A scoping review with textual narrative synthesis of the literature reporting stress and burnout in specialist nurses: making the case for inflammatory bowel disease nurse specialists

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Summary

What is already known about this subject?

- There is a worrying level of burnout amongst clinical nurse specialists
- Subjective data from one professional support group in the UK indicate the presence of burnout in Inflammatory Bowel Disease (IBD) Clinical Nurse Specialists
- The components of burnout (emotional exhaustion, depersonalisation, and lack of personal achievement) affect different cohorts (age, workplace environment, time in role) differently
- Current evidence comes from international studies where the structure and management of healthcare services and the remit of the Clinical Nurse Specialist differ to those of the United Kingdom's National Health Service

What are the new findings?

- There is no global or UK data specifically addressing burnout in IBD Clinical Nurse Specialists
- There is no qualitative evidence to explain relationships between different components of burnout and personal characteristics such as age, and time in role
- Further research is needed to understand the experiences of burnout within the IBD clinical nurse specialist workforce, and to determine the most effective strategies for addressing burnout in this cohort

How might it impact on clinical practice in the foreseeable future?

- Failure to address burnout in IBD CNSs risks disruption to the clinical workforce, and thus the quality of service provided to patients due to attrition
- Junior IBD-CNSs need mentoring and support but risk losing this if senior colleagues leave the service

Abstract

Objective

Inflammatory Bowel Disease Clinical Nurse Specialists (IBD-CNSs) face increasing pressures due to rising clinical and patient demands, advanced complexity of work role, and minimal specialist management training and support. Stress and burnout could undermine the stability of this workforce, disrupting clinical provision. We reviewed the literature on stress and burnout to demonstrate the lack of evidence pertinent to IBD-CNSs and make the case for further research.

Design

Following Levac and colleagues' scoping review framework, relevant databases were searched for publications reporting work-related stress and burnout amongst specialist nurses. Following screening and consensus on selection of the final articles for review, all authors contributed to data charting. The PRISMA Scoping Review extension guided reporting of the review.

Results

Of 194 retrieved articles, eight were eligible for review. None focussed on IBD-CNSs, were qualitative, or UK-based. Three core themes were identified: *Rates of Burnout*, *Mitigating and Alleviating Factors*, and *Preventing and Resolving Burnout*. Risk of burnout is greatest in novice and mid-career CNSs. Age and duration in role appear protective. Personal achievement is also protective and can mitigate earlier episodes of burnout; opportunities for career progression are limited. Promoting personal wellbeing is beneficial. Senior managers have poor understanding of the role and provide inadequate support. Commitment to patients remains high.

Conclusion

Burnout arises in CNSs across clinical specialisms in the international literature and has a significant negative effect on the workforce. Further research is needed to address the dearth of evidence on burnout in IBD-CNSs in the UK.

INTRODUCTION

People living with Inflammatory Bowel Disease (IBD) in the UK are supported by the knowledge, experience, and availability of IBD Clinical Nurse Specialists (IBD-CNSs) who provide a range of advisory, therapeutic, advanced clinical services and emotional support to patients in many (often complex) situations. These IBD-CNSs have advanced or specialist expertise in caring for people with IBD and, as a core part of a multidisciplinary team (MDT), lead and manage a caseload of patients, providing diagnoses, care planning, treatment and follow up and continuity of care. In the UK, IBD-CNSs may also deliver a broad range of additional clinical activities, including infusion clinics, endoscopy clinics, and email and telephone advice services. Yet as IBD interventions advance, and the patient population increases in size, the workload for IBD-CNSs increases. This workload can feel relentless and demanding, and the personal impact of responding to and working with patients with whom nurses have a long-term professional relationship, can be intense. Patients routinely report the IBD-CNS as their preferred point of contact when they need urgent clinical support or ongoing advice, [1,2] bringing an expectation from patients of rapid response to queries, and resolution of problems. Many IBD-CNSs enter this specialist post soon after qualifying rather than after several years of gathering experience in clinical practice, and the increasing demands the specialist role places on them can quickly lead to work-related distress, burnout and attrition.[3] This complex and demanding caseload is unsustainable, both for service provision, and for nurses themselves.[4] As with other clinical specialisms,[5] the Royal College of Nursing (RCN) IBD Nurse Network provides an important national network through which IBD-CNSs can seek clinical advice and pastoral support from each other; posts onto the Network's Facebook© page evidence the stress that many specialist nurses are and have been under since before the COVID-19 pandemic. Stress, and burnout (characterised by high levels of emotional exhaustion and depersonalisation, and low levels of personal accomplishment)[6] are similarly reported in other advanced roles, including renal and oncology nurse specialists.[7-9]

The objectives of this scoping review were to identify the current evidence reporting experiences of stress and burnout in specialist nurses, and to demonstrate the case for undertaking further qualitative investigation of this topic in IBD-CNSs.

