Inflammatory bowel disease in older patients: from gut feeling towards evidence-based medicine

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2

Perspectives on treatment of inflammatory bowel disease in older patients: applying gut feeling in an evidence-based era?

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ABSTRACT

Background The older inflammatory bowel disease (IBD) population is challenging to treat because of heterogeneity in characteristics related to frailty. We aimed to study factors contributing to the difference in treatment between older and younger patients with IBD and the relation between frailty and therapy goals, from the perspective of both professionals and IBD patients.

Methods Semi-structured interviews in 15 IBD professionals and 15 IBD patients aged ≥65 years.

Results Professionals had 1-20 years of experience, three practiced in an academic hospital. Patients were aged 67-94 and had a disease duration between 2-62 years. We found that professionals aim more often for clinical remission and less often for endoscopic remission in older compared to younger patients. Older patients also aim for clinical remission but valued objective confirmation of remission as a reassurance. Professionals sometimes opt for surgery earlier in treatment course, while older patients aimed to prevent surgery. Professionals' opinion on corticosteroids in older patients differed, while patients preferred to avoid corticosteroids. In professionals and patients, there was a shift towards goals related to frailty in patients with frailty. However, professionals did not assess frailty systematically but judged frailty status by applying a clinical view.

Conclusions Many therapy goals differed between older and younger patients, in both professionals and patients. Professionals did not assess frailty systematically, yet aspects of frailty influenced therapy goals. This underlines the need for clinically applicable evidence on frailty in IBD, which could aid tailored treatment.

INTRODUCTION

Inflammatory bowel diseases (IBD), comprising Crohn's disease (CD) and Ulcerative Colitis (UC), are chronic diseases occurring as a relapsing and remitting inflammation of the intestines. Patients experience disabling symptoms such as abdominal pain, diarrhea and fatigue.[1 2] The prevalence and incidence of IBD is increasing, especially in the older patient population.[3 4] IBD treatment is often challenging in older patients as this population is heterogenous in their functional, mental and social capacities, and sometimes live with frailty.[5 6] Moreover, it has been established that older patients with IBD are often undertreated as compared to younger patients.[7] Corticosteroids are only suitable for remission induction and not for maintenance therapy due to their unfavorable safety profile.[8-12] However, longer courses of corticosteroids are prescribed to older patients and step-up towards maintenance therapy such as immunomodulators or biologicals is less frequently initiated.[7 13] This difference in pharmacologic treatment between older and younger patients is not necessarily because of a milder disease course in older patients.[7]

Guidelines do not differ between older patients aged ≥65 years versus younger patients with IBD. The European Crohn's and Colitis Organization (ECCO) advises treating gastroenterologists to assess an individual's frailty when making treatment decisions in older patients.[14] Meanwhile, evidence on prevalence of frailty and the role of frailty in treatment safety and effectiveness in older patients with IBD is scarce.[15-18] It is unclear which patient characteristics are deemed important by professionals and patients in the management of IBD in older patients and which therapy goals are currently being pursued. Furthermore, it is unclear if and how frailty is accounted for in current clinical practice.

We aimed to study factors contributing to the difference in treatment between older and younger patients with IBD and the relation between frailty and therapy goals, from the perspective of both professionals and IBD patients.

MATERIALS AND METHODS

Study design

This was a semi-structured interview study consisting of 34 face-to-face in-depth interviews with professionals and patients. The study is reported following the checklist of the Consolidated criteria for REporting Qualitative research (COREQ)[19] and was conducted in two parts. First, professionals were interviewed between May and July 2019, next older patients with IBD were interviewed between June and October 2020.

Participants

Professionals

Professionals were defined as either gastroenterologists with a focus on IBD or nurses specialized in the treatment of IBD working in the Netherlands. Professionals were approached for inclusion by e-mail. Purposive sampling was applied to ensure a heterogeneous population,[20] and professionals were included based on differences in age, sex, geographical location of practice, nature of hospital of practice (referral vs. general hospital), and possession of a PhD title. Professionals were included after signing informed consent and agreeing to having the interview audio taped. We aimed to include at least 15 professionals (ten gastroenterologists and five IBD nurses).

