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ORIGINAL RESEARCH

On the Interdisciplinary Treatment and Management of Patients with Immune-Mediated Inflammatory Diseases. A Study on Patients' Personal Experiences and Perspectives

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Purpose: Immune-mediated inflammatory diseases (eg, axial spondylitis, psoriasis, psoriatic arthritis, Crohn's disease, ulcerative colitis, and hidradenitis suppurativa) are common diseases that exert an extensive effect on the health-related quality of life, particularly when multiple concomitant conditions are present. Previous reports indicate that the traditional siloed approach to care can lead to a lack of patient centricity and inefficient disease management. In this article, we aimed to evaluate an interdisciplinary program for the treatment of immune-mediated inflammatory diseases compared to routine clinical practice.

Patients and Methods: This was a mixed-method study, combining qualitative and quantitative data. Patients with co-occurrence of ≥2 immune-mediated inflammatory diseases treated in an interdisciplinary clinic (n = 48) or traditional usual care (n = 17) answered open-ended questions about their care experiences. Two independent coders blinded to patients' treatment group coded three aspects of the narratives provided by the patients' responses: *Themes, Emotional valence*, and *Personal growth (ie, redemption)*. Themes were analyzed descriptively to explore possible differences between patients assigned to the interdisciplinary clinic and patients assigned to the usual care setting. Group differences in patients' emotional experiences were assessed, and we examined potential group differences in positive personal growth.

Results: Our findings indicate that an interdisciplinary combined clinic approach provides benefits for patients with multiple inflammatory diseases towards the usual setup. Patients experienced benefits on a number of specific quality-of-life themes including acceptance, optimism, disease understanding, personal growth, and better disease control. The narratives of the patients in the interdisciplinary group were significantly more emotionally positive and included more positive personal growth compared to the usual care group.

Conclusion: The findings indicate a patient-reported benefit, especially from the holistic approach and cross-specialty combined consultations in an interdisciplinary clinic compared to usual specialized healthcare, which was underscored by narratives highlighting an overall improved quality of life.

Keywords: patient-centered healthcare, interdisciplinary care, psoriasis, psoriatic arthritis, axial spondylitis, inflammatory bowel disease, hidradenitis suppurativa

Introduction

The immune-mediated inflammatory diseases (IMIDs) are a group of chronic conditions that involve dysregulation of the immune system and cause inflammation in different organs. IMIDs encompass a broad range of diseases, including axial

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spondylitis, psoriasis, psoriatic arthritis, Crohn's disease, ulcerative colitis, and hidradenitis suppurativa. Such conditions affect up to approximately 7% of the Western population.[1]

IMIDs, although not generally regarded as life-threatening illnesses, can cause substantial repercussions for patients, their relatives, and society as a whole, especially when patients have several concomitant conditions. These conditions can significantly affect the health-related quality of life (HRQoL) of patients and their family members, resulting in a significant impact on their lives. Patients with IMIDs may experience a number of disease-specific symptoms such as chronic pain, fatigue, physical limitations, itch, and reduced mobility, leading directly to impairment of HRQoL.[2–4] Moreover, IMIDs can cause depression, anxiety, and social isolation, further exacerbating the negative impact on HRQoL.[5–7]

IMIDs may also have a significant socioeconomic impact: Patients with IMIDs often require frequent medical appointments, medications, specialized testing, and sometimes hospitalization, leading to increased healthcare utilization and costs. Moreover, IMIDs can cause disability and unemployment, leading to decreased productivity and economic losses.[8–10]

With the prevalence of IMIDs increasing and more patients suffering from multiple concomitant conditions, society is increasingly recognizing the need for a sense of urgency and ambitious approaches to address the wide-ranging consequences of these specific diseases.

