compared between patients seen in the 12 months before the pandemic (22/03/2019 - 22/03/2020) with those seen in the 12-months after (23/03/2020 - 23/03/2021), using non-parametric tests.

Results Overall, 190 patients (median age 43 years, $n=157$ (82.6%) female, 41.0% IBS-C, 24.7% IBS-D, IBS-M 33.7% and 0.5% IBS-U) with refractory IBS were included. Compared to those seen in the 12-months before the pandemic ($n=107$), the cohort seen during the Covid-19 pandemic ($n=83$) had a significantly higher median IBS-SSS (318 vs. 352, $p=0.03$), and more extra-intestinal symptoms (non-colonic score: 225 vs. 269, $p=0.03$). During the pandemic, median abdominal pain (50 vs. 63, $p=0.05$) and abdominal distension scores (60 vs. 75, $p=0.008$) were significantly higher, and patients that were unmarried had a higher median IBS symptom severity (IBS-SSS: 320 vs. 359, $p=0.03$). Interestingly, those seen during the pandemic had more difficulty with sleep (53 vs. 68, $p=0.03$), and more feelings of helplessness and loss of control (50 vs. 70, $p=0.02$), compared to those seen before the pandemic. There was no difference in the levels of anxiety and depression between the pre and post lockdown groups (HAD-Anxiety: 11 vs. 11.5, $p=0.96$; HAD-Depression: 8 vs. 8, $p=0.84$).

Conclusions This study has shown for the first time that patients seen in tertiary care with refractory IBS during the covid-19 pandemic had a significantly higher symptom burden emphasising the importance of gut-brain axis in IBS. Furthermore, lack of support and perceived loss of control appear to be contributory factors.

OWE-1 INVESTIGATION OF THE METABOLOME AND MYCOBIOME IN PARKINSON'S DISEASE

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10.1136/gutjnl-2021-BSG.32

Introduction The brain-gut axis is implicated in the pathogenesis of Parkinson's disease (PD). The 'hibernating spore' hypothesis proposes that the aetiological agent for PD is a fungal agent or its metabolite – possibly originating from a dysbiosis of the gut mycobiome. We evaluate the faecal metabolome and mycobiome in PD by assessing volatile organic compounds (VOCs) and highly-conserved fungal rRNA genes, respectively.

Methods VOCs were extracted from faecal samples from 35 PD patients and two groups of controls ($n=35$ and $n=15$) using solid phase micro-extraction and gas chromatography and mass spectrometry. DNA was extracted from a subset of 24 PD and 20 control samples: 18S rRNA gene amplicons were prepared and sequenced using an Illumina MiSeq platform. Metabolomics and mycobiome statistical analysis were carried out using Metaboanalyst and R respectively. The R package mixOmics was used for integrated omics analysis in this subset.

Results After correction for multiple comparisons, 6 VOCs were associated with PD and 12 with the primary control group ($FDR < 0.025$). 1,3-ditert-butylbenzene, γ -Terpinene, α -Pinene, O-Cymene and D-Limonene were more abundant in PD patients; short chain fatty acids were less abundant. The PD mycobiome had a higher alpha-diversity; patients with

Abstract OWE-1 Figure 1 Multi-omics sPLS-DA scatterplot comparing PD and controls. There were strong overall correlations between VOCs and fungi in PD and in controls (Pearson's correlation coefficient in lower left plot)

worse PD-related constipation had a significantly lower mycobiome richness ($P \leq 0.05$). Beta-diversity measures found a significant difference between the mycobiomes of PD and controls. Uncultured *Tremellales*, *Hanseniaspora*, *Kazachstania* and *Penicillium* genera were more abundant in PD whereas *Saccharomyces* genera were less abundant ($FDR < 0.0007$). MixOmics analysis showed that VOCs and fungi were able to separate PD and control groups—there were correlations between VOCs and fungi in both PD and control groups ($r = 0.79$) (Figure 1). MixOmics found *Torulaspora delbrueckii* was associated with PD and two VOCs - α -Pinene and β -pinene.

Conclusion PD patients had a distinct metabolome and mycobiome compared to healthy controls. There are interrelated changes of metabolome and mycobiome, suggesting a role for fungal dysbiosis and subsequent metabolome changes in the pathogenesis of PD.

Gastroenterology service

OFR-1 YOUNG PERSONS AND HEALTH CARE PROFESSIONALS EXPERIENCE OF VIRTUAL GASTROENTEROLOGY CONSULTATIONS – A MULTICENTRE SURVEY

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10.1136/gutjnl-2021-BSG.33

Introduction During COVID many clinic consultations moved to a virtual platform. Young people (YP) require additional considerations in this setting. The aim of this study was to explore the experiences of YP and Healthcare Professionals (HCP) to establish whether developmentally appropriate care can be delivered effectively via virtual clinics (VC).