Patients

Patients were recruited at the Leiden University Medical Center (LUMC), the Netherlands, and were eligible if they had a confirmed clinical, endoscopic and/or histological diagnosis of CD, UC or IBD-Unclassified. Patients were approached for participation using a letter written on behalf of their treating physician. We aimed to include 15 patients aged 65 years or older. We applied purposive sampling by selecting older patients from our cohort study on geriatric assessment in older patients with IBD to ensure a heterogenous population.[21] In this way we could select patients based on information in the electronical medical record such as age, sex, IBD disease history, disease duration, IBD medication and place of living, and also based on frailty, comorbidity and educational level. All patients were included after signing informed consent and agreeing to having the interview audio taped.

In addition, to explore if new themes were generated, we aimed to interview five younger patients aged 18-65 years with IBD.

Data collection and setting

Interviews were conducted face-to-face and consisted of two parts; in part A we conducted a semi-structured interview and in part B the interviewer presented pre-written cards. The interviews with professionals were conducted at their workplace, the interviews with patients were performed at their location of preference (hospital or at their home). A caregiver or family member was allowed to be present during the patient interviews and to participate in the interview. Interviews were conducted by two female master students in medicine who both had completed their clinical rounds (professionals were interviewed by SW, patients by CV). The interviewers did not know the professionals or patients beforehand and the interviewers introduced themselves by providing the above information prior to the interview. Both interviewers conducted three practice interviews. Field notes were made during and after each interview. During interviews with professionals and patients, we performed interim analyses and consultation was performed with members of the research team. No repeat interviews were carried out.

Part A was conducted according to a predefined interview scheme with open ended questions and a list of potential additional questions to create more in-depth responses. The interview scheme was developed by the research team (VA, AP, SP and PM). At the start of the interview the interviewer introduced herself and collected information about the participant's baseline characteristics.

In Part B we presented two sets of cards to the participants. First, the interviewer presented cards with on each one patient characteristic, such as characteristics regarding disease activity and frailty. Professionals and patients were asked to create a hierarchy from most to least important in making treatment decisions in older patients with IBD. The same approach was applied to cards with on each one therapy goal regarding older patients with IBD, such as measures of disease control and preservation of functional status. For both the characteristics and the goals, participants were allowed to place more than one card in the same hierarchy level. Next, we asked professionals if their hierarchy of patient characteristics and/or therapy goals would be different if applied to younger patients. Finally, we asked both professionals and patients if and how impairments regarding each of the six geriatric characteristics would change the hierarchy of the therapy goals. In each interview, we also presented a couple of empty cards to allow participants to add patient characteristics and/or therapy goals to the list.

Additionally, we asked professionals if they were reticent in prescribing certain IBD medications in older patients. Initially, we asked them only an open-ended question regarding this topic. However, after having performed six interviews, we added questions about specific medications because we noted that opinions on these medications (corticosteroids and methotrexate) differed or because we were specifically interested as medication had recently been approved for IBD care (tofacitinib). Further, after having completed the interviews with professionals, we found that there was a difference in therapy goals and treatment strategies considered to be applied to older patients as compared to younger patients. We therefore decided to add a question to the patient interviews by telling the patients about this finding and asking them for their opinion. Moreover, we asked patients about characteristics of frailty. However, after having performed four interviews, we noted that this question was hard to answer and we made it more personal by asking '*Do you think that you are frail at the moment?*', '*Why do you or do you not think you are frail at the moment?'*, and '*What would make you (more/less) frail?'*. Furthermore, we added some additional cards in the interviews with patients: after three practice interviews we added "*worries about family or loved ones"* to the set of cards on patient characteristics, and *"decrease in inflammation in the blood (CRP)"* to the set of cards on therapy goals. After seven interviews we added *"Inflammation in the stool (FCP)"* to the former set of the cards. When no new ideas or themes emerged in three successive interviews we concluded that data saturation had been reached.