As many IMIDs share common pathogenic pathways, individuals may suffer from more than one concurrent condition, and certain comorbidities may be shared across diseases.[11] Managing multiple conditions in patients with IMIDs can be complicated, resulting in further physical, psychological, and social challenges. Previous reports indicate that a siloed approach to the care of patients with IMID can lead to a lack of patient centricity and inefficient disease management.[12,13] Breaking down such silos through interdisciplinary patient management and allowing the patient to visit one, joined-up center to manage a potential range of immune-mediated conditions and their comorbidities has the potential to improve patient care.[14,15] Several studies advocate for combined clinical approaches to address the high burden of chronic diseases and to assist patients with greater self-management.[16] However, so far only preliminary investigations have been conducted on the advantages of novel interdisciplinary clinics over traditional therapeutic approaches.[17–19]

One way to investigate the impact of an interdisciplinary approach on patients' health, is to examine their personal experiences and perspectives on the treatment received. Patient experiences of clinical management are associated with several treatment outcomes. (Doyle et al BMJ Open 2013)[20] emphasize that apart from affecting clinical effectiveness, patient safety and compliance, positive healthcare experiences have a favorable influence on patients' mental health and psychological well-being. Thus, patient experience should be considered a role of evidence in healthcare decision-making.[21] Specifically, Rand et al argue that while studies assessing patient outcomes are typically focused on clinical, epidemiological and economic aspects, there is an overall lack of studies focusing on patients' experiences of their conditions, needs and treatment. Hence, the overall effect of the treatment on patients' lives can only be properly supported by evidence generated from patients' personal experiences of the treatment and the potential progress of their condition in their everyday lives.[21]

One way to assess patients' experiences of healthcare management is simply to ask them open-ended questions about the course of disease and their personal perspectives on treatment outcomes.[21] Research based on personal recollections of past experiences is considered a valid measure to capture detailed perspectives and responses.[22] Within this methodology, qualitative data based on personal narratives are typically transformed into quantitative data through standardized coding systems. For instance, patients' narratives can be coded with regard to narrative themes, the content centered around emotional experiences and possible personal development and growth.[23] In the psychological literature, this is often referred to as the "emotional valence" (ie, emotional experience) of the narrative and as a potential "redemption" (ie, personal, positive growth) expressed in the narrative. Thus, an overall positive emotional valence typically reflects positive experiences, and a narrative which includes redemptive content indicates that the person has gone through a period of personal growth in a positive direction.[24,25]

In this article, we used the above outlined semiquantitative approach to assess patients' experiences of treatment in an interdisciplinary combined clinic vs in usual care treatment by asking the patients open-ended questions about treatment experiences and the potential personal impact.

Materials and Methods

Study Design and Participants

This was a mixed-methods study where we combined qualitative and quantitative data. The design is based on specific methods used within research on narratives on recollections of personal experiences, where the information obtained from participants' narratives is typically transformed through standardized coding systems.[26–29] This study was part of a larger project based on a randomised, usual care controlled, parallel-group pragmatic clinical trial).[15] During a specific time period within the course of the study, participants were consecutively invited to take part in the substudy at the last clinical visit of the trial which forms the basis of this article.

The main trial enrolled participants with co-occurrence of at least two IMIDs who were randomly assigned in a 2:1 ratio to either treatment in the interdisciplinary combined clinic or usual care. The study consisted of a 6-month active intervention period. The participants were enrolled in the qualitative substudy after the 6-month active intervention period where they were asked to complete a survey with open-ended questions, addressing their personal experiences of treatment and potential ensuing personal development.

Eligibility criteria were as follows: Written informed consent obtained from the participant prior to randomization, age 18 and above, diagnosis of at least two IMIDs or diagnosis of one IMID and strong clinical suspicion of another IMID. Eligible IMIDs were psoriasis, psoriatic arthritis (peripheral and/or axial), axial spondylitis, ulcerative colitis, Crohn's disease, and hidradenitis suppurativa. Non-Danish speaking patients and patients not expected to be able to comply with the study protocol were excluded.

Ethical Considerations

The study complies with the Declaration of Helsinki. Ethical approval was established from the Central Denmark Region Ethical Committee (approval no. 1-10-72-176-19). All participants in the study received verbal and written information on the aim of the study as well as the way in which their narratives would be treated confidentially. The participants informed consent included publication of anonymized responses. The participant information was provided in an undisturbed room. The patient was offered the possibility of bringing a lay representative, and also an additional clarifying appointment was offered. If needed, the patient could ask questions and the written information could be explained further. Moreover, the patient was offered time for reflection to decide whether they wished to participate in the study. The amount of time allotted to the process of consent was individual and was decided at the subject's discretion. A 24-hour delay was suggested if needed. If the individual was uncomfortable about participating in the study, they were instructed to take the written material home for further review and consideration before deciding whether or not to participate in the study. This allowed them the possibility to discuss their participation with a third party. Verbal and written informed consent was obtained from all participants. Participation in the study required that the patient signed the statement of consent.

