Abstract PWE-078 Figure 1 Has the education leaflet helped you understand your condition or symptoms?

Conclusions This study demonstrates the need for patient education and empowerment in IBS. The EL was well received. Patients were keen on gastrointestinal pathophysiology and lifestyle changes as addressed in the leaflet. Patients' educational needs may be enriched with additional workshops and future App-development. It would be of interest to perform a second questionnaire to assess patients' quality of life and management of IBS symptoms before and after utilization of EL. The patients' educational level should be accounted for in future studies to ensure appropriate deliverance of EL in IBS patients with learning difficulties.

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PWE-079 LACTOSE INTOLERANCE HYDROGEN BREATH TESTING: EXTENDING THE SAMPLE DURATION TIME REDUCES A FALSE NEGATIVE DIAGNOSIS

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10.1136/gutjnl-2019-BSGAbstracts.399

Background A hydrogen breath test is an inexpensive, non-invasive and safe diagnostic test used to investigate intestinal disorders¹. It provides information about the digestion of certain carbohydrates, such as lactose.

The recent publication of the North American consensus statement² states that hydrogen and methane-based breath tests should be conducted over the course of 3 hours. Our department's protocol stipulates the procedure should be undertaken for 4 hours for suspected lactose intolerance and a significant number of patients have a rise in expired hydrogen after the recommended 3 hours; a small retrospective audit was undertaken to explore this further.

Methods In the last year patients referred for suspected lactose intolerance firstly underwent a lactulose hydrogen breath test to establish the presence of hydrogen producing bacteria. Those found to produce hydrogen who did not meet the diagnostic criteria for Small Intestinal Bacterial Overgrowth (SIBO) were included in this audit. After a baseline reading, patients provided a breath-hydrogen sample every 15 minutes for 1 hour post ingestion of a lactose solution. Further breath hydrogen samples were taken every 30 minutes for the duration of 4 hours. Results were analysed to determine the

number of patients who met the diagnostic criteria for lactose intolerance (>20 ppm rise in hydrogen above baseline) and of this group, how many demonstrated a rise >20 ppm above baseline –hours post lactose ingestion.

Results 98 patients were included in this audit, 27 patients (20F, 7M) were found to be lactose intolerant. 22 patients (16F, 6M) demonstrated a significant rise in expired hydrogen (>20 ppm above baseline) within the first 3 hours, while 5 patients (4F, 1M) 18.5% experienced the rise in the –hour time period.

Conclusion Terminating the test at the recommended 3 hours would have missed 18.5% of patients who demonstrated a rise in hydrogen after this cut off point. These patients would have been given a false negative result, impacting on patient care and potentially triggering further investigations. Extending the test for an extra hour (4 hours in total) may detect a significant group of patients who are intolerant to lactose.

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PWE-080 A PILOT STUDY OF A MULTIDISCIPLINARY COMPLEX GASTROENTEROLOGY SYMPTOM (COGS) CLINIC

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10.1136/gutjnl-2019-BSGAbstracts.400

Introduction Persistent physical symptoms (PPS) are estimated to cost 10% of total NHS expenditure for the working age population in England. When surveyed, only 11% of clinicians locally felt those with PPS were usually satisfied with the explanation and management plan provided. We hypothesised that addressing the psychological needs of people living with complex and persistent functional gastrointestinal symptoms, and providing emotional support for their clinical team would reduce hospital attendance and save money. In 2016/17 the 8 highest-attendance patients within the gastroenterology department of the Royal Derby Hospital cost on average £12,300 year (range £2,600 – 34,450).

Methods The COGS clinic – a monthly interdisciplinary service – was piloted from October 2017 with the following aims: 1. To manage gastroenterology patients with complex and functional needs in an outpatient setting; to investigate them in the same way as others with IBS; and to order further investigations only with a robust formulation and considerable care. 2. To offer patients a holistic formulation of their difficulties, taking into account psychological, social and medical complexities and to build on coping skills. The clinic comprised of two Gastroenterology Consultants, a Gastroenterology nurse specialist and specialist dietician, transformation project leader, general manager and clinical psychologists from the Chronic Pain and Eating Disorders services. Subjects were existing gastroenterology patients with a complex presentation of functional symptoms alongside psychological distress as judged by the referring clinician. At entry patients completed

an IBS symptom questionnaire, the Hospital Anxiety and Depression Scores (HAD), and WHO-QoL questionnaire. The Primary outcome was a reduction in total cost over the follow up period. Secondary outcomes were a reduction in HADS and an increase in WHO-QoL

Results 24 patients have been enrolled into the clinic to date. The first 5 patients have been analysed. There were 22 fewer contacts after COGS attendance (inpatient, outpatient, emergency department, and day case). Follow up was between 5 and 7 months. This was a reduction of 4.4 contacts per patient (0.6 – 0.9 contacts per patient per month) Overall costs were £8,392 lower, equivalent to £1,678 saving per patient (£240 – £336 per patient per month). Individual WHO-QOL-BREF results have shown up to a 23 point increase. Staff reflections can be summarised as a growing confidence in the power of listening and acceptance of incremental gains in symptoms.