Data analyses

All interviews were transcribed verbatim using Amberscript and transcripts were not returned to participants. The data from Part A were analyzed based on the Grounded Theory approach.[22] Two coders coded each interview independently. VA and SW coded the interviews with professionals, VA and CV coded the patient interviews. The two coders frequently met during the coding process to compare codes until consensus was reached. Open coding was performed and a code list was developed inductively, codes were renamed and re-ordered in Excel whenever the coders agreed this was necessary. The code list was used for all subsequent interviews in the same sample of interviewees. In parallel to open coding axial coding took place, in which the coders performed classification of the codes into categories and themes. This categorization was completed and revised whenever necessary during and after the interview rounds. To apply structure to the themes that were found, selective coding was applied and themes were categorized into disease-related (such as IBD symptoms or IBD complications), treatment-related (such as IBD medication or surgery) and geriatric themes, related to daily functioning (such as functional or cognitive status).

The data from Part B were analyzed by listing the hierarchy of cards provided by each participant in a separate Excel file. During the analysis we focused on each participants' top three; most participants included more than one card per hierarchy level. These were analyzed independently by the same two coders as in part A (VA and SW, and VA and CV respectively). During the analysis both coders read the considerations that the participants mentioned while ordering the cards, and listed them per card. To create order and to enhance the ability to recognize patterns between different participants, we categorized the cards and applied colors to each category. In patients, we looked if the presence of geriatric impairments, found during a geriatric assessment, seemed associated with patterns in hierarchy. Participants did not provide feedback on the findings.

Ethical Considerations

The study protocol was declared not subjective to the medical research involving human subjects act by the Medical Research and Ethics Committee (MREC) at the LUMC (Leiden, the Netherlands, protocol number N19.026) and was approved in all participating centers in which professionals had their practice. Written informed consent was obtained from all participants.

RESULTS

Participants

In total, 34 interviews were conducted in 15 professionals, 15 older patients and four younger patients. For the interviews with professionals, we approached 15 gastroenterologists and 10 IBD nurses of which 10 and five respectively participated. Three gastroenterologists did not want to participate due to lack of time, and two gastroenterologists and three

nurses did not respond. Two nurses wanted to participate, but could not be included for logistical reasons. The interviews with professionals lasted between 27 and 51 minutes. Gastroenterologists had a median age of 45 years, ranging from 39 to 61. IBD nurses had a median age of 41 years, ranging from 34 to 54. The years of experience in IBD care in professionals ranged from one to 20 years (table 1).

For the interviews with patients, 20 older patients with IBD were approached, of whom 15 participated. Two older patients were not willing to participate, one patient did not speak Dutch and two patients could not be reached. Eight patient interviews took place at the LUMC, one interview took place over the telephone due to COVID-19 restrictions and the other interviews took place at the patients' home. During three interviews a spouse or child was present. Interviews took between 37 and 69 minutes. Patients had a median age of 74 years, ranging from 67 to 94. Disease duration ranged between 2 and 62 years and patients used different IBD medications at the time of the interview. Four patients had a high comorbidity level as measured by the Charlson Comorbidity Index, 10 patients had two or more impaired geriatric domains in their geriatric assessment and were therefore classified as frail (table 1). Five younger patients with IBD were approached and included. However, one patient withdrew consent due to disease severity.

Professionals

Therapy goals in treatment of older patients with IBD according to professional

We asked professionals what goals they aim for in the treatment of older patients with IBD and if these goals differ from those for younger patients. Some professionals said they aim for the same goals in older versus younger patients with IBD. However, other professionals stated they aim for different therapy goals in older patients with IBD.

Regarding disease-related goals, a number of professionals stated that clinical remission was often more important, whereas endoscopic remission and mucosal healing were reported to be less important in older patients. The prevention of long-term complications was considered to be less important in older patients and some participants tended to treat older IBD patients less aggressively. This was motivated by some professionals' believe that disease course is more indolent in older patients.

