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Relationship between health status, illness perceptions, coping strategies and psychological morbidity: A preliminary study with IBD stoma patients

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Abstract

Background and aims: Individuals living with IBD and a stoma are at an increased risk of anxiety and depression and it is likely that several factors mediate these relationships, including illness perceptions and coping strategies. Using the Common Sense Model (CSM), this study aimed to characterize the mediators of anxiety and depression in an IBD stoma cohort.
Methods: Eighty-three adults (23 males) with a stoma (25 ileostomy, 58 colostomy; 26 emergency, 57 planned, 55 permanent, 28 temporary) completed an online survey. Health status was measured with the Health Orientation Scale (HOS), coping styles assessed with the Carver Brief COPE scale, illness perceptions explored with the Brief Illness Perceptions Questionnaire (BIPQ), and anxiety and depression were measured using the Hospital Anxiety and Depression Scale (HADS).
Results: Combining the questionnaire data using structural equation modeling resulted in a final model with an excellent fit (χ^2 (11) = 12.86, p = 0.30, χ^2/N = 1.17, SRMR < 0.05, RMSEA < 0.05, GFI > 0.96, CFI > 0.99). Consistent with the CSM, health status directly influenced illness perceptions, which in turn, influenced coping (emotion-focused and maladaptive coping). Interestingly, months since surgery was found to influence illness perceptions and emotion-focused coping directly, but not health status. While depression was influenced by illness perceptions, emotion-focused coping and maladaptive coping, anxiety was only influenced by illness perceptions and maladaptive coping.
Conclusions: The preliminary results provide further evidence for the complex interplay between psychological processes. In terms of directions for psychological interventions, a focus on identifying and working with illness perceptions is important.

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1. Introduction

Epidemiological studies have provided evidence that in comparison to community samples, individuals with Inflammatory Bowel Disease (IBD) are at an increased risk of experiencing anxiety and mood disorders, in terms of point and lifetime prevalence.[1–3] For example, in terms of frequency, Walker and colleagues[1] found that the rates of depression and panic disorder were significantly higher than matched community samples (27% versus 12%; 8% versus 4.7%, respectively). Further rates of adjustment, anxiety and depressive disorders have been found to be higher in IBD cohorts when compared to other chronic illnesses, such as colorectal cancer and Irritable Bowel Syndrome (IBS).[4–11] IBD cohorts also report reduced self-esteem, increased body image concerns[12,13] and sexual difficulties.[14]

The rate of psychological disturbance among individual's with a gastrointestinal stoma has been found to be up to four times that of the general population,[15] with significantly higher levels of depression and anxiety.[16,17] Having a stoma has also been found to be associated with a reduction in quality of life (QoL),[17–20] lowered self-esteem[21,22] and libido,[22] and increased irritability,[23] loneliness[21] and suicidal ideation.[24] The social impact for individuals with a stoma can be debilitating, with not only social isolation, but also disruptions to work schedules and travel.[20,25,26] Compounding these problems are stoma-related problems including skin irritation and bag leakage.[17,27,28]

Stoma adjustment has been associated with several factors, both directly and indirectly via mediating relationships. These factors include clinical variables (e.g., stoma type[29,30]; stoma duration[30,31]; cause of illness[30]; demographic variables such as age[31]; gender[22,29,31,32]) and psychological variables such as coping styles.[26,30,32]

Coping can be thought of as the way an individual manages or deals with their stress.[33] An individual's coping strategies have been found to mediate the impact on their psychological well-being.[34] Extending upon earlier work by Lazarus and Folkman,[33] Carver and colleagues[34] identified that coping strategies can be broken down into three categories: problem-focused (e.g., planning, seeking support),[35,36] emotion-focused (e.g., seeking emotional support, accepting)[37,38] and disengagement or maladaptive (e.g., use of alcohol, venting of emotions). Both problem-focused coping and emotion-focused coping have been found in research to be associated with more favorable outcomes compared to maladaptive coping strategies, which has been found to be associated with increased psychological distress and reduced QoL.[35,39–43] For a recent review of the coping research within IBD cohorts, see McCombie et al.[44]

According to the Common Sense Model (CSM) developed by Leventhal and colleagues,[45] the outcomes of an illness are not directly influenced by the illness itself, but also by mediating factors such as an individual's perception of their illness and in turn their chosen coping strategy based upon their appraisal. That is, an individual's beliefs about their illness (e.g., 'I will need a stoma forever') mediate the relationship between the illness status (e.g., 'my IBD is active and causing pain') and in turn, coping (e.g., 'I'll avoid thinking about it') and outcomes (e.g., increased depression and anxiety). Also, coping strategies mediate the relationship between an individual's perception of the illness and the outcome.[45]

The efficacy of the CSM has been evident across a diverse range of applications among chronic illnesses such as coronary heart disease,[46] Huntington's disease,[47,48] multiple sclerosis,[49] chronic fatigue syndrome,[50] IBD,[51,52] arthritis[53] and a number of cancers.[54] Evidence for the interrelationships within the CSM variables and outcomes, including anxiety and depression and quality of life has been found across several illness cohorts, including IBD.[51,55] Further, support for mediating roles in coping strategies[50,53] and illness perceptions[46] have been found. For a detailed review relating to the evidence for the CSM, see a recent meta-analysis of 45 studies by Hagger et al.[56]

Despite numerous studies assessing individual aspects of the CSM (e.g., impact of illness and illness beliefs on outcomes such as anxiety and depression; influence of coping strategies on outcomes), Hagger et al.[56] argue that future research should evaluate the CSM in its entirety. To address this limitation, Knowles et al.[52] conducted a Structural Equation Model (SEM) to evaluate the entire CSM using an IBD cohort. Knowles and colleagues found strong evidence for the CSM: Health status (also known as illness activity) had a direct influence on illness perceptions; illness perceptions had a direct influence on depression and anxiety; and that utilization of maladaptive coping (termed emotional coping in their paper) was associated significantly with increased anxiety and depression symptoms.

1.1. Study aim and hypotheses

Using Structural Equation Modeling (SEM), the aim of the current study was to explore the impact of having a stoma in an IBD cohort utilizing the CSM. Consistent with the CSM and previous research,[52] we hypothesized that poorer illness status would have an adverse correlation with illness perceptions and psychological distress, specifically anxiety and depression. Months since surgery would have negative a correlation with illness status, illness perception, maladaptive coping and anxiety and depression. In contrast, months since surgery would have a positive correlation with emotion-focused and problem-focused coping. It was also hypothesized that an inter-relationship would exist between health status, coping style, illness perceptions and psychological distress.

2. Materials and methods

2.1. Patients

Eighty-three adults (23 males) with a stoma (25 ileostomy, 58 colostomy; 26 emergency, 57 planned, 55 permanent, 28 temporary) completed an online survey. Each participant identified having a stoma due to IBD (62.7% with UC). The average age was 38.48 (*SD* = 13.48). Of the 83 participants 51.8% were married or living together with a partner, 37.3% were single, and 10.8% were separated or divorced. Regarding ethnicity, 42.2% were European, 39.8% were American, 9.6% were Australian and 8.4% were of other ethnicity. Time since surgery ranged from 1 to 660 months (55 years) with an average of 96.30 (*SD* = 120.74). Inclusion criteria included the following: having an ileostomy or colostomy stoma and aged between 18 and 40 years. Ethical