



# Living with Chronic Pain During the COVID-19 Pandemic: A Qualitative Analysis

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**Purpose:** COVID-19 pandemic containment measures have led to changes in various areas of life, including restrictions on health care. Patients with chronic pain may have faced an increased burden during pandemic and the resources of this vulnerable population are unknown. Therefore, a qualitative study was conducted to understand how people with chronic pain have experienced the course of the pandemic.

**Patients and Methods:** Twenty semi-structured telephone interviews were conducted six months after the initial lockdown in Germany. The participants were patients with chronic pain who exhibited varying changes in their pain during the first German lockdown, recruited from a German outpatient pain clinic at a Department of Anesthesiology and Intensive Care. The semi-structured interview guidelines were designed to explore how patients with chronic pain experienced their pain during the pandemic, how they coped, and how they experienced pain management during this time. The interview recordings were transcribed verbatim and coded using the qualitative content analysis method.

**Results:** Four themes emerged from the results: differential impact on pain experience, difficulty coping with pain, supportive pain management, and endurance.

**Conclusion:** During this uncertain time, it was particularly important to maintain pain treatment in order to establish a sense of safety and stability. This underscores the special role of maintaining therapeutic contact during a pandemic and the potentially special role of telemedicine.

**Keywords:** COVID-19 pandemic, telemedicine, mental distress, coping, chronic pain

## Introduction

The COVID-19 pandemic was a challenge for people worldwide, and it had a specific impact on patients with pain disorders. Chronic pain is often associated with psychosocial factors.<sup>1</sup> Therefore, it can be assumed that the impact of the COVID-19 pandemic on daily life, pain treatment and mental health influenced patients' pain experience in many ways.<sup>2,3</sup>

Chronic pain disorders have an estimated prevalence of 17% in Germany and affects both younger and older people, the number of affected people increasing with age.<sup>4</sup> Furthermore, pain is the most common condition in the world and the one that limits people most severely in the long term, placing a significant burden on society and the healthcare system.<sup>5</sup> Pain disorders are often associated with other chronic somatic and psychological diseases.<sup>4,6,7</sup> Due to their older age and concomitant somatic diseases, many pain patients likely belong to the group at risk for severe COVID-19.<sup>8</sup> Therefore, it is of interest to explore the impact of the COVID-19 pandemic on the mental and physical well-being of pain patients.

The COVID-19 pandemic has significantly restricted access to health care for pain patients in Germany<sup>9</sup> and worldwide.<sup>10,11</sup> Thus, treatment is increasingly focused on telemedicine.<sup>12</sup>

In Germany, patients with chronic pain usually receive interdisciplinary multimodal pain therapy. This comprehensive treatment strategy is based on the biopsychosocial pain model and integrates different medical professional groups.<sup>13</sup> The

aim of the interdisciplinary multimodal pain therapy is to improve the functioning of pain patients through pain reduction and the development of a biopsychosocial understanding of the painful condition.

Treatment includes adjusting pain medications, prescribing exercise therapies such as physical therapy and rehabilitation sports, and teaching patients to perform exercises. In addition, patients receive information about the development and maintenance of chronic pain to improve their understanding of the condition. To address the psychosocial aspects of the pain condition, relaxation methods and psychotherapy are offered. Patients are also referred to self-help groups. Patients with severe courses for which outpatient treatment is not sufficient receive referrals for interdisciplinary multimodal pain therapy in an inpatient setting. Traditionally, pain treatment was provided only in direct contacts with patients as appointments in outpatient service units, telemedicine was used very rarely. It was very likely that COVID-19 containment measures have had an impact on these elements of treatment.

Existing research concerning the impact of the COVID-19 pandemic on pain patients has consisted mainly of quantitative studies.<sup>14–20</sup> To date, only a few qualitative studies have examined the experiences of pain patients during the COVID-19 pandemic.<sup>21,22</sup> However, Teti et al emphasized that qualitative analyses add scientific value in uncertain situations caused by a pandemic.<sup>23</sup> Qualitative studies can complement quantitative pain research by providing a deeper insight into the perceptions and behaviors of pain patients during the COVID-19 pandemic. Therefore, a qualitative study was conducted to explore how the situation affects their physical and mental well-being, how they have experienced pain treatment during the pandemic, and how they are coping with the pandemic situation.