MATERIALS AND METHODS

Scoping reviews are appropriate when the aim is to identify and analyse knowledge gaps.[10] The approach facilitates a broad sweep of available evidence and is useful for informing focus and methodology of follow-up studies. As with a classic systematic review, the methodology is rigorous with transparent processes that enable the reader to assess the quality of what has been done.

We therefore conducted a scoping review of the relevant literature guided by the six-step framework recommended by Levac and colleagues,[11] [Table 1], which extends the original work of Arksey and O'Malley.[12]

Table 1: The Six Stage Scoping Review Methodology of Levac et al., (2010)[1]

Framework Stage	Purpose
Stage 1	Identifying the research question
Stage 2	Identifying relevant studies
Stage 3	Study selection
Stage 4	Charting the data
Stage 5	Collating, summarising and reporting the results
Stage 6	Consultation with stakeholders

The PRISMA-ScR extension for scoping reviews guided the reporting of the work.[13] The scoping review approach enables the merging and presentation of data from studies of different design and from a range of sources via a narrative synthesis, to represent the meaning of the body of work reported in the selected papers.[14] The protocol for this review is registered with the Open Science Framework [DOI: 10.17605/OSF.IO/N3BJ9; https://osf.io/yk5c2/].

Stage 1: Identifying the research (review) question

Levac et al. recommend considering the target population (clinical nurse specialists), the outcomes of interest (stress and burnout) and the concept (experiences of burnout) when developing the review question.[11] We utilised the SPIDER tool to develop a broad search

question incorporating these aspects.[15] A preliminary sweep of the literature had indicated there may be very little evidence specific to IBD-CNSs, so our scoping review question was: *What evidence exists on the personal experiences of work-related stress and burnout amongst clinical nurse specialists*?

Stage 2: Identifying relevant studies

Search strategy

The process of identifying studies is iterative, requiring repeated visits to the literature to gradually refine the search strategy.[11] Early searches produced very few 'hits', which seemed unlikely, so the strategy was gradually refined until the most effective approach across all databases was confirmed. This flexibility is acceptable in a scoping review where the aim is to get a sense if what data exists on a topic, rather than produce a definitive answer to a specific question.[16] To allow for the wide variation in job titles associated with these specialist roles, the final search terms were: ("Specialist nurse" OR "nurse specialist" OR "advanced nurse practitioner" OR "Advanced practice nurse" OR " Consultant nurse" OR "clinical nurse specialist") AND (("work-related" OR "work related" OR job OR role) AND (wellbeing OR well-being OR "well being" OR stress OR burnout OR burn-out OR "burn out")). The definitive searches were conducted in July 2020 in CINAHL Plus with full text, Google Scholar, Internurse, Medline, Pubmed, Science Direct, Scopus, and Web of Science. Reference lists of identified papers were also hand-searched. Throughout this paper, the term CNS is used to refer to nurses in any advanced, consultant or specialist clinical role. As recommended in the PRISMA-SCR checklist, the search strategy for one database is provided online [Additional file 1: Search strategy in CINAHL].

Search Inclusion and exclusion criteria

We used the following broad inclusion and exclusion criteria to capture as many articles as possible:

Inclusion criteria

Original, full text, peer reviewed research

Published in English, since 1st January 2000

Qualitative, quantitative, or mixed methods design

Key search terms in title and/or abstract

Focuses on experiences /measurements of stress, burnout and/or wellbeing

Exclusion criteria for the search

All other forms of publication (abstracts only, conference proceedings, editorials, literature reviews, opinion pieces).

Stage 3: Study selection

Duplicates were removed, and all studies were screened by the first and the senior author against the inclusion criteria. Studies were further excluded if: 1) the search term '*Clinical nurse specialist*' or any of the equivalent role descriptors (detailed in Stage 2: Identifying Relevant Studies, above) not appear in the title, and 2) if the term 'burnout', 'burn-out' or 'burn out' was absent from title or abstract, or 3) was only included as a recommendation/conclusion of the study. The remaining articles were then reviewed by the team, before meeting to agree by consensus the final articles for the review. The process of study selection is demonstrated in the PRISMA diagram[17] in Figure 1.

Stage 4: Charting the data

Study design and participant demographic data were extracted by the senior author (LD) onto a prepared data chart, before circulating this to the team who extracted data relevant to the variables of interest and the scoping review question [Table 2].

