

The impact of gastrointestinal conditions on psychosocial factors associated with the biopsychosocial model of health: A scoping review

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Abstract

The increase in the prevalence of gastrointestinal (GI) conditions is an emerging global health concern. Studies of the impact on the lives of individuals living with GI conditions such as irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) typically focus on biological elements, such as symptomology and treatment efficacy. Comparatively fewer studies have explored the psychological and social aspects of GI conditions, which could provide key information needed to better understand the impact of GI conditions on people and their lived experiences. In this review, existing literature concerning the psychosocial factors and well-being outcomes associated with GI conditions was reviewed using a scoping methodology. Sixty-eight studies were selected for inclusion. Of these studies, the well-being outcomes most frequently addressed, for both IBS and IBD, were quality of life and health-related quality of life, and the most frequently addressed psychosocial factors were social support and coping. These outcomes are largely consistent with those identified for other medical conditions explored using the biopsychosocial

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model of health, with some exploration of the lived experiences of those with a GI condition.

KEYWORDS

gastrointestinal conditions, IBS, IBD, psychosocial, scoping review, wellbeing

INTRODUCTION

The prevalence of gastrointestinal (GI) conditions is increasing worldwide, making it an emerging global health concern (Molodecky et al., 2012). Prior research on GI conditions has often focused on the biological origins, including the pathogenesis, progression and treatment of these conditions (Holtmann et al., 2016; Theede et al., 2013). Comparatively fewer studies have investigated the psychological and social aspects of GI conditions. This review examined existing research for psychological and social impacts of GI conditions and included well-being, defined by the World Health Organization (2013) as a concept strongly related to health which considers objective life experiences and how these are subjectively perceived in relation to social norms. This review provides a narrative summary of this evidence aligned with the biopsychosocial (BPS) model of health (Engel, 1977). Improved understanding of the impact of GI conditions could lead to psychological and social treatments, which may be less costly, as evidenced in other physical health conditions where acknowledgement of psychosocial factors in treatment (Colom & Lam, 2005) has led to more holistic treatments (Frank et al., 2000).

Previously, GI conditions were classified as either functional or organic. Functional GI conditions (FGIDs) are those where there are no observable organic changes within the GI tract and include functional dyspepsia, gastroesophageal reflux disease, functional dysphagia and irritable bowel syndrome (IBS) (Mukhtar et al., 2019). The most common FGID is IBS (Russo et al., 1999), with estimates of its prevalence in the population ranging between 3 and 22 per cent globally (Basandra & Bajaj, 2014). Organic GI conditions (OGIDs) involve organic changes of the bowel such as inflammation or ulceration (Enders, 2017). Infectious enteritis, celiac disease and inflammatory bowel disease (IBD) are classified as organic GI conditions (Costa et al., 2007). IBD is the most common OGID (Enders, 2017), particularly in Western countries, and includes both ulcerative colitis (UC) and Crohn's disease (CD) (Molodecky et al., 2012). Recently, the ROME IV criteria stated that individuals with an OGID may also have symptoms associated with FGIDs, reflective that the two classifications are not as distinct as previously thought (Drossman & Hasler, 2016). IBS and IBD do share symptoms such as pain, discomfort and altered bowel function (Sayuk & Gyawali, 2015), alternating cycles between active and remission stages (Evangelista, 2012; Gavrilescu et al., 2015), and an increased prevalence among women (Collen, 2015).

The biomedical model of health was previously the most utilised model for exploring health and illness (Alonso, 2004). According to the biomedical model, GI conditions result from biological abnormalities such as dysbiosis of the gut, a decrease in the density and diversity of beneficial bacteria, or visceral hypersensitivity (Distrutti et al., 2016; Ni et al., 2017). However, this view of health and illness has been criticised as being reductionist (Alonso, 2004). Consequently, health researchers began to consider the role of psychological and social factors *along with* biological factors in health and illness, utilising models that aim to apply a holistic approach to the maintenance and treatment of conditions (Havelka et al., 2009).