## Materials and Methods

### Study Design

Semi-structured interviews were developed and conducted over the phone to ensure safety during the pandemic. All patients were asked the same main questions, although the order of the questions was flexible so that the interviewer could probe deeper into interesting content. Following the interview, a questionnaire was used to collect demographic information from the patients. To measure educational level, each patient's German educational level was converted to the International Standard Classification of Education (ISCED-2011).<sup>24</sup> The research team was interdisciplinary so that multiple perspectives would be represented. The team consisted of senior physicians and psychologists, each of whom had many years of experience treating pain patients.

The interviews were conducted by the first author (AB). She is a clinical psychologist and behavioral therapist and has been working with pain patients for several years. Since the interviewer was experiencing the pandemic situation just as the interviewees were, she has made her own assumptions conscious—as far as possible—and reflected on the data collection itself and in exchanges with other researchers to communicate in an unaffected manner during the interview.

This study was approved by the Institutional Review Board of Charité – Universitätsmedizin Berlin [EA4/134/20] and registered [Charité registry ([www.charite.de/en/research/clinical\\_studies\\_of\\_charite/ID:40000292](http://www.charite.de/en/research/clinical_studies_of_charite/ID:40000292)); DRKS ([www.drks.de](http://www.drks.de)) ID: DRKS00025525]. All patients provided written informed consent for study participation, which included publication of anonymized responses.

### Sample and Data Collection

The patients were recruited in the outpatient clinic for pain at the Department of Anesthesiology and Intensive Care Medicine, Charité Universitätsmedizin, Campus Mitte, Berlin. Adult patients suffering from chronic pain lasting longer than six months<sup>25</sup> were included.

To obtain information-rich material and ensure the validity of the data,<sup>26</sup> patients were purposively selected using a sampling plan according to the maximum variation method.<sup>27</sup> Younger and older patients who showed particularly extreme changes in their pain experience during the first German lockdown from March 2020 to May 2020 were of interest.

Therefore, routine data on one pain experience item derived from the validated German pain questionnaire of the German Pain Society<sup>28</sup> (“How would you rate the average severity of your main pain in the past week?” (scale: 0–10)) before and during the first lockdown were compared for 140 patients by taking the difference between the first value

within the first lockdown and the mean value of the two quarters before the first lockdown. Then, the pain change values were ranked by size, and according to the sampling plan, younger and older patients who showed the most extreme changes or no changes in pain during the first lockdown were selected. Regarding selection by pain change score, those with the highest (“greatest pain exacerbation”) and lowest (“greatest pain relief”) scores and those with a zero score (“no change in pain”) were chosen from the ranked list. Because the median age of the 140 patients was 65 years, patients with an age less than 65 years were classified as “younger”, and those with an age greater than or equal to 65 years were classified as “older”. In line with the sampling plan, participants were selected from six categories (“younger/older” × “no change in pain/pain exacerbation/pain relief”) and distributed as equally as possible.

Twenty telephone interviews were conducted from August 2020 to October 2020 six months after the first lockdown and before the second lockdown in November 2020 was initiated. Data collection was completed in early October with twenty patients to ensure that the interviews were conducted in a similar context with respect to the containment measures. Interviews were recorded on a voice recorder and transcribed verbatim according to a system for simple transcription rules.<sup>29</sup> After each telephone interview, notes were taken on the interview setup, the main themes of the interview and its characteristics to support the subsequent interpretation of the data.

## Analysis

Data analysis was carried out by using qualitative content analysis<sup>30</sup> to conduct a systematic and rule-guided text analysis. This approach involves reducing the meaning of previously selected textual content material to a linguistic short form and categorizing it. The categories were formed deductively on the basis of the guiding questions used in the interview and inductively from the material. For the analyses, the computer program MAXQDA2020 was used.

