

# TELEMEDICINE TREATMENT ADHERENCE AND PERCEPTION COMPARED WITH FACE-TO-FACE TREATMENT IN EATING DISORDER PATIENTS

## APEGO Y PERCEPCIÓN HACIA EL TRATAMIENTO A TRAVÉS DE LA TELEMEDICINA EN COMPARACIÓN CON EL TRATAMIENTO ASISTENCIAL EN UN GRUPO DE PACIENTES CON TRASTORNOS DE LA CONDUCTA ALIMENTARIA

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### RESUMEN

**Objetivo:** Conocer la percepción y el apego al tratamiento psiquiátrico, psicoterapéutico y nutricional por telemedicina comparado con la atención presencial, en pacientes con un trastorno de la conducta alimentaria. **Métodos:** Estudio cuantitativo descriptivo con muestreo no probabilístico por conveniencia en pacientes atendidos entre mayo-octubre del 2021. Realizamos entrevistas semiestructuradas basada en la entrevista de satisfacción sobre la experiencia entre la telemedicina y presencial. Los hallazgos se describieron por agrupamiento de respuestas con análisis de significación y extracción de conclusiones de forma sistematizada. **Resultados:** La muestra es de 20 participantes mujeres entre 14-50 años. El 75% percibió la telemedicina como una opción efectiva con alto grado de satisfacción y 55% declaró preferir la atención presencial. Las ventajas reportadas destacaron menor tiempo de traslado, menor gasto y prevención de contagio y como desventajas, la dificultad en el acceso tecnológico, privacidad y falta de prescripción de medicamentos remota