> "Free of symptoms, with the least possible amount of immunosuppression, yes that's it. And the presence of biochemical remission or mucosal healing, that really doesn't matter much to me"
> Professional; gastroenterologist (nr. 6)

Table 1. Professionals' and patients' characteristics

Characteristic (professional)	Gastroenterologist (n=10)	IBD nurse (n=5)	Characteristic (patient)	Older patients with IBD (n=15)	Younger adult patients with IBD (n=4)
Sex, female	4	4	Sex, female	6	2
Age†	45 (39-61)	41 (34-54)	Age†	74 (67-94)	30 (25-45)
Years of experience in IBD†	10 (3-20)	6 (1-10)	Educational level (high)	4	1
Practicing in academic medical center	2	1	CCI≥3	4	-
PhD title	7	0	High frailty level (≥2 impaired geriatric domains	10	2*
Contacts with IBD patients in last 2 weeks †Δ	43 (12-160)	80 (40-500)	IBD type, CD	8	2
Contacts with IBD patients aged ≥65 years in last 2 weeks †Δ	6 (1-53)	10 (2-125)	Disease duration†	34 (2-62)	4 (3-12)
			Current IBD medication		
			-None	4	0
			-5-ASA	7	2
			-Corticosteroid	3	0
			-Immunomodulator	2	0
			-Biological	4	3

IBD; Inflammatory Bowel Diseases, PhD; doctor philosophea, highest university degree. †median (range) Δ at outpatient or inpatient department, during telephone consultation or supervision. CD; Crohn's disease, CCI; Charlson Comorbidity Index; 5-ASA; 5-Aminosalicylates *considers itself frail

Second, other treatment-related goals in older patients with IBD were named, than in younger patients. Professionals reported to aim more towards remission with as little immunosuppression as possible in older patients and to prescribe medication with as little adverse events as possible. When remission is achieved, a couple of professionals declared to stop maintenance therapy sooner in older patients. Sometimes, professionals tended towards surgery earlier in the treatment course in older patients as compared to younger patients. One professional mentioned to aim for as little burden for the older patient as possible by reducing hospital visits.

Third, goals related to daily functioning were identified. Professionals put more focus on functioning in daily life, preventing social isolation and immobilisation, and retaining physical activity in older than in younger patients. An overview of therapy goals is depicted in figure 1.

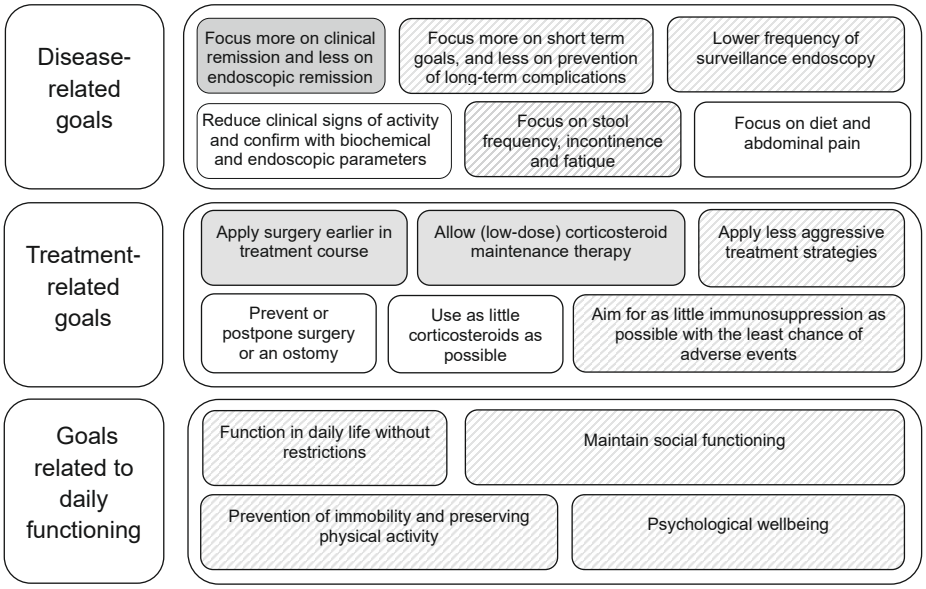

Figure 1. Conceptualisation of therapy goals in the treatment of older patients with inflammatory bowel diseases as compared to younger patients, according to professionals and patients.
Regarding patients' answers; both quality of life goals and therapy goals were incorporated in this figure. Grey: named by professionals; white: named by patients; grey and white shaded: named by both professionals and patients.

