

Impact of irritable bowel syndrome (IBS) on work productivity and daily activities

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BACKGROUND

- Irritable bowel syndrome (IBS) is a common, chronic and episodic gastrointestinal (GI) motility disorder characterized by recurrent abdominal pain/discomfort associated with altered bowel habit (constipation and/or diarrhea)
- IBS occurs in 10–15% of the western population¹⁻⁴
- The impact of IBS on employers is considerable. The indirect costs of IBS, including lost productivity, are estimated at \$20 billion each year in the United States (USA) alone⁵

Definitions⁶

- Absenteeism: time absent from work
- Presenteeism: impaired productivity at work/reduced on-the-job effectiveness
- Work productivity loss: absenteeism + presenteeism
- Daily activity impairment: impaired ability to perform non-work activities such as work around the house, shopping, child care, exercising, studying, etc.

OBJECTIVE

- This study investigated productivity loss and daily activity impairment in patients with IBS seeking medical treatment from gastroenterologists in the USA

METHODS

- Employed patients meeting the Rome II criteria were enrolled from five gastroenterology practices in the USA
- Patients completed a questionnaire regarding sub-type of IBS, symptom severity and the Work Productivity and Activity Impairment Questionnaire IBS version (WPAI:IBS). The validated WPAI:IBS consists of six questions eliciting information regarding:
 - employment status
 - work hours missed due to IBS
 - work hours missed due to other reasons
 - hours actually worked
 - degree to which IBS affected productivity while working (visual analogue scale [VAS] from 0–10)
 - degree to which IBS affected regular daily activities (VAS from 0–10)
- The sum of work time missed (absenteeism) and impairment at work (presenteeism) yields the overall work productivity loss score. Scores are expressed as the percentage of impairment/productivity loss, with higher scores indicating greater impairment

METHODS (cont'd)

Work Productivity and Activity Impairment (WPAI) questionnaire

The WPAI questionnaire measures work time missed and work and daily activity impairment due to a specified health problem in the past 7 days.⁷ It has been validated in a number of chronic diseases, including GI conditions (e.g. gastroesophageal reflux disease,⁸ IBS⁹), and is a useful tool for determining the relative difference between treatment groups in clinical trials.

- IBS symptom severity was self-assessed by patients using three measures:
 - level (none/mild, moderate, severe, or no symptoms)
 - VAS from 0 (no symptoms) to 10 (very severe symptoms)
 - symptom distress due to five symptoms (constipation, gas, abdominal pain/discomfort, bloating, diarrhea)
- P values were derived from ANCOVAs

RESULTS

Patient demographics and clinical characteristics

- A total of 135 patients meeting the entry criteria were enrolled. Summary demographic data are shown in Table 1

Table 1. Demographics and clinical characteristics.

Demographics and clinical characteristics	Total (n=135)
Mean age (years ± SD)	45.4±12.1
Gender (% women)	91
Education (% some college)	70
Occupation (% white collar)	88
Type of IBS in previous 12 months (%)	
normal bowel pattern	5
constipation	27
diarrhea	29
alternating constipation/diarrhea	39
Time since IBS diagnosis (years ± SD)	13.7±11.7
IBS ≥5 years (%)	70
SD = standard deviation	

- Only 4% of patients indicated that they had no symptoms during the past 7 days. Mild symptoms were reported by 27% of patients, moderate symptoms were reported by 53% of patients and 16% of patients reported severe symptoms (Table 2)

Effect of IBS on work and daily activities

- Missed work time during the previous 7 days due to IBS was reported by 27.1% of patients, and 86.5% reported a loss of productivity while working
- Activity impairment due to IBS was reported at 93.3%
- Work productivity loss and daily activity impairment increased directly with worsening symptom severity (Table 2)
- Absenteeism varied directly with symptom severity, with 2.5%, 3.7% and 10.1% of work time being missed by patients with none/mild, moderate and severe symptoms, respectively (Figure 1) (p=0.03)

RESULTS (cont'd)

Table 2. Effect of IBS symptom severity on work and daily activities.

IBS symptom severity level	n (%)	Work time missed (absenteeism) (%)	Impairment at work (presenteeism) (%)	Overall work productivity loss (absenteeism + presenteeism) (%)	Activity impairment (%)
None/mild	42 (31)	2.5	22.2	24.7	25.0
Moderate	72 (53)	3.7	36.6	37.3	45.3
Severe	21 (16)	10.1	38.6	41.7	59.0
All patients	135*	4.4	32.4	34.2	41.1

Sample size may vary due to missing information.
*Two subjects were not employed and are excluded from work variables.

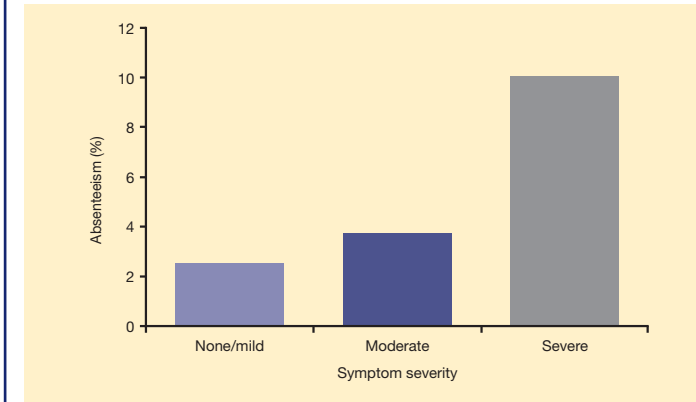


Figure 1. Absenteeism due to IBS by symptom severity.