Intervention

Full details on the intervention have been previously published.[15] In brief, the intervention in the trial consists of the combined efforts of the interdisciplinary team in the combined clinic arm. The intervention lies in the interdisciplinary organization of workup, treatment, and care for patients with complex IMIDs. The interdisciplinary team consists of dermatologists, gastroenterologists, rheumatologists, nurses, psychologists, dieticians, social workers, secretaries and collaborating physiotherapists. The intervention involves cross-disciplinary collaboration, including the coordination of treatment plans through structured physical consultations with relevant healthcare professionals. Goal-based care is organized by care coordinators, with additional care workers involved based on the individual needs and comorbidities of each specific patient.

Participants randomised to the usual care control arm were treated by the usual health-care professionals not otherwise involved in the trial with no set protocol and no restrictions on patient care. Participants were treated according to treatment guidelines and usual standard-of-care.

Questionnaire Addressing Patients' Experiences

The patients were asked open-ended questions regarding their experiences of the treatment received at the clinics they attended. The written responses were collected through SurveyXact and accessed through a link sent by e-mail. Specifically, the patients were asked to provide a description of their experiences of the treatment and what they felt that they had achieved as a result of the course of treatment. Moreover, they were asked to elaborate on if and how they experienced the treatment course differently compared to previous potential treatments and about the personal experienced value of being treated by different health professionals. The written answers were subsequently coded.

Coding of Patients' Written Narratives

Qualitative data based on personal narratives derived from open-ended questions are a standard method within research on personal recollections which is used to better understand individuals and their experiences. The information obtained from these brief yet rich narratives is typically transformed through standardized coding systems to help us to better understand how the structure and content of personal experiences may be altered during, for instance, illness, life-events, psychopathology, etc.[26,28,30,31]

Two independent coders (coder A and B) blinded to patients' treatment group coded three aspects of the narratives provided by the patients' responses; (1) *Themes*: The two coders coded themes based on a list of pre-defined themes (n = 19) which had been identified by a third independent coder reading carefully through all the responses. Subsequently, both coders were asked to read through all the narratives and to double-check if any potential themes were missing from the coding-list. Followingly, coder A and B coded 20% of the narratives which were used for interrater agreement analyses. The interrater agreement was high, 81.8%, $\kappa = 0.853$. Disagreements between coder A and coder B were solved by consensus. Finally, coder A coded the remaining 80% of the narratives. Coder A's codings were used for the analyses. (2) *Emotional valence*: The emotional valence of each patient's narrative was coded with regard to the level of positive emotions and/or evaluations on a 3-point scale with 0 = no positive emotions or evaluations, 1 = some positive emotions or evaluations, 2 = many and overweight of positive emotions or evaluations (Thomsen and Vedel).[24] After training, coder A and B coded all narratives. Interrater agreement was high, 91.4%, $\kappa = 0.854$. The coding used for the analyses was the mean scores calculated from both raters' coding. (3) *Personal growth (ie, redemption)* was coded as to whether or not the content of the narrative indicated that the patient had experienced a positive personal development ("yes" vs "no") as a consequence of being assigned to one of the treatments.[25] First coder A and B coded 20% of the material used for interrater agreement analyses. The interrater agreement was high, 90.5%, $\kappa = 0.806$. Disagreements were solved by discussions. Finally, coder B coded the remaining 80% of the narratives. Coder B's codings were used for the final analyses.

Data Analysis

Patients' written experiences were coded due to themes, emotional valence and personal growth which were subsequently analyzed to assess potential differences between treatment groups. Themes were descriptively analyzed to explore possible differences in the experiences of care between patients assigned to the interdisciplinary combined clinic and patients assigned to the usual care setting. Subsequently, group differences in patients' emotional experiences were assessed by conducting a Mann–Whitney *U*-test with treatment group as the independent variable and the emotional valence of the respondents' narrative as the dependent variable. Finally, we examined potential group differences in positive personal development by conducting a chi-square test of group (interdisciplinary vs usual) and respondents' perceived positive development and growth (yes vs no).

