Illness perceptions in Irritable Bowel Syndrome: Change over time and relationship with self-reported quality of life

1. BACKGROUND

Irritable Bowel Syndrome (IBS) is a chronic Functional Gastrointestinal Disorder (FGID) with undetermined aetiology (Tanaka et al., 2011). Western prevalence is estimated at 7-20% (Andrews et al., 2005; Grundman & Yoon, 2010) with female predominance in healthcare seeking (Andrews et al., 2005). The negative impact of IBS is wide ranging in terms of self-reported quality of life (QOL) (e.g. Lea & Whorrell, 2001), emotional distress (Tanaka, et al., 2011) and use of health care services and workplace productivity (Wilson et al., 2004).

Conventional medical treatment is rarely successful and up to half of those affected use complementary and alternative medicine (CAM) (Kong et al., 2005). CAM-users with FGID report poorer QOL despite using CAM (van Tilburg et al., 2008) which raises the issue of efficacy of CAM treatments (Ford et al., 2008). Conversely, psychological interventions have positively impacted on reported quality of life (e.g. Jarrett et al., 2009). Establishing distinct areas where psychological intervention could take place would therefore potentially be beneficial. The common-sense model of illness representations (CSM, Lewenthal et al., 2003) postulates that illness perceptions influence outcomes via coping procedures. Illness perceptions are then ‘updated’ on appraisal of coping procedures. Interventions based on the CSM have resulted in promising outcomes (e.g. Broadbent et al., 2009).

AIMS: Within the theoretical framework of an ‘extended’ CSM (e.g. Horne & Weinman, 2002) the aims of the study were: 1) to test for changes in illness perceptions and QOL over time; 2) to statistically examine pathways within an extended CSM between CAM-users and non-users over time and 3) to test for statistical significance of any detected mediation effects over time.

2. METHOD

Design and procedure: Participant responses were captured via an online survey at two time points. Participants completed time-two responses after a minimum of six months.

Participants: N=197 participants completed the survey (UK residents 87.3%). The age range was 18-76 with the mean age for males: 40.42 (SD=13.13) years and females 36.13 years (SD=12.93). 125 (63.5%) participants indicated they were CAM-users, 72 had not used CAM (non-users).

Measures: Dimensions of an ‘extended’ CSM were captured: Illness perceptions (IPQ-R, Moss-Morris et al., 2002); Conventional medication beliefs (BMQ-G general scale, Horne et al., 1999); Coping Brief COPE, Carver, 1997). Outcome/ Quality of life, IBS-QOL (Patrick et al., 1998). CAM-use was determined by asking if CAM had ever been used to treat IBS.

Statistical Analysis: Related t-tests were conducted to assess differences in representations and IBS-QOL scores between the two time points. Regression analyses (figure 1) were performed to test Mediation relationships between IPQ-R, Brief COPE and IBS-QOL scores. Significance testing was conducted for mediation effects (Preacher & Hayes, 2004). Participants were grouped according to CAM use (CAM-users and non-users).

3. RESULTS

Aim 1: Both groups showed improved quality of life ratings (CAM-users: t(124) = -5.97, p<.001; non-users: t(71) = -3.31, p<.01) and significantly lowered emotional representations at time-two (CAM-users: t(117) = 3.33, p<.01; non-users: t(68) = 2.60, p<.05) (table 1). There were small but significant improvements on the IPQ-R ID and personal control scale in non-users. CAM-users perceptions of consequences also improved at time two.

Aim 2: Numerous IBS-R scales predicted IBS-QOL scores at time two (table 2). Stronger perceptions of illness consequences CAM-users: B1.2 = 67, p<.001; non-users: B1.2 = 62, p<.001 and emotional representations at time-two (CAM-users: B5 = 58; non-users: B5 = 51, p<.001) predicted poorer quality of life at time-two in both groups.

Aim 3: Mediation tests (table 3) revealed that the Brief-COPE scales of ‘self blame’ and ‘behavioural disengagement’ mediated pathways from IPQ-R scales to IBS-QOL scores in the CAM-user group only.

Figure 1: Visual representation of 'simple' Mediation

X directly influences Y (pathway c) and indirectly through the Mediator (M). Coefficient c is reduced in size when M is included in the model and this reduction is tested for being significantly different from zero.

Adapted from Preacher and Hayes (2004).

Table 3: Mediation tests for IPQ-R scales at time one and outcome (time two IBS-QOL scores) at time two for CAM-users

Table 2: Beta coefficients (and R² percentages) for IPQ-R scales (time one) influence on IBS-QOL total score (time two) for CAM-users and non-users

4. CONCLUSIONS

• Findings offer some statistical support for supposition of the CSM, however not all IPQ-R scales significantly changed over time. There were also small but statistically significant contribution of maladaptive coping strategies ‘behavioural disengagement’ and ‘self blame’.
• CAM-users reported poorer QOL and this was consistent over time despite improvement in both groups at time two.
• Intervention could be targeted at perceptions of consequences, emotional response and enhancing control in those with IBS. It is possible CAM-users may gain the greatest benefit from intervention.
• Future studies could investigate the feedback loop of CSM with reference to ‘updating’ of illness representations. This could involve participant ‘subgroups’ (e.g. newly diagnosed with IBS or IBS subtypes and users of different forms of CAM).

Table 1: IPQ-R scale and overall IBS-QOL score differences over two study time-points in CAM-users and non-users

Table 2: Beta coefficients (and R² percentages) for IPQ-R scales (time one) influence on IBS-QOL total score (time two) for CAM-users and non-users