The most widely used holistic model in health psychology is Engel's (1977) BPS model (Soares, 2014). Engel's (1977) BPS model posits health and illness are influenced by the interplay of biological factors such as genetics, physiology and cell abnormalities, as well as psychological factors related to behaviour, experiences and affect and social factors including relationships and social support (Gatchel et al., 2007). The BPS model is considered useful for highlighting distinct, yet interlinked factors relevant to understand the aetiology of both health and illness. Another advantage of the BPS model of health is that it accounts for the personal context of conditions, such as the experiences and actions of the individual (Wade & Halligan, 2017); as such, it is useful when investigating the lived experiences of a population. In this research, reference to lived experiences has been operationalised as the qualitative, phenomenological study and understanding of how individuals interpret their own experiences and how this shapes behaviour (Frechette et al., 2020).

Drossman (2016) applied the BPS model to the study of IBS, suggesting psychosocial factors of life stress, psychologic states, personality traits, coping and social support are just as important as the biological factors of gut motility, inflammation, food/diet and altered bacterial flora in determining the symptoms and behaviour of those with a GI condition. Collectively, the biological, psychological and social factors lead to negative outcomes related to healthcare use and cost, daily function and quality of life (QOL) (Drossman, 2016). In the current scoping review, the BPS model and, specifically, Drossman's (2016) interpretation of the model for IBS were used as the guiding frameworks.

Through prior reviews, a great deal is known about the biological factors of IBS and IBD. The course of these conditions and biological treatments/interventions typically used are well-documented (Carvalho et al., 2020; Khurram et al., 2011), highlighting the robust evidence base generated from the use of the biomedical model for studying GI conditions. However, these reviews only considered psychosocial factors as secondary outcomes (Chey et al., 2015; Enck & Mazurak, 2018) and have maintained a focus on research associated with the biomedical model, despite the BPS model being the currently favoured model for exploring IBS (Soares, 2014). There was a need for reviews to adopt a more balanced model, and this scoping review addressed this limitation. The aim of the scoping review was to explore the breadth of existing research into the impact of IBS/IBD on health outcomes consistent with the BPS model of health. The research questions guiding this review were as follows:

1. Which well-being outcomes are most frequently addressed in GI studies?
2. Which psychosocial factors are most frequently addressed?
3. Do well-being outcomes and psychosocial factors vary by GI condition?
4. To what extent does the evidence base investigate the lived experiences of individuals with a GI condition?

METHOD

A scoping review was selected over other review methods such as a meta-analysis or systematic review. Scoping methods were employed as they are appropriate for considering quantitative and qualitative methods (Peterson et al., 2016) and where the intention is to explore the breadth of knowledge rather than the depth typically associated with a systematic review (Arksey & O'Malley, 2005). Due to the nature of the review, the terms used throughout apply to associations unless an explicit causal link is stated. For example, the term 'impact' in this study is conceptualised more broadly in line with the Cambridge Dictionary (n.d.) definition 'to have an

influence on something’ and while we recognise there is a more causal definition that was not what was intended here.

The scoping review followed the five stages set out by Arksey and O'Malley (2005). At Stage 1, the research questions were identified. During Stages 2 and 3, relevant studies were identified using inclusion/exclusion criteria after abstract and full-text review. Data from the studies included were charted during Stage 4, where key information on study characteristics and outcomes was recorded. Finally, Stage 5 involved collating, summarising and reporting the results.

Potential studies were identified using searches of Web of Science, PsyArticles, PubMed and Cochrane Library conducted July 2019–June 2021. The search included English-language studies published between January 2000 and June 2021 and was inclusive of quantitative, qualitative, mixed-methodology research or case studies. Table 1 provides a full list of indicative search terms. Each GI health term was combined with each BPS outcome (e.g., IBS AND subjective well-being). Studies were excluded if they did not focus on GI health/GI conditions or did not consider at least one of the BPS terms outlined in Table 1. Search terms were selected with reference to Drossman's (2016) model, and some additional terms were included. Sources guiding the selection of additional search terms are included in Table 1.