Results

Recruitment was performed in the period 25-02-2021 to 25-05-2022. In interdisciplinary care, a total of 102 patients were invited to participate, 63 patients initially accepted the invitation, 57 provided input to the study, of whom 11 were excluded due to missing or incomplete responses and 46 patients were included in the final dataset. In usual care, 43 patients were invited to participate in the study, 21 patients accepted the invitation, of whom 4 patients were excluded due to incomplete or missing responses and 17 were included in the study. A study flowchart is shown in Supplemental Figure S1. Baseline

characteristics are shown in Table 1. Patients in the usual care group were older and more often male compared to interdisciplinary care. Other characteristics including prevalence of IMIDs, weight, disease duration, pharmaceutical treatment during the study, and other comorbidities were equally distributed between the groups.

Patients in the interdisciplinary group (n = 46) and patients in the usual care group (n = 17) wrote about their personal experiences of the treatment provided. Overall, the narratives in the interdisciplinary group (M_{words} = 54.2, SD = 93.67) were more comprehensive and elaborative compared to the narratives in the usual care group (M_{words} = 9.95, SD = 17.06), indicating that the patients in the interdisciplinary group possessed more thoughts and reflections on their experiences.

Themes

To Be Seen as "a Whole Human-Being"

In their responses, the patients in the interdisciplinary group stressed the importance of being met as "one whole human being" in the healthcare system (Table 2). Patients reported that being assigned to treatment at the interdisciplinary center gave them a different experience compared to previous treatment in the traditional healthcare system. For instance, a respondent diagnosed with psoriasis, psoriatic arthritis, hidradenitis suppurativa, and ulcerative colitis wrote:

> I finally felt that I was treated as one whole person. I didn't have to categorize my health issues and act as a 'carrier pigeon' between different units. I did not have to tell the same story over and over again, nor did I have to figure out whom to tell what and who could answer a certain question.....The fact that they also offered professional help and knowledge to tackle any derived problems related to the original disease was brilliant. You know, one thing is to have a chronic illness, but it is just

Table 1 Baseline Characteristics

Characteristics	Interdisciplinary Care (n = 46)	Usual Care (n = 17)
Age		
Mean (SD), years	43.2 (14.1)	53.6 (9.5)
Range, years	20–73	24–68
Sex, n (%)		
Female	32 (69.6%)	8 (47.0%)
Male	14 (30.4%)	9 (52.9%)
Weight		
Mean (SD), kg	84.3 (20.4)	87.9 (16.1)
BMI, mean (SD)	28.2 (6.5)	28.4 (5.4)
IMIDs		
Psoriasis, n (%)	35 (76.1%)	11 (64.7%)
PsA, n (%)	27 (58.7%)	9 (52.9%)
AxSpA, n (%)	20 (43.5%)	6 (35.3%)
HS, n (%)	7 (15.2%)	2 (11.8%)
CD, n (%)	13 (28.2%)	7 (41.2%)
UC, n (%)	5 (10.9%)	2 (11.8%)
Duration since first IMID diagnosis		
Mean (SD), years	17.0 (13.7)	20.5 (11.7)
Systemic agent treatment[a], n (%)	20 (43.5%)	9 (53.0%)
Biologic agent treatment[b], n (%)	45 (97.8%)	14 (82.3%)
Charlson comorbidity index		
0–1, n (%)	41 (89.1%)	14 (82.4%)
≥ 2, n (%)	5 (10.9%)	3 (17.6%)

Notes: Data are presented as number (%), unless otherwise specified. Abbreviations: AxSpA, axial spondylitis; BMI, Body Mass Index; CD, Crohn's disease; HS, hidradenitis suppurativa; IMIDs, immune-mediated inflammatory diseases; PsA, psoriatic arthritis; SD, standard deviation; UC, ulcerative colitis. **Abbreviation**: [a]Systemic treatments approved for one or more of the IMIDs. [b]Biologic agents approved for one or more of the IMIDs.

