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Burnout and work-related stressors in gastroenterology: a protocol for a multinational observational study in the ASEAN region

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ABSTRACT

Background Clinician burnout is an important occupational hazard that may be exacerbated by the novel COVID-19 pandemic. Within Southeast Asia, burnout in gastroenterology is understudied. The primary objective of this study is to estimate the prevalence of burnout symptoms within gastroenterology, in member states of the Associations of Southeast Asian Nations (ASEAN), during and after the COVID-19 pandemic. The secondary objective is to identify work-related stressors that contribute to burnout in ASEAN gastroenterologists.

Methods and analysis This is an observational study that will use anonymised online surveys to estimate the prevalence of burnout symptoms at two time points: during the COVID-19 pandemic in 2020 and in 2022 (assumed to be after the pandemic). Gastroenterologists from Singapore, Malaysia, Thailand, Indonesia, Philippines and Brunei will be invited to participate in the online survey through their national gastroenterology and endoscopy societies. Burnout will be assessed using the Maslach Burnout Inventory-Human Services Survey tool. Supplementary questions will collect demographic and qualitative data. Associations between demographic characteristics and burnout will be tested by multiple regression.

Results The prevalence of burnout symptoms in gastroenterology during the COVID-19 pandemic, and the baseline prevalence after COVID-19, will be established in the above-mentioned countries. Work-related stressors commonly associated with burnout will be identified, allowing the introduction of preventative measures to reduce burnout in the future.

Ethics and dissemination Ethical approval was granted by the Singhealth Centralised Institutional Review Board (2020/2709). Results will be submitted for publication.

INTRODUCTION

Background

Burnout is an occupational hazard that is characterised by symptoms of emotional exhaustion (EE), depersonalisation (DP) (also referred to as 'cynicism'), and a sense of low personal accomplishment (LPA) (also referred to as 'reduced professional efficacy').[1] Approximately 30%–50% of clinicians worldwide are estimated to have burnout symptoms[2] and the syndrome is now recognised as an 'occupational phenomenon' in the 11th revision of the International Classification of Disease. If unaddressed, burnout in clinicians can negatively impact patient outcome through impaired professionalism, poor communication, decreased patient satisfaction, professional errors and patient harm.[2] Depression, suicidal ideations, sleep disturbances, alcoholism, musculoskeletal disorders, hypertension and ischaemic heart disease have also been associated with clinician burnout.[3–6]

Gastroenterology normally involves heavy workloads and large volumes of patients, furthermore, the novel COVID-19 pandemic may have added additional strain on gastroenterologists in badly affected countries. Before COVID-19, burnout in gastroenterologists was reported to be as high as 54% in the USA[7] and 64.4% in South Korea[6]; burnout rates in the COVID-19 era remain unreported and these may be much higher. Personal accounts from Italy, one of the hardest-hit countries in the early phase of the pandemic, have provided valuable insight into the significant amount of stress gastroenterologists have been placed under.[8] Unsurprisingly, other gastroenterologists worldwide have also acknowledged the importance of mental well-being, including issues such as stress and burnout, in the effective functioning of gastroenterology departments, endoscopy units and patient services during the COVID-19 pandemic.[9–12]

Rationale

Within Southeast Asia, burnout in gastroenterologists has been poorly studied. Therefore, the primary objective of this study is to estimate the prevalence of burnout and its symptoms within the specialty in member states that comprise the Associations of Southeast Asian Nations (ASEAN), during and after the COVID-19 pandemic. The initial survey will estimate the prevalence of burnout symptoms during COVID-19 and the second survey will estimate the baseline prevalence of burnout symptoms in 2022 on the presumption that normal practices would have been restored. The secondary objective is to identify work-related stressors that commonly contribute to burnout in ASEAN gastroenterologists. An understanding of these factors will provide stakeholders and institutions valuable insight on how to alter work environments or practices, to help maintain the mental well-being of ASEAN gastroenterologists and ensure a sustainable workforce for the future. This multinational collaborative study has been named the “Burnout in Gastroenterology: South-East Asia” or "BiG:SEA" study.

Recently, in a study of gastroenterology trainees in the East of England, UK just before the outbreak of COVID-19 pandemic, we found that 35.3% had burnout. However, EE was present in 57.5% and only 50% were aware of organisational mental health support services that they could turn to in times of need.[13] Similarly, this study will also probe respondents’ awareness of mental health support services within their respective organisations.

