

## Bowel Dysfunction in Opiate Substitution Patients

Gurpreet Sidhu<sup>1</sup>, Deborah Warren<sup>1</sup>, Andrew Sidhu<sup>1</sup>, Katrina Warren<sup>2</sup>, Moira McDowall<sup>1</sup>, Zack Cernovsky<sup>3\*</sup>

<sup>1</sup>Oxford Recovery Clinic, London, Ontario, Canada.

<sup>2</sup>Bluewater Health Hospital, Ontario, Canada.

<sup>3\*</sup>Department of Psychiatry, Western University, London, Ontario, Canada.

*\*Corresponding Author:* Zack Cernovsky, Dept. of Psychiatry, Western University, London, Ontario, Canada.

### Abstract

**Background:** Chronic use of opioids is clinically known to be often associated with bowel dysfunction, most often with constipation.

**Objective:** We examined the correlates of bowel dysfunction in methadone and suboxone patients.

**Methodology:** 68 patients (mean age 40.3, SD=9.5; 40 men, 28 women) participated. The average number of years using opiates prior to treatment was 6.9 (SD=7.2) and the average number of years in the substitution treatment was 7.2 (SD=3.1). Seventeen were on suboxone (mean dose 14.7 mg, SD=8.6) and 51 on methadone (mean dose 70.4 mg, SD=29.6). All responded to a survey questionnaire about frequencies of 8 types of bowel dysfunction: constipation, nausea, emesis, abdominal pain, loss of appetite, heartburn, acid reflux, and intestinal bloating. For each of these 8 symptoms, the response categories were: never=0, only rarely=1, sometimes=2, often=3, very often=4, and always=5.

**Results:** When categories "very often" and "always" were pooled, the frequencies of bowel dysfunction were as follows: constipation (42.6%), nausea (7.4%), emesis (2.9%), abdominal pain (10.3%), loss of appetite (14.7%), heartburn (10.3%), acid reflux (7.5%), and abdominal bloating (14.7%). A higher dose of methadone was significantly ( $p<.05$ , 1-tailed) correlated with acid reflux ( $r=.47$ ), bloating ( $r=.37$ ), constipation ( $r=.36$ ), abdominal pain ( $r=.29$ ), and heartburn ( $r=.31$ ). A higher dose of suboxone was significantly ( $p<.05$ , 1-tailed) correlated with more frequent nausea ( $r=.47$ ) and emesis ( $r=.42$ ). Years of opiate use were unrelated to bowel dysfunction.

**Discussion and Conclusions:** The majority of patients (57.4%) reported that at least one of the 8 bowel dysfunction symptoms occurs "very often" or "always." Constipation was by far the most frequent symptom. The bowel dysfunction was more frequent in patients with higher methadone or suboxone doses. Only 5.9% of patients indicated that they "never" experience any of the 8 bowel symptoms.

**Keywords:** opiate induced bowel dysfunction, narcotic bowel, addiction, opiates

### INTRODUCTION

A review by Panchal, Müller-Schweffe, and Wurzelmann [1] reviewed side effects of opioid therapy in chronic pain patients and concluded that constipation is "the most common and debilitating symptom." According to Panchal's team, the syndrome of opioid induced bowel dysfunction consists of a wide range of symptoms which includes, besides constipation, a "decreased gastric emptying, abdominal cramping, spasm, bloating, delayed GI transit and the formation

of hard dry stools," which in extreme could "have a serious negative impact on the patient's quality of life (QOL) and the daily activities that patients feel able to perform." Some of the physical sequelae of constipation, jointly with other symptoms of bowel dysfunction could in rare cases become life threatening, if left without therapeutic intervention.

Grunkemeier, Cassara, Dalton, and Drossman[3] defined the Narcotic Bowel Syndrome as "characterized by chronic or frequently recurring abdominal pain

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that worsens with continued or escalating dosages of narcotics." Grunkemeier's team described this syndrome as a subset of the opiate induced bowel dysfunction. According to Grunkemeier's team [3], "this syndrome is under recognised and may be becoming more prevalent" in the current North-American epidemic of opioid use, see also Thapa et al. [4].

The present study focuses on frequencies and correlates of 8 symptoms of bowel dysfunction in patients of a methadone/suboxone clinic.