Table 2 Themes

	Interdisciplinary Care	Usual Care
	n = 46	n = 17
Holistic approach: To be seen as "one whole person"	19.1	5.6
Feeling of security	21.3	5.6
Improved quality of life	36.2	–
Feeling of being met with respect and understanding	25.5	5.6
Enhanced knowledge of disease	51.1	16.7
Better accessibility / efficiency	17.0	–
Optimized treatment of disease symptoms	51.1	11.1
Enhanced level of energy / less fatigue	8.5	–
Weight loss	8.5	–
Various health professionals involved	21.3	–
Disease diagnosing	4.3	11.1
Enhanced optimism	14.9	–
Enhanced self-confidence	6.4	–
Follow-up conversations/ tests	2.1	11.1
High level of professional competency	6.4	5.6
Worry about being assigned to previous treatment	4.3	–
[Non-elaborative positive answers] "Only good"	2.1	–
[Non-elaborative neutral answers]	2.1	27.8
Nothing accomplished/ waste of time	–	5.6

Notes: The table displays the percentage of themes presented in each group (interdisciplinary vs usual care) in their answers regarding their experiences of the treatment and their personal treatment outcomes.

> another thing to learn how to live with it. As the disease or one's life situation changes, new problems may arise which can be difficult to deal with without sufficient professional help.

Similarly, a patient diagnosed with psoriasis and psoriatic arthritis described her course of treatment at the interdisciplinary center, stating the following:

> Despite the fact that we have not yet reach the goals on the medical treatment of my disease, the professionals at the center have given me the sense of security because of the holistic and broad professional approach in connection with uncovering and optimizing treatment options. I experienced the treatment plan as much clearer and goal-oriented, as all the professional groups were involved from the beginning and throughout the process. Previously, before becoming a patient in the center, I often experienced that I as a patient had to be some kind of 'information carrier' between the different professional groups. So, at every consultation you felt that you had to start over and running some kind of 'zigzag course' in the treatment plan due to different professionals' preferences.

These patients' experiences are recurring motifs expressed in the interdisciplinary group (see Table 2). Specifically, patients in the interdisciplinary group addressed aspects not only related to their physical health and medical treatment but they also emphasized the importance of the treatment on their psychological wellbeing, such as feelings of security, feelings of being treated with respect, comprehension and acknowledgement, and they reported increased feelings of optimism and self-confidence. On the other hand, patients in the usual care group mainly focused on the medical outcomes of their disease (eg, diagnosing, follow-ups, and professional competency) (see Table 2). For instance, a patient diagnosed with psoriasis and psoriatic arthritis wrote:

> I was diagnosed and got some insight into the extent of my disease.

While another patient with Crohn's disease and hidradenitis suppurativa reported the following:

> Status quo and follow-ups regarding my disease.

Consequently, the patients assigned to the interdisciplinary treatment seem to have experienced positive outcomes on several parameters, including both physical and psychological aspects, and a positive impact on their overall quality of life, whereas the patients in the usual care group primarily emphasized medical related outcomes.

Improvement in Quality of Life

> I've experienced an obvious improvement of my life. The medication has made my disease related condition better, and I've learned how to be more positive oriented towards myself and towards life in general. I've learned how to deal with my anxiety, which have resulted in less disease-related pain and discomfort. I've also lost weight and started to eat healthier.

This patient clearly describes how her life has improved overall after being treated at the interdisciplinary center. This, along with similar descriptions from patients in the interdisciplinary group, emphasizes the importance of considering each patient holistically in healthcare systems, rather than exclusively treating individual disease-related symptoms. Symptom-specific treatment in combination with a holistic focus could even result in less disease-related pain, as psychological factors may boost a positive trajectory. For instance, a patient with psoriasis and psoriatic arthritis described:

> I feel much better, both physically and mentally. I'm just more positive and happy, and I'm more motivated to go for walks and eat healthier. So I'm confident that the results of my blood-test will be fine as well.

Thus, the psychological aspects of treatment outcome are not to be underestimated. However, such aspects can be taken into account and integrated, by providing patients with interdisciplinary healthcare solutions which has been done here.

Emotional Experience

We analyzed the emotional content in the patients' written experiences and assessed differences between the interdisciplinary group and the usual care group. This was done by conducting a Mann–Whitney *U*-test with group as the independent variable, and the emotional content (scale: 0–2) as the dependent variable. The results showed that the emotional experience in the interdisciplinary group (*Mean Rank* = 38.90.) was significantly more positive compared to the usual care group (*Mean Rank* = 16.14), $Z = -4.765$, $p < 0.001$. These findings are further illustrated in Figure 1.

