



UNIVERSITY
OF MANITOBA

Rady Faculty of Health Sciences
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Office of Graduate and
Advanced Degree
Education in Medicine

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Date: August 5, 2016

Project Title: Managing IBD Symptoms at Work: A Survey of Workplace Accommodations Amongst Individuals with IBD

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Summary (250 words max single spaced):

Background: People with inflammatory bowel disease (IBD) are at increased risk for unemployment and work absenteeism over the course of their adult lives. However, little is known about the workplace accommodations required amongst individuals with IBD.

Methods: Participants were recruited from the population-based University of Manitoba Research Registry and sent a survey containing a section assessing experiences with workplace accommodations. Data were analyzed using descriptive statistics, bivariate and multivariate logistic regression.

Results: 1143 individuals responded to the survey (46% response rate) of which 886 had experienced IBD symptoms in the workplace. Of these 886, the mean age was 49.7 years (SD=10.2); 61% were female. Mean IBD duration was 20.6 years (SD=10.5). Most respondents (73%) described IBD symptoms experienced in the workplace as severe to very severe. The most commonly required accommodation was time to go to medical appointments during working hours (71%), and most respondents arranged for accommodations themselves. The most difficult accommodation to arrange was reduced days of work each week (36%). Being female, having high disease severity and high level of distress were consistently associated with an increased likelihood of adverse outcomes regarding accommodations, including the need for more accommodations, difficulty implementing these, and reluctance to ask for needed accommodations.

Conclusions: This study provides useful understanding of the experiences amongst IBD sufferers in the workplace, including what types of accommodations are necessary and common practices arranging for these accommodations. Further, characteristics which may place individuals at risk of having greater difficulty arranging for accommodations were identified.

Acknowledgments

a) I gratefully acknowledge the support of the following sole sponsor: _____

b) If not solely funded, I gratefully acknowledge the funding support from one or more of the following sponsors;

H.T. Thorlakson Foundation
Dean, College of Medicine
Research Manitoba

Vice-Dean, Research Rady FHS
Health Sciences Centre Research Foundation
Heart and Stroke Foundation

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MD/PhD MD/MSc. **BSc. (MED)** MED II Research Program

Joe Doupe Annual Event Undergraduate Medical Student Research Symposium
Canadian National Medical Student Research Symposium

Introduction

The emergence of inflammatory bowel disease (IBD) as a global health problem has focused research primarily on its etiology, outcomes and treatment. More recently attention has been paid to different outcomes including the bidirectional interplay between psychosocial health and the physical aspects of IBD. Disability is a crucial measure of disease burden, of the effectiveness of healthcare interventions and planning health policy¹. While there has been great progress in improving the treatment of IBD, there has been much less emphasis on reducing the impact of disability, which is influenced by a variety of factors including, younger age and increased disease activity^{2,3}. Disability has been defined as chronic limitation(s) that interfere with the ability to engage in usual daily activities. In general terms, disability may include a physical impairment (a problem in body function or structure), an activity limitation (a difficulty encountered by an individual in executing a task or action), or a participation restriction (a problem experienced by an individual in involvement in life situations)⁴. Thus, disability is a complex phenomenon, reflecting an interaction between features of an individual's health, for example, their disease activity, and features of the society in which he or she lives, such as their work environment¹.

IBD is a chronic disease often with an unpredictable course, and patients with IBD experience significantly higher rates of absenteeism and presenteeism than the general population⁵. Absenteeism is defined by the absence an employee experiences from work due to illness, while presenteeism describes the impairment those with disability experience while working. New laws and policies in Canada are being implemented to mitigate the impact of presenteeism and to allow individuals to remain employed⁶. In order to do so, workplaces are expected to accommodate employees depending on their disability.

The Canadian census defines the working-age population as employed individuals aged 15 to 64. In 2011, this group represented 68.5% of the Canadian population⁷. A focus on the working-age population in relation to the overall impact of disability in IBD is significant as IBD affects a much younger demographic compared to other chronic diseases².