METHODS

Design and administration of the questionnaire

A two-part questionnaire was designed for this study; the first part detects the presence of burnout symptoms, and the second part collects supporting data to answer the secondary objectives of this study. The first part comprises of the 22-item Maslach Burnout Inventory-Human Services Survey (MBI-HSS)[14] which will be reproduced electronically once survey licenses are obtained (www.mindgarden.com). The MBI-HSS assesses burnout symptoms in the domains of EE, DP and a sense of LPA. It was chosen to measure burnout because it is the most widely used and the most extensively validated tool to study burnout in medical professionals.[15] Abbreviated versions of the MBI-HSS will not be used because we have previously demonstrated these can be unreliable; compared with the 22-item MBI-HSS, the 12-item abbreviated MBI tool has a poor positive predictive value of 33.3% (95% CI 27.5% to 39.8%).[16]

The second part of the survey comprises 20 questions that the authors have formulated and finalised through the Delphi process. These contain 12 multiple choice questions and 8 free-text questions (online supplemental table 1); these questions collect data on respondent demographics, perceived work-related stressors and questions about the effect of COVID-19 pandemic on normal work. One of the free-text questions will ask respondents to propose a unique identifier so current results can be traced in 2022. This unique identifier will not contain any personal information such as date of birth, mother’s maiden name, current or previous usernames and passwords.

Both parts of the questionnaire will be administered in the national language of the country or the standard working language used in medical practice if different from the national language. For example, the national language for Singapore is Malay but the standard mode of instruction in medical practice is English, therefore, the survey will be conducted in English within Singapore. All responses will be anonymised and respondents will be informed of this in the invitation email, participant information page, and each page of the survey. The invitation email and the participant information page also informs respondents that the survey is for research purposes and participation is voluntary. The invitation email will introduce the survey as a mental well-being survey to avoid participant sensitisation as recommended by the product literature. There are no risks posed to participants and participation will not be incentivised. Invitation emails containing an electronic link to the survey hosted on SurveyMonkey (www.surveymonkey.co.uk) will be circulated through the national gastroenterology and endoscopy societies of each country. The first survey will be administered approximately between 7 September 2020 and 7 December 2020 and the second survey is tentatively planned between 5 September 2022 and 5 December 2022. The dates for the second survey will be deferred if the course of the pandemic is protracted. A 1-year ‘wash-out’ period will be given between the end of the pandemic and the start of second survey to avoid any ‘carry over’ effects from the pandemic. For each survey, a reminder email will be sent 1 month after the invitation email and 1 week before the survey period ends. To preserve respondent anonymity, telephone reminders will not be used.

Selection of study population

1. The inclusion criteria are any consultant, or trainee, in gastroenterology currently working in an ASEAN member state; Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

Exclusion criteria

1. Gastroenterology clinicians from ASEAN member states for which the MBI-HSS has not been translated and validated in the national language, or the common language of instruction in medical practice. It is not within the scope of this study to do so. These countries have been identified as Cambodia, Laos, Myanmar and Vietnam. Therefore, the final list of countries included in this study are Brunei, Indonesia, Malaysia, Philippines, Thailand, and Singapore.
2. Non-gastroenterology clinicians, for example, surgical doctors (consultants and trainees), nurses or other

allied health professions that may have inadvertently taken the survey. A separate study will be conducted for nurses and allied health professionals.
3. Co-authors involved in this research.

Patient and public involvement

This study will not involve any patients or members of the public.

DATA ANALYSIS

Analysis of MBI-HSS scores

Questions within the MBI-HSS are graded on a seven-point Likert scale according to the frequency of symptoms, ranging from 'never' (0) to 'every day' (6). The Cronbach's alpha in each domain has been shown to be greater than 0.7 when validated using the official translated versions provided by the proprietor. Two methods, 'method 1' and 'method 2', will be used to analyse and report MBI scores.[14] Method 1 involves the summation of all question scores per domain; this method is used in most burnout studies to define the likelihood of burnout. In literature, there are several different MBI criteria that researchers use to define burnout. This study will define the presence of burnout by the presence of either a high summated EE score with a high summated DP score or a high summated EE score with a low summated LPA score (summated EE ≥27 and summated DP ≥13 or summated EE ≥27 and summated LPA ≤31). These criteria are supported by Maslach and remain the only MBI criteria with clinical validation of burnout scores against symptoms of work-related asthenia in the International Classification of Disease (WHO).[14 17 18] We have also found these criteria to correlate closely to clinical observations of burnout in a previous study of anaesthesiologists.[16] For research purposes, the proportion of respondents with (1) summated EE ≥27 or summated DP ≥13,[19] and the proportion of respondents with (2) summated EE ≥27 and summated DP ≥13 and summated LPA ≤31 will also be reported but not used as a determinant of burnout status.[14]

Method 2 will be used to stratify symptom severity in the three burnout domains because the traditional cut-off values that delineated low, medium and high-risk scores in method 1, are arbitrary and no longer recommended by Maslach.[14] Method 2 involves the averaging of question scores across each domain and the final score reflects symptom frequency. Abnormal cut-offs for symptom frequency are provided by the MBI manual (proprietary) and these have been derived from a population of 6269 healthcare workers using the following formulae: Abnormal EE=Mean+(SD*0.5), Abnormal DP=Mean+(SD*1.25) and Abnormal LPA=Mean+(SD*0.1).[14] High average scores in the EE and DP subscales represent more frequent and severe symptoms. Conversely, a low average score in the LPA domain represents more severe symptoms. An additional advantage of method 2 over method 1 is that the average domain score remains valid even if the response to domain questions are incomplete.[14] Despite these advantages, absolute cut-off values and the necessary combinations of abnormal domains to define burnout clinically for method 2 have not yet been established.