The emotional valence can be further illustrated by the patients' narratives. For instance, a patient with psoriasis, psoriatic arthritis, and axial spondylitis and rated as "very positive" wrote:

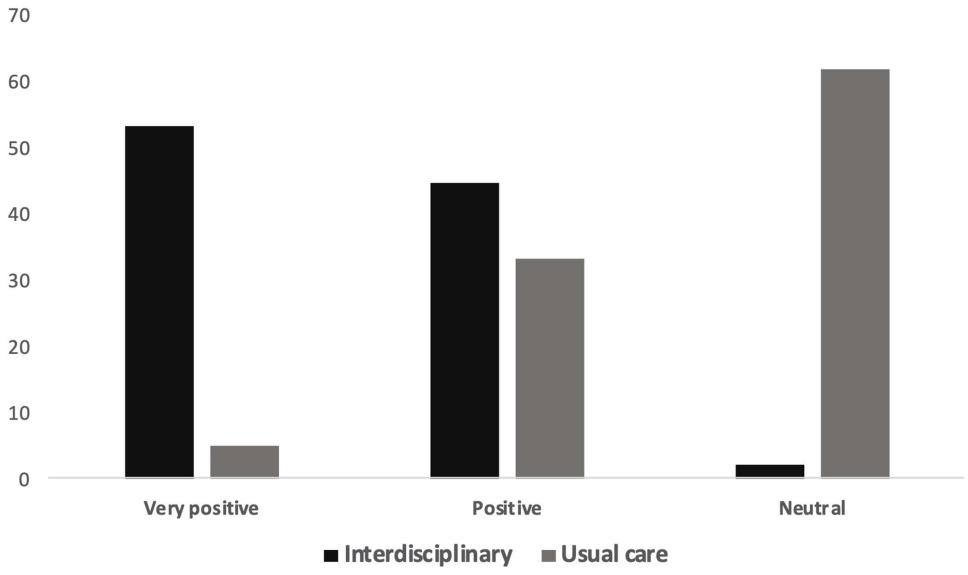

Figure 1 Emotional tone.
Notes: The figure illustrates the percentage of participants who provided responses including very positive vs positive vs neutral treatment experiences rated on the Emotional Tone scale.

> A feeling of being understood. Advice and guidance to help me manage my everyday life. Coherent treatment, which was meaningful in the sense as there was a broader focus on all aspects/challenges who may rise as the result of a chronic disease (eg, social, mental, level of energy, and so on). It was a caring environment.

When asked to describe their current treatment compared to potential previous treatment, some patients in the interdisciplinary group did express concerns about being assigned back to usual care treatment (4.3%). For instance, a patient diagnosed with psoriasis, psoriatic arthritis, and hidradenitis suppurativa wrote:

> I worry that I'll experience a relapse when I go back to the usual care treatment, because I know that there is just not the same amount of time for each patient as I've experienced here.

This illustrates a potential concern with intensified interdisciplinary care as it may lead to dependence on healthcare professional (HCP)s. When patients receive care from multiple HCPs, they may become reliant on these providers to manage their conditions and make healthcare decisions for them. Also, the quote indicate that intensified interdisciplinary care may ultimately increase patient worries. Not because the interdisciplinary approach adds to the complexity of the treatment, but because patients worry about going back to coordinating their care across multiple HCPs, managing complex treatment plans, and ensuring that all providers are aware of their medical history and current conditions. However, most patients in the interdisciplinary group had a positive impact on the physical and mental well-being. Along these lines, several patients reported improvements in their ability to manage their conditions on a daily basis, as well as an increased understanding of the potential comorbidities associated with their diseases.

Personal Growth

As should already be evident from the examples of patients' responses provided above, a consistent pattern in the interdisciplinary group is the experience of both physical and psychological improvement. Since improvement in overall mental health is closely linked to positive personal development and growth (ie, redemption),[23,24] we analyzed if these patterns were also different with regard to treatment group. Thus, we conducted a chi-square test between group (interdisciplinary vs usual care) and personal positive growth rated as redemption ("yes" vs "no") which showed a significant difference between groups, $\chi(1) = 21.224$, $p < 0.001$. Figure 2 shows the percentage of patients in each group who provided a narrative indicating that they had gone through a positive, personal development during treatment.