Unfortunately, literature evaluating workplace accommodations for individuals with a disability is minimal; this literature becomes even scarcer regarding individuals living with IBD. Despite the lack of evaluation of workplace accommodations, they have been implemented throughout Canadian workforce policies^{6,8}. The Employment Equity Act clearly states that employers are required to provide accommodations for individuals experiencing a disability that may impair their ability to work⁶. The existing literature on IBD and workplace issues main focus is on the economic burden accompanied by the absenteeism and presenteeism of workers. There have been no publications on the evaluation of potential workplace accommodations for individuals living with IBD.

The dearth of research in this area is striking considering the particular circumstances that individuals with IBD may encounter which can make implementing workplace accommodations challenging. When it results in disability, IBD requires accommodations that may be overlooked for a variety of reasons. These reasons may include: (1) IBD is not a visible medical condition; (2) IBD can have an unpredictable disease course characterized by the disappearance and reappearance of symptoms,

and thus varying periods of time necessitating accommodation may arise unpredictably amid periods of relatively normal functioning; or (3) patients may be embarrassed to disclose details about their bowel habits. To facilitate appropriate workplace accommodations for individuals with IBD, it would be useful to better understand the frequency with which the need such accommodations arise, the availability and ease of accessing accommodations in the workplace currently, and the obstacles encountered in their successful implementation.

In addition to benefiting the Canadian economy, workplace accommodations have the potential to support an individual's overall personal and financial well-being. Possible workplace accommodations for individuals experiencing increased IBD symptoms would include improved accessibility to a suitable washroom, flexible and / or reduced working hours, or appropriate time to attend related medical appointments. We would anticipate that such accommodations may improve outcomes for individuals with IBD, including improved IBD-related quality of life, reduced stress, and better medical management of the disease.

To understand various aspects of disability for persons with IBD we developed a survey to be administered to a population based sample of persons with IBD in Manitoba. The principal goals of this project were to develop the survey, maximize the return of potential enrollees, develop a database of the survey data and explore workplace accommodation in IBD. Further, we wanted to have the data prepared to explore all aspects of disability for persons with IBD to be reported subsequently. Our goal in this study was to comprehensively assess factors associated with disability in the work environment, with further exploration into absenteeism, presenteeism, financial supports when off work, and finally, workplace accommodations that would support individuals in maintaining workplace functioning and potentially decrease the overall socioeconomic burden of IBD. This paper will focus on the part of the survey assessing needs for workplace accommodation during periods of illness while working in competitive employment.

Methods

Sample

Study Participants

In 1995 the population-based University of Manitoba IBD Research Registry (UMIBDRR) was developed by inviting all Manitobans with IBD identified through Manitoba Health to enroll⁹. In 2000, 2008 and 2014, the Registry was updated with recently diagnosed persons with IBD. The UMIBDRR is an inclusive, representative pool of potential participants. There are currently 4747 persons in the Registry; 2744 were eligible for study inclusion based on criteria of age (i.e., target age range of 18-65 years) and available contact information. Of these, 51% have been diagnosed with CD, 45% have been diagnosed with UC, and 58% are female. Their mean age is 49 years and mean disease duration is 21.5 years. The demographic characteristics of the 4747 individuals in the IBD Research Registry have been shown to be comparable to the total population of those living with IBD in Manitoba¹⁰.

Enrollment

We selected eligible participants from the Research Registry defined as those living with IBD between the ages of 18 and 65, and invited them to participate. Participants were

only considered if they were within this age range in order to maximize the likelihood that those we contacted were part of the workforce. In total 2744 participants were eligible. We then randomly assigned participants into six mailing groups of approximately 500. Mailings were sent out in batches to one group after another over the course of several months starting in the summer of 2015. The randomization assured that there would be no bias in regards to demographics such as age, disease type and sex in terms of timing of mailing. We expected that there might be a lower response rate, for example, to surveys mailed during the summer vacation period.