In the first step, half of the interviews were screened by the first author (AB), and an initial rule-based category system was created. In the second step, the first (AB) and second author (KC) reflected on, tested and modified this system using a sample of four sociodemographically very different patients (old/young, employed/unemployed).<sup>32</sup> Subsequently, all of the material was coded by the first author (AB). The subjectivity of the qualitative analysis was taken into account in the present work. To ensure the quality of the analysis, the data were regularly discussed and reflected on, and the analysis was optimized within the research team.<sup>33</sup>

## Results

### Sample Description

The median interview duration was 41 minutes, among which the shortest lasted 20 minutes and the longest 50 minutes. The sample comprised twenty patients (12 women and 8 men) who had a median age of 57.5 years and had lived with chronic pain for a median of 18.5 years. Seventy percent of the participants suffered from more than one pain disorder, 40% had more than one additional somatic disorder, and 35% had been diagnosed with depression by either a psychiatrist or psychologist before lockdown. [Table 1](#) shows the characteristics of the sample.

### Differential Impact on Pain Experience

The results of the qualitative analysis are visualized in [Figure 1](#). In the center of the figure is the main question of the present work, which is how pain patients experience the COVID-19 pandemic. The middle circle contains the main categories found through qualitative content analysis, and the outer circle contains their related subcategories. Regarding the perceived pain experience during the pandemic, the impact of the pandemic situation was experienced very differently. The effects of the COVID-19 pandemic on pain experience were most perceptible during the initial lockdown when the situation was new, and the containment measures were most strict. Six months after the first lockdown, for most participants, the change in pain had returned to the original perceived pain level.

### Pain Exacerbation

Among the eight patients who reported a pandemic-related increase in pain during the first lockdown, the following pain-increasing factors were found: discontinuation of physiotherapy, reducing physical activity due to restrictions, higher occupational demands and mental distress.

**Table 1** Demographic and Clinical Characteristics of the Sample (N=20)<sup>a</sup>

Variable	N=20 Patients
Female gender	12 (60)
Age in years	57.5 [54.75; 73.25]
Years of pain	18.5 [8; 30]
In a partnership	14 (70)
Living alone	7 (35)
Occupational status	
Employed	10 (50)
Not employed (retired, disabled, unemployed)	10 (50)
Highest level of education	
Secondary education <sup>b</sup>	7 (35)
Postsecondary education <sup>c</sup>	13 (65)
Chronic pain syndromes	
Musculoskeletal pain	13 (65)
Neuropathic pain	12 (60)
Rheumatic disease	7 (35)
Back pain	8 (40)
Abdominal pain	7 (35)
Orofacial pain	1 (5)
Other diseases	
Depression	7 (35)
Cardiovascular disease	10 (50)
Metabolic disease/hormonal disorder	10 (50)
Lung disease	2 (10)
Tumor disease	5 (25)

**Notes:** <sup>a</sup>Data are given as numbers (%) or medians [25–75% quartiles]. <sup>b</sup>ISCED 2011 Levels 4 and 5.<sup>24</sup> <sup>c</sup>ISCED 2011 Levels 6 and 7.<sup>24</sup>

[...] initially everything became impossible overnight. So, no Pilates course, no swimming, no physiotherapy. [...] that was a big problem for me [...] more pain [...] walk even less. [CCP06]