Using the outlined search strategy, 462 potential studies were identified. All database searches were conducted by A1. To ensure reliability, consistency and a standard review method, an independent researcher (IR) who was not part of the project team conducted a quality control exercise in the initial phase of study screening. IR randomly selected 10 of 462 studies and conducted an abstract review based on the inclusion and exclusion criteria. A1 independently reviewed the same 10 studies. IR and A1 then met to determine the percentage of agreement, which was found to be 100 per cent, meaning IR and A1 both opted to include and exclude the same studies. After the abstract review stage, 253 studies were retained for full text review. Of those, 68 studies were retained and contributed to the final narrative synthesis (see

TABLE 1 Indicative search terms

Gastrointestinal health	Biopsychosocial factors	Source
Irritable bowel syndrome	Subjective well-being/life satisfaction/positive affect/negative affect	Farhadi et al. (2018)
Inflammatory bowel disease/Crohn's/ulcerative colitis	Social support/relationships/support network/isolation/loneliness	Drossman (2016)
Gut microbiota	Well-being	WHO (2013)
Gut flora	Coping	Drossman (2016)
Gastrointestinal condition	Quality of life/health-related quality of life	Drossman (2016)
Healthy gut	Work absence	Cosnes et al. (2011)/ Kawalec et al. (2017)
	Daily function	Drossman (2016)
	Medical visits/health service use/medications	Adapted from Drossman (2016) terms healthcare use and healthcare costs

Note: The gastrointestinal health search terms gut microbiota, gut flora and healthy gut were included to provide a wider overview of gut health in the context of the GI conditions IBS and IBD. The only GI conditions explored in this review were IBS and IBD as per the inclusion/exclusion criteria.

Figure 1). Data for the included studies were charted with the following variables: full reference, study location, study population, study aims, study type, GI health term(s), BPS outcome(s) and conclusions (see Appendix S1 for charted data and full study references).

RESULTS

All included studies contributed to the results but were not all explicitly cited in the narrative findings. Studies that best illustrate outcomes were specifically focused on (see Appendix S1 for all charted data).

Included studies were conducted in Europe $n = 25$ (37%), Asia $n = 14$ (21%), the Americas $n = 20$ (30%), New Zealand $n = 1$ (1%) and South Africa $n = 1$ (1%). One study recruited participants internationally, from eight countries in Europe/Asia/the Americas, and five studies recruited online, meaning limited location data were provided. One study did not specify location. Forty-seven per cent of included studies ($n = 32$) concerned IBS, 44 per cent ($n = 30$) IBD and 9 per cent ($n = 6$) considered both conditions. Across studies, more females experienced IBS than males, whereas more males appeared to suffer with IBD. Most studies (85%) implemented a quantitative research design. Only 12 per cent used qualitative methods and 3 per cent employed a mixed methodology approach.