Procedures

(a) Survey Distribution

To ensure the best possible response rate, we followed the Dillman tailored design method¹¹, the most comprehensively researched method to maximize returns in community surveys:

i) First Mailing

Introductory cover letter: The first letter we sent notified participants that in two weeks we will be sending the survey. We explained the nature of the study. We provided contact information if there were any questions.

ii) Second Mailing (Two weeks from first mailing)

Consent Form: Two copies of a consent form were mailed, one to be signed and sent back to us and another for the participant for their own records. The consent form outlined the study in further details such as why the individual was contacted and what the study required from them. We placed emphasis on the fact that the study was entirely voluntary and that if they chose to participate all information provided would be confidential.

Survey Letter: This letter outlined the nature of the survey and highlighted our request to access individual health information from Manitoba Health to use in the analysis of disability measures in relation to health care utilization.

Survey and return packaging: We included the survey to be returned to us along with the consent form and a pre-stamped envelope.

iii) Third Mailing (Four weeks from first mailing)

Follow-up Letter: We thanked those who had already returned the survey and provided a reminder for those who had not.

iv) Final Mailing (Six weeks from first mailing)

We contacted non-responders only. A final letter reminded individuals of the study and requested their participation. We also provided all of the survey and consent form materials initially mailed in the second mailing.

(b) Survey Measures

In total the survey contains 14 sections and is 40 pages.

- i) Section A. Demographics:* A series of questions were posed to gather basic information on age, sex, background information, current living situation, disease characteristics and disease type.
- ii) Section B. Inflammatory Bowel Disease Questionnaire (IBDQ):* The IBDQ is a 32-item questionnaire was used to assess health related quality of life in people living with IBD¹². The IBDQ has been proven to be reliable, valid and sensitive for assessing health related quality of life¹³. A tool assessing quality of life is a critical starting point to understanding how IBD may hamper the different aspects of an individual's well being. The IBDQ has questions regarding emotional function, social function, bowel symptoms and systemic symptoms over the past

- month. Individuals can attain a score between 32 and 224 with higher scores representing better quality of life.
- iii) Section C. Health Services: We aimed to find what services those with IBD require when they are experiencing symptoms and look to assess the accessibility of these services. By providing a number of different services and giving participants the option to choose which they feel is the most important during mild, moderate or severe symptoms, we sought to assess their preference for services provided. Additionally, we reserved a number of questions for experiences with emergency departments while suffering from IBD symptoms. By gathering information with questions querying topics such as wait times, where and when they visited an emergency department and their rate of the service, we aimed to gather a complete picture of the experience of those with IBD in urgent care situations.
 - iv) Section D. Service Experience: Persons with IBD consume substantial health services¹⁰. This section provided information about how many times participants visited twelve different health resources (e.g physician, physiotherapist, psychologist, dietician etc.) in the previous twelve months. We thus sought to assess the impact this use of services may have on quality of life and on patients' levels of distress.
 - v) Section E. Employment: This section provided us with detailed information about participants' employment status in the past year.
 - vi) Section F. The Current Work Experience Work Productivity and Activity Impairment (WPAI) questionnaire assessed impairments in work and activities (presenteeism)¹⁴.
 - vii) Section G. Everyday Life (WSAS): The Work and Social Adjustment Scale (WSAS) assessed impaired functioning due to illness across 5 domains (work, home management, private leisure, social leisure, and close relationships)¹⁵.
 - viii) Section H. IBD and Health (IBDDI): The Inflammatory Bowel Disease Disability Index comprises 14 questions and calculates a score from 0 to 100, with higher scores reflective of more impairment¹⁶. It is a validated measure that measures the impact of IBD on the functional health of patients¹⁷. The IBDDI was developed as a clinical interview. We collaborated with the author to develop a self-report version of this measure.
 - ix) Section I. Income Coverage for Away From Work: We aimed to find what coverage those with IBD are able to obtain and for how long.
 - x) Section J: Workplace Accommodations or Adaptations: We developed a measure based on the types of workplace accommodation that persons described in our qualitative IBD study as being helpful but not generally available¹⁸. Five types of workplace accommodation were assessed including washroom access, time to attend medical appointments, adequate work breaks, flexible work hours and work weeks. Participants are asked about their needs, as well as the availability and access to these accommodations. While the survey is focused on the needs of persons with IBD, the questions on workplace accommodations and use of financial supports during periods of disability are of interest for a wide range of chronic diseases which are often 'invisible' and episodically limit the ability to work.
 - xi) Section K. The World Health Organization Disability Assessment Schedule 2.0¹⁹. A generic assessment instrument used across health conditions and cultures. It is linked conceptually to the WHO's International Classification of Functioning, Disability and Health (ICF) which is an international standard to describe and measure health and disability. Questions address possible limitations in