Table 2: Variables of interest extracted from each included study, with rationale

Variable	Rationale, simplifications or assumptions.
Authors, year, country	To demonstrate that selected articles are current and relevant; to illustrate the geographical spread of the literature
Research question / purpose	To demonstrate relationship between the research question of the selected articles, and the aims of the current scoping review
Methodology and methods	To evidence the type of research included in the review, and the core methods used to select participants, collect data, and conduct analysis

Age of participants	Age may influence job satisfaction / burnout
Gender of participants	To understand any gendered differences in experiences of burnout
Years as nurse	Length of clinical experience may affect wellbeing / burnout
Years in specialist role	Nurses who are new in role may have different responses to stress/ burnout than nurses with more experience
Married / family commitments	Blurring of home and work life boundaries may influence experiences of stress and burnout
Evidence of stress/burnout	To enable the scoping review question to be answered
Contributors to stress/burnout	To identify factors and correlations that make stress/ burnout worse
Mitigators against stress/burnout	To identify factors and correlations which reduce stress/burnout or prevent it's occurrence

Three authors (JD, IM, LY) extracted data from two of the eight selected papers, whilst KK and LD extracted data from four, and all eight papers, respectively. Each selected article was thus charted at least twice. Extracted data were combined on a single data chart, and early themes were identified by LD. Initial or preliminary codes were allocated, guided by the stated aims of the scoping review. Following team discussion of these codes, main themes and sub-themes were developed, and agreed. Data charting identified similarities and some outlying concepts across the eight included papers, leading to a detailed insight into the prevalence, development and impact of stress and burnout in CNSs. Extracted data and summary of included papers is provided in Table 3 [*Insert here*].

Ethics

As per the PRSIMA-ScR guidelines,[13] ethical considerations must be acknowledged. This scoping exercise did not require ethical approval as it reviewed previously collected data. All included studies that did collect data from human participants reported securing ethical approval prior to study commencement.

Stage 5: Collating, summarising and reporting the results

The three distinct steps in Stage 5 of Levac et al.'s framework,[11] reflect the standard reporting sequence of Results, Discussion, and Conclusions and Recommendations.

RESULTS

Study characteristics

Of the eight included studies, there were five from the USA, [18-22] one from Canada/USA,[23] one from Spain,[8] and one from Australasia.[7] All were quantitative, with seven cross-sectional surveys,[7,18-22,23] of which four [7,20-22] were online; the remaining study was a meta-analysis of existing data.[8] Of the seven studies that recruited participants, five described purposive sampling, but did not overtly state that as the method;[7,19-21,23] one used purposive and snowball sampling,[22] and two used convenience sampling. [8,18] These sampling methods are acceptable in quantitative studies when a particular population is being investigated. All studies used statistical methods for data analysis and reported findings using data charts or diagrams, and explanatory text.

In total, there were 12,828 CNS participants (range 8-9959) of which 11,850 (92.3%) were female; where reported, ages ranged from 20-65+ years [18-21,23] or were given as a mean of 38.2 years.[8] Time as a nurse was reported by two studies, ranging from <5 to 20 years+,[14] or as a mean of 8.78 years.[8] Four studies reported time in the specialist role as either a range (<6months – 20 years+)[7,20,22] or a mean of 6.4 years;[10] two reported marital status.[8,21] To measure or rate burnout, five studies [7,8,19-21] used the Maslach Burnout Inventory (MBI),[6] one study[23] used a single item from the Mini-Z survey,[24] and one study[22] used the Copenhagen Burnout Inventory.[25] The remaining study[18] used the Professional Quality of Life Scale to assess compassion fatigue and compassion satisfaction as predictors of burnout.[26]

Three themes were established: *Rates of Burnout*, *Mitigating and Alleviating Factors*, and *Preventing and Resolving burnout*.

Rates of burnout

Thirty to 35% of oncology CNSs report high levels of emotional exhaustion (EE) and depersonalisation (DP) and low levels of personal achievement (PA);[8] similarly,

haemodialysis CNSs report scores of ≥ 28 for EE (low ≤16, average 17-27, high ≥28); ≥ 10 for DP (low ≤ 5, average 6-9, high ≥10); and ≥40 for PA (low ≥40, average 39-34, high ≤33).[7] Amongst hematopoietic cell transplantation CNSs, scores for EE and PA are similarly high, but lower (mean 4.8) for DP, although an average burnout rate of 45% is reported.[21] A burnout rate of 20.9% is reported amongst CNSs using electronic health records (EHRs),[23] and there was a mean composite score of 2.56 (range 0-6) for the MBI in a large group of mixed speciality CNSs, although composite score reporting is not recommended.[27] In a cohort of 433 mixed speciality CNSs, burnout was reported as occurring currently (26.3%), formerly (33.2%) or never (40.4%).[19] In contrast to all this evidence, one very small study (n=7) reported a mean composite score of 43.05% of participants experiencing high levels of burnout and deduced that there was no evidence of burnout in CNSs,[22] but the sample size is too small for results to be reliable. Finally, an exploration of compassion fatigue (CF) and compassion satisfaction (CS), both known precursors to burnout, reported low levels of CF and high levels of CS in the sample (n=208), deducing low levels of burnout across the cohort.[18]

