

# Digital Consultations During COVID-19: A Multiperspective Mixed-Methods Study in an Integrative Medicine Setting in Switzerland

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## Abstract

**Objective:** We evaluated digital consultations at a University Hospital in Switzerland within an integrative medicine outpatient setting. Patients' and treatment providers' (physicians and therapists) evaluated digital conversation-based consultations as well as the digital delivery of practical exercises.

**Methods:** Digital consultations between March 15, 2020 and April 30, 2020 were identified. Between June and July 2020, patients and treatment providers completed online questionnaires addressing challenges and advantages of their digital consultations. Both groups documented their satisfaction and working alliance (Working Alliance Inventory). In addition, semistructured qualitative interviews with treatment providers were conducted.

**Findings:** A total of 82 online surveys (response rate 47%) about the digital consultations were available for analyses, with 60 patients correctly identifying at least one treatment provider, and 9 interviews were performed. Patients and treatment providers overall evaluated the new setting of digital consultation as feasible and an efficient consultation format. Interestingly, the working alliance was rated as good. Technical problems were mentioned as the main challenge and the delivery of practical exercises in digital consultations was seen more challenging than having digital conversation-based consultations.

**Conclusion:** Digital consultations were established with overall positive evaluations and with a good working alliance between patients and providers. For the delivery of practical exercises it might be required to develop more innovative digital settings to overcome shortcomings of the digital format. Hybrid settings that combine the best of both settings could be a good option for future in postpandemic times.

**Keywords:** integrative medicine, retrospective cohort, outpatient, working alliance, COVID-19, mixed-method, Switzerland

## Background

DIGITAL CONSULTATIONS USING VIDEO have become an important additional consultation format to provide treatment for patients with COVID-19<sup>1</sup> and patients with other health problems during the pandemic.<sup>2</sup> Such services might become a vital part of health care even in postpandemic times, which means that reimbursement, legal, and safety issues will require rethinking of established structures.<sup>3,4</sup>

Patient/provider interaction and communication skills play an important role in integrative medicine (IM).<sup>5,6</sup> Active listening, responding to the emotional state of the patient and addressing relevant concerns of the patient are important pillars of consultations in IM<sup>7</sup> and empathy is important during consultations.<sup>8</sup> The digital delivery mode of consultations in IM may (1) influence the patient/provider interaction and request different communication styles and (2) reduce the available treatment options to those that can

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be delivered digitally. An important challenge might be the working alliance in such consultations, which is essential in nonpharmacological interventions. Working alliance encompass three key elements namely the agreement on the goals of the treatment, and the agreement on the tasks (i.e., how to achieve change in health), and the development of a personal bond between the treatment provider and the patient.<sup>9</sup> So far there is no research about the impact of a digital delivery mode on the working alliance within IM.

Applying digital consultations is possible and easier for some interventions (i.e., conversation-based consultations in Mind–Body Medicine) and more challenging for other domains (i.e., interventions with touch or insertions of needles).<sup>10</sup> Some reports indicate a successful implementation of digital formats of IM for Ayurveda.<sup>11</sup> Apart from these findings, interventions in IM have so far mainly been applied in a face-to-face setting. Throughout the lock down in Switzerland the Institute for Complementary and Integrative Medicine maintained a range of treatments (Traditional Chinese Medicine, Mind–Body Medicine, hypnosis, phytotherapy, and other naturopathic procedures) to ensure a continuous health care provision for patients with severe chronic medical conditions through the use of digital settings.

The aim of this study was to evaluate the digital consultations of a University Hospital outpatient clinic for IM to understand the experiences of patients and treatment providers (physicians and therapists) with these newly developed digital formats. The focus was on advantages and challenges as well as the working alliance.

## Materials and Methods

### Study design

This study included all consecutively treated adult outpatients at the Institute for Complementary and Integrative Medicine of the University Hospital Zurich in Switzerland who received at least one digital consultation between March 15, 2020 and April 30, 2020. A consultation was defined as having a minimum duration of 30 min. The digital consultations were mainly conducted through the Hospital's Skype for Business using video and only very few consultations were using phone. This evaluation of the digital consultations includes all digital consultations within a specific patient–treatment dyad. Patients were excluded if they received only acupuncture treatment or had no email address. If patients indicated in the questionnaire that they had no digital consultation, they were also excluded. All patients provided informed consent. The study is not under the regulation of the Human Research Act (Humanforschungsgesetz of Switzerland), which was confirmed by the Ethics Committee of Zurich (KEK 2020-01306).

### Quantitative data collection

In June and July 2020 patients were invited to complete online questionnaires, implemented in SoSci Survey (first patient in June 8, 2020, last patient out July 21, 2020). Data collection was conducted pseudonymized.