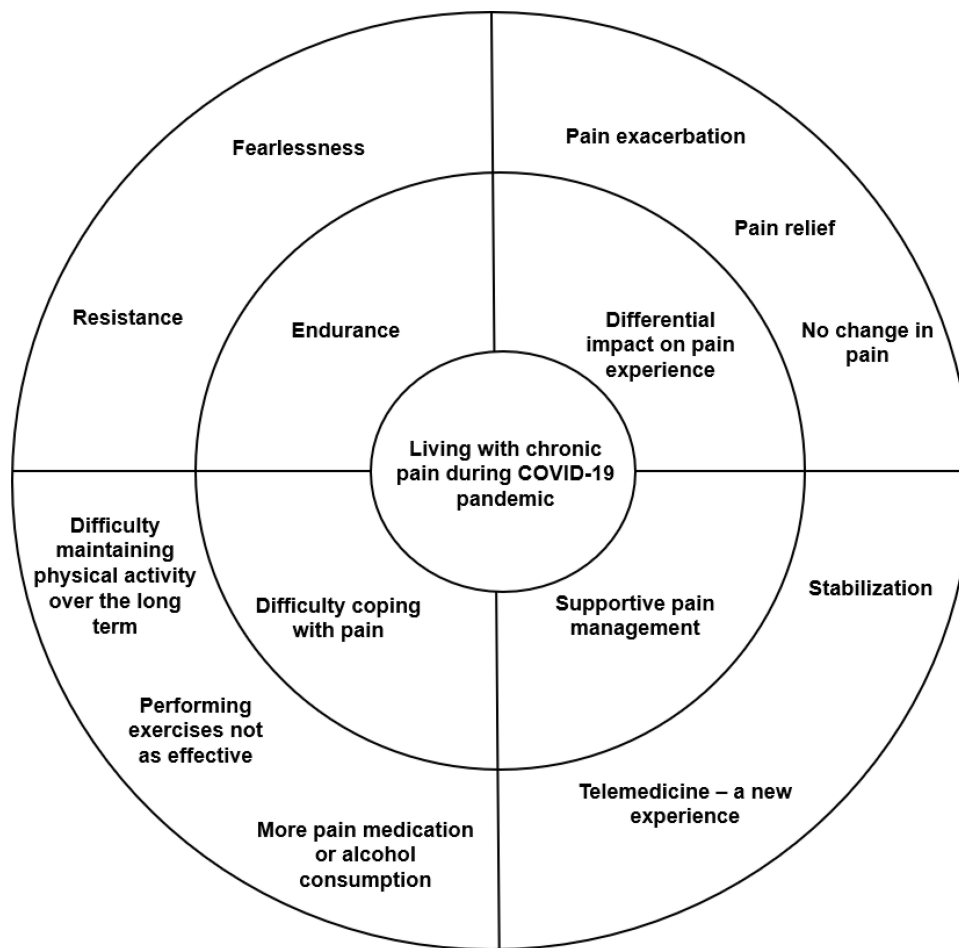
Some working patients reported that a poor ergonomics when working from home initially increased their pain. In addition, some described that their workload increased either because their field of work was more in demand or because there were more staff absences than usual. Pandemic-related mental distress encompassed various factors. Patients felt stressed at the beginning of the pandemic due to uncertainty about the virus and what would happen next.

I had a time of really extreme pain [...] and of course that will also have played a role psychologically. That was also a totally insecure situation. [...] and the demands being made of me, that just exploded and can't continue in the long run. [...] I actually work overtime every day and that's impossible in the long run [...] for me as a patient with chronic pain. [CCP08]

Some patients strongly emphasized how disadvantaged they felt in the pandemic situation due to their illness and were angry about the lack of consideration from others.

I don't go to any public events any more, I just don't do that. Because [...] due to the facial pain [...] I can't even wear a mask. And I'm tired of having to justify it [...] I'm sick and should be shown consideration. But no one does that. All sick people get pigeonholed. [...] My pain is at a really high level [...] which was then of course also potentiated by the psyche. [CCP09]

Most patients missed personal contact with their family, friends and colleagues. Patients reported that social isolation led them to pay more attention to body signals because of fewer opportunities to distract themselves from their pain.



**Figure 1** Summary of findings from the qualitative analysis on the experiences of the COVID-19 pandemic by people with chronic pain disease.

### Pain Relief

While for some working pain patients, working from home has led to pain exacerbation, two patients reported relief and associated pain reduction caused by working from home. They felt less stressed because they spent less time commuting and had more time to rest or more time for family and hobbies.

Physically it was surprisingly good [...] Almost pain-free [...] But there was also just a lot of opportunity to rest. Everyday life was just being at home [...]. Approaching the day in a relaxed way. [...] Just seeing family a lot, which is something you don't always have. [CCP18]

### No Change in Pain

The majority of patients reported experiencing no change in pain due to the pandemic situation. One reason found is that they felt that their pain condition itself or other severe diseases that they had were more serious for them than the pandemic situation. For others, no effects of the pandemic on their everyday life were noticeable, as they already spent much of their time at home or alone because of their pain-related disabilities.