Mitigating and alleviating factors

Demographic influences

Burnout was less prevalent amongst older nurses[7,18-21] and those with more experience/years in the role. Older participants had better CS scores (aged 50-60, 60.4%; aged >60, 58.3%); high levels of CS were also found in those with 5-10 years in practice (58.8%), with the highest CS scores reported by those with >20 years in practice (80%).[18] In another study, older nurses and those with more time in the role (16-20 years) had higher job satisfaction scores, decreased stress, and lower levels of burnout, whilst all age groups below 60 years+ had lower job satisfaction scores, and nurses in mid-life (31-40 years old) had higher depersonalisation scores than older nurses (51-60 years old).[7] A third study found that whilst 41% of participants had never experienced burnout, the highest rates of burnout were reported in the 24-34 years (former burnout 32.6%; current burnout 30.7%), and 35-44 years (former 41.0%; current 29.8%) age groups. In contrast, those aged >55 years, reported low burnout rates (former 4.9%; current 11.4%).[19] This pattern continues across two other studies, where older professionals were found to experience higher levels of engagement with work (correlation coefficient (r)=.11; probability (*p*) <.05), whilst younger professionals

experienced higher levels of job stress (r=-.10; *p* <.05),[20] and nurses aged 40 years and older (40-49, 50-59, 60+) had lower depersonalisation scores than younger nurses (aged 20-29).[21] Counter to this evidence, one very small study (n=7) reported that CNSs do not experience significant burnout or endure risk factors predisposing them to burnout, and states that burnout appears more likely in more experienced nurses.[22]

Organisational influences

Working environment was found to influence burnout. Oncology nurses based in hospital treatment centres had higher rates of burnout than nurses working in palliative care or community settings.[8] Amongst haemodialysis nurses, those working in tertiary (hospital-base) centres had lower satisfaction scores, higher stress levels and higher burnout scores (*Mean (M)* =30.71, Standard Deviation (SD)=12.13) particularly when compared to nurses working in patients' homes who had high satisfaction scores, low stress levels, and low burnout scores (*M*=28.29, SD=10.46) although these differences did not reach statistical significance.[7] In contrast, greater satisfaction with the working environment correlates with greater job satisfaction (r=0.70, p=<0.01), lower job stress (r= -0.41, p=.01) and lower EE (r= -0.49, p<0.01).[7] Working in an outpatients' setting and completing longer hours including extra work at home predicts burnout amongst hematopoietic cell transplantation specialist nurses.[21] Similarly, the likelihood of burnout increases amongst advanced practice/specialist nurses working with electronic health records (EHR) in an outpatients setting (Adjusted Odds Ratio (OR): 1.30 [0.53-3.24]; p=0.567) who have to catch up with EHR-related administration at home (Adjusted OR: 2.66 [0.91-7.80]; p=0.075) due to having insufficient time for documentation during the working day, which predicts a three times higher likelihood of burnout (Adjusted OR: 3.72[1.78-7.80]; p=0.001).[23] Workload was identified as influential across three other studies[7,19,21] where the emotional exhaustion component of burnout was positively correlated with workload (r=0.44),[7] the high demand for direct patient care and related administrative tasks left little time for personal and professional development activities and contributed to increased burnout,[21] and where specialist nurses felt they had no control over their workload.[19] Low levels of personal accomplishment, either due to failure to 'save' the patient[8] or having fewer opportunities for personal development/career advancement,[19] and lack of career satisfaction[21] lead to lower personal achievement scores and increase burnout risk. Nurses with high personal

accomplishment scores were less likely to currently be experiencing burnout, than to never or previously have experienced it (14.5% vs. 53.4%, 32.1% respectively, p=<.001), suggesting that personal achievements can overcome previous episodes of burnout.[19] Additional work-related factors that contribute to burnout included feeling undervalued or unrecognised for one's work,[7,19] poor work-life balance,[19,21,23] conflict with physicians,[7] lack of autonomy and role ambiguity,[20] and managers having a poor understanding of the day-to-day role of the CNS.[19] Increased autonomy increases job satisfaction, thus protecting against burnout.[7] In contrast, three studies found that good managerial and peer support mitigated against the factors that lead to burnout.[7,18,19] There was a significant positive relationship between increased levels of compassion satisfaction and increased perceptions of report received from managers (*p* =.025, Cramér V = 0.231), co-workers (*p* = <.001, Cramér V = 0.347) and family and friends (*p* = <.001, Cramér V = 0.385), which was then related to lower levels of burnout.[18]
Nurses were most satisfied when managerial support was perceived as fair and equitable (including fairness in rostering) and supported their clinical practice.[7] Being able to attend to their own self-care needs, being appreciated, receiving good leadership/management support, and experiencing organisational promotion of health and well-being were identified as strategies for mitigating against burnout,[19] alongside opportunities for career advancement.[19,20]

Job stress[20] and moral distress[21] are also influential. Job stress is positively related to burnout (p<.01), and both stress and burnout are negatively related to work engagement (both p=<.01); moral distress (arising from the inability due to external influences to deliver care to a preferred standard) was reported as medium (44-62) or high (>63) in 31% and 37% of specialist nurses respectively.[21] Burnout (specifically the component of EE) negatively correlates with getting things done (r= -0.48, p=<0.01), task requirements (r= -0.46, p=< 0.01) and feeling valued (r= -0.46, p= <0.01).[7]