Afterward, the respective treatment provider of each patient filled in the online questionnaire implemented in SoSci Survey

without having any information about the responses of patients (blind evaluation). All treatment providers gave informed consent before filling in the respective questionnaires.

### Sample characteristics

From patients, we assessed the following sociodemographic variables: gender, age, education, and current employment status. Furthermore, we asked for their diagnosis, number of digital and face-to-face consultations, and the conduct of practical exercises during a consultation, as well as the status of their treatment at the institute (completed, ongoing, unclear). Additionally, their digital confidence was assessed with 6 items on a numeric rating scale (NRS) with values ranging from 1 to 5 with higher values indicating more perceived digital confidence. These items covered aspects like confidence in handling electronic devices (“How confident do you generally feel in using digital technologies?”), amount of previous experience with digital communication channels [“How often do you use digital technologies for meetings or consultations (e.g., Skype, Zoom)?”], and frequency of use of digital media for health purposes [“How often do you use digital services (e.g., apps, websites, podcasts) to promote your health?”]. The scale showed an acceptable internal consistency of 0.71 ( $N=58$ ).

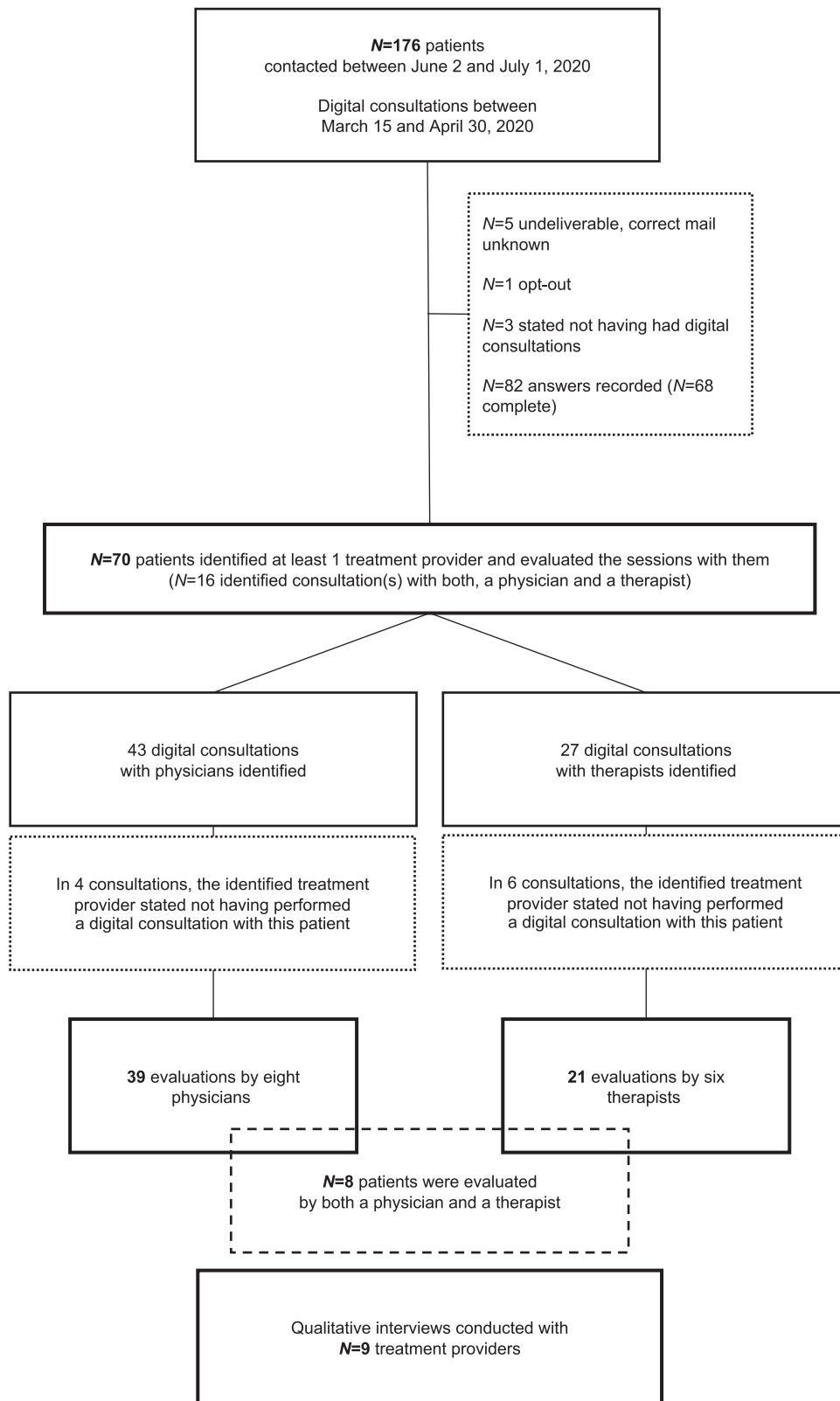
Patients' expectations about the potential benefit of the digital consultations was assessed with the Expectation for Treatment Scale (ETS).<sup>12</sup> The scale consists of 5 items (e.g., “I had expected the treatment will help me to cope with my complaints.”) to be rated on a 4-point scale ranging from 1 to 4 (partially disagree, partially agree, agree, and definitely agree) with a total score ranging from 5 to 20. Cronbach's  $\alpha$  was acceptable based on an internal consistency of 0.77 ( $N=67$ ).