Although method 2 will identify abnormal EE, DP and LPA scores, frequency of symptoms will be used to classify symptom severity as 'mild to moderate' or 'severe'. Abnormal symptoms of EE and DP occurring at a frequency of once per week or more often (domain average score ≥4) will be defined as severe; symptoms occurring less frequently, however, still identified as abnormal by the MBI manual will be defined as mild to moderate. Conversely, for LPA, respondents that do not have any positive feelings or experiences in their work once per week or more often (domain average score <4) will be defined as severe. The remaining respondents with abnormal LPA scores will be classified as mild to moderate.

As cultural, societal and environmental differences may exist within the ASEAN countries, and given that these factors may influence the prevalence of burnout and its symptoms, results will be reported by country in addition to pooled results.

Analysis of qualitative data

Qualitative data collected in the second part of the questionnaire will be analysed by focus group discussions. Work-related stressors reported by respondents will be grouped according to commonly occurring themes that have been previously identified in publications of burnout in gastroenterology.[13 20] Any discrepancies or disagreements will be resolved by focus group discussions.

Analysis of quantitative data

MedCalc V.19.1.5 (MedCalc Software bv, www.medcalc.org) will be used to perform the statistical analyses. Continuous variables will be tested for normality using the Shapiro-Wilk method where applicable.[21] For univariate analysis, mean±SD or median and IQR will be reported for continuous variables where appropriate. For categorical variables, count (percentage) will be reported. Bivariate associations between burnout status and each identified risk factor will be conducted using two-sample Student's t-test or Mann-Whitney U test where appropriate if the risk factor is continuous, and using χ^2 test or Fisher's exact test where appropriate if the risk factor is a categorical variable. Two-tailed p values will be reported for all tests and the significance level will be set at 5%. Bonferroni correction will be applied for multiple hypothesis testing where applicable.

A logistic regression model will be used to assess the relative contribution of different demographic factors (independent variable) to burnout status (dependent variable, burned out=1 and not burned out=0). Data from questions 1, 2, 3, 10, 11, 13, 14, 15, 16, 17, 18 and 19 will be coded as categorical data using the codes displayed in online supplemental table 1). Data from questions 4, 5, 6, 7, 8 and 9 will be coded as non-categorical data.

Missing data

Missing data from incomplete EE, DP and LPA questions will not be used in the calculation of burnout rates derived by method 1 (summated scores). Average EE, DP and LPA scores can be calculated from incomplete domains using method 2 as permissible and advised by product literature. Missing data from the second part of the survey will not be included in the respective fields of analysis.

ETHICS

At the start of each survey, participant information and an anonymised consent form will be provided (see online supplemental appendix 1). Respondent consent is required before the survey is made accessible online. Participant information and consent forms will be displayed in the native language of the country or the standard working language used in medical practice if different from the native language, for example, surveys can be administered in English to respondents who use English proficiently at work although they use their mother tongue socially outside work.

As this study collects anonymised data, the provision of individual results is not possible unless personal identifiable information is disclosed after the survey. Therefore, all participants will be advised to seek help from support services in their respective organisations if they have any concerns about their mental health regardless of the outcome of the study. This message will be conveyed again, together with the analysis of the results, once the study has been completed.

DISSEMINATION

The results from this study will be disseminated through two publications in PubMed searchable journals. The first publication will release the results of the early results from the first survey. This is anticipated to be in December 2020. The second publication will release the collated and more extensive results of the study in late 2022 or early 2023 depending on the length of the COVID-19 pandemic.

LIMITATIONS

This study has several limitations. First, burnout syndrome is classified as an 'occupational phenomenon'; current understanding of the phenomenon and its characterisation remain suboptimal. Second, this is a cross-sectional study and burnout exists as a continuum that is, physicians that do not have burnout symptoms at the point of evaluation may develop burnout later and vice versa. Third, a universal detection tool and cut-off parameters for burnout out do not exist. Some researchers have proposed that the MBI-HSS is not as theoretically driven and conceptually homogeneous as other burnout tools.[22] Nonetheless, it is the most widely used tool with the largest evidence base for medical professionals. Lastly, non work-related stressors and personality can influence burnout but this will not be investigated in depth in this study because it is difficult for employers and authorities to implement interventions for non-work-related issues within their institution. Increasing survey length will also lead to a lower response rate.

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