The pandemic itself didn't impact my mental wellbeing at all. My illness is the thing giving me a hard time. And that's something totally unrelated to the pandemic. [CCP07]

## Supportive Pain Management

All patients reported stress related to concerns that their pain management would not continue and that they would not be able to obtain their medication prescriptions (Figure 1).

### Stabilization

Across patients, the continuity of therapy was described as essential. Indeed, whenever this was not provided, they felt threatened. Therapies such as physiotherapy and rehabilitation sports in groups were interrupted for two reasons: they were discontinued by the health care provider or by the patient. Inpatient treatments were discontinued, not offered, or conducted on a reduced schedule. Psychotherapy was also interrupted, and self-help groups did not take place. In some cases, these offerings could be resumed online. All patients wished for a quick resumption of their pain therapy, and six months after the lockdown, even the initially anxious patients had returned to physiotherapy.

[...] of course you are conscious of that fact that when someone touches you, there is a certain residual risk [...] but [...] these are treatments that are important for me. [CCP14]

Aside from treating the pain itself, the driving reason to continue pain treatments at the doctor was the care for and recognition of the patients' pain given by the treatment provider. Doctor visits were sought out to alleviate uncertainty in dealing with the pain and pain-related fears. Some patients have been receiving pain treatment regularly for many years and describe it as an important part of their lives that gives them stability and thus security. Patients seem to be emotionally supported by conversations with practitioners especially during these uncertain times.

I do feel like that [...] pertains to me. These are my assurances. That it all goes well with the pain and it doesn't somehow start all over again. [CCP02]

### Telemedicine – A New Experience

Most patients participated for the first time in a telemedicine physician consultation in the form of a video or telephone call. Younger patients had been in more video consultations than older patients. Patients reported positive and negative aspects of telemedical contact (Figure 1). One advantage was the ability to protect themselves from possible infection on public transport or in the doctor's office. Furthermore, they did not need to make a long journey, which was perceived as a burden due to physical limitations, mostly pain. Two patients were followed in online consultations during their opiate withdrawal treatment and experienced this as a relief.

While experiencing withdrawal, that's obviously a lot easier than having to travel somewhere first. [CCP19]

Most patients saw telemedical treatment as a good alternative "under these circumstances" but preferred personal contact. Patients doubted that they could build trust in the practitioner via telemedicine.

I can just get a much better impression and read on someone if I can see them in person. [CCP16]

In addition, there was a concern that telemedicine would give the practitioner an inadequate clinical impression and lead to an incorrect diagnosis. Moreover, it was not possible for all patients to find a quiet, undisturbed place for telemedical consultations in daily life.

## Difficulty Coping with Pain

Different strategies for dealing with chronic pain during the pandemic were found (Figure 1). The interviewees tried to stay physically active during the lockdown. They went for walks or performed exercises at home. Nevertheless, they found it very difficult to find the motivation to stay active in the long term or did not perceive their performed exercises as effective.

I tried to do more here [...] I used my home exercise machine more ... but precisely the physiotherapy, the manual therapy, that's impossible to do yourself. [CCP06]

Three patients reported that they temporarily took more pain medication or drank more alcohol due to increasing pain-related sleep disturbances.

I noticed after two to three weeks when the lockdown was in place that I had more frequent tension, which then also manifested itself as pain. It was so severe that I then took more painkillers than before, but actually everything ran relatively smoothly in January, February [before pandemic]. [CCP16]

Many patients reported that they looked for alternative activities at home to distract themselves from pain, for example, creative activities or reading. Social relationships were an important factor for well-being and reduced pain during the pandemic; during the first lockdown, these relationships were maintained mainly via telephone or video calls. Some patients, although themselves elderly and seriously ill, offered their help to others who were more in need than the patients themselves.

## Endurance

All patients showed the ability to endure the first six months of the pandemic well despite its challenges. They described themselves as hardened by their pain condition and appeared confident in dealing with the pandemic situation (Figure 1).