### Outcomes

We assessed a variety of evaluation outcomes in our survey for all participants: challenges and advantages due to digital conduction of the consultations, satisfaction with the consultations, as well as working alliance with a specific therapy provider. Patients were additionally asked about their opinion on further use and recommendations of digital consultations, while treatment providers only were asked to give an overall judgment on therapeutic potential and therapeutic limitations of digital consultations. For details and items see Appendix A1 and Supplementary Data S1 and S2.

**Advantages and challenges in relation to consultations.** We asked for advantages and challenges experienced throughout the sessions for patients and treatment providers (with slight wording adaptations to match the respective perspective). For that purpose, examples of typical positive aspects (5 items, e.g., “time saving,” “involvement in the treatment”) as well as negative aspects (6 items, e.g., “technical failures,” “perceived distance”) were given to be rated on a 10-point NRS ranging from 0 to 10 (does not apply, does fully apply).

**Satisfaction.** With several items, we evaluated the satisfaction with the digital consultations from both perspectives (patients and treatment providers). Items for patients included aspects about recommendations (“would you



**FIG. 1.** Flowchart.

recommend digital consultations?”), future usage (“would you use digital consultations again if necessary?”), preference (“would you prefer digital consultations to regular ones if necessary?”), and overall satisfaction (“how satisfied are you overall with the digital consultations with this doctor/therapist?”). Items for treatment providers included therapeutic potential (“did the digital execution of the consultations with this patient open new ways for the treatment?”), limitations (“did the digital execution of the consultations with this patient come along with disadvantages in the therapeutic procedure?”), overall satisfaction (“how satisfied are you overall with the digital consultations with this patient?”), and an observer rating about patient satisfaction (“how satisfied do you think was the patient overall with the digital consultations?”).

**Working alliance.** The working alliance of the therapeutic encounter was assessed from both a patient perspective and a treatment provider perspective using the Working Alliance Inventory (WAI).<sup>13</sup> The wording was slightly adapted to adequately fit the respective perspective. The scale consists of 12 items [e.g., “My therapist (patient) and I work together to set therapy goals.”], each rated on a 5-point scale ranging from 1 to 5 (rarely, sometimes, often, very often, always). A detailed description of the items is provided in Supplementary Data S1 and S2. Cronbach’s  $\alpha$  for patients’ data was good to excellent with 0.86 ( $N=37$ ) for consultations with physicians and 0.90 ( $N=22$ ) for consultations with therapists as it was for physicians’ data with 0.80 ( $N=38$ ) and for therapists’ data with 0.84 ( $N=20$ ).

### Data analyses

Quantitative data showed a considerable low number of missing data (<5%) and a good overall data quality. We used two different approaches to deal with missing information. (1) All data based on single items, for example,

patient characteristics, general ratings of digital sessions were not imputed and results are based on all available data. (2) Missing data in scales were partly replaced: cases with single missing values within a scale (ETS and WAI) were imputed with the individual mean score across the other items. Cases with more than one missing value within one scale were excluded from the respective analysis.

Descriptive statistics were used for sociodemographic variables, previous experience, and digital confidence as well as treatment expectation, and all evaluation variables about satisfaction from three perspectives (patient, physician, therapist). Patient’s evaluated their overall satisfaction, general advantages, and challenges as well as their specific experience with one physician and/or therapist and their working alliance. Treatment providers evaluated the digital consultations of each patient according to perceived advantages and challenges, the therapeutic relationship (WAI), as well as therapeutic potential and therapeutic limitations. Results are reported as mean and standard deviations (SD) or numbers and percentages.

We further analyzed if the overall satisfaction of patients was associated with age, sex, and digital confidence by using Pearson correlations. The association of digital confidence with age was also examined. We also compared the satisfaction of patients between consultations with or without practical exercises with *t*-tests. All statistical analyses were conducted in IBM SPSS Statistics (Version 26) and are seen as exploratory.