- cognition, mobility, self-care, interactions with other people, life activities including domestic responsibilities, leisure, work and school, and participation in community activities.
- xii) Section L. Kessler's Psychological Distress Scale 6-item short form (K6): The K6 is a widely used and validated 6-item measure of non-specific psychological distress^{20,21}. The K6 includes items assessing both anxiety and depressed mood. Using likert-type scaling respondents answer how often in the past 30 days they have felt: nervous, hopeless, restless or fidgety, so depressed that nothing could cheer you up, that everything was an effort and worthless.
 - xiii) Section M. Your Insurance Coverage: The section asked for details about what insurance coverage participants had and how difficult it was to obtain coverage.
 - xiv) Section N. Health Anxiety Inventory: The 14 item measure version of the full HAI was included in the survey. The 14 item version of the full questionnaire has proven to have comparable properties to the full scale²².

Statistical Analysis

Data were analyzed with the Statistical Package for the Social Sciences program (SPSS, Version 22, SPSS Inc., Chicago, IL). Percentages were used to describe the demographic characteristics and the proportion of respondents who needed accommodations, how they arranged these accommodations and about how easy or difficult it was to arrange the accommodations. Bivariate and multiple logistic regression analyses were also conducted to evaluate relationships between demographic, disease, and psychological functioning variables and the variables describing workplace accommodations. For the logistic regression analyses, continuous variables such as age and age of diagnosis were categorized into high vs. low groups using a median split. Level of distress as measured by the K6 was categorized using a third split, being the top third of scores versus the lower two thirds of scores.

Results

Characteristics of Participants

We sent surveys to 2744 people and received 1143 completed responses for a response rate of 41.7%. However, many surveys (266, 9.7%) came back without having reached the intended individual either because of wrong address or death. Therefore 2478 probably received surveys, providing us with a response rate of 46%. We considered the number of participants in the survey in comparison to the estimated number of people in the province with IBD (5464 of 1.3 million residents in the province) in order to estimate the margin of error in the survey. Estimates of proportions will likely fall within +/- 3%, 19 times out of 20.

On the 1143 completed surveys, 886 respondents stated that they had experienced IBD symptoms in the workplace. We focused on this group to address the questions of workplace accommodation for our initial report. The characteristics of the study participants who experienced problems with IBD symptoms while working are summarized in Table 1. The sample was predominantly Caucasian (90%), with small numbers having described themselves as Aboriginal, Hispanic, Asian or African. More than half the sample was female (61%) and more participants had Crohn's disease (52%) than ulcerative colitis. Most of those who completed the survey had some form of post-secondary education, with 35% having 13 years or less education and 65% having 14 years or more. Participants' age range was 21-65 with a median age of 52 years and a median age of diagnosis of 27 years of age with a range of 5-60.

Most of our respondents who experienced IBD symptoms in the workplace described the symptoms as severe or very severe (646, 73%), 183 (21%) described their symptoms as moderate and a very small proportion (52, 6%) described modest symptoms.

Workplace Accommodation

Table 2 shows the accommodations needed by participants and how the accommodations were managed. The most required accommodation was time to go to medical appointments (needed by about 80%) and easy access to a suitable toilet (about 70%). Lower numbers needed a chance to take a break when not feeling well (55%), a flexible or reduced workday (45%), flexibility in start time and work hours (45%), or reduced days of work each week (35%). Participants indicated that when they asked for an accommodation it was usually available. There was a relatively low number who indicated that they asked for an accommodation and it was not available. Quite a few more participants (370) indicated that they needed an accommodation but did not ask.