All professionals included clinical remission or corticosteroid free remission in their top three therapy goals. More than half of the professionals did not put endoscopic remission in their top three. For younger patients, most of the professionals would rank endoscopic remission higher. Some professionals would rank corticosteroid free remission higher in younger patients versus older patients, other professionals would in contrast rank it lower.

> "Corticosteroid free remission, it depends on the case. In younger patients it would be number one priority, in older patients we will sometimes accept low doses."
> Professional; gastroenterologist (nr. 3)

> "Definitely no [corticosteroid] maintenance therapy. I think that is just not right"
> Professional; gastroenterologist (nr. 8)

When looking at therapy goals related to daily functioning; preservation or restoration of independence and mobility was most often chosen for the top three hierarchy. Next, we asked if and how the presence of geriatric impairments in an older patient, such as impaired functioning in daily life, cognition or independence or the presence of multiple comorbidities, would change their ranking of goals. Clinical remission remained the most important therapy goal in most of the professionals, regardless of geriatric impairments. Professionals said that this is the goal they can influence the most. Some professionals chose to strive more towards preservation or restoration of independence and mobility if those were impaired in patients. One professional said that impairments in mobility or functional status could be a reason to choose an ostomy, as incontinence could be more disabling in those patients. A few professionals said corticosteroid free remission was less important to them in an older patient with geriatric impairments. However, other professionals said to aim for corticosteroid free remission, no matter which impairments were present. Some said they put even more emphasis on corticosteroid free remission when there are multiple comorbidities or an impaired cognition.

Preference in IBD medications in professionals

After asking about patient characteristics and therapy goals, we asked professionals if they were reticent in prescribing certain IBD medications in older patients. The results of this question are displayed in table 2.

Table 2. Reticence in prescribing medication in older patients with inflammatory bowel diseases

Reticence	**IBD-medication**	No reticence
	5-ASA	-Not reticent
-No high doses -Only short courses -No maintenance therapy -High risk of infection -Risk of osteoporosis -High risk of adverse events in patients with diabetes or high blood pressure	**Corticosteroids**	-Good short-term solution -Long term adverse events are less important -Accept low dose maintenance when comorbidities are present -Low dose in best solution in some patients -Low dose maintenance budesonide when history of malignancy is present
-Out of fashion -No MTX in older patients -Only when combining with rheumatoid arthritis treatment -Route of administration -Co-administration of folic acid	**Methotrexate**	-Good option or solution for some patients -Milder adverse events compared to thiopurines -First opt for MTX in older-onset instead of biologicals
-More careful in older patients -Stop earlier in older patients -Start with lower dose in older patients -High risk of lymphoma, malignancy, infections -More alert to adverse events in older patients	**Thiopurines**	-We try thiopurines a lot after corticosteroid induction
-High risk of infections in older patients -More alert to adverse events in older patients -Tend to prescribe biologicals more in younger than in older patients -Logistical challenge due to route of administration	**Biologicals**	
-Reticent with infliximab -High risk of adverse events, malignancy -Reticent in patients with cardiovascular problems -Logistical issues when patient is immobile -Afraid for low medication adherence in adalimumab	**Anti-TNF**	-Monotherapy is safe in older patients -I prescribe standard dose
-The fact that it is relatively new	**Ustekinumab**	-A good option -Safe feeling to prescribe -More often prescribe as first choice

Table 2. Continued.

Reticence	**IBD-medication**	No reticence
	Vedolizumab	-A good option -Rather opt for vedo instead of anti-TNFα or thiopurine -Less systemic infections -Safe feeling to prescribe -More often prescribe as first choice -Prefer vedo in case of history of malignancy -Less severe adverse events compared to uste or tofa
-Careful with new medications in older patients -Risk of opportunistic infections -Risk in patients with history cardiovascular or thromboembolic events -High risk of adverse events -Only when you have no other options -Risk of herpes zoster infection	**Tofacitinib**	-Oral route of administering is an advantage -It is an option in older patients
-More reticent to prescribe in older patients -Higher risk of infections	**Combination therapy**	

Table reflects the answers of professionals (gastroenterologists and IBD nurses) to the question: *Are there IBD medications you would prefer not to prescribe in older patients with IBD, and if so, which and why?* After 6/15 interviews we started asking professionals specifically about corticosteroids, methotrexate and tofacitinib. When no comments were made about reticence or preference in older patients columns were left blank in the table.
5-ASA: 5-aminosalicylates.