As can be seen in Figure 2, positive development and growth were especially evident in the interdisciplinary group. This finding corresponds to many of the themes prevalent in the interdisciplinary patient's narratives (see Table 2). The

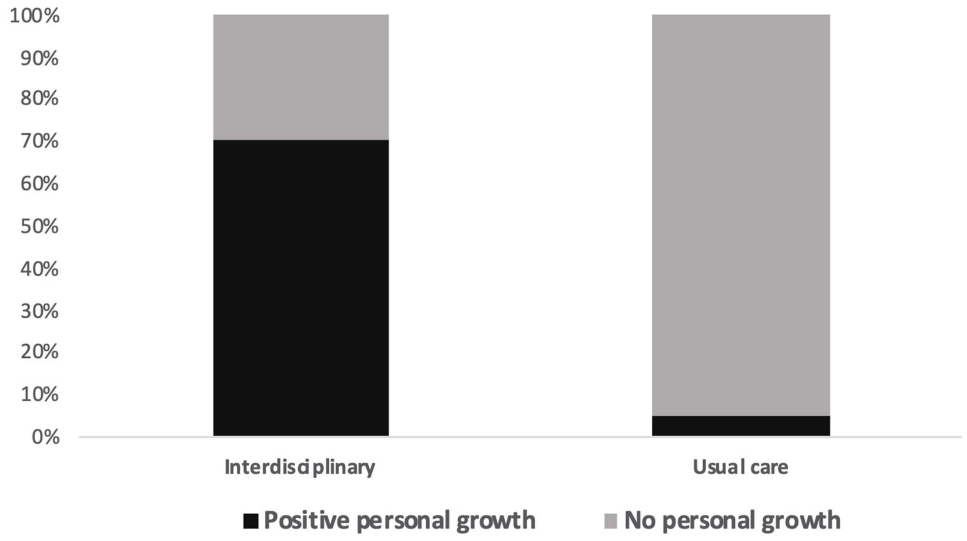

Figure 2 Redemption.
Notes: The figure illustrates the percentage of participants who provided narratives with aspects of positive personal growth (ie, redemption) in the interdisciplinary group vs in the usual care group.

following example from a patient diagnosed with psoriasis, hidradenitis suppurativa, and ulcerative colitis illustrates how her quality of life in general has improved since she started treatment at the interdisciplinary center:

> I cannot only briefly describe what the course of treatment at the interdisciplinary clinic has meant to me and my life in general. Since I started at the clinic, my life has improved in so many ways – both physically and mentally. I've lost 10 kilos, which of course has enhanced my physical capabilities….

Overall, this patient's focus is not on the medical treatment as such, but rather on the personal development she has experienced as the result of an interdisciplinary approach. The same patient further underscores the crucial importance of the interdisciplinary setting, by finishing her narrative with:

> …they saw the WHOLE ME at the very same visits. That made me feel very secure.

These findings are corroborated by several patients reporting increased disease understanding and feeling more empowered to manage their condition. For instance, one patient diagnosed with psoriasis and psoriatic arthritis wrote:

> An experience of improved understanding of my diseases. Advices and guidance which helped me overcome and manage my everyday life.

In line hereto, another patient suffering from psoriasis with palmoplantar pustulosis and psoriatic arthritis reported:

> I have gained a better understanding of my disease, which makes it easier to live with it.
>
> Moreover, I have gained a greater insight into how much I can actually influence my state of health myself.

Discussion

This study investigated patient-perceived benefits and disadvantages with an interdisciplinary-combined clinic setup versus the traditional specialty-based structure of the healthcare system. The data suggests that patients from the interdisciplinary clinic setup may experience notable impacts on various health-related quality of life aspects. Additionally, there seems to be indication of positive personal growth resulting from the 6-month treatment course in the interdisciplinary center.

Importantly, the data suggest that the differences in emotional tone, redemption, and other aspects of HRQoL are only partially attributable to a sense of better disease control in the interdisciplinary treatment group. Although optimized disease control is mentioned by the patients, it is evident from the data that the main focus of the patients lies on the individualized, holistic and comprehensive approach.