### Qualitative data collection

The qualitative data collection and analyses with the treatment providers followed the idea and principles of stakeholder engagement.<sup>14–16</sup> Qualitative semistructured one-to-one interviews of about 90 min in length were conducted with nine treatment providers who are offering digital consultations at the respective Institute. Experiences with the digital consultations as well as their potential and limitations were discussed. The interviews were video recorded.

TABLE 1. POSSIBLE ADVANTAGES AND CHALLENGES OF THE DIGITAL DELIVERY MODE AND OVERALL JUDGMENT BY PATIENTS AND TREATMENT PROVIDERS (EIGHT PHYSICIANS/SIX THERAPISTS), NUMERIC RATING SCALE FROM 1 (DOES NOT APPLY AT ALL) TO 10 (APPLIES VERY MUCH), HIGHER VALUES INDICATE HIGHER AGREEMENT

Item	Patients* M (SD, N)	Physicians** M (SD, N)	Therapists** M (SD, N)
Possible advantages			
Time saving	8.05 (2.60, 62)	7.45 (3.11, 38)	5.71 (3.41, 21)
Location independence	6.79 (3.04, 61)	9.28 (1.53, 39)	6.24 (3.31, 21)
Home setting: involvement	3.41 (2.84, 61)	4.29 (3.14, 38)	2.71 (2.14, 21)
Practicing exercises in home setting	3.47 (2.98, 58)	4.14 (3.77, 37)	4.24 (2.89, 21)
Home setting: integration of exercises in daily life	3.22 (2.64, 59)		
Possible challenges			
Technical difficulties before consultation	3.20 (2.60, 65)	2.00 (1.94, 39)	2.62 (2.35, 21)
Technical difficulties during consultation	2.66 (2.60, 65)	1.87 (1.83, 39)	2.9 (2.23, 21)
Difficulties in doing the exercises	2.84 (2.79, 57)	1.87 (1.45, 39)	2.9 (2.42, 21)
Perceived distance	3.83 (2.92, 64)	2.28 (2.10, 39)	4.71 (2.53, 21)
Issues with therapeutic approach	2.31 (2.19, 64)	2.31 (2.01, 39)	3.62 (2.53, 21)
Issues with patient’s concern	2.06 (1.80, 63)	1.77 (1.16, 39)	2.38 (1.83, 21)
Overall judgment			
New therapeutic potential		5.68 (3.73, 39)	3.47 (2.50, 21)
Therapeutic limitations		3.18 (2.35, 39)	5.42 (3.13, 21)

\*\*\*Details in Appendix A1.

M, mean; SD, standard deviation.

TABLE 2. OVERALL SATISFACTION WITH THE DIGITAL CONSULTATION(S) WITH ONE OF EIGHT PHYSICIANS (MEDICAL CONSULTATIONS) AND/OR WITH ONE OF SIX THERAPISTS (THERAPEUTIC CONSULTATIONS) RATED BY EACH PERSON INVOLVED (PATIENT, PHYSICIAN, AND/OR THERAPIST AND AN OBSERVER RATING BY THE TREATMENT PROVIDER) ON A 10-POINT RATING SCALE FROM 1 (CERTAINLY NOT) TO 10 (DEFINITELY), WITH LOW VALUES INDICATING LOW SATISFACTION, AS WELL AS THE PEARSON CORRELATIONS BETWEEN TREATMENT PROVIDER PERSPECTIVE AND PATIENT PERSPECTIVE

Evaluated by	Consultation(s) with a physician			Consultation(s) with a therapist		
	Patient <sup>A</sup> N=46	Physician <sup>B</sup> N=39	Observer rating by physician <sup>C</sup> N=39	Patient <sup>D</sup> N=24	Therapist <sup>E</sup> N=21	Observer rating by therapist <sup>F</sup> N=21
Overall satisfaction M (SD)	8.96 (1.78)	8.32 (2.61)	7.53 (2.66)	8.71 (1.88)	6.37 (2.50)	6.21 (2.44)
Correlation between treatment provider perspective and patient perspective		0.20 ( $p=0.26$ )	0.27 ( $p=0.12$ )		0.39 ( $p=0.11$ )	0.33 ( $p=0.18$ )

<sup>A-F</sup>Items listed in detail in Appendix A1.  
SD, standard deviation.

For the qualitative data analysis, rapid qualitative evaluation was applied.<sup>17</sup> Qualitative analysis was conducted in Maxqda (18.2.4). Based on the video recordings of the interviews, a text summary and an overview data table related to the potential, limitations, and ideas for further development of the digital consultations was generated. These findings were then validated with the interviewed treatment providers in a workshop.<sup>18</sup> In addition, the ideas for the further development of the digital consultations were discussed and the next steps for their implementation were defined.