Aspects of frailty in older patients with IBD according to professionals

First, we asked professionals if they make a distinction between fit and frail patients in daily clinical practice. Thereafter we elaborated on how this distinction was being made and if this influences choice of treatments or therapy goals. A couple of professionals mentioned paying attention to frailty. The way frail patients were identified varied from applying a clinical view, to estimating biological age or life expectancy. None of the professionals reported to assess frailty in older patients with IBD systematically or to apply validated frailty screening tools. Somatic aspects of frailty were most often mentioned, mainly comorbidity, but also polypharmacy and malnutrition. Furthermore, a lot of professionals acknowledged functional status, such as living in an assisted home facility, and not being able to perform activities of daily living, as an important aspect of frailty. A few professionals stated that therapy goals should be based on the presence of frailty, for example preventing surgery in older patients with frailty. However, others said patients with frailty presenting with a flare-up of IBD should be treated the same as other patients.

> "If a patient has dementia and it's all about maintaining quality of life, and we achieve quality of life with clinical remission, then I won't worry about whether this patient does or doesn't use corticosteroids."
> Professional; gastroenterologist (nr. 1)

> "Therapy goals will be different and they depend on how many aspects of, yes, frailty are present. We don't ask specific questionnaires regarding frailty yet, I think actually we should do it in older patients."
> Professional; gastroenterologist (nr. 3)

Patients

Quality of life and therapy goals according to older patients with IBD

First, we asked patients about factors determining quality of life. Aspects of functional status were mentioned most often: patients considered their ability to function in daily life and mobility to determine their quality of life for a large part. Second, we asked patients about their therapy goals in IBD. Therapy goals were again specified into disease-related goals, treatment-related goals and goals related to daily functioning. An overview of therapy goals is depicted in figure 1. Disease related goals were mostly absence of inflammation, in general or as seen during endoscopy, and decrease of IBD symptoms, of which stool-related symptoms (stool frequency, incontinence and diarrhoea) and abdominal pain were named most often.

> "I mean, he didn't dare to go anywhere, not even to a birthday party. He was just too scared he could not make it to the toilet and would be incontinent in front of his friends. So that is what really made him live a very solitary life."
> Daughter of patient (nr. 8)

Themes identified as treatment-related goals were mostly surgery- and medication-related. Surgery-related goals included preventing or postponing surgery, and preventing an ostomy. The patients who already had an ostomy reported to strive towards good functioning of the ostomy. Medication-related goals were finding the most effective medication with the least possible adverse events, aiming for no medication or as little medication as possible and a treatment without corticosteroids. Themes related to functional status, for example being able to function as normally as possible, were mentioned most often when looking at goals related to daily functioning. Younger patients added therapy goals related to the ability to work and the ability to have a successful pregnancy.

When asked to rank the cards with therapy goals, almost all patients ranked clinical remission in their top three. Patients stated that reducing IBD complaints was important because this leads to less disability, more independence and a better quality of life. Almost all patients also ranked decrease in inflammation assessed by blood or stool test or by endoscopy in their top three. Considerations mentioned here were the fact that a decrease in inflammation as seen by objective markers led to an in increase in general health and a decrease in IBD

complaints. Moreover, patients said that having certainty about the severity of inflammation as measured by objective parameters or the presence of polyps was important to them. A large part of the patients strived towards goals related to daily functioning, such as preservation or restoration of independence, good memory, positive mood and social contacts. Patients selecting those goals as most important were of advanced age, frail and had multiple comorbidities, while patients selecting disease related goals as their top priority were often of lower age, less frail and had little comorbidities. Almost half of the patients put striving towards remission without the use of corticosteroids in their top three therapy goals. Their considerations included negative experiences with corticosteroids in the past and the high risk of adverse events. Younger patients mainly prioritized objective markers of disease, only one younger patient selected 'reducing IBD complaints' in their top three hierarchy. Younger patients who considered themselves frail, more often selected goals related to daily functioning.