- Presenteeism correlated directly to symptom severity, with 22.2%, 36.6% and 38.6% impairment at work being reported by patients with none/mild, moderate and severe symptoms, respectively (Figure 2) (p=0.03)

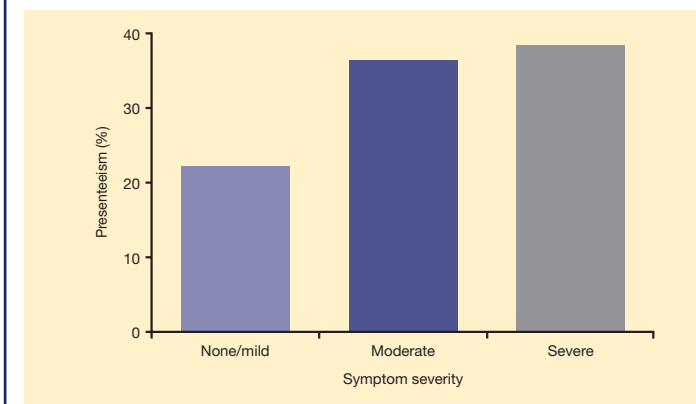


Figure 2. Presenteeism due to IBS by symptom severity.

- Overall work productivity loss was 24.7%, 37.3%, and 41.7% for patients with none/mild, moderate and severe symptoms, respectively (Figure 3) (p=0.0001)

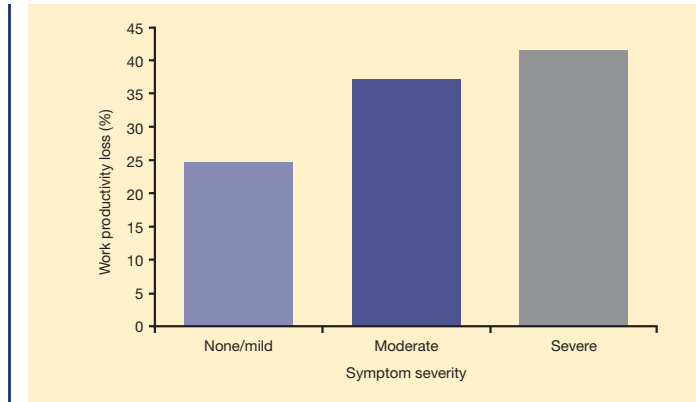


Figure 3. Work productivity due to IBS by symptom severity.

- Overall work productivity loss due to IBS was estimated to be the equivalent of 14 hours per week (assuming a 40-hour work week)
- Daily activity impairment significantly increased with increasing symptom severity. Patients with none/mild, moderate and severe symptoms reported activity impairment levels of 25.0%, 45.3% and 59.0%, respectively (Figure 4) (p=0.0001)

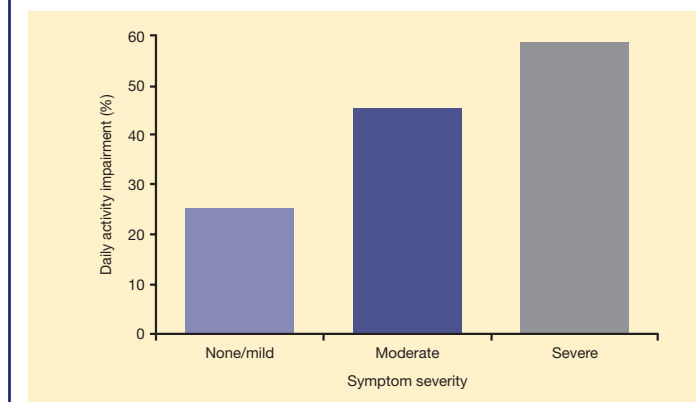


Figure 4. Daily activity impairment by symptom severity.

RESULTS (cont'd)

Effect of IBS type on work and daily activities

- Patients with all IBS sub-types reported similar absenteeism, presenteeism, work productivity loss and daily activity impairment (Figure 5)
- Constipation was as debilitating as diarrhea or alternating constipation/diarrhea in terms of lost work productivity and daily activity impairment
- Compared with patients whose primary bowel habit was diarrhea or alternating, patients with constipation had a longer duration of IBS (16.9 years vs 11.3–13.9 years) and were more likely to rate symptoms as moderate or severe (86.1% vs 66.7%–67.3%) (data not shown)

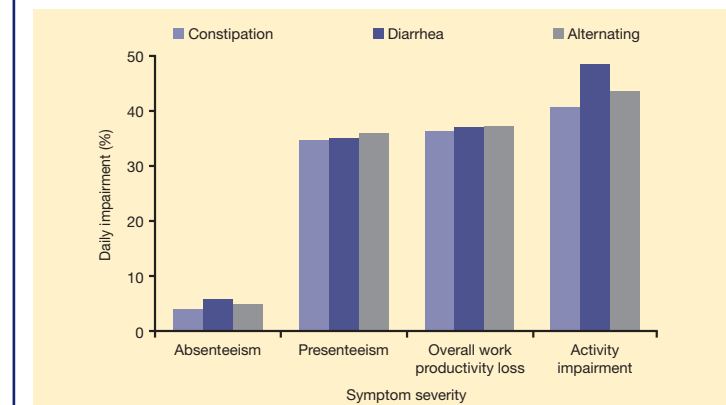


Figure 5. Effect of IBS type on work and daily activities.

CONCLUSIONS

- IBS patients seeking care from gastroenterologists report considerable absenteeism, presenteeism, work productivity loss and impairment in performing daily activities
- Work and daily activity impairment increase with increasing severity of IBS symptoms
- All three IBS sub-types have a similar impact on absenteeism, presenteeism, work productivity loss and daily activity impairment
- These outcomes should be a key consideration when assessing treatment effectiveness in clinical practice

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