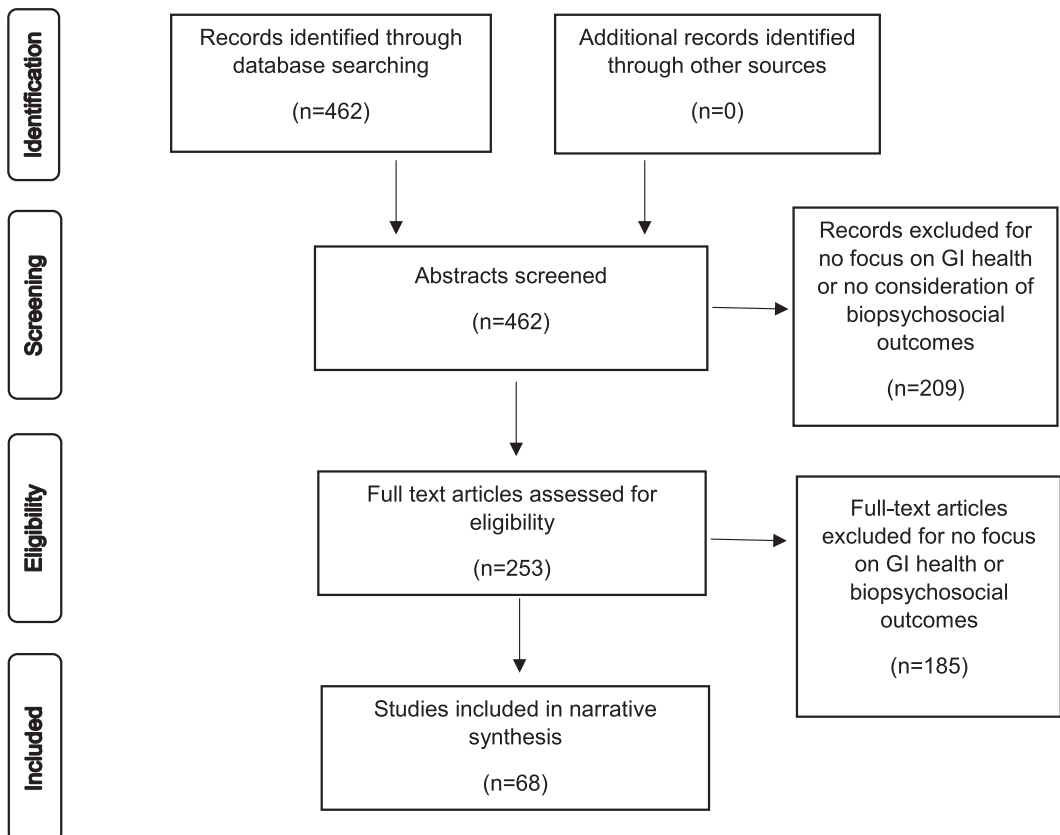


FIGURE 1 Flowchart of included/excluded studies

TABLE 2 Summary of most frequently addressed psychosocial factors and well-being outcomes in included studies

Biopsychosocial factors/ outcomes	GI conditions (IBS or IBD)	Direction of outcome	Studies
Quality of life	IBS	Negative	Cho et al. (2011); Faresjö et al. (2019); Joc et al. (2015); Knowles et al. (2017); Kopczynska et al. (2018); Lackner et al. (2013); Motzer et al. (2003); Si et al. (2004); Singh et al. (2015); Yildiz et al. (2020)
	IBD	Negative	Bernklev et al. (2000); Chao et al. (2019); Luo et al. (2018); Parekh et al. (2015); Parra et al. (2019); Ueno et al. (2017)
		Positive	Dai et al. (2021)
	Both	Negative	Edman et al. (2017); Ozer et al. (2020)
Health-related quality of life	IBS	Negative	Akehurst et al. (2002); Amouretti et al. (2006); Buono et al. (2017); Canon et al. (2017); Coffin et al. (2004); Frank et al. (2002); Gerson et al. (2006); Gralnek et al. (2000); Li et al. (2003); Pare et al. (2006); Park et al. (2009); Wang et al. (2012)
	IBD	Negative	Andrzejewska et al. (2009); Bernklev et al. (2006); Christiansen et al. (2019); Ho et al. (2019); Hoivik et al. (2012); Mosli et al. (2021); Iglesias et al. (2010); Liu et al. (2018); Velonias et al. (2017); Yamabe et al. (2019)
		Positive	Oliveira et al. (2007)
		Mixed	Huppertz-Hauss et al. (2015, 2016); McCombie et al. (2015)
	Both	Negative	Nurmi et al. (2013)
Social support (inclusive of relationships, isolation and loneliness)	IBS	Negative	Farbod et al. (2015); Kopczynska et al. (2018); Lackner et al. (2013); Silk (2001); Singh et al. (2015)
		Positive	Coulson (2005)
		Mixed	Fouché et al. (2006); Gerson et al. (2006); Joc et al. (2015); Lackner et al. (2010); Nguyen et al. (2018); Ung et al. (2013)
	IBD	Negative	Kim et al. (2017); Larsson et al. (2017)
		Positive	Dai et al. (2021); Fuller-Thomson and Sulman (2006); Oliveira et al. (2007)
		Mixed	García-Sanjuán et al. (2018); Palant and Himmel (2019); Purc-Stephenson et al. (2015)
	Both	Negative	Bengtsson et al. (2013); Jones et al. (2006)

(Continues)

TABLE 2 (Continued)

Biopsychosocial factors/ outcomes	GI conditions (IBS or IBD)	Direction of outcome	Studies
Coping	IBS	Negative	Knowles et al. (2017); Sugawara et al. (2017)
		Mixed	Fouché et al. (2006)
	IBD	Negative	Chao et al. (2019); Luo et al. (2018); McCombie et al. (2015); Vigano et al. (2016)
		Mixed	Larsson et al. (2017); Parekh et al. (2015)
	Both	Negative	Bengtsson et al. (2013); Crane and Martin (2004); Jones et al. (2006)

Abbreviations: GI, gastrointestinal; IBD, inflammatory bowel disease; IBS, irritable bowel syndrome.

What psychosocial well-being outcomes were frequently addressed in GI studies?