## Results

Of the 176 patients initially contacted by e-mail, 86 replied, 82 participated, and 68 completed the online questionnaire (response rate 47%). Data of 82 participants were included in further analyses regarding the general experience with digital consultations. Out of those 82 participants, 60 correctly identified at least one treatment provider and answered subsequent questions on those specific consultations. Hence, data on working alliance and specific experiences with treatment providers are based on the answers of those 60 who correctly identified their treatment provider. Accordingly, 39 evaluations by 8 physicians and 21 evaluations by six therapists were included into the analyses (Fig. 1). A total of nine treatment providers were interviewed.

### Sample characteristics

Patients were on average 54 years old ( $N=56$ , mean value [ $M$ ]=54.07,  $SD=13.25$ , minimum 24, maximum 90) and 68.4% were women. More than half of the patients (55%) had an academic background and 58% were employed in full ( $N=19$ ) or part-time ( $N=14$ ) contracts. Nearly half of the patients (48.8%) received supportive cancer care, 7.3% got complementary treatments for Irritable Bowel Disease, 4.9% for Irritable Bowel Syndrome, and 4.9% for endometriosis (other disease 26%). A majority indicated to use electronic devices daily (87.9%,  $N=51$  out of 58 who answered this item) and scored relatively high in their overall digital confidence on average ( $M=17.3$ ,  $SD=3.47$ ,  $N=57$ ). The mean retrospective expectation for treatment before the consultations was moderate ( $M=11.95$ ,  $SD=3.28$ ). The patients had most often one or two digital consultations (70.4%) during the respective period of the evaluation. Three or more consultations were reported by 25.6% of the patients. The majority of patients (59.8%) considered their treatment status as ongoing and five as completed (8.1%). In half (51.2%) of the consultations, practical exercises were conducted, which was more often the case if they were provided by a therapist than a physician (two third of consultations vs. one third of consultations). Practical exercises encompassed meditation and relaxation exercises ( $n=14$ ), acupressure techniques ( $n=12$ ), physical movements ( $n=9$ ), and other types of exercises ( $n=8$ ).

### Perceived advantages and challenges

Patients and treatment providers rated advantages and challenges of the digital consultations (Table 1). The mean ratings of the advantages were more positively than those of the challenges were negatively, indicating good feasibility of the digital consultations in general. For patients saving

TABLE 3. THERAPEUTIC RELATIONSHIP ASSESSED WITH THE 12-ITEM WORKING ALLIANCE INVENTORY (VALUES FROM 1 [RARELY] TO 5 [ALWAYS], HIGHER VALUES INDICATING A MORE FREQUENT EXPERIENCE OF A CERTAIN ASPECT)

Evaluated by	Treatment by a physician		Treatment by a therapist	
	Patient N=37 M (SD)	Physician N=39 M (SD)	Patient N=22 M (SD)	Therapist N=20 M (SD)
WAI sum score	48.65 (6.46)	48.05 (5.25)	49.73 (7.57)	45.90 (5.86)

M, mean; SD, standard deviation; WAI, Working Alliance Inventory.

time seemed to be the most important advantage, while for treatment providers the aspect of the flexibility of the consultation location was most appreciated. The most important challenge experienced by patients turned out to be the perceived distance (i.e., not feeling close to the provider or patient), which was also mentioned by the therapists. Physicians judged the perceived distance as second relevant challenge, whereas difficulties to convey their therapeutic approach was perceived as the most relevant challenge for the physicians. All treatment providers were asked about the balance of the therapeutic potential and the limitations and physicians saw more the potential in digital consultations, whereas the therapists more the limitations.

#### Perceived advantages and challenges

Patients were on average quite satisfied with both, the consultations they had with a physician (87% scoring 8 or higher on a 10-point NRS) and the consultations they had with a therapist (87.5% patients scoring 8 or higher on a 10-point NRS) (Table 2).

Interestingly, patients themselves were more satisfied with the consultations with their treatment provider than assumed by their treatment providers (all correlations between both perspectives below  $r=0.40$ ). Physicians estimated the patient's satisfaction on average 1.43 points lower than their patients and also therapists expected less satisfaction in patients (difference 2.5 points on a 10-point NRS).

There was also a difference between physicians and therapists when rating their own satisfaction with the consultations: physicians were more satisfied ( $M=8.32$ ) than therapists ( $M=6.37$ ) (Table 2).