Of those who needed an accommodation, we asked how specifically this accommodation was arranged (Table 3). Most participants either took care of the need by themselves or arranged for it informally with a supervisor for each type of accommodation. A small proportion of participants needed written requests to the employer. Assistance from a union or some other outside sources of help was required even less often.

As shown in Table 4, the difficulty of arranging for an accommodation varied considerably depending on the accommodation. Overall, the least difficult accommodation to arrange was time to go to medical appointments (11% somewhat/very difficult) and easy access to a suitable toilet (22% somewhat/very difficult). It was somewhat more difficult to arrange some other accommodations such as flexible or reduced daily hours (32%), reduced days of work each week (36%), flexible start time (30%), and a chance to take a break (34%).

We conducted bivariate and multivariate logistic regression analyses to assess demographic, disease and personal characteristics related to the likelihood of requiring two or more of the six accommodations, requiring but not asking for at least one accommodation and requiring at least one accommodation that was difficult/very difficult to arrange. The independent variables that we were assessed as predictors of these three dependent variables included: sex, age, age of diagnosis, years of education, whether the individual had prior surgery for their IBD, severity of disease, ethnicity, employment status and level of distress (as measured by the K6). It is worth noting that for employment status, a small number of participants (<20) did not answer the question so, when possible, we inferred their employment status based upon the information they provided to us about their job and employer.

Table 5 summarizes the results for those individuals requiring at least two or more accommodations. All variables listed above were run but the five listed in Table 5 are those that showed a significant difference in the bivariate and multivariable models. An influential predictor of the likelihood of requiring accommodations was shown to be sex, as females were 1.75 times more likely than males to require two or more accommodations. Level of distress was also influential in predicting the number of accommodations required, though it was a more important predictor of whether or not

accommodations were asked for when needed and of whether the accommodations required were difficult to arranging. Additionally, although with a smaller influence, education and type of employment/location also were predictors of number of accommodations required.

Table 6 summarizes the results of the logistic regressions predicting a need for accommodations that were difficult to obtain. Among participants needing one or more accommodations, level of distress was a sizeable factor in predicting how difficult they felt it was to acquire an accommodation. Those who suffered from more severe disease were also more likely to report they needed accommodations that were difficult to arrange. Females were more likely than males to have difficulty arranging an accommodation.

Table 7 displays the variables that had a significant effect upon whether individuals asked for accommodations that they reported they needed. The most impactful variables were disease severity and level of distress. Those with more severe disease and distress were more likely to need an accommodation that they did not ask for. Age and disease severity also showed a significant influence. Younger people and females were more likely not to ask for accommodations.

Discussion

This study represents a first step toward filling the void in our understanding of what job accommodations are necessary and available for those with IBD. Our data indicates that a significant number of those with IBD have required work accommodations to help manage. Only 62 of the 886 people who had IBD symptoms at work stated that they did not need any accommodations. Additionally 723 of our 886 respondents indicated they needed at least two of the six accommodations listed. This suggests that IBD is not only frequently associated with symptoms at work but that the symptoms experienced are enough to cause individuals to require significant help.

Canada has the largest proportion of individuals in the working age of any G7 country, with 68% between the ages of 15-to-64⁷. IBD is most commonly diagnosed between the ages of 15 and 25 and is commonly accompanied by unpredictable flares throughout a patient's life. Given that IBD is diagnosed early on and may persist throughout a lifetime, we can expect there to be a large number of individuals having problems with IBD in the workplace. Providing accommodation to these people is important for the economy as a whole because it helps to maintain a productive workforce.

Our data suggests that IBD may cause individuals to require more job accommodations comparatively to those with other chronic conditions. In publications regarding individuals with Lupus and Multiple Sclerosis, 70% of participants reported using workplace accommodations and 25.7% of people reported requesting workplace accommodations, respectively^{8,23}. All of the accommodations we suggested had significant proportion of individuals who endorsed needing them, demonstrating that IBD affects both domains of workplace disability: absenteeism and presenteeism.