Conclusions We have demonstrated that a novel multidisciplinary approach to patients in gastroenterology is cost effective, leads to increased staff satisfaction and have preliminary data showing improved patient reported outcomes.

PWE-081 **HYDROGEN BREATH TESTING: HIGH INCIDENCE OF SMALL INTESTINAL BACTERIAL OVERGROWTH DIAGNOSIS USING LACTULOSE VERSUS GLUCOSE**

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10.1136/gutjnl-2019-BSGAbstracts.401

Background A hydrogen breath test is an inexpensive, non-invasive and safe diagnostic test used to investigate intestinal disorders, including suspected Small Intestinal Bacterial Overgrowth (SIBO). The recent publication of the North American Consensus statement¹ suggests a rise ≥ 20 ppm of hydrogen within 90 min as an ideal threshold for a positive test to suggest the presence of SIBO following ingestion of glucose or lactulose. As lactulose is a non-digestible disaccharide, it is possible that such a rise during a lactulose test is due to fermentation in the colon, rather than an indicator of SIBO. A small retrospective audit was undertaken to investigate how many patients with a positive lactulose test for SIBO had a subsequent positive glucose test.

Methods Adult patients who had previously attended for a lactulose hydrogen breath test which established the presence of hydrogen-producing bacteria and met the diagnostic criteria for SIBO were included in this audit. All patients attended for a glucose hydrogen breath test within 6 weeks of their lactulose breath test, and had not received antibiotic therapy during this time period. After a baseline reading, patients provided a breath-hydrogen sample every 15 min for 60 min post ingestion of a glucose solution. Further breath hydrogen samples were then taken every 30 min for 180 min. Results were analysed to determine the number of patients who met the diagnostic criteria for SIBO (≥ 20 ppm rise in hydrogen above baseline within 180 min).

Results 18 patients (11F, 7M) were included in this small audit. 2 patients (F) were found to be positive for SIBO, whereas 16 patients (9F, 7M) were concluded to be negative,

as they did not demonstrate a significant rise in expired hydrogen (≥ 20 ppm above baseline) within 180 min. 11.1% of patients included in this audit had SIBO confirmed with a glucose hydrogen breath test, despite all having a positive lactulose test using the criteria suggested in the North American Consensus paper.

Conclusion Based on the lactulose results alone, the majority of patients in this audit (88.9%) would have been reported as having a SIBO, despite a negative glucose test. Using lactulose alone as a substrate to diagnose SIBO may therefore provide a false positive result, potentially leading to misdiagnosis and inappropriate use of antibiotics.

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PWE-082 **THE ART OF COMBINING CLINICAL INTUITION AND NUCLEAR MEDICINE IN DIAGNOSING BILE ACID MALABSORPTION**

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10.1136/gutjnl-2019-BSGAbstracts.402

Introduction NICE DG7 (2012) highlights the problems of SeHCAT scanning in the diagnosis of Bile Acid Malabsorption (BAM) for patients presenting with IBS-D. 2018 BSG guidelines for the investigation of chronic diarrhoea recommend both SeHCAT scanning (for the diagnosis of BAM) and colonoscopy (for diagnosis of microscopic colitis), which can occur in up to 25% and 10% of cases of IBS-D, respectively. Nocturnal symptoms and incontinence are 'hallmark' symptoms for microscopic colitis. This retrospective study evaluates the use of SeHCAT scanning at a London teaching hospital and explores if similar 'hallmarks' exist for BAM.

Methods The patient cohort was identified by searching the CRIS database from inception to Oct 2018 whilst clinical data was extracted from the electronic patient record system. SeHCAT scans were performed using ⁷⁵Se-hemofolec acid taurine capsules at a dose of 0.4MBq and 0.3mSv. Gamma counts were recorded 3 hours and then 7 days post capsule administration using a camera detecting the 27–80keV photo peak and retentions of <15% were considered abnormal. Data collected included demographics, clinical presentation (abdominal pain, diarrhoea, bloating, incontinence, urgency, nocturnal symptoms) and relevant past medical history. Multivariate analysis of symptoms was performed using a generalised linear model with elastic net and K fold cross validation. Patients with terminal ileal resections or IBD were excluded from subsequent analysis.

Results From Jan 2013 to Oct 2018, 524 patients underwent a SeHCAT scan (65% female, mean age 51) and the rate of testing increased sequentially from 26 per annum to 124 per annum over five years. Detailed statistical analysis of symptom cluster failed to identify any 'hallmark', but nevertheless 49.8% of patients had abnormal tests, 56.7% of which were requested by 4/16 consultant gastroenterologists. Sixty-four patients developed diarrhoea following a laparoscopic cholecystectomy (n=2476) of whom 41 (64%) had positive scans.