Aspects of frailty in IBD according to patients

Almost all older patients had a positive experience with the geriatric assessment performed during our cohort study. One patient said she was feeling fooled when undergoing the cognition questionnaire. Many patients thought a geriatric assessment should be part of standard care. Reasons were first, because it could add to an early detection of geriatric impairments. Second, patients thought it would be helpful to optimize therapy goals. Third, it could help tailor individual care, such as by providing written explanations when cognitive impairment is present.

> "Someone who is physically very weak, and tells a story about what he cannot do anymore, for me, it would be a very big decline, but for someone else it could be a very reasonable way of living. I think this can differ a lot per person."
> Patient (nr. 10)

Suggestions for further extension included repeating the assessment every couple of years to monitor functional decline. Younger patients did not undergo a geriatric assessment, however suggestions were given by them to perform a geriatric assessment not only in older but also in younger patients, as younger patients could also be frail. The aspects of frailty that were identified by IBD patients were for a large part related to functioning in daily life; i.e., to be able to do everything yourself, to be able to walk and move without falling. Also, aspects of comorbidity were often mentioned; having other diseases, having pain in general, or having a hearing impairment. Polypharmacy was named as being an aspect of frailty because medications could lead to adverse events. Impaired mental status, namely depression and anxiety, impaired cognition, but also the inability to cope with negative events, was also supposed to influence frailty in a negative way. The presence of social support and informal caretakers was deemed to affect frailty in a positive way. Being of advanced age was mentioned by a couple of patients. Many patients mentioned their IBD as an aspect of frailty, especially in case of a flare-up, incontinence, or diarrhea, or when they have to pay

attention to what they can and cannot eat. Also, feeling fatigued was mentioned as an aspect of frailty. The two patients who had an ostomy at the time of the interview mentioned their ostomy as an aspect of frailty. Patients mentioning functioning in daily life and being able to do everything yourself were all frail, while patients mentioning IBD-related aspects of frailty were mostly less frail. The interviews in younger patients did not yield new aspects of frailty.

DISCUSSION

Current evidence in IBD is pointing towards different treatment regimens being used in older patients, as compared to younger patients.[7 13] Therefore, we aimed to study factors contributing to the difference in treatment between older and younger patients with IBD and the relation between frailty and therapy goals, from the perspective of both professionals and IBD patients. To our knowledge, this is the first study allowing for perspectives of both professionals and patients and thereby creating a comprehensive conceptualization of the treatment of IBD in an older population.

In both professionals and patients, we noted that therapy goals in older patients differed from those in younger patients. A variation of themes was generated on this topic and is presented in figure 1. First, a lot of professionals mentioned to aim more for clinical remission in older patients as compared to younger patients and put lower priority on endoscopic remission. Although older patients themselves were also focussed on clinical remission, a lot of them valued confirmation of remission by objective markers as a reassurance. Second, we noted a discrepancy regarding surgery. Some professionals stated that they opt for surgery earlier in the treatment course of older patients, while older patients themselves strived towards postponing or preventing surgery and an ostomy. A couple of patients explained that they believed to be too old for surgery and were afraid to become dependent of caretakers or nursing aid after surgery. Third, in professionals, we found diverging opinions on the use of corticosteroids in older patients with IBD. Some stated to allow low dose maintenance therapy in older patients, while others were reluctant to even prescribe them short courses of corticosteroids. These views were in contrast with those of patients, who were quite uniform in preferring to avoid corticosteroids. Patients explained that this was mainly based on their earlier, negative, experiences with corticosteroids. This finding is in line with a study by Asl Baakhtari et al., who investigated factors making IBD patients less willing to take corticosteroids.[23]

Furthermore, we found a lot of considerations in professionals regarding reticence or preferences in prescribing IBD medications in older patients, as depicted in Table 2. Interestingly, little to no reticence with regards to prescribing ustekinumab or vedolizumab in older patients was present. This finding is in agreement with the results from a case-based survey which found that vedolizumab was the preferred first-line agent in the treatment of older patients with steroid dependent moderate-to-severe ulcerative colitis.[24]

Both the above mentioned differences in therapy goals, and the experienced reticence in prescribing IBD medications are factors contributing to the use of different treatment regimens in older versus younger patients.

