

# Complementary and alternative medicine in patients with inflammatory bowel disease: results of a cross-sectional study in Slovakia

## Abstract

**Background and aim:** Use of complementary and alternative medicine (CAM) among patients with inflammatory bowel disease (IBD) in Western Europe is common. Data on the frequency of CAM use among IBD patients in Eastern Europe is lacking. The aim of this study was to examine the proportion of CAM use among IBD-patients from Slovakia and to investigate patients' satisfaction with CAM treatment.

**Methods:** This descriptive cross-sectional study examined IBD patients from the region of Martin, Slovakia. Measures included socio-demographic and disease-related data, and a questionnaire regarding CAM use.

**Results:** A total of 133 patients were contacted for participation in the study, of these 103 patients accepted. Fifty-three percent was female, median age was 43 years (range 21 to 80) and median disease duration was 5.5 years, (range 1.0 to 28.0). Forty-six patients (45%) had UC and 57 (55%) had CD. A total of 34% (35/103) of the patients had used CAM for IBD related reasons and 76% of the CAM users reported that they had used CAM regularly during the previous 6 months. Herbal products (31%) and homeopathy (28%) were the most frequently reported CAMs. Thirty percent was "mostly or very satisfied", 64% were "somewhat satisfied", and 6% were "not at all satisfied".

**Conclusion:** Approximately one third of the IBD patients from Slovakia had used CAM and one third was satisfied with the treatment. Our findings are in accordance with results from similar studies in Europe.

**Keywords:** inflammatory bowel disease, complementary and alternative medicine, eastern europe

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**Abbreviations:** CAM, complementary and alternative medicine; IBD, inflammatory bowel disease; CD, crohn's disease; UC, ulcerative colitis; JFMED, jessenius faculty of medicine; WHO, world health organization

## Introduction

In the Western World the use of complementary and alternative medicine (CAM) in the general population has increased the last decades, and the most frequently reported reason for CAM use is having a chronic disease.<sup>1</sup> Inflammatory bowel disease (IBD) is a chronic relapsing disorder of the gastrointestinal tract. The two major subtypes are ulcerative colitis (UC) and Crohn's disease (CD). Characteristic symptoms are diarrhea, bloody stools, pain, fever, and fatigue. The diseases are characterized by an unpredictable disease course, with periods of symptom flares and periods of remission.<sup>2,3</sup> Both UC and CD may impose considerable symptom burden on patients despite medical treatment and may cause significant daily challenges and affect quality of life.<sup>4</sup>

CAM covers a broad range of therapies (i.e. acupuncture and homeopathy), products (i.e. herbal medicine) and self-help techniques (i.e. relaxation techniques and meditation) that are not generally considered to be a part of conventional medicine or integrated in the main stream health care system.<sup>5,6</sup> Hence, what is considered to be CAM varies between cultures and countries. A review article from 2011 showed that CAM use among IBD patients in North America and Europe varied from 21% to 60% dependent on the CAM definition. Herbal medicine was the most commonly used CAM.<sup>7</sup> In a study of

IBD outpatients from Eastern Europe, Lakatos et al.<sup>8</sup> found that 31% of IBD outpatients reported CAM use. To our knowledge the study of Lakatos et al.<sup>8</sup> is the only study that has investigated CAM use in an IBD population in Eastern Europe. The aim of this study was to examine the proportion of CAM use among IBD-patients from Slovakia and to investigate patient's satisfaction with CAM treatment.

## Materials and methods

### Study population and design

This descriptive cross-sectional study examined IBD patients from the clinic of Gastroenterology in Jessenius Faculty of Medicine (JFMED) hospital in Martin, Slovakia. From the hospital registry, patients more than 18 years old with a confirmed diagnosis of UC or CD were identified and asked to participate in the study. The patients were interviewed by physicians during hospitalization or interviewed by telephone with both methods using the same standardized questionnaire. The inclusion period was January and February 2010.