Overall, the interdisciplinary approach to treatment appears from the patient´s statement to be a possible way to improve the quality of life for patients with chronic inflammatory diseases. By providing patients with the tools and knowledge they need to manage their conditions, HCPs can potentially help them to achieve greater health literacy and a sense of control over their health outcomes. Contrasting to this, the main focus in the usual care group patients lies on specific disease or medical therapy-related issues. This implies that the interdisciplinary holistic approach may induce a synergistic effect resulting in qualitative improvements for patients. This may be true even in the cases where optimal disease control was not achieved due to, eg, therapeutic failure of a drug.

As indicated in some patient narratives, there is a potential risk that intensified interdisciplinary care for some may lead to dependence on healthcare providers and ultimately increase patient worries upon returning to the traditional siloed healthcare setup. Previous studies have indicated that multidisciplinary care may cause increased dependence and less patient empowerment.[32,33] To mitigate these potential downsides, it is important to approach intensified interdisciplinary care with a patient-centered focus, increase disease-understanding and patients' self-efficacy, involve patients in their own care planning and decision-making, and ensure that they have access to the resources and support they need to manage their conditions independently.

By involving patients in the decision-making process and addressing their individual needs and concerns, results from the present study illustrates that interdisciplinary approach may help patients feel more heard and validated, potentially

leading to increased emotional well-being and a greater sense of redemption. By taking a more comprehensive approach to care, patients may have experienced a greater sense of control over their disease, leading to increased optimism and a better understanding of their condition – as seen directly from patient quotes, this may be evident even in case of suboptimal disease control.

One of the strengths of the study is the inclusion of a qualitative approach. By using open-ended questions, we were able to gather rich and detailed data on the experiences of patients in the two treatment groups. This allowed for a nuanced understanding of the factors that contributed to the observed differences in emotional tone, redemption, and quality of life outcomes. Furthermore, the study included a multiple disease population and thus the results are relevant for a broader group of patients with IMIDs.

It is important to note that the present study has some limitations. The data represent a subsample from a larger randomized study, but despite this, some imbalances regarding age and sex were seen between the groups. However, other main characteristics were very equally balanced between the groups. Moreover, the response rate, including the completeness of responses to specific questions, may influence the generalizability of the findings. Blinding is a potential limitation. Coders might have discerned participants' group allocation or care type, introducing potential bias affecting outcome interpretation. However, as all patients were treated by qualified HCPs in both groups, such distinctions are not always evident. It is important to note that participants may not fully represent the broader population. As a subset in a clinical study, findings may not generalize to those not in such a study, impacting result applicability. Nevertheless, it is noteworthy that the overarching trial is designed as a pragmatic clinical trial with minimal eligibility criteria. The primary focus is on structuring data collection related to the restructuring of consultations, potentially mitigating the impact on generalizability.

Despite these limitations, the study's findings generate important hypotheses for healthcare delivery. The results suggest that a more holistic approach to care, which incorporates both medical and psychosocial interventions, may lead to better outcomes. This approach may be particularly effective for patients with complex disease presentations involving multiple chronic conditions and comorbidities.

Future research in this area should investigate the cost-benefit of intensified interdisciplinary services for patients with chronic multi-morbidity. We hypothesize that although these services may be associated with slightly higher short-term costs, they may result in improved patient outcomes and increased self-efficacy over the long term, which could ultimately lead to cost savings. Further research is needed to determine the extent to which these benefits outweigh the initial costs of implementing intensified interdisciplinary care for this patient population.

Conclusion

In conclusion, our findings indicate that an interdisciplinary combined clinic approach may provide benefits for patients with multiple IMIDs towards the usual medical specialty-divided traditional setup. Patients report experienced benefits on a number of specific quality-of-life themes including acceptance, optimism, disease understanding and personal growth. Although no final conclusion on causality can be drawn, the findings indicate that especially the holistic approach of the interdisciplinary clinic and the cross-specialty combined consultations with more than one HCP at the same consultation yielded specific benefits. Awareness towards balancing the psychosocial support and increasing patients' self-efficacy in order to not create dependence towards HCPs is warranted.

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