The relationship between specialist nurses and patients appears influential. Lower levels of depersonalisation (manifesting as an affective-symptomatic lack of empathy)[28] amongst CNSs are reported in one study with oncology nurses,[8] with others observing that dedication to patients and absorption in the specialist role reduces burnout[20] and that despite personal and work-related challenges, commitment to patients remains high.[19,22]

Internal influences

Whilst working practices, the work environment and the quality of managerial/leadership support were shown to affect burnout, nurses' internal influences often mitigated against it. Robust social support from family and friends appears important,[20] more so than relationships with co-workers,[18] and better work-life balance facilitates lower job stress levels.[20]. In one study, 75% of specialist nurses who reported that they had never experienced burnout, had high personal achievement scores, strong family support, close friendships, and engaged in group activities outside the workplace.[19] In contrast, 57% (n=65.5) of 115 Advanced Practice Providers reporting burnout either disagreed or strongly disagreed with the statement 'my work schedule leaves me enough time for personal/family life', indicating a poor work-life balance.[21] Self-care practices – including healthy eating, exercise, mindfulness practices, taking time off/holidays and seeking therapy were protective.[18,19,21]

Preventing and resolving burnout

Four of the eight studies make recommendations for addressing burnout based on their findings[7,18-20] whilst one reinforces strategies recommended in previous literature.[21] There was a statistically significant positive relationship between mindfulness practices and the level of compassion satisfaction with a moderate to large effect size (p = .016, Cramér V = 0.242), and between meditative practices and burnout (p = 0.42, Cramér V = 0.219).[18] As described above, the presence and quality of support from co-workers, managers and administrators affects the level of burnout amongst CNSs,[18] and support, workload management and reducing peer to peer conflict are recommended to reduce burnout and increase retention amongst CNSs.[7] In another study, 'self-care', 'career development', 'leadership support' and 'creating community'(work-based teambuilding) are recommended areas for attention,[19] whilst the final study recommends resolving work-family conflict (restoring work-life balance, and giving greater support (mentorship) to young professionals transitioning into the CNS role'[20]. Drawing on recommendations from previous studies, the strategies of counselling, mindfulness, stress-reduction, confidence-building, exercise, team building and adjustments to rostering are advised.[21].

DISCUSSION

Burnout arises across numerous nurse specialist and advanced practice roles and affects clinicians differently throughout their career - findings that are highly relevant to the UK IBD-CNS workforce. Evidence indicates that CNSs who are new in post and those who are mid-career experience burnout more than those who have many more years of experience and thus are also older. There are numerous possible explanations: younger nurses moving into the specialist role soon after qualification without an arsenal of advanced skills gained in a ward-based role; mid-career nurses moving into lead or consultant nurse roles without the necessary staff management and senior level operational skills; and nurses with many more years in the role having gained skills and competence through the natural novice-expert progression that is typical across nursing.[29] The need for better preparedness for the role is indicated in this review and evidenced in the literature.[30-32].

Much of the evidence points to the importance of work-life balance, family time, and support and self-care, and it is possible that the predominantly female nursing workforce experiences a great amount of stress from trying to balance home and family life, with the demands of their role. Where early and mid-career IBD-CNSs may also be raising children and managing their family, this may compound the stress factors that lead to burnout. If the desire for personal advancement to progress their career (from study days, conferences and required training, through to clinically-based Masters and doctoral studies) also arises during this time period the demands may be compounded, increasing the risk of low personal accomplishment as a precursor to burnout. Older nurses not only benefit from the years of experience they have in the role, but may have fewer direct family responsibilities due, for example, to children growing up and achieving independence. This changing responsibility within the family home may bring more freedom to pursue personal development /achievement goals, thus reducing burnout.

The importance of and desire for ongoing education and training to support the CNS role is well-recognised.[9,33,34] As evidenced in this review, opportunities for personal development can mitigate against earlier episodes of burnout, which suggests that providing personal development as an intervention for burnout, may be beneficial. One report focusses specifically on the limited options for professional development amongst the older

experienced specialist workforce but does not acknowledge this representation of low personal achievement as a precursor to burnout.[9]

The use of electronic health records and working in outpatient settings are identified in this review as contributing to burnout. Since the majority of IBD-CNS workload is clinic/outpatient -based, with regular use of remote methods of access such as telephone clinic and advice lines,[2], these factors may be highly significant to this and other CNS cohorts. Recent changes to the delivery of clinical services - particularly routine follow-up - due to the COVID-19 pandemic indicate that e-health is likely to have a bigger profile in the working practices of many clinicians,[35] including IBD CNSs;[36] thus whilst addressing one problem, increased use of EHRs may compound another.