### METHOD

Sixty-eight patients (40 men, 28 women) of an urban methadone/suboxone clinic participated. Their age ranged from 26 to 65 years, with the average at 40.3 years (SD=9.5). The average number of years using opiates prior to treatment was 6.9 (SD=7.2) and the average number of years in the opiate substitution treatment was 7.2 (SD=3.1). Seventeen patients were on suboxone: the average dose was 14.7mg (SD=8.6)

**Table 1:** Frequencies of 8 symptoms of bowel dysfunction (N=68)

	Never, only rarely, or sometimes	Often	Very often or always
constipation	39.7%	17.6%	42.6%
nausea	80.9%	11.8%	7.4%
vomiting	95.6%	1.5%	2.9%
abdominal pain	76.5%	13.2%	10.3%
loss of appetite	73.5%	11.8%	14.7%
heartburn	75.0%	14.7%	10.3%
acid reflux	86.6%	6.0%	7.5%
problem intestinal gas	77.9%	7.4%	14.7%

Constipation was reported as the most frequent problem.

The majority (57.4%) of the patients reported that at least one of the 8 bowel dysfunction symptoms occurs "very often" or "always."

Only 5.9% of patients indicated "never" for all 8 bowel symptoms.

Only 27.9% of the 68 patients reported that they experience these 8 bowel symptoms either "never," or "only rarely," or only "sometimes."

Higher dose of methadone was significantly ( $p < .05$ , 1-tailed) correlated with acid reflux ( $r = .47$ ), bloating ( $r = .37$ ), constipation ( $r = .36$ ), abdominal pain ( $r = .29$ ), and heartburn ( $r = .31$ ). Higher dose of suboxone was significantly ( $p < .05$ , 1-tailed) correlated with more frequent nausea ( $r = .47$ ) and emesis ( $r = .42$ ).

and the dose ranged from 2 to 24mg. Fifty-one were on methadone: the average dose was 70.4 (SD=29.6) and the dose ranged from 5 to 140mg.

All 68 patients responded to a survey questionnaire about frequencies of 8 types of bowel dysfunction: constipation, nausea, emesis, abdominal pain, loss of appetite, heartburn, acid reflux, and intestinal bloating. For each of these 8 symptoms, the response categories were: never=0, only rarely=1, sometimes=2, often=3, very often=4, and always=5.

The total score of bowel dysfunction was calculated by adding the ratings on all 8 symptoms.

### RESULTS

Frequencies of the 8 types of bowel dysfunction are listed in Table 1. To facilitate perusals of the tabular data, the categories "never," "only rarely," and "sometimes" were pooled into one column and similarly the categories "very often" and "always" are also pooled together in one column as the other extreme.

Age and number of years on opiates were unrelated to scores on the 8 symptoms ( $p > .05$ , 1-tailed), except for somewhat more frequent reports of constipation by those with less years of opiate use ( $r = -.22$ ,  $p = .04$ ). Women reported more abdominal pain ( $r = .34$ ), problems with intestinal bloating ( $r = .30$ ), loss of appetite ( $r = .29$ ), nausea ( $r = .28$ ), and throwing up ( $r = .21$ ).

The 8 items in the left column of Table 1, scored from 0 ("never") to 5 ("always"), can be considered as a measuring scale of the extent of opiate induced bowel dysfunction. The Cronbach alpha coefficient of internal consistency calculated for this scale was .86, i.e., satisfactory. Total score calculated as the sum of these 8 types of bowel dysfunction ranged from 0 to 35 points, with the average at 11.9 (SD=8.1).

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This total score was significantly higher in patients on higher doses of methadone ( $r=40$ ) and in women ( $r=.25$ ). The total score of bowel dysfunction was not significantly correlated with age, number of years of opiate abuse prior to treatment, and with doses of suboxone.

The patients on suboxone had significantly lower total score of bowel dysfunction than their methadone counterparts ( $r=.29$ ).

### DISCUSSION

The majority (72.1%) of the 68 patients indicated that they often, very often, or always suffer from at least one of the 8 symptoms of bowel dysfunction. Some of these symptoms presumably reflect disruptions of gastrointestinal mobility. The problem is of special clinical concern in chronic pain patients on long term opioid medication: some of these chronic pain patients are known to restrict their analgesic opioid use as an attempt to restore more normal bowel function, at the expense of experiencing unmedicated pain, see Ketwaroo et al. [4].

Our study is consistent with the findings by Panchal's group [1] that constipation is the most common symptom associated with chronic opioid use.

The symptoms of bowel dysfunction in our patients were more frequent in those on a higher dose of methadone.

The majority of correlations found in the present study, though statistically significant, are only low ( $r<.35$ ) and thus of limited significance for individual clinical predictions.

### CONCLUSIONS

Only less than a third of patients treated with methadone or suboxone reported not experiencing frequently at least one of the 8 symptoms of bowel dysfunction. The patients in similar methadone/suboxone clinics need to be provided with information, e.g., in the form of leaflets, about therapeutic measures for reducing the adverse impact of symptoms of bowel dysfunction.

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