An interesting finding was that individuals with higher education levels reported requiring more accommodations. There are several possible explanations for this finding. One possibility may be that those with higher education may be more self-aware of their symptoms and perhaps more likely to recognize when they are in need of help, and

perhaps more assertive in reporting to their employers that they need accommodation. Additionally, given that IBD presents with limited obvious physical manifestations, those in manual labor (whom we would expect to be in the ≤ 13 years of education group more often) may not view IBD as being as debilitating as other chronic diseases. That the severity of disease predicted a need for accommodations was not surprising in that we would expect those who have more severe disease to require more accommodations and potentially more difficult ones if the severity of the symptoms requires that more complicated accommodations be implemented. What is less clear is why those with severe disease would report not having asked for needed accommodations, as presumably the severity of the disease may heighten the need for such assistance. One possibility may be that, having experienced the need for a greater number of accommodations, these individuals may feel reluctant to draw further attention to the challenges posed by IBD in the workplace, perhaps out of concern for their standing with their employer; this possibility warrants further investigation. Nonetheless, it is clear that those with more severe disease do experience a greater need for accommodation in the workplace.

Somewhat surprisingly, there was not a significant relationship between sex and level of distress in a bivariate regression. Past studies have shown that amongst individuals with IBD females experience reduced quality of life compared to males. Additionally, women have been found to experience more emotional disturbances compared to men with IBD²⁴. This could explain why women were shown to be more prone to requiring work accommodations than men. Nonetheless, both sex and level of distress were independent predictors in the multivariate regression, indicating that the overlap between sex and distress is not the sole reason for their influence on need for accommodation.

The good news is that the majority of individuals with IBD who identify a need for accommodations are able to arrange for them. In most cases they arrange for the accommodations through their own actions or through informal discussion with a supervisor. It is less common that they have to make a written request for an accommodation or arrange some support through some source of outside help, though these findings indicate that this does at times occur.

At the same time, a sizeable minority of individuals with IBD indicated that they needed an accommodation but did not ask for it. Further research is required to identify the reasons for this reluctance. We can speculate, however, that it is possible that some individuals did not request an accommodation because they were not aware that employers have some responsibility for helping employees with health problems to arrange for reasonable accommodations. Our experience has been that many persons who are ill have limited knowledge of the possibilities for workplace accommodation. Informal consultation with a human resources professional also suggested that many employees are not aware of these policies. In Canada, the Employment Equity Act was instated in 1995. The goal of this act is to help people with disabilities receive "reasonable job accommodations". The act applies to private and public sector workplaces. Having such laws in place may encourage employers to educate their employees on available accommodations and, subsequently, cause employees to ask for these accommodations when needed because they are aware they exist.

Four variables affected whether participants did not ask for an accommodation: sex, age, disease severity and level of distress. Women, older individuals, those with severe disease, and those with severe distress were more likely than males, younger

individuals, or those with less severe IBD or related distress, respectively, not to ask for an accommodation even when needed. It is not clear whether individuals in these groups were more likely not to ask because the accommodation would not have been feasible in their workplace or because they did not know how to ask for the accommodation. Another possibility for the reluctance to ask for accommodation may be possible concern about the opinions of coworkers or of employers, or concerns about future employment.

As seen in Table 6, three variables were found to have a significant effect on difficulty in acquiring necessary accommodations: sex, disease severity and level of distress. One possible explanation for this finding is that women with IBD may carry more home and family responsibilities causing greater difficulty in arranging for accommodations. Given that the K6 is a non-disease-specific psychological measure of distress, it is difficult to tell why those in more distress had more difficulty acquiring accommodations. It has been shown that those with symptoms of depression and anxiety with IBD have more challenges in the workforce¹⁸. However, the reverse possibility must also be considered, as it is also conceivable that a difficult workplace may cause the individual to be more distressed, while also resulting in the individual finding it more difficult to acquire needed accommodations.

It would be helpful for health care providers to be aware of common accommodation needs among persons with IBD and to be informed about approaches to supporting their patients to obtain these needed accommodations. Considering that physicians are often at the forefront of decisions requiring accommodations and insurance amongst employees, the importance of complete knowledge of accommodations in a chronic disease such as IBD cannot be understated. Persons with IBD may find it helpful to have access to educational resources around employer and employee responsibilities for accommodation, how to approach the employer (through management and possibly the human resources department of larger organizations), and what to do if any problems are encountered in arranging accommodations.