Health-related quality of life (HRQOL) was the most frequently addressed well-being outcome, included in 40 per cent ($n = 27$) of the studies included in the final analysis. These studies primarily reported HRQOL was impaired among those with IBS and IBD. Table 2 provides a summary of well-being outcomes by GI conditions (IBS or IBD) to the corresponding studies. However, Huppertz-Hauss et al. (2015) reported that time may decrease the negative effect of IBD on HRQOL, as the HRQOL of individuals with IBD and control participants was similar 10 years after diagnosis, with similar findings reported 20 years after diagnosis Huppertz-Hauss et al. (2016). QOL was addressed in 28 per cent ($n = 19$) of the studies included in the final analysis. Studies typically reported that QOL was impaired among those with IBS and IBD. QOL and HRQOL are both related to well-being, but HRQOL is more specifically concerned with the affect of health conditions, yet QOL and HRQOL are often used interchangeably in the literature (Karimi & Brazier, 2016), which was true for some studies in this review. See Table 2 for a summary of how these studies map onto GI condition.

Subjective well-being (SWB) was only investigated in two studies, both related to IBS, and was negatively related to perceived stress (Lackner et al., 2010) and negatively associated with GI symptoms and IBS (Farhadi et al., 2018). Only one study explored psychological well-being, which was decreased among those with IBS (Knowles et al., 2017). Other types of well-being addressed included emotional well-being, which was impaired by IBS (Gralnek et al., 2000), as are physical and psychological well-being (Li et al., 2003). Ung et al. (2013) did not operationalise a specific type of well-being, rather they discussed that IBS patients fluctuate between periods of well-being and illness, suggesting this to be physical well-being. The varying types of well-being addressed in the literature could indicate an issue regarding terminology use, with researchers differing in the way they approach well-being. This could explain the limited research into GI conditions and SWB included in this scoping review.

Which psychosocial factors were frequently addressed?

Social support (inclusive of relationships, support network, isolation and loneliness) was addressed in 32 per cent ($n = 22$) of studies (see Table 2), yet findings were not

conclusive as to whether social support leads to positive or negative outcomes for those with GI conditions. Positive outcomes of social support among those with a GI condition were reported in seven of these 22 studies (see Table 2), including its use as a positive coping strategy by those with IBS (Fouché et al., 2006) and IBD (García-Sanjuán et al., 2018), improved resilience of those with IBD (Dai et al., 2021), decreased depression among individuals with IBD (Fuller-Thomson & Sulman, 2006) and promoted QOL for those with IBS (Nguyen et al., 2018) and IBD (Oliveira et al., 2007). Positive outcomes are also reported when social support is received online (Coulson, 2005).

Yet, positive outcomes may be dependent on the perceived quality of social support received (Jones et al., 2006; Palant & Himmel, 2019). Anticipated outcomes of inadequate social support are further health deterioration and social isolation for those with IBD (Palant & Himmel, 2019), and increased symptom severity in IBS (Gerson et al., 2006; Lackner et al., 2013). The link between the quality of support and symptomology may be bidirectional, with the physical distress of their GI condition skewing individual's perceptions of relationship quality, increasing their sensitivity to conflict (Gerson et al., 2006). This would therefore suggest that, during periods of remission, those with GI conditions would appreciate and recognise social support more readily than compared with the active stage.

Of the studies included in the final analysis, 18 per cent ($n = 12$) addressed coping strategies (see Table 2), specifically maladaptive strategies used in IBS (Fouché et al., 2006; Knowles et al., 2017; Sugawara et al., 2017), IBD (Chao et al., 2019; Luo et al., 2018; McCombie et al., 2015; Parekh et al., 2015; Vigano et al., 2016) and across both conditions (Bengtsson et al., 2013; Crane & Martin, 2004; Jones et al., 2006). Crane and Martin (2004) observed that the use of emotional passive coping, a maladaptive strategy inclusive of behaviours such as inactivity, immobility and decreased responsiveness (Bandler et al., 2000), was associated with an increased risk of developing anxiety and/or depression. Similarly, Sugawara et al. (2017) revealed that IBS patients who adopt avoidance and suppression coping strategies often experience depressive thoughts. Positive coping strategies included social strategies such as sharing feelings (Larsson et al., 2017) and reliance on social support (Fouché et al., 2006).