### Data collection

The patients gave information related to their socio-demographic status, including age; gender; educational level (primary school ≤12years of high school/university <12years); marital status (married/cohabitant versus single/divorced/ widow(er)/ partnered but living separately); work status (either working (including students) or not working (including pensioner and work disabled); and smoking (defined as yes (once or more daily) or no).

The data concerning medical history, current medical treatment, and past surgical history was obtained from the patients' medical records and included; disease type (UC/CD), year of diagnosis, surgical intervention due to IBD (stoma/fistulae/abscess/bowel resection), and medication for their IBD. In addition, the patients were asked about co morbidities including; cardiovascular disease, diabetes mellitus, arthritis, arthralgia, asthma, dermatological disease and cancer; and adverse drug reactions to conventional IBD medication, including; nausea, abdominal pain, diarrhea, headache, fever, weight gain, mood changes, joint pain, and sleep disturbance.

### Questions regarding CAM use included

- Ever used CAM for IBD related reasons;
- Regularly used CAM (i.e. more than four times) the previous six months.

Furthermore, the type of CAM used was noted through selection of any of three therapies listed (homeopathy, acupuncture, spiritual healer). In addition, patients could specify other CAM therapies they had used. The patients were also asked to assess their satisfaction with CAM treatment by providing one of three possible scores: not at all satisfied, somewhat satisfied, and mostly or very satisfied.

### Statistical analyses

Continuous variables are presented as medians range and categorical variables as proportions. Comparison between groups was performed using the non-parametric Mann-Whitney-U test and the chi-squared test (X<sup>2</sup>). The significance level was set to 5%. Analyses were performed using SPSS for Windows (Version 20.0).<sup>9</sup>

### Ethical consideration

The Ethics Committee of Jessenius Faculty of Medicine Comenius University of Bratislava approved the study, protocol number EK 895/2011. All of the patients received information regarding the study before giving informed consent.

## Results

A total of 133 patients were contacted for participation in the study, of these 103 patients accepted. Thirty patients were interviewed at the hospital, and 73 were interviewed by telephone. Of the 103 patients included in the study, 55(53%) were female and the median age was 43years (range 21 to 80). Median disease duration was 5.5years, (range 1.0 to 28.0). Forty-six patients (45%) had UC and 57 (55%) had CD. The UC patients were significantly older (51.5years, range 21.0-80.0years) compared to CD patients (37.0years, 21.0-75.0),  $p < 0.001$ . A higher proportion of the CD patients (40%) had >12years education and had undergone surgery for their IBD, compared to UC patients (Table 1).

### CAM use

A total of 34% (35/103) of the patients had used CAM for IBD related reasons. Altogether, 76% of the CAM users reported that they had used CAM regularly during the previous 6months. The most frequently reported CAMs were herbal products (31%) and homeopathy (28%), shown in Table 2. Three percent had used more than one type of CAM. In total, significantly more women (74%) than men (26%) reported CAM use ( $p = 0.002$ ), and a significantly higher proportion of the CAM users were married compared to non-users (77% versus 54%, respectively,  $p = 0.031$ ). In addition, a higher proportion of CD patients (60%) compared to UC patients (40%)

reported CAM use (Table 3). All of the patients reported CAM use complementary to their medical treatment.

**Table 1** Socio-demographic and clinical characteristics of the study sample(N=103)

	UC n=46(45%)	CD n=57(55%)	p-value
Gender n(%) Women	26(57)	29(51)	0.568
Age(Median and Range)	51.5(21-80)	37(21-75)	<0.001
Education Level n(%)	10(22)	23(40)	0.044
>12 years			
<b>Marital Status n(%)</b>			
Married or Cohabitant	32(70)	31(55)	0.142
<b>Work Status n(%)</b>			
Working/Student	17(38)	31(54)	0.095
<b>Smoking</b>			
Yes n(%)	4(9)	6(11)	na
<b>Disease Duration in Years</b>			
Median(range)	5(1-28)	6(1-24)	0.295
Currently on Medication n(%)	46(100)	46(100)	na
<b>Surgery for IBD</b>			
Yes n(%)	7(15)	25(44)	0.002
<b>Stoma</b>			
Yes n(%)	4(9)	7(12)	0.558
<b>Co morbidity</b>			
Yes n(%)	42(91)	46(81)	0.129
<b>Adverse Drug Reaction</b>			
Yes n(%)	33(72)	38(67)	0.580