Patients were asked to give a general judgment as to whether they would recommend digital consultations to others, which was rated on average rather positively ( $M=7.11$ ,  $SD=2.71$ ,  $N=62$ ), with a third (30.6%) even rating 10 out of 10 on the NRS. Those 13 patients who did not categorize their treatment as ongoing (5 had completed treatment, 8 were not sure yet) indicated a large variability as to whether they would use a digital consultation again ( $M=6.92$ ,  $SD=3.50$ ). The potential preference of digital to face-to-face consultations was also very mixed with  $M=4.46$  on average ( $SD=2.72$ ) with 7 out of 13 patients preferring face-to-face consultations (scores under 5).

#### Working alliance

The working alliance (Table 3) for medical consultations (physician–patient dyad) were very similarly between patients ( $M=48.62$ ,  $SD=6.38$ ,  $N=40$ ) and physicians ( $M=48.05$ ,  $SD=5.25$ ,  $N=39$ ). Within the therapist–patient

dyads, there was a small discrepancy: therapists evaluated the working alliance lower ( $M=45.90$ ,  $SD=5.85$ ,  $N=20$ ) than patients did ( $M=49.73$ ,  $SD=7.57$ ,  $N=22$ ).

#### Association of sociodemographic variables, digital confidence, and type of consultation on satisfaction with the digital consultation

Sociodemographic variables, such as age and sex, were not associated with the overall satisfaction with digital consultations. Digital confidence was found to be significantly negatively correlated with age  $r=-0.42$  ( $p<0.001$ ,  $N=55$ ) but not being associated with patients' satisfaction, evaluation of advantages and challenges, or recommendation and evaluation of further use.

Performing practical exercises in digital consultations did not significantly influence the overall satisfaction of the patients with the digital consultations (Table 4), but came along with slightly higher perceived challenges. Those patients who did at least one practical exercise (e.g., Mind–Body Medicine interventions, hypnosis, or naturopathic self-help strategies) would on average recommend digital consultations to a similar extent as those who had exclusively conversation-based consultations ( $p=0.220$ ). But, technical difficulties during the consultations ( $p<0.05$ ) as well as difficulties in understanding the therapeutic procedure ( $p=0.006$ ) were rated higher in patients with practical exercises.

#### Qualitative results from the interviews with treatment providers

The qualitative interviews showed that the treatment providers would prefer in general a combination of digital and face-to-face settings in upcoming IM treatments. The treatment providers identified several advantages of the digital setting. First of all, the time saving and location independence

TABLE 4. INFLUENCE OF THE TYPE OF CONSULTATION(S) ON SATISFACTION WITH THE DIGITAL CONSULTATION(S)

	Satisfaction with treatment by a physician	Satisfaction with treatment by a therapist
	M (SD, n)	M (SD, n)
Exercises in consultation(s)	8.68 (1.46, 19)	8.88 (1.80, 17)
No exercises in consultation(s) (only conversation-based)	9.15 (1.99, 27)	8.29 (2.14, 7)

M, mean; SD, standard deviation.

TABLE 5. RESULTS OF THE QUALITATIVE ANALYSES INTERVIEWS WITH TREATMENT PROVIDERS (N=9)

<i>Referring to</i>	<i>Advantages</i>	<i>Challenges</i>	<i>Potential for improvement</i>
General aspects	Independence of location allows to offer Complementary and Integrative Medicine (CIM) consultations to COVID-19-risk patients and patients being unable to travel, such as palliative patients, fatigued patients, otherwise impaired patients, or busy patients Time flexibility Increased chances that relatives can be involved in a consultation	Restricted assessment of the patients' overall presence possible, such as nonverbal body language, posture, body shape, and size More preparation and time required because of the limited access to the body language of the conversational partner (the own body language must be explained, inputs must be shorter and more concise, display details must be set up) Therapeutic touch is impossible Limited possibilities to prevent technical difficulties on both sides Challenge to transfer group treatments into the digital space, especially regarding group exchange and dynamics Disturbances at home (e.g., presence of children and relatives in the same room or other distractions) Risk that patients have difficulties coming back from deep trance (especially when hypnosis is applied) Patients with specific mental health problems (e.g., trauma, dissociation) → an emergency protocol must be set up before the treatment	Combination of digital and face-to-face consultations on site or as home visits Differentiation between preliminary consultations and follow-up appointments Blended learning formats (e.g., for psychoeducational content) Setting rules for digital group spaces (e.g., mute microphones for everybody, except the speaker) Group treatments: different target-framings, off screen exercises, peer-group meetings between sessions
Relaxation and meditation/(hypnosis)	Patients can directly set up a place of relaxation at home Some patients are generally more relaxed in their familiar environment than in the clinic		Audio guides to exercises for self-practice
Physical activity	Space for implementation of movement exercises can be directly checked and discussed at patients' homes	Complex movement sequences are almost impossible to demonstrate and execute Assessment of execution of exercises is difficult Hands-on alignment of postures is impossible Challenge to set up the camera framing the whole body Instruction of acupressure techniques challenging Application of naturopathic poultice and pads impossible, instruction is difficult The nutritional advice kit normally used in face-to-face consultation cannot be used in the digital setting	Provision of demonstration videos
Naturopathic self-help	Time saving and independence of location when informing about medicinal plants, teas, etc.		Provision of demonstration videos
Nutrition counselling	Patients' eating environment and food (products) used can be directly checked and discussed at patients' homes		First consultation should be face to face, follow-ups could be digital if requested

