

anxiety, and low mood. Visual inspection of the radar plots showed that the characteristics of these clusters were identical between the Rome III and Rome IV analyses. The Rome IV cluster results and their descriptions are shown in figure 1. Further analysis, showed that the proportion of patients with severe IBS symptom scores, high levels of perceived stress, and high levels of gastrointestinal-specific symptom anxiety was significantly higher in clusters with high psychological comorbidity ($p < 0.001$).

Conclusions Latent class analysis identifies seven distinct IBS subgroups characterised by a mixture of gastrointestinal symptoms, somatoform symptoms, and psychological co-morbidity. Further research is needed to assess the durability and stability of these subgroups over time, and whether they might be used to direct treatment.

P327 MODULATING HUMAN CORTICAL SWALLOWING FUNCTION BY CONDITIONING THE BRAIN WITH REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION

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Background Various repetitive transcranial magnetic stimulation (rTMS) paradigms have been suggested as treatments for neurogenic dysphagia. However, there is no consensus as to what is the optimal paradigm for improving swallowing function. Moreover, the response to rTMS varies across individuals (NGM 2019, 31(7), e13612), which may be attributed to the preceding brain state. Our contention was that preconditioning human pharyngeal motor cortex with rTMS could stabilize and modify swallowing performance induced by brain stimulation.

Aim To compare the effects of preconditioned versus sham-preconditioned rTMS on swallowing performance.

Material and Methods Ten healthy volunteers (age=27±2 years; 6 males) were randomised to receive 4 conditions of combined 1Hz (inhibitory) and 5Hz (excitatory) rTMS: i. sham 1Hz immediately followed by active 5Hz (s1-0-5); ii. active 1Hz followed by 5Hz after 30 minutes (1-30-5); iii. sham 5Hz immediately followed by active 1Hz (s5-0-1); and iv. active 5Hz followed by 1Hz after 90 minutes (5-90-1). Both 1 and 5Hz rTMS paradigms were applied over the

pharyngeal motor cortex of the 'dominant' hemisphere. Changes in swallowing reaction times and accuracy were determined, every 15 minutes from baseline to 60 minutes post-rTMS, and analysed using ANOVA.

Results Preconditioned 5Hz rTMS (1-30-5) enhanced swallowing accuracy when compared to the sham-preconditioned protocol (s1-0-5) ($F[1,9]=16.144$; $p=0.003$) (figure 1A). Significant improvement was mainly observed at 15 minutes post-rTMS ($p=0.049$). Similarly, preconditioned 1Hz rTMS (5-90-1) reduced swallowing accuracy when compared to the sham-preconditioned protocol (s5-0-1) ($F[1,9]=10.411$; $p=0.01$) (figure 1B). Unlike preconditioned 5Hz rTMS, the changes in swallowing accuracy were not significant at any specific time point. There were no significant changes in swallowing reaction times across any of the conditions.

Conclusions Preconditioning human pharyngeal motor cortex with additional rTMS can robustly modify human swallowing behaviour. Future studies should explore the therapeutic role of preconditioned rTMS as a more effective protocol for dysphagia.

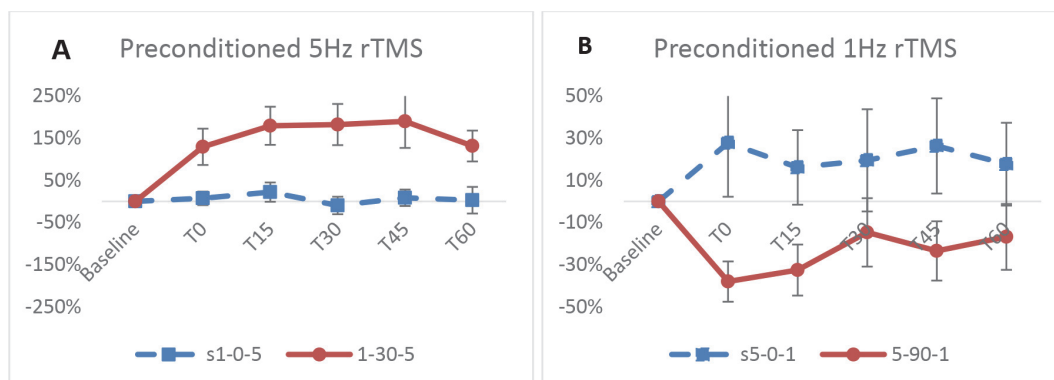
P328 PSYCHOLOGICAL NEED IN PATIENTS WITH IRRITABLE BOWEL SYNDROME IN SECONDARY CARE

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Introduction Irritable bowel syndrome (IBS) affects 17% of the UK population. Most treatments focus on managing the physical symptoms, however, IBS is associated with a wide range of psychological factors. The aim of this study was to investigate the psychological needs and prevalence of anxiety and depression in an IBS population referred to the gastroenterology dietitian in secondary care.

Methods A cross-sectional survey was conducted in August 2019. Patients with IBS attending the gastroenterology dietetic outpatient clinics completed a questionnaire comprising the following validated tools: the Patient Health Questionnaire (PHQ9), Generalised Anxiety Disorder Assessment (GAD7), Work and Social Adjustment Scale (WSAS), IBS Quality of Life (IBS-QoL) and Gastrointestinal Symptom Rating Scale (GSRS). Patients with other gut co-morbidities were excluded. Descriptive statistics and correlations were completed using SPSS.



Abstract 327 Figure 1 A. Changes in swallowing accuracy after preconditioned 5Hz rTMS compared to sham-preconditioned rTMS. B. Changes in swallowing accuracy after preconditioned 1Hz rTMS compared to sham-preconditioned rTMS.