Those who experience severe to very severe symptoms were more likely to find it difficult/very difficult to acquire accommodations. As mentioned previously, we also see that severity has an effect on the number of accommodations one requires. It may be that workplaces find it difficult to manage providing the greater number of accommodations that those with severe disease require. Therefore, from the standpoint of the individuals suffering from these symptoms, it becomes more difficult to attain accommodations. Employers may also find difficulty in providing adequate quality of the accommodations even if they are provided, for severe sufferers. For example, it may be simple to move someone's position in an office who is experiencing mild symptoms to be closer to the bathroom. However, if that person suffers from severe symptoms this may still not be adequate for their specific needs, causing them to answer that it was still difficult to arrange.

Limitations

Although we provided a comprehensive assessment of workplace accommodation in IBD, our knowledge is limited by the questions we included in our survey. Our questions were only quantitative, so a qualitative analysis could provide more details regarding participants' workplace experiences with IBD. For example, we do not know what stopped participants from asking for accommodations. Additionally, we do not know what specific circumstances participants were working in when they experienced IBD.

symptoms in their workplace. Given the retrospective nature of our study, the reliability of these findings also relies on accurate self-report and memory; the reframing of their responses according to the questions asked may have influenced their perspectives on these experiences.

Future Directions

Given the size of our survey and the large number of correspondents, there are a number of directions we can take to build upon these findings. We included a consent form for access into participants' Manitoba Health information. Pairing our self-report findings thus far with administrative data of individuals will increase our reliability and provide a more complete picture regarding the experiences of IBD sufferers in the workplace. Additionally, at the end of the survey there a comment section for participants to share their opinions about health services and work supports available for persons with IBD when they are having problems with symptoms. This qualitative data would allow us in many cases to gain a more detailed understanding of each participants' problems.

Table 1: Demographic and Clinical Characteristics of Respondents

Mean age (<i>SD</i>)	49.7 (10.2)
Mean age at diagnosis (<i>SD</i>)	28.97 (10.75)
Mean duration of disease in years (<i>SD</i>)	20.6 (10.5)
Female/male proportion	61%/39%
Disease type	
Crohn's disease	52%
Ulcerative colitis	42%
Indeterminate	4%
Other	2%
Ever hospitalized for IBD (Yes)	59%
Ever surgery for IBD (Yes)	41%
Cultural background (all that apply)	
Don't know/prefer not to answer	0.2%
Canadian	57%
Aboriginal/First Nations	8%
European (English, Irish, Scottish, Ukrainian, Polish, Mennonite...)	68%
Jewish	4%
Latina/Latino/Hispanic	0.5%
Asian	1.4%
African/Black	0.3%
Other	2.4%
Marital status	
Married	74%
Widowed	2%
Separated	3%
Divorced	8%
Never married	11%
Separated/divorced/widowed	13%
Mean years of education (<i>SD</i>)	15.12 (3.12)
Daily smoker (yes)	9%
Daily drinker (yes)	2%

Note: N=886

Table 2. Need for workplace accommodation and how needs were managed.

Accommodation	Not needed	Needed not asked	Asked not available	Asked and available
Easy access to a suitable toilet	29%	22%	7%	43%
Time to go to medical appointments during working hours	19%	5%	3%	73%
Flexible or reduced hours of work day	53%	15%	7%	25%
Reduced days of work each week	65%	12%	6%	17%
Flexibility in usual start time and work hours	56%	12%	6%	26%
Chance to take a break (30 to 60 minutes) when not feeling well	46%	22%	7%	25%

Note: N = 886. Margin of error: proportions reported within the table would be within + or – 3.3% of the true value 19 times out of 20.

Table 3. How accommodations were arranged.