## Resistance

Patients reported that they had learned to cope and adapt to difficult situations through their years of pain.

Overall, I managed everything pretty well. [...] My pain disorder has actually given me a lot of practice here. [...] Yes, and all the measures, well I've already been through a process like this before and had to adapt to a difficult situation. And I think that has helped me now [...] during the pandemic. Yes, because it was clear to me, 'This is something you have to get used to', and it's pointless trying to fight it because there's nothing you can do. [CCP02]

Patients emphasized that "everyone is affected" or "everyone is in the same boat". They compared their situation favorably with that of others. All patients saw positive aspects in the situation. Despite suffering from isolation, patients reported an intensification of existing relationships and increased cohesion. Moreover, some patients reflected more on life and learned more about their personal needs.

I've learned to learn from my body. I've had a lot of time to think [...]. That's made me say 'Okay, I'm going to pay more attention to what's good for me and what isn't.' [...] But you probably only need to have these thoughts when you're really at risk and have to rethink everything. [CCP03]

## Fearlessness

Patients did not report fear of contracting SARS-CoV-2 in the context of experiencing stress, even if they were in an at-risk group. Some patients reported that they had initially been more fearful but that this fear had been mitigated over time. Some of them said they felt healthy enough to survive an infection, while others questioned the dangerousness of the virus. Patients with autoimmune diseases or older age reported that before the pandemic, they were already living with the perceived risk of getting seriously ill or dying; therefore, they were no more worried than before.

... due to my underlying disease, even the flu could affect me very badly. So I don't see this as [...] that this is the deadliest illness. [...] for me, it comes down to the same thing. [CCP18]

Since the lockdown, most patients had engaged in regular social contact or attended cultural events. In addition to a low perceived risk, they mentioned that the experiences of social closeness and joy were very important for their well-being.

And yes, it's a bit of a balancing act [...] between what you want to do and what it could mean in terms of risk. [...] It's about fun [...] And also being part of a community. [CCP08]

## Discussion

This qualitative work has shown the different effects of the COVID-19 pandemic on pain patients. Deep insights into the physical, psychological, and social lives of pain patients during the pandemic were gained. The following section discusses how pain patients coped with their pain during the pandemic and the important role of pain management during this time.

### Stress and the Experience of Pain During the COVID-19 Pandemic

The negative influence of the pandemic situation on the pain experience was mainly attributed to lack of physiotherapy, less physical activity, increased occupational demands and more mental distress during the first lockdown.

Stress has long been known to be associated with an increase in pain.<sup>34</sup> The transactional stress model of Lazarus<sup>35</sup> places the individual evaluation process at the center of stress development. Stress thus arises when demands are evaluated as threatening or damaging and exceed the perceived personal resources to overcome them. Stress associated with COVID-19 was attributed to increased pain by respondents, with the threat of the virus playing a more secondary role in stress development. As is also evident from quantitative studies, the stress experienced by pain patients was primarily reported to be related to uncertainty of the situation, concern about not receiving pain treatment, and social isolation.<sup>14–16</sup> As in the study by Smyrnioti et al, the effects of the initial lockdown on social and work life were apparently more severe for pain patients than the pandemic itself.<sup>17</sup>

While some pain patients suffered from the containment measures, the majority did not feel significantly impacted. As the pain patients interviewed here already led socially and professionally restricted lives due to their pain prior to the pandemic, the containment measures were not experienced as particularly impairing. Others described experiencing their pain condition as worse than the pandemic and therefore did not feel severely affected.