Some professionals said to account for frailty, but none of the professionals assessed frailty systematically. At the same time, professionals reported that presence of aspects of frailty influences therapy goals and treatment modalities. Professionals said to prioritize functional related goals such as maintaining self-dependence and mobility in older patients with a low level of dependence or impaired cognition. In older patients with aspects of frailty, some professionals put higher priority on corticosteroid free remission and others lower priority as compared to older patients without aspects of frailty. Some said to aim more for the prevention of surgery, while others said that in older patients with frailty, they would opt earlier for an ostomy. The fact that frailty status influenced therapy goals and treatment was in line with considerations provided by patients, as patients with frailty more often gave priority to goals related to frailty, which was also found in younger patients who considered themselves frail. This could suggest that frailty status is more important than age in treatment of IBD.

Both professionals and patients emphasized that clinical remission remained important, independent of non-IBD characteristics. Professionals because this is the goal they can influence the most, and patients because a decrease of complaints automatically leads towards an increase in independence, especially regarding decrease of stool incontinence.

Many different aspects of frailty were identified, thereby illustrating that frailty is a heterogenous concept. It was remarkable to see that a lot of patients mentioned disease related aspects, such as the presence of a flare-up or incontinence. This underlines the importance of IBD symptom control in older and frail patients with IBD. Frailty is a concept best measured by performing validated screening questionnaires[25 26] or a complete geriatric assessment.[6] The lack of implementation of frailty measurements in current daily practice is illustrated by the ways frailty is currently measured. Indeed, current studies on frailty in IBD retrospectively assess frailty using ICD codes and not by clinically applicable measurements.[15 27-29] Therefore, the gap between scientific evidence and daily practice is still present. In older patients who are candidates for intensive treatments such as chemotherapy or major surgery, implementation of a routine clinical care pathway provides the opportunity to study associations between characteristics of frailty and treatment outcomes.[30] In older patients with IBD, applying such standardized frailty screening prior to start therapy could also guide decision making and support individualized treatment.

A couple of qualitative studies on perspectives from patients on IBD treatment have been performed,[31-33] and also in other auto-immune diseases.[34 35] This study is however the first to investigate the opinion of both gastroenterologists and older patients on IBD treatment and the concept of frailty. Involving older patients with multiple conditions or frailty in the decision-making process could be challenging because of the potential for competing

outcomes.[36] Nevertheless, Fried et al. found that it was feasible for older patients to prioritize preferences in health outcomes by asking older patients to rank outcomes on a visual analogue scale.[37] The resulting conceptualization of our study therefore delivers important lines of approach for further research and treatment of older patients with IBD. By using semi-structured interviews, open questions allowed in-depth exploration while use of cards yielded additional information and considerations. A couple of studies have been published on the association between frailty and readmissions, infections and mortality.[27-29] In this study, we explored current modalities of frailty measurements and what both professionals and patients consider to be aspects of frailty.

This study also has some weaknesses. All participating patients were under treatment in an academic hospital and could therefore have a more severe IBD history. However, this was minimized by applying purposive sampling and thereby reaching maximum variation. Besides, both professionals and patients could have given socially acceptable answers during interviews. This response bias was minimized by the fact that the interviews were conducted by medical students who had no prior relation with all participants, and participants were not informed on the questionnaires beforehand.

CONCLUSION

Many therapy goals differed between older and younger patients, in both professionals and patients. Professionals did not assess frailty systematically, yet aspects of frailty influenced therapy goals. We believe that the variation in professionals' therapy goals found in this study reflects the lack of evidence on most effective treatment strategies in this heterogenous population. Our results further underline the need for a systematic assessment of frailty of individual patients and collection of evidence on optimal treatment of frail patients.

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