UC, Ulcerative Colitis; CD, Crohn's Disease  
Mann-Whitney U test was used to compare medians and Chi-squared tests were used to compare proportions. The significance level was set to 5%.

na = the variable could not be adequately evaluated due to insufficient number of patients.

**Table 2** Proportion of CAM use

Type of CAM	Frequency
Herbal products	11(31)
Homeopathy	10(29)
Praying	6(17)
Acupuncture	2
Healing	2
Massage	2
Special diets	2

The proportions of CAM use were calculated using all patients who completed the questionnaire(n=103) in the denominator.

**Table 3** Socio-demographic and clinical characteristics of CAM users and non-users

	CAM Users(n = 35)	Non CAM Users(n = 68)	p-value
Gender n,(% women)	26(74)	29(43)	0.002
Age(median and range)	51(21-67)	39.5(21-80)	0.075
<b>Education Level</b>			
> 12 years n(%)	13(37)	20(30)	0.426
<b>Married/Cohabitant</b>			
Yes, n(%)	26(77)	37(54)	0.031
<b>Work Status</b>			
Yes, n(%)	16(46)	32(48)	0.844
<b>Current Smoking</b>			
Yes n(%)	3(9)	7(10)	
No n(%)	32(91)	61(90)	na
<b>Diagnosis</b>			
UC n(%)	14(40)	32(47)	0.495
CD n(%)	21(60)	36(53)	
<b>Disease Duration</b>			
(Median and Range)	8.32(6.0)	7.15(5.6)	0.33
<b>Previous Surgery for IBD</b>			
Yes, n(%)	9(26)	23(34)	0.400
<b>Adverse Drug Reaction to Medication</b>			
Yes, n(%)	23(66)	48(71)	0.613
<b>Co Morbidities</b>			
Yes, n(%)	31(89)	57(84)	0.518
<b>Use of 5 – ASA</b>			
Currently Yes n(%)	33(94)	62(91)	
Currently No n(%)	2(6)	6(9)	na
<b>Use of AZA</b>			
Currently Yes n(%)	16(46)	30(44)	0.877
Currently No n(%)	19(54)	38(56)	

## Discussion

This is one of few studies to investigate use of CAM in IBD patients from Eastern Europe.<sup>8</sup> Thirty four percent of the IBD patients from Slovakia reported CAM use for IBD related reasons. Three out of four patients had used CAM regularly within the past 6 months. The most frequently used CAM was herbal products and homeopathy. One third of the patients reported that they were satisfied with the CAM treatment, and only 6 percent answered they were “not at all satisfied” with CAM treatment they had used.

Due to differences in study populations, definitions of CAM, and time frame of use it is difficult to make direct comparisons of CAM use between studies. However, our findings are in accordance with the findings in the Hungarian study,<sup>8</sup> that found 31% of the IBD outpatients used CAM. However, the time frame differed in these two studies. Lakatos et al.<sup>8</sup> measured CAM use the last 12 months, in contrast to our study where CAM use was reported for “since diagnosis”. The proportion of CAM use in our study is also comparable with western

European IBD patients which reported 21 % to 52% CAM use in the period 2002 to 2011.<sup>7</sup> The proportion reporting regular CAM use in our study was surprisingly high (76%) and shows that those who reported CAM use most often were regular users. This finding is in contrast to results from a population-based study in Norway where 30 % reported CAM use, but only 3% reported to use CAM regularly.<sup>10</sup>