Abstract OFR-1 Table 1

Key findings	YP	HCP
VC strengths	Saved time 84% Saved money 78% Reduced travel 25% Improved access to healthcare 81% Useful appointment 87% Would like VC again 83% More efficient & convenient Don't miss education/work Safer during COVID	Spoke to YP directly 80% Saw more patients 23% More free admin time 23% Convenient Don't always need clinic room
VC barriers	Poor WIFI Need extra appointment for investigations/to collect prescriptions Communication easier face to face Less private	Patient had to come to hospital for tests post VC 77% Unable to speak to YP privately 69% Unable to contact patient 48% Information technology (I.T) problems 29% Difficulty arranging investigations 23%
Suggested improvements	Improve I.T Use video not phone Prefer face to face	Improve I.T 86% Have YP present for VC Ability to speak to YP alone Having results ready and easily accessible Improved pathways for requesting tests

Methods The British Society of Gastroenterology (BSG) Adolescent and Young Person Committee developed service user and HCP questionnaire surveys, following an initial pilot. The survey was registered with the governance team in each participating trust.

The questionnaire link was delivered by post, email or text message between January–April 2021 to service users aged 13–25 years old attending a virtual gastroenterology/hepatology consultation. All patients had predefined chronic medical conditions. HCP undertaking VC with these patients were invited to complete the staff questionnaire. Survey results were anonymous with a trust specific survey link and results were collated using Excel.

Results Five trusts in the United Kingdom participated, with 35 HCP responses. Of the 100 patients completing the survey 66% were female and 34% male aged between 13–24 years. 13% were new appointments and 87% follow ups, 29% were by video, 69% by phone and 2% gave no response.

Conclusions Overall respondents were satisfied with VC and felt they were useful, convenient and saved time.

The surveys highlighted that improved I.T for both staff and patients is vital. In addition, improved processes for requesting investigations, prescriptions and accessing results would minimise admin time for staff and extra appointments for patients.

Direct engagement and privacy with YP was reported to be more difficult with VC, which is an important consideration in developmentally appropriate transitional healthcare. Some YP felt more comfortable discussing personal or complex issues face to face with a HCP that they knew.

It is important to recognise patient preference for face to face or virtual clinics and personalise care accordingly, acknowledging that this may alter with time and circumstance.

Successful virtual consultations rely on appropriate patient selection and availability of reliable WIFI and IT. Patient preference is key and this may alter with time.

OTH-3

THE STATE OF THE GASTROENTEROLOGY AND HEPATOLOGY CONSULTANT WORKFORCE IN 2020

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10.1136/gutjnl-2021-BSG.34

Introduction British Society of Gastroenterology (BSG) Workforce reports have identified widespread consultant vacancies, excessive workloads and insufficient training posts to meet current and future service demand. The COVID-19 pandemic has put further strain on an already overstretched and often demoralised workforce.

Methods The Medical Workforce Unit of the Royal College of Physicians (RCP) undertakes an annual census of consultants each October. Data for gastroenterologists and hepatologists from the 2019 census, January 2020 RCP consultant wellbeing survey and the General Medicine Council (GMC) between 2012 and 2020 were examined.

Results The number of UK licensed gastroenterologists increased from 1,703 to 2,013 from 2014 to 2019. However, in recent years, fewer gastroenterologists have joined the GMC register annually (151 in 2014 and 115 in 2018). Consequently, 45% of advertised consultant posts in gastroenterology were unfilled and 8% of all posts filled by a locum in 2019, mostly due to a lack of applicants, with demand outstripping supply. There has also been a smaller increase (9% versus 14%) in gastroenterology trainee numbers compared to other medical specialties between 2012 and 2020. The average number of population per full time equivalent gastroenterologist in the UK is 43,913 but there are significant regional variations with some regions much more poorly served (Thames Valley 63,456, North Wales 59,444, Kent, Surrey and Sussex 50,974, and East of England 50,487).

Gastroenterologists work a mean of 1PA unpaid in addition to contracted PAs. This leads to gastroenterologists saying they always, or most of the time in 59% work excessive hours and in 61% have an excessive workload. Gastroenterology is the major specialty at highest risk of burnout with lower (worse) mean mental wellbeing scores. Consequently, 51% of gastroenterologists reported that work affected their relationship with their partner and 53% with their children in the past year. 52% described their morale in 2019 as being worse than in 2018. 18% of gastroenterologists reported feeling bullied or harassment over the past year by managers or fellow consultants. Despite these issues, 87% of gastroenterologists reported they were always or often satisfied with specialty work, but only 21% with general internal medicine work.

Conclusions Unfilled consultant vacancies, high workloads, low wellbeing scores and morale were evident in gastroenterology and hepatology even before the COVID-19 pandemic. Gastroenterology is the major medical specialty at highest risk of burnout. At a time when the NHS workforce is under increasing pressure, these issues must be urgently addressed to improve the working lives of gastroenterologists and hepatologists.