Do well-being outcomes and psychosocial factors vary by GI condition?

The same psychosocial factors and well-being outcomes were addressed across both IBS and IBD. Studies largely reported the same conclusions; for example, Jones et al. (2006) found that those with IBS and IBD similarly reported less perceived interpersonal support, increased use of passive coping strategies and decreased QOL compared with controls. Edman et al. (2017) also reported decreased QOL among those with IBS and IBD compared with the general population. Yet, there were instances where different conclusions were drawn in the literature. For example, Bengtsson et al. (2013) reported that individuals with IBD seemed to experience greater anxiety in relationships than individuals with IBS. Similarly, Crane and Martin (2004) reported that those with IBD may be more likely to alter or even abandon social activities and that individuals with IBS can be more flexible with regards to coping strategies.

To what extent does the evidence base investigate the lived experiences of individuals with a GI condition?

Only four of the studies included in the final analysis directly sought to investigate the lived experiences of those with IBS and IBD (García-Sanjuán et al., 2018; Nguyen et al., 2018; Purc-Stephenson et al., 2015; Ung et al., 2013). García-Sanjuán et al. (2018) conducted interviews to explore the lived experiences of those with CD and reported five themes: protecting oneself against the unknown cause, self-training, learning to live with CD, perceived losses due to CD and relationships with others. These five themes related to adapting to and coping with their condition and reinforced the importance of social support as all participants mentioned receiving support from others.

The importance of social support in lived experience was further evidenced by Purc-Stephenson et al. (2015) who found that almost 73 per cent reported a positive outcome of their IBD, for example, that it had improved and strengthened their relationships with others (Purc-Stephenson et al., 2015). Conversely, 80 per cent also reported negative outcomes, with feelings of social isolation common due to those around them not understanding their condition and lack of willing to engage in social activities (Purc-Stephenson et al., 2015). Similarly, interviewing those with IBS revealed that IBS symptoms can be a barrier to socialising, but social support from family and loved ones ensures individuals feel more comfortable (Ung et al., 2013). Direct investigation into the relationship experiences of women with IBS revealed that distress due to their GI condition could affect their mood and cause conflict in intimate relationships, and if partners were perceived as having a lack of understanding, barriers to communication occurred leading to feelings of isolation and ultimately relationship breakdown (Nguyen et al., 2018).

Additional themes or findings

The search term daily function listed in Table 1 returned only one study (Ballou et al., 2019), which reported that daily function is impaired among those with IBS. 'Daily life' was, however, was referred to in six (9%) of the studies included in the final analysis, all of which reported that daily life is affected for those with a GI condition (Buono et al., 2017; Faresjö et al., 2019; García-Sanjuán et al., 2018; Kim et al., 2017; Singh et al., 2015; Ung et al., 2013). Employment difficulties were also reported in 25 per cent ($N = 17$) of the included studies, with absenteeism found to be common among those with IBS or IBD (Ballou et al., 2019; Bernklev et al., 2006; Mosli et al., 2021; Pare et al., 2006; Silk, 2001). To overcome absenteeism, individuals may work from home or reduce their hours and work part time, as was the case for 32 per cent of IBD patients sampled by Ueno et al. (2017). Presenteeism (reduced productivity) was also reported (Buono et al., 2017; Faresjö et al., 2019; Parra et al., 2019; Yamabe et al., 2019). Ultimately, these challenges can negatively affect career plans (La Berre et al., 2019) and potentially lead to job loss (Ueno et al., 2017). This scoping review has highlighted the employment difficulties faced by those with GI conditions, and changes or improvements are necessary to enable these individuals to feel more welcomed and able to work.

Although not an original study search term, remission was a concept reported in eight studies (12%) (Christiansen et al., 2019; Coffin et al., 2004; Hoivik et al., 2012; Iglesias et al., 2010; Kim et al., 2017; Lönnfors et al., 2014; Ozer et al., 2020; Vigano et al., 2016). There are mixed outcomes on physical symptomology during this stage, as Kim et al. (2017) reported that

physical symptoms of IBD decreased during remission, yet Lönnfors et al. (2014) reported that most of their IBD sample still experienced symptoms while in remission. Individuals may also be psychologically affected during remission, with HRQOL still impaired (Iglesias et al., 2010). Ozer et al. (2020) reported that QOL is reduced among individuals with IBD who experience IBS-like symptoms during remission compared with those who do not experience these symptoms. Additionally, among those with CD, there is the possibility to develop a depressive-anxious comorbidity during remission (Vigano et al., 2016). A comparative lack of research exploring remission in GI conditions, particularly in relation to psychosocial factors and outcomes, would suggest it is presently not as well-understood as the active stage and needs to be further explored.