Similar results were found by Amja et al<sup>21</sup> in their qualitative study of back pain patients in Québec, observing two groups of pain patients. On the one hand, there were patients whose pain was well managed by regular pain management and social support who experienced strong changes in the pain management framework because of the COVID-19 measures. On the other hand, there were those who did not have many resources for dealing with the pain disorder and were already living more socially isolated lives prior to the pandemic, and therefore experienced little change because of the pandemic. Through the present results and those of Amja et al it is becoming clear that there are pain patients who are exposed to great distress regardless of the pandemic situation. This assumption can also be supported by earlier results of a qualitative study on the quality of life of people with chronic pain disease.<sup>36</sup>

Others even felt that the order to stay at home relieved them physically and psychologically, as they had more time for themselves and could better adapt their day to their physical needs. In their qualitative study, Dassieu et al<sup>22</sup> asked pain patients across Canada how they experienced the COVID-19 pandemic and what challenges they experienced. They also found that pain patients felt relieved by the slowed daily routine during the lockdown. In addition, their pain condition had been more recognized by those around them, as healthy individuals had also experienced similar experiences as pain patients during the initial lockdown due to the restrictions. Dassieu et al clearly state that pain patients are generally overburdened by occupational and social demands in their normal daily lives without pandemic conditions, and that chronic pain disease should be given more social consideration as a disability.

### Coping with the COVID-19 Pandemic

The present study showed that most pain patients were able to recover well from their short-term psychological and physical deterioration during the first lockdown in Germany and points to the importance of pain patients' resources in coping with crises.

It can also be observed in the general population that the initial pandemic-related additional distress has been successfully coped with over time, which can be attributed to good available resources.<sup>37–40</sup> Among the pain patients interviewed in this study, the pain condition itself seems to constitute a resource that could help pain patients to survive the COVID-19 pandemic. This is because years of coping with the pain condition allowed them to develop strengths that could protect them during the pandemic. They had learned through the pain disorder to accept and



adapt to negative experiences that could not be changed.<sup>41</sup> Many of the patients interviewed were also able to perceive positive personal developments despite the difficult situation, which can be described as personal growth in the context of crises.<sup>42</sup> These include an orientation toward one's own strengths and a more intensive appreciation of life and relationships. Nevertheless, a lack of resources also became apparent, especially in the case of pain amplification caused by the pandemic. To reduce their pain, patients need a high level of pain-related self-efficacy expectations, ie, a belief in their own ability to control their pain.<sup>43</sup> Only a few participants succeeded in reducing and containing pain through more physical activity, distraction, and exercise. The others, in line with previous studies, described their difficulties in compensating for the absence of their physical therapy by performing more exercises.<sup>44,45</sup>

Pain management proved to be particularly important in helping patients cope with pain during the COVID-19 pandemic.

## The Meaning and Role of Pain Treatment During the COVID-19 Pandemic

It was found that many of the pain patients had difficulty coping with pain exacerbation and psychological distress without the continuation of pain treatment. Similarly, some quantitative studies<sup>18–20</sup> show an increase in pain intensity and distress in pain patients at the beginning of the pandemic. Complementing these quantitative studies, the present results point to a certain dependence of the patients on their pain treatment and a rather low pain-related expectation of self-efficacy.

The group of pain patients interviewed in the present study had achieved a tolerable and stable level of pain through years of regular pain treatment. This regularity presumably provided the patients with security and gave them a certain stability that had been threatened by the sudden discontinuation of therapies due to the pandemic. Thus, it becomes clear that the promotion of self-management skills should be strongly addressed in pain treatment much more strongly than it currently is. Self-management is an umbrella term that encompasses all the skills a patient needs to control dysfunctional thoughts, feelings, and behaviors and to cope with problems independently.<sup>46</sup> Therefore, the goal of promoting self-management skills in pain therapy is to enable patients to manage their pain nearly independently of external professional help. There is evidence that self-management interventions are effective in improving pain intensity and quality of life.<sup>47,48</sup> Nevertheless, there is also evidence that many pain patients have inadequate self-management skills.<sup>49</sup> Mun et al<sup>20</sup> showed that the pandemic had an effect on the self-management of pain patients. That continuation of previously effective self-management strategies protects against an increase in pain during the first lockdown. It has been shown in many other studies that containment measures, in particular, led to a reduction in the performance of exercise and more rest, which is associated with more pain.<sup>15,16</sup>

For this reason, pain patients should be given more support by their pain practitioners in their autonomy and self-determination in dealing with their pain. Only then will pain patients be better prepared for unexpected life or pain crises.