This review also highlights that poor acknowledgement by senior managers of the CNS role and unsustainable workload also fuel burnout. Health service personnel outside the immediate MDT in which the specialist nurse sits, have a poor understanding of the complexity and range of the CNS role[37,38] despite growing evidence on the clinical value of CNSs and the positive impact on patient care[39-43]. Workload across IBD-CNSs has been shown to exceed recommended guidelines, with 63% of participants in one study reporting a caseload above the recommended level, and 84% doing unpaid overtime to manage this;[3] the consequence is that the opportunities for personal achievement may diminish. As evidenced above, these factors contribute to burnout, likely due to moral distress and emotional exhaustion. Addressing these issues is critical, as evidence indicates that job autonomy, role clarity, and job support are associated with a high level of job satisfaction[30] which keeps nurses in post. One study from Germany reports that factors that 'push' nurses to leave their post and the country to take up clinical appointments elsewhere, include high workload, limited decision-making power, low recognition, lack of collaboration between nurses and physicians, poor working environment, low renumeration, and poor advanced training opportunities.[44] All of these 'push' factors, except low renumeration, are evidenced in this review, suggesting that this European data may be globally applicable. Many of the difficulties and challenges identified in this scoping review are also relevant to IBD CNSs. There is thought-provoking commentary[4] on the likely devastating impact to IBD services if the early indicators of burnout, particularly amongst experienced IBD CNSs in senior positions, are not addressed. Burnout has also been identified in colorectal surgeons,

gastroenterologists, and surgical and medical gastroenterology nurses, with similar factors (age, gender, years in role, workload, and leadership responsibilities) being influential on the extent of burnout experienced.[45-47]. Whilst a useful contextual tool, some of the solutions suggested for medical staff and colorectal surgeons (mentoring, dedicated study time, support to follow specific areas of clinical interest)[45,46] are unrealistic across a nursing workforce which already has, for example, difficulty simply securing study leave.

Avoiding attrition of these highly-skilled IBD-CNSs may be a considerable challenge in the current climate, when morale within the workforce is very low and the Registered Nurse vacancy rate in the UK's NHS is currently at 10.5% (39,813 vacancies) amidst an overall vacancy figure of 100 000.[48] This staffing crisis, which existed prior to 2019, is currently escalating due to the significant personal impact of the pandemic on all clinical staff and on NHS services. An RCN press release in July 2020 reported that of their surveyed members, 36% were now thinking of leaving the profession.[49] 'Push factors' cited include dissatisfaction with the way staff were treated during the pandemic, low staffing levels, and lack of management support. These factors reflect the aspects identified in this literature review of feeling undervalued, overworked, and experiencing poor support from senior management, suggesting that a system-wide approach is needed to resolve burnout throughout the clinical workforce, regardless of specialism.

There are some suggestions from this review of the strategies that nurses can employ personally to help mitigate against the risk of burnout (physical exercise, social support networks, mindfulness activities, for example) but we do not know how transferable these potential mitigating factors are to the IBD CNS workforce; further, individual efforts are unlikely to overcome the negative systemic influences detailed above.
An IBD CNS collaborative workshop to acknowledge emotional impact and risk of burnout identified that these specialist nurses need support addressing the many ways in which they are emotionally affected by their work, with an express request for further training and support, including access to clinical supervision.[50] The potential for clinical supervision to counter burnout in nurses is recognised[51,52] and has been demonstrated, in principle, in one small pilot study with IBD-CNSs,[53] but more work is needed to strengthen this

evidence and to understand the experiences and implications of burnout amongst these specialist nurses.

Limitations

Although the CNS role in the UK is amongst the most established globally, with a wide remit and high level of role autonomy, we could find no published UK data addressing burnout in this professional group, and none specifically relevant to IBD-CNSs in the UK, or globally. Participant cohorts in the included studies were not described, so it is not known if IBD CNSs/ gastrointestinal nurses were included.

Conclusion

There is no evidence of either the prevalence and experience of burnout in IBD-CNSs in the UK, and no UK or global qualitative data to explain correlations such as age and years in role, or why the mid-career group (aged 31-50 years, 10-20 years in practice) seem the most vulnerable.

Further qualitative work may give insights into the impact of burnout on nurses' decisions to remain in or leave the service, the factors which mitigate or exacerbate wellbeing, and the future security of the IBD CNS workforce in the UK. Such work could also lead to the development of a nationwide survey to measure prevalence of burnout using the Maslach Burnout Inventory. This evidence would provide a robust rationale for developing interventions to protect and support the wellbeing of IBD-CNSs.

COMPETING INTERESTS

Dr. Karen Kemp: Janssen, Takeda, Tillotts, Dr Falk, MSD, Abbvie, Shield

Ms. Julie Duncan: employed full-time by Takeda UK as clinical nurse educator providing non-promotional education to IBD CNS

Mrs. Isobel Mason: Takeda, consultancy on education resource development for IBD CNS

Mrs. Lisa Younge: speaker fees from Ferring, Falk, Galapagos, Janssen, Sandoz, Tillotts and Takeda

Prof. Lesley Dibley: funding to support research from Takeda, Janssen; speaker fees from Abbvie, Janssen and WedMD.