when patients and treatment providers do not have to travel to the clinic are regarded as advantage. This enhances the chance to include relatives into the consultations and allows to treat patients with impaired health conditions of all kinds, including patients in the COVID-19 risk groups. Finally, some patients appeared to the treatment providers to be more relaxed in their own private environment than in the clinic.

Treatment providers considered regular face-to-face consultations also as essential for different reasons. First, for establishing a trustful patient–treatment–provider relationship. Second, for a better holistic assessment of the patients, which includes nonverbal body language, posture, body shape, and size.

Treatment providers also mentioned the potential for improving digital consultations with blended learning formats or video guides to specific interventions, like relaxation exercises or acupressure. The greatest challenges from a technical point of view were limited internet bandwidth problems with video and audio settings, and limited display options, for example, regarding possible camera set ups or restrictions of what is visible on the screen (e.g., only upper body or limited number of participants in a group). Table 5 shows the findings from the interviews with the treatment providers. The results are structured according to the type of consultation and advantages, challenges, and potential solutions for these different interventions are displayed.

## Discussion

Overall, both patients and treatment providers evaluated the new setting of digital consultations in IM as a feasible and efficient format. In general, the satisfaction with this new format was high. However, practical exercises are seen as challenging for the successful implementation of future digital treatments in the field of IM. The working alliance was found to be very good based on the evaluation of both patients and treatment providers. Since the implementation of the digital consultations happened rapidly after the start of the COVID-19 pandemic, without long-term preplanning, the evaluation results are encouraging.

Before COVID-19, the regular use of digital consultations was a fairly new domain in regular health care. Only a minority of general practitioners used digital services.<sup>19–21</sup> In our study, treatment providers expected that patient overall satisfaction might decrease as a result of a digitally delivered consultation. However, this was not the case, which is an important finding and may encourage clinicians to continue with digital consultations. Since there is some evidence that telehealth interventions can be effective in many clinical conditions (compared with usual care), such a digital shift is very reasonable.<sup>22</sup> Studies on psychotherapy for depression, for example, have shown that digital consultation has a similar effectiveness like face-to-face settings.<sup>23</sup>

The working alliance between treatment providers and patients was evaluated by both parties as very good, which is an important finding since communication curricula and empirical findings emphasize the necessity of a good patient–practitioner relationship for a better treatment outcome.<sup>24</sup> Nevertheless, finding very similar scores in digital consultations as among patients in psychosomatic medicine care<sup>13,25</sup> is somewhat unexpected, since patients are used and value traditional face-to-face settings in IM.<sup>24</sup> But also studies in psychotherapy process research conducted 20 years ago indicated a very

similar working alliance between digital and face-to-face treatments.<sup>26,27</sup> A recent meta-analysis showed a slightly inferior working alliance in digital consultations compared with face-to-face settings (standardized mean difference = −0.30; 95% CI −0.67 to 0.07;  $p=0.011$ ). However, the lower working alliance was not related to a less beneficial treatment outcome. Our study gives the foundation to explore in more detail the overlap and differences of working alliance in digital consultations compared with a face-to-face setting since the data collection will continue with both formats. The novel transfer of these findings to the field of IM represents an innovation of this study.

A possible advantage of the digital consultations during the COVID-19 that could have positively influenced the working alliance results might have been the fact that in face-to-face consultations both patient and treatment providers have to wear face masks, which is not the case in digital consultations. A randomized controlled trial<sup>28</sup> found that wearing face masks has a negative impact on how patients rate the empathy of their treatment provider.

When thinking about the future, blended care (i.e., the combination of digital and face-to-face consultations) would be a good option, as has been already suggested for health care in chronic conditions.<sup>29</sup> Our findings also suggest that the combination of a face-to-face setting and digital consultations fits nicely with the needs of both treatment providers and patients for a number of reasons, especially as the acceptance of mixed formats has proven to be greater in the eCOM-PARED study than that of standalone digital treatments.<sup>30</sup>

In our data, we did not identify factors explaining which patients are more likely to be satisfied with digital consultations and therefore patients' preferences for consultation formats have to be assessed. It is always good to provide different options for different patients' needs and choices could ideally be made with the start of a treatment and adapted, if needed, during the course of the treatment. The fact that low digital confidence was associated with higher age but was not associated with lower treatment satisfaction in older patients is a promising finding to offer the digital setting independently of the age group.