DISCUSSION

The aim of this scoping review was to examine the breadth of existing research into the impact of GI health on psychosocial factors associated with a BPS model of health and provide a narrative summary of findings. The dominance of the biomedical model in health research meant it was anticipated psychosocial factors and well-being outcomes may have been comparatively under-reported in the literature. However, the findings indicate psychosocial factors such as social support and coping, as well as well-being outcomes like QOL and HRQOL have been frequently addressed.

The literature suggested that QOL and HRQOL are typically impaired among those with IBS or IBD (Nurmi et al., 2013; Ozer et al., 2020; Yildiz et al., 2020). In this way, GI conditions are similar to other chronic conditions such as stroke and diabetes that lower QOL/HRQOL (Shofany, 2017). Yet, the HRQOL of those with IBD can improve with time (Huppertz-Hauss et al., 2015, 2016), arguably due to a need to adapt to life with the condition. Moving forward, we can apply the knowledge gained from the study of chronic conditions to improving the experience of GI conditions. For example, the literature suggests that one way to improve QOL/HRQOL of those with chronic disease is to ensure they receive support from family, friends or the wider community (Megari, 2013).

Experiences of social support among those with IBS and IBD were found to be complex, as relationships can be perceived as positive or negative experiences. The literature suggests that the determining factor in these perceptions is the quality of support (Gerson et al., 2006; Lackner et al., 2013; Palant & Himmel, 2019), an outcome also observed in other chronic conditions explored using the BPS model (Gatchel et al., 2007; Turk & Adams, 2016). The effects of support quality among those with a GI condition require further exploration, as it could also be affected by symptomology, with more severe symptoms skewing an individual's perceptions of social support quality, increasing their sensitivity to conflict (Gerson et al., 2006). This could mean relationship perceptions alter in line with changes in symptomology (active versus remission stage) throughout the course of a GI condition.

It is of note that while the studies included in the final analysis were primarily quantitative in nature, six out of the seven studies that employed qualitative methods addressed social support/relationships (García-Sanjuán et al., 2018; Larsson et al., 2017; Nguyen et al., 2018; Palant & Himmel, 2019; Purc-Stephenson et al., 2015; Ung et al., 2013). The more personable nature of interviews may make them preferable over surveys when exploring relationships, as they can be concerning and embarrassing for those with GI conditions (Silk, 2001).

The findings also indicated maladaptive coping strategies are often employed by those with IBS and IBD, consistent with other chronic conditions (Gatchel et al., 2007). A cycle of behaviour seems to exist, with distress leading to the use of maladaptive coping strategies to adjust, which can exacerbate the distress, potentially leading to further maladaptive coping strategies being adopted. Further research is needed to better understand this cycle and how it could be altered.

Overall, it was apparent that regardless of classification, the same well-being outcomes and psychosocial factors are addressed when researching IBS and IBD, and generally the same, often negative, outcomes are reported. The only variation being that the psychosocial functioning of individuals with IBD may be further impaired, compared with those with IBS, with increased anxiety in relationships (Bengtsson et al., 2013) and fewer available coping strategies (Crane & Martin, 2004). These findings could support that there is little value in distinguishing between IBS and IBD and FGIDs and OGIDs more widely, as limited differences in psychosocial functioning are reported.

Remission is another critical yet complicated stage of IBS and IBD, but a comparative lack of research means it is not as well-understood as the active stage. Remission is not a straightforward period of relief, particularly for those with IBD who can experience IBS-like symptoms (Ozer et al., 2020), and there is the potential to develop comorbid mental health conditions (Vigano et al., 2016). It is suggested that remission as a stage in IBS and IBD needs to be better understood to improve patient experiences.