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Table 3: Summary of included studies

Author(s) Year Country *Title*	i. Methodology ii. Sampling iii. Data capture iv. Data analysis	Sample: i. N= ii. Age (mean and/or range) iii. Gender iv. Years as nurse v. Years in specialist role vi. Married / family	Contributors to stress/burnout	Mitigators against stress/burnout
1. Cañadas De La Fuente et al. 2017 Spain *Prevalence of burnout syndrome in oncology nursing: A meta-analytic study*	i. Meta-analytical study ii. N/A iii. MBI iv. Statistical	Across 17 included studies: i. 9959 ii. Mean age: 38.2 years iii. Female (92%) iv. 8.78 (mean) v. 6.4 (mean) vi. 50.8%	Workload (volume and nature) Impact of relationship with patients and investment of care – long term but also terminal in many cases. Work location ((treatment centres vs palliative care) Investment in relationships and development of long-term relationships with patients Emotional commitment: Dealing with death (patients, and heightened awareness of own mortality); communicating bad news; supporting relatives; complex ethical decision-making Personal accomplishment: reported here as low, caused by a sense of 'failure' when patients die.	Not specifically studied in this paper, but suggestions by authors include: Orientation to role Specific 'resilience' training Managerial support/mentorship Supervision/individual and group as part of clinical workload
2. Glover-Stief et al. 2020 USA *An exploratory*	i. Quant: exploratory descriptive cross-sectional survey ii. Convenience	i. 208 ii. 20 – 60+ years iii. Female (97.1%) iv. Under 5 years to 20+	Time in role: participants practicing 5-10yrs and >20yrs had highest rate of CS, suggesting those new to role, or in mid-career (10-20 years in role) have	Mindfulness practices = lower BO (statistically significant), meditative practices; support from family, co-workers, and administration = lower BO

descriptive study of compassion fatigue and compassion satisfaction: Examining potential risk and protective factors in advanced nurse practitioners	sampling iii. Professional Quality of Life Scale V iv. Statistical: descriptive, Chi-square with Cramer V	years v. Not recorded vi. Not recorded	lower CS scores and may therefore be at greater risk of burnout.	and CF, and higher CS. Presence and amount of support significant. Greater age = better CS; between 5 and 10 years, and over 20 years in practice = better CS; mid-range (10-20 years) = lower CS. Working hours/pattern, education & qualifications did not seem to impact. Professional relationships important; mentor relationships for new specialist nurses recommended
3. Harris et al. 2018 Canada/USA *Estimating the association between burnout and electronic health record-related stress among advanced practice registered nurses*	i. Quant: cross-sectional survey ii. Purposive sampling (described, not stated) iii. Single Item from MBI; stress items from the Mini Z iv. Logistic regression analysis	i. 371 ii. 24-60+ years iii. Female (88.4%) iv. Not recorded v. Not recorded vi. Not recorded	Using EHRs decreases job satisfaction; EHR use is significantly associated with increasing frustration, having insufficient time for documentation, and spending time on EHRs at home, thus increasing burnout. Remote EHR access significantly associated with burnout. After adjusting for variables, insufficient time for documentation and increased frustration remain significantly associated with burnout. High need to access EHRs remotely as unable to complete work in regular hours; use of EHGRs in outpatients setting = higher OR for burnout, but not significant.	Medical scribes (UK equivalent = admin / med secretary) might mitigate burnout associated with documentation. Authors comment that recognition of burnout and widespread support available for physicians, but not for APNs
4. Hayes et al. 2015 Australia /NZ *Work environment,*	i. Quant: cross-sectional online survey ii. Purposive (described, not	i. 379 ii. 21-60+ years iii. Female iv. Not recorded v. < 1 year to 20+ years	Higher burnout levels amongst in-centre (ie Hospital-based) haemodialysis nurses, when compared with nurses in satellite centres and in patient's homes; work environment	Work environment (tertiary, satellite, rural or home) affects job satisfaction and stress and burnout levels. Satisfaction scores increased with longer duration in the role, and when