## Limitations

The study is a single-center study without control group and therefore is not able to directly compare the digital setting with a face-to-face setting. Some of the patients might have been treated before in our outpatient clinic. Therefore, conclusions about the exclusive use of digital interventions should be drawn carefully. In addition, the included sample is heterogeneous with different diagnoses, treatments, and intensity of treatments, which reduces the internal validity of our findings. However, at the same time, the study reflects a routine care setting during the pandemic. Furthermore, this study did not aim to determine the effectiveness of the delivered digital consultations. Due to the COVID-19 pandemic mHealth interventions have recently become highly attractive<sup>31</sup> besides diagnostic tools and tracing apps.<sup>32</sup> Advantages of mHealth interventions are scalability, the delivery mode over distance, and as in our case the strengthening of self-care activities (without direct therapeutic guidance). In our clinic we also provided many interventions through the internet as self-care intervention and digital consultations were conducted.



### Strengths

Our evaluation included different perspectives (patients, physicians, therapists) and different data (quantitative and qualitative) allowing a broader scope. Collaboration between health professionals and patients appears to be essential to advance this area and develop informed digital treatment options.<sup>33</sup> Our evaluation can be regarded as such kind of stakeholder involvement, as patients' feedback will inform some changes in the format, new delivery modalities (i.e., blended care), and upcoming group formats (i.e., Mind–Body medicine group intervention). Digital consultations are now considered as an important additional format to deliver care. Investigating a complex IM intervention that includes conversation-based consultations as well as practical exercises allows a broadened view on challenges and potentials of such digital formats.

### Conclusion

Digital consultations were possible with a good working alliance between patients and providers. The important advantages of digital consultations, such as time savings and the inclusion of relatives and patients who are unable to travel, can help to overcome barriers to health care. For the delivery of practical exercises, it would be useful to develop more innovative digital settings, such as e-learning or video instructions. Hybrid settings that combine the best of both settings could be a good option for future post pandemic times.

### Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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### Supplementary Material

Supplementary Data S1  
Supplementary Data S2

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## Appendix A1

### Detailed Information on Advantages, Displayed in Table 1 (Single Items See Respective Questionnaire in Supplementary Data S1 and S2)

#### Time saving

\* Question 5, item a. (questionnaire patients)/\*\* Question 2, item a. (questionnaire treatment provider)

#### Location independence

\* Question 5, item b. (questionnaire patients)/\*\* Question 2, item b. (questionnaire treatment provider)

#### Involvement

\* Question 5, item c. (questionnaire patients)/\*\* Question 2, item c. (questionnaire treatment provider)

#### Practicing exercises in home setting

\* Question 5, item d. (questionnaire patients)/\*\* Question 2, item d. (questionnaire treatment provider)

#### Home setting: integration of exercises in daily life

\* Question 5, item e. (questionnaire patients)/\*\* Question 2, item e. (questionnaire treatment provider)

### Detailed Information on Challenges, Displayed in Table 1 (Single Items See Respective Questionnaire in Supplementary Data S1 and S2)

#### Technical difficulties before consultation

\* Question 4, item a. (questionnaire patients)/\*\* Question 1, item a. (questionnaire treatment provider)

#### Technical difficulties during consultation

\* Question 4, item b. (questionnaire patients)/\*\* Question 1, item b. (questionnaire treatment provider)

#### Difficulties in doing exercises

\* Question 4, item c. (questionnaire patients)/\*\* Question 1, item c. (questionnaire treatment provider)

#### Perceived distance

\* Question 4, item d. (questionnaire patients)/\*\* Question 1, item d. (questionnaire treatment provider)

#### Issues with therapeutic approach

\* Question 4, item e. (questionnaire patients)/\*\* Question 1, item e. (questionnaire treatment provider)

#### Issues with patient's concern

\* Question 4, item f. (questionnaire patients)/\*\* Question 1, item f. (questionnaire treatment provider)

### Detailed Information on Overall Satisfaction, Displayed in Table 2 (Single Items See Respective Questionnaire in Supplementary Data S1 and S2)

- A: Question 10, item A. (questionnaire patients)
- B: Question 5 (questionnaire treatment provider)
- C: Question 6 (questionnaire treatment provider)
- D: Question 11, item A. (questionnaire patients)
- E: Question 5 (questionnaire treatment provider)
- F: Question 6 (questionnaire treatment provider)