Herbal therapy (31%) and homeopathy (29%) were the most frequently used CAMs in our study. World Health Organization (WHO) reports herbal remedies to be the single most frequently used CAM worldwide,<sup>5</sup> which is also reflected in most CAM surveys in general populations and in populations of IBD patients.<sup>1,7</sup> In addition, herbal remedies and homeopathy is the most commonly used CAM modalities in Europe.<sup>11</sup> In line with these findings, herbal therapy was also the most frequently reported CAM in the Hungarian study.<sup>8</sup> In this regard, patients seem to use CAM that is common and readily available in their culture. The prevalence of herbal remedy use or homeopathy use in the general Slovak population is not known.

Acupuncture was used by five percent of the participants in our study. Hildsen et al.<sup>7</sup> reported somewhat varying use of acupuncture among IBD patients, from 13% to 38%.<sup>7</sup> In a Norwegian study of IBD outpatients, acupuncture was the most frequently used CAM (20% of the CAM users).<sup>12</sup> The Slovak acupuncture society is sectioned within the Slovak Medical Society (SLS), and has been included as a specialized medical field for medical doctors since 1990.<sup>13</sup> Thus, acupuncture may be seen as part of formal health care system in Slovakia in contrast to Norway, where acupuncture is regarded as an alternative therapy.

More women than men reported CAM use in our study. Gender differences are commonly reported in previous studies of CAM use, both in general populations and in IBD populations.<sup>1,10,12,14,15</sup> Additionally, those who were married reported higher CAM use compared to unmarried. One explanation for this finding may be that being married may provide a better economic situation and the ability to pay out-of-pocket for alternative treatments. We found no age difference regarding CAM use in our study. This is in contrast to some of the other studies among IBD patients,<sup>8,10,16,17</sup> which have shown that patients reporting CAM use are generally younger than the non-users. However, because of the small study sample we were not able to perform multivariate analyses. It is possible that age is a factor associated with CAM use taking into account the effects of gender, education level and marital status.

Approximately one third of our patients were mostly or very satisfied with their CAM treatment, and 6% were dissatisfied. This finding is fully comparable with a Norwegian study.<sup>10</sup> We did, however not ask how the patients did benefit from the therapies. This information could have been conducive to the assessment of the usefulness of CAM treatments in IBD patients. The most frequent stated reasons for using CAM among IBD patients are to regain control over their illness and to increase health-related quality of life and well-being.<sup>7, 18</sup> Thus, future CAM intervention studies health-related quality of life questionnaires should be included to measure benefit from CAM use.

There are some limitations in our study. It was not possible to perform multivariate analyses due to the number of patients included. In addition, we have no data from the 30 patients who were approached but who chose not to participate. In the interview situation questions of CAM use was asked by a physician in whom attitudes toward CAM may be unfavorable. This may have caused bias towards an underestimation of true CAM use. Finally, our study from the Martin-region of Slovakia may possibly not reflect the IBD-population of the country of Slovakia.

## Conclusion

In conclusion, approximately one third of the IBD patients from Slovakia had used CAM in the period since the initial diagnosis. Our findings are in accordance with results from similar studies in European IBD populations. However, the findings must be seen in light of the weaknesses in study methods in the different studies (e.g. differences in definitions of CAM, time frame of use, and different study populations). There is a gap between the frequency of CAM use and the evidence-based efficacy of CAM. This controversy needs to be further investigated in future studies.

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Statement of authorship: RO conceived and designed the study, carried out the analyses and contributed to interpretation of data,

and drafted the manuscript. ALA contributed to acquisition of data, contributed to the interpretation of data and drafted the manuscript. TB contributed the analyses and interpretation of data and drafted the manuscript. MS contributed to acquisition of data, contributed to the interpretation of data and revised it critically for important intellectual content. RH contributed to acquisition of data, contributed to the interpretation of data and revised it critically for important intellectual content. BM conceived the study, contributed to the interpretation of data and drafted the manuscript. All authors have read and approved the final version to be submitted.