job satisfaction, stress and burnout among haemodialysis nurses	stated) iii. BPEM, IWS, NSS, MBI iv. Independent t-test, ANOVAs; Pearson's correlation co-efficients.	vi. Not recorded	and job satisfaction scores deteriorate as patient numbers rise, but no obvious link to burnout. Burnout positively correlated to lack of support, workload, conflict with physicians (burnout rises as each of these factors increases), and negatively correlated with 'getting things done, task requirements and feeling valued (burnout rises as each of these factors decrease) Job satisfaction high, except in relation to pay. Job Stress is mostly generated by workload	working as a home dialysis nurse (not satellite or hospital based). Greater satisfaction with work environment correlates with greater job satisfaction, lower job stress, and lower EE. Supportive work environment is important. Flexible management (fair, equitable managerial support, clinical support, fair rostering). Professional status, interactions with others, and autonomy increase job satisfaction. Nurses with more time in the role (16-20) years had higher job satisfaction than nurses with 3-5 years in the role. Support, workload management and reduced peer to peer conflict recommended to reduce burnout and increase retention
5. Kapu et al. 2019 USA *Assessing and addressing practitioner burnout: Results from an advanced practice registered nurse*	i. Quant: cross-sectional survey ii. Purposive (described, not stated) iii. MBI; BSS; RAND 20; SSCS; iv: Pearson Chi-square; Kruskall-Wallis	i. 433 ii. 24 – 65+ years iii. Female (91.8%) iv. Not recorded v. Not recorded vi. Not recorded	High emotional exhaustion and depersonalisation scores were associated with current burnout. Lower health function scores are detrimental. Caring strongly for patients. Limited opportunities for advancement. Lower work-life balance. High reliance on peers. Working hard without recognition, no energy to commit to PA or exercise. No	Older nurses reported less burnout. Those with high personal accomplishment scores were less likely to have current burnout. Supportive relationships with peers/ colleagues, being appreciated, opportunities for career advancement. Breaks from work / leave / holidays, talking to others, seeking support. Personal hobbies, de-stress activities.

health and well-being study			control over workload, poor support from supervisors who do not understand daily work-related struggles and barriers. Social withdrawal.	Personal achievements can overcome previous episodes of burnout. Changing work schedule, exercise, self-care measures, healthy eating, meditation, seeking therapy. Report recommends: * Self-care * Career development * Leadership support * Community and provides details of what each should entail
6. Klein et al. 2020 USA *Exploring burnout and job stressors among advanced practice providers*	i. Quant: Cross-sectional online survey ii. Purposive (described, not stated) iii. JSM; MBI; UWES; WFB iv. Structural equation modelling	i. 1216 ii. 23-60+ years iii. Female (84.8%) iv. v. <1 year to 15+ years vi. Not recorded	Contributors to burnout – emotional exhaustion, depersonalisation, work pressure, lack of autonomy, role ambiguity. High correlation between job stressors and burnout, and negative effect of job stress and work engagement. Burnout affects work engagement. Younger professionals experience higher levels of job stress. Role ambiguity, work pressures, lack of autonomy contribute to burnout. High levels of EE and DP = lower PA.	Mitigators to burnout – personal accomplishment, vigour, dedication, absorption. Higher levels of work-family balance = lower job stress levels. Older professionals experience higher levels of engagement. Support needed for younger professionals transitioning into the role. Resolving work-family conflict. Social relationships are important.
7. Neumann et al. 2018 USA	i. Quant: cross-sectional online survey ii. Purposive (described, not stated) iii. MBI; MDS-R iv. Tukey-Kramer;	APP group data only: i. 255 ii. 20-60+ years iii. Female (94%) iv. Not recorded v. Not recorded vi. 180 (71%)	Moral distress significant contributing factor to burnout. Burnout more likely with inadequate work-life balance and low level of career satisfaction. High demand for direct patient care and related admin tasks leaves little time for personal and professional development activities and contributes	Identifies strategies recommended in other literature, including counselling, mindfulness, stress-reduction confidence-building, exercise, team building, adjustments to rostering,

	Chi-square; multivariable linear regression		to increased burnout.	
8. White M 2018 Unpublished Masters thesis USA	i. Quant: cross-sectional online survey ii. Purposive + snowball iii. CBI iv. Independent t-tests	i. Seven ii. Not recorded iii. Female (100%) iv. Not recorded v. <6 months to 10+ years vi. Not recorded	Suggests that despite personal and work-related challenges, commitment to patients remains high. Also suggests that CNSs do not have significant burnout or risk factors, but that burnout appears to be more likely in experienced nurses (counter to all other evidence) BUT very small sample size.	No mitigating factors identified

KEY: APN = Advanced Practice Nurses; APP=Advanced Practice Provider; BO = burnout; BPEM = Brisbane Practice Environment Scale; BSS = Burnout Status Survey; CBI=Copenhagen Burnout Inventory; CF = Compassion fatigue; CNS = Clinical Nurse Specialist; CS = Compassion Satisfaction; DP = Depersonalisation; EE = Emotional Exhaustion; IWS = Index for Work Satisfaction; JSM = Job Stressors Measure; MBI= Maslach Burnout Inventory; MDS-R = Moral Distress Scale-Revised; NSS = Nursing Stress Scale; PA = Personal Accomplishment/Personal Achievement; SSCS = Social Support and Coping Scale ; UWES = Utrecht Work Engagement Scale; WFB = Work Family Balance;

Figure Legend

Figure 1. PRISMA Flow diagram detailing study selection.[17]