The literature seemed to suggest that GI conditions can have negative consequences for employment, including job loss, with Ueno et al. (2017) reporting this was the case for 35.5 per cent of a sample of individuals with IBD. Considering employment difficulties from a BPS perspective, biological symptoms could be involved alongside well-being, as Price and Hoojiberg (1992) reported that workers with reduced well-being are likely to be less productive and more likely to be absent from work. Despite employment difficulties, La Berre et al. (2019) reported that work satisfaction was still high among the sample of individuals with IBD they studied. Some individuals with GI conditions may find their work enjoyable because it provides a focus other than their condition, or perhaps it is linked to opportunities for social support (Huppert & Whittington, 2003; Stansfeld et al., 2013). This is supported by research by Mosli et al. (2021) that concluded that a lack of social engagement was predictive of work absence. As employment can still be fulfilling and enjoyable for some despite having a GI condition, further exploration of employment experiences could provide insight into how to better support and encourage employment among those with IBS or IBD.

In line with Engel's (1977) BPS model of health, this scoping review highlighted the interconnected nature of factors implicated in GI conditions. Social support and coping are interconnected (Fouché et al., 2006) and are instrumental in how individuals deal with their condition and well-being outcomes (Oliveira et al., 2007; Sugawara et al., 2017). A limited number of studies employed qualitative methods and a phenomenological approach to directly investigate the lived experiences of those with a GI condition. This was somewhat surprising, as this seems crucial to understanding which aspects are most relevant to individuals with a GI condition. The increased application of the BPS model to health research into IBS and IBD may be instrumental in increasing the focus on individual's experiences. The model lends itself well to the exploration of lived experiences, as it considers individual's differences and experiences (Wade & Halligan, 2017), ensuring research is focused on the well-being factors/outcomes individuals living with GI conditions perceive as relevant and critical to their experience.

Additional factors associated with the BPS model, but not addressed in this review, that should receive further research focus include childhood trauma, which is common among those with IBS (Halland et al., 2014) and IBD (Fuller-Thompson et al., 2015). This association needs to be further explored and better understood. Further use of Engel's (1977) BPS model of health in research into GI conditions could result in changes to research, practice and policy, such as reducing the reliance on medications, instead assisting with the development and application of psychosocial treatments for IBS and IBD (Brown et al., 2005). Encouraging results have been observed with the use of cognitive behavioural therapy for IBD patients, with decreased self-reported anxiety and depression (Jordan et al., 2018), and also mindfulness-based cognitive therapy, which can decrease symptoms of IBS while increasing QOL (Henrich et al., 2020). Increased variety of therapies for GI conditions could help to reduce the increased risk of suicide among those with IBS and IBD (Spiegel et al., 2007; Zhang et al., 2018), which also requires further attention. It is also recommended that future research further address anxiety and depression in relation to IBS and IBD, as this review used the term negative affect to explore these factors more generally.

STUDY STRENGTHS AND LIMITATIONS

A key strength of this scoping review was that it moved away from the biomedical model, which had directed previous reviews into GI conditions. This review attempted to piece together research conducted into several different BPS factors in relation to GI conditions, to enable further consideration of how these factors might interact together in the overall experience of IBS or IBD, and inadvertently touched upon research into the remission stage of GI conditions, revealing it could be better understood. This scoping review was also inclusive, considering a broad range of research in terms of methods used and cultures studied, meaning the findings have a greater generalisability. However, this scoping review is not without limitations. To ensure this review would be feasible to conduct in terms of timescale, no research published before 2000 was included for consideration, thus limiting the scope, as a considerable amount of literature prior to 2000 could have been excluded.

CONCLUSION

A shift towards the BPS model of health (Engel, 1977) provides a more complete picture of GI conditions and their impact on individuals. This review revealed that QOL, HRQOL, social support and coping strategies have been frequently addressed in the literature in relation to IBS and IBD. Indirect outcomes of this scoping review were to highlight the often-negative experiences of remission as well as employment difficulties faced by those with a GI condition. Further research into GI condition would benefit from using Engel's (1977) BPS model of health, as it will provide key insight into the psychological and social experiences of those with IBS or IBD, which could inform changes in research, practice and policy.

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CONFLICT OF INTEREST

No conflict of interest exists.

ETHICS STATEMENT

This review follows the Ethical principles of psychologists and code of conduct (American Psychological Association, 2002, <http://www.apa.org/ethics>).

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available in the supplementary material of this article.

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