## Conflict of interest

The authors declare that there is no conflict of interest.

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## References

1. Harris PE, Cooper KL, Relton C, et al. Prevalence of complementary and alternative medicine (CAM) use by the general population: a systematic review and update. *Int J Clin Pract.* 2012;66(10):924–939.
2. Monstad I, Hovde O, Solberg IC, et al. Clinical course and prognosis in ulcerative colitis: results from population-based and observational studies. *Ann Gastroenterol.* 2014;27(2):95–104.
3. Solberg IC, Vatn MH, Hoie O, et al. Clinical course in Crohn's disease: results of a Norwegian population-based ten-year follow-up study. *Clin Gastroenterol Hepatol.* 2017;5(12):1430–1438.
4. Lix LM, Graff LA, Walker JR, et al. Longitudinal study of quality of life and psychological functioning for active, fluctuating, and inactive disease patterns in inflammatory bowel disease. *Inflamm Bowel Dis.* 2008;14(11):1575–1584.
5. World Health Organization. WHO Traditional Medicine Strategy 2014–2023. Geneva, Switzerland: World Health Organization; 2014.
6. Quandt SA, Verhoef MJ, Arcury TA, et al. Development of an international questionnaire to measure use of complementary and alternative medicine (I-CAM-Q). *J Altern Complement Med.* 2009;15(4):331–339.
7. Hildsen RJ, Verhoef MJ, Rasmussen H, et al. Use of complementary and alternative medicine by patients with inflammatory bowel disease. *Inflamm Bowel Dis.* 2011;17(2):655–662.
8. Lakatos PL, Czegledi Z, David G, et al. Association of adherence to therapy and complementary and alternative medicine use with demographic factors and disease phenotype in patients with inflammatory bowel disease. *J Crohns Colitis.* 2010;4(3):283–290.
9. SPSS I. SPSS for Windows (version 20). Chicago, Illinois; 2010.
10. Opheim R, Hoivik ML, Solberg IC, et al. Complementary and alternative medicine in patients with inflammatory bowel disease: the results of a population-based inception cohort study (IBSEN). *J Crohns Colitis.* 2012;6(3):345–353.
11. Eardley S, Bishop FL, Prescott P, et al. A systematic literature review of complementary and alternative medicine prevalence in EU. *Forsch Komplementmed.* 2012;19(Suppl 2):18–28.
12. Opheim R, Bernklev T, Fagermoen MS, et al. Use of complementary and alternative medicine in patients with inflammatory bowel disease: results of a cross-sectional study in Norway. *Scand J Gastroenterol.* 2012;47(12):1436–1447.
13. Smirala J, Ondrejovicova A. Acupuncture in Slovakia Present and Perspectives. ICMART. 2015.

14. Kong SC, Hurlstone DP, Pocock CY, et al. The Incidence of self-prescribed oral complementary and alternative medicine use by patients with gastrointestinal diseases. *J Clin Gastroenterol*. 2015;39(2):138–141.
15. Rawsthorne P, Clara I, Graff LA, et al. The Manitoba Inflammatory Bowel Disease Cohort Study: a prospective longitudinal evaluation of the use of complementary and alternative medicine services and products. *Gut*. 2012;61(4):521–527.
16. Langmead L, Chitnis M, Rampton DS. Use of complementary therapies by patients with IBD may indicate psychosocial distress. *Inflamm Bowel Dis*. 2012;8(3):174–179.
17. Langhorst J, Anthonisen IB, Steder-Neukamm U, et al. Amount of systemic steroid medication is a strong predictor for the use of complementary and alternative medicine in patients with inflammatory bowel disease: results from a German national survey. *Inflamm Bowel Dis*. 2005;11(3):287–295.
18. Li FX, Verhoef MJ, Best A, et al. Why patients with inflammatory bowel disease use or do not use complementary and alternative medicine: a Canadian national survey. *Can J Gastroenterol*. 2005;19(9):567–573.