## Telemedicine in Pain Management

The COVID-19 pandemic has led to a sudden surge in telemedicine treatments.<sup>12</sup> Additionally, the patients interviewed here received telemedicine treatment as part of their pain management for the first time because of the pandemic. In the context of the pandemic, protection against infection with SARS-CoV-2 was seen as an advantage of telemedical treatment. In addition, telemedical contacts offered facilitation in the everyday life of a pain patient. The elimination of travel was perceived as a relief, especially for physically impaired pain patients and particularly during withdrawal treatment.

One of the main reported disadvantages of telemedical treatments was, a lack of trust in physicians and their diagnostics. Whether a trusting doctor–patient relationship can be established via telemedical contact has not been clearly proven.<sup>50</sup> Preliminary research shows that patients perceive empathic interaction with practitioners via video<sup>51,52</sup> depending on the specific telecompetence of the practitioner.<sup>53</sup> Telecompetence encompasses all the skills and abilities that a treating person should possess to be able to establish a relationship with the person being treated, show empathy and promote healing during telemedical contact. Pain patients are especially likely to exhibit insecure attachment behaviors,<sup>54</sup> which may make it more difficult for them to build trust with the physician via telemedicine. Further investigation would be to examine the mediation of trust through telemedicine from the perspective of pain patients and to determine what they expect from the person treating them to develop recommendations.

## Strengths and Limitations

A strength of this qualitative study is the inclusion of a vulnerable, multimorbid group of pain patients in the COVID-19 pandemic with detailed and open exploration of their experiences.<sup>55</sup> Another strength is that participants were interviewed six months after the first lockdown, providing new insights into the course of well-being. However, in retrospective questioning, recall bias may be an issue although patients did not report any memory difficulties.

One limitation is that the first and second authors' treatment of pain patients during the COVID-19 pandemic may have subjectively influenced the results. Nevertheless, this potential source of bias was considered through regular discussions throughout the study process by the interdisciplinary research team to reflect on the data analysis.

The material of the twenty interviews was substantial and sufficient to answer the research question. In qualitative research, a sample size of twenty interviews analyzed with the method of qualitative content analysis is appropriate.<sup>56</sup> One remaining limitation may be the lack of generalizability of the findings due to predetermined selection criteria. However, it should be noted that this qualitative study was not designed to maximize external validity, but instead to obtain a deeper understanding by collecting rich material and identify new perspectives. For this reason, on the one hand, very different patients were purposefully selected to ensure diverse perspectives in the material. On the other hand, a semi-structured interview design was chosen to allow sufficient openness in the interview to obtain substantial information. These two methodological approaches generated valid and high-quality qualitative data. In addition, the selection of patients from one facility providing ongoing treatment during lockdown may not be comparable to that of individuals with chronic pain disorders with interrupted care. Furthermore, Germany has maintained stable medical care during the pandemic, which can be expected to differ from other settings with more limited resources.

## Conclusion

How pain patients experience the COVID-19 pandemic has not been well studied, either quantitatively or qualitatively. This study, through its qualitative design, provides an alternative method for examining the impact of the COVID-19 pandemic on pain patients. Thus, it strengthens and complements the findings of previous quantitative studies on this question. Our findings provide deeper insight into the lived experiences of pain patients during the COVID-19 pandemic and offer new results.

The conversations with the patients interviewed here revealed that they had good resources to cope with the COVID-19 pandemic itself and to cope with even initial pandemic-related distress. The results emphasize that they also gained this resource from their experience of living with a chronic pain condition.

However, it also shows that the changes in pain management and daily life caused by the containment measures were experienced as more severe than the pandemic itself. As a result of the containment measures, the strategies acquired over the years for dealing with the pain condition were disrupted and were related to uncertainty and pain intensification. This also highlights the need for pain patients to be more empowered in their self-management of pain to be better prepared for times of crisis with pain amplification, quite independent of the pandemic. The study shows that the continuation of pain treatment during a pandemic can protect against persistent pain intensification, and telemedicine provides a good opportunity for this. The qualitative results found here offer new approaches that can be examined through further quantitative research.

## Ethical Approval

This study was conducted in accordance with the Declaration of Helsinki.

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## Disclosure

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