school - and this will hopefully lay a foundation in research that I can continue throughout my career!

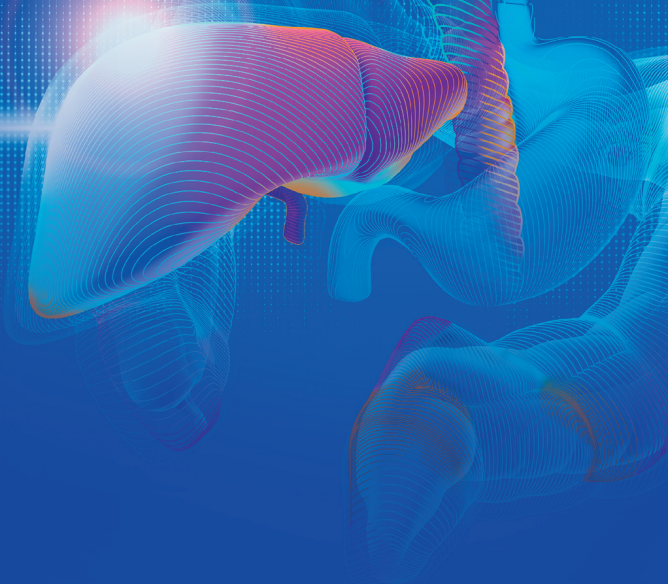
'I really enjoyed undertaking this research project I am incredibly grateful for the support and guidance of my supervisor, Dr Aziz.'



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