Accommodation	N	Took care of it myself	Informal arrangement with supervisor	Written request to employer	Arranged through union or other outside help
Easy access to a suitable toilet	623	84%	12%	1%	1%
Time to go to medical appointments during working hours	712	45%	47%	12%	1%
Flexible or reduced hours of work day	406	39%	43%	12%	5%
Reduced days of work each week	302	42%	37%	14%	7%
Flexibility in usual start time and work hours	382	44%	47%	9%	3%
Chance to take a break (30 to 60 minutes) when not feeling well	477	59%	32%	4%	1%

Note: N=886. Margin of error: proportions reported within the table would be within + or – 3.3% of the true value 19 times out of 20.

Table 4. How easy or difficult accommodations were to arrange.

Accommodation	N	Very/somewhat easy	Neither easy or difficult	Very/somewhat difficult
Easy access to a suitable toilet	623	58%	20%	22%
Time to go to medical appointments during working hours	712	78%	12%	11%
Flexible or reduced hours of work day	406	53%	15%	32%
Reduced days of work each week	302	48%	16%	36%
Flexibility in usual start time and work hours	382	56%	14%	30%
Chance to take a break (30 to 60 minutes) when not feeling well	477	49%	17%	34%

Note: N=886. The ease or difficulty of arranging accommodations was rated on a five point scale: 1 – very easy, 2 – somewhat easy, 3 – neither easy nor difficult, 4- somewhat difficult, 5 – very difficult. Margin of error: proportions reported within the table would be within + or – 3.3% of the true value 19 times out of 20.

Table 5: Bivariate and Multivariable Predictors of the Likelihood of Requiring Two or More Workplace Accommodations

Predicted variables	N	%	OR	95% CI	Adjusted OR	95% CI
Sex						
Male	343	39	1.79	1.27-2.53	1.75	1.18-2.58
Female*	530	61				
Years of education						
≤13	304	35	1.45	1.02-2.06	1.56	1.04-2.36
>13*	576	65				
Disease severity						
Very mild-moderate	235	27	2.53	1.77-3.63	2.37	1.58-3.55
Severe-very severe*	646	73				
K6						
<5	561	64	1.79	1.21-2.63	1.83	1.17-2.85
≥6*	313	36				
Employment status						
Self employed/work from home	107	12	1.83	1.15-2.91	1.75	1.05-2.90
Worked away from home*	768	88				

Note: The OR is the OR for the bivariate analysis and the adjusted OR is a multivariate OR accounting for all other variables in the model.

N (for multivariate model) = 775.

**Indicates the 95% CI OR > 1.*

Table 6: Bivariate and Multivariable Predictors of Finding it Difficult or Very Difficult to Implement an Accommodation, for Those Individuals Requiring at Least One Accommodation

Predicted variables	N	%	OR	95% CI	Adjusted OR	95% CI
Sex						
Male	343	39	1.79	1.27-2.53	1.84	1.219-2.77
Female*	530	61				
Disease severity						
Very mild-Moderate	235	27	1.91	1.24-2.95	1.73	1.07-2.79
Severe-Very Severe*	646	73				
K6 Score						
<5	561	64	2.41	1.70-3.40	2.28	1.56-3.35
≥6*	313	36				

Note: The OR is the OR for the bivariate analysis and the adjusted OR is a multivariate OR accounting for all other variables in the model.

N (for multivariate model) = 726.

**Indicates the 95% CI OR > 1.*

Table 7: Bivariate and Multivariable Predicting the Likelihood of Not Asking for a Needed Accommodation, for Those Individuals Requiring at Least One Accommodation.

Predicted variables	N	%	OR	95% CI	Adjusted OR	95% CI
Sex						
Male	343	39	1.36	1.02-1.81	1.43	1.04-1.97
Female*	530	61				
Age						
Above 52*	423	48	1.54	1.17-2.03	1.47	1.06-2.05
Below 52	463	52				
Disease severity						
Very mild-moderate	235	27	1.62	1.17-2.24	1.65	1.15-2.37
Severe-very severe*	646	73				
K6						
<5	561	64	1.81	1.36-2.42	1.65	1.20-2.28
≥6*	313	36				

Note: The OR is the OR for the bivariate analysis and the adjusted OR is a multivariate OR accounting for all other variables in the model.

N (for multivariate model) = 726.

**Indicates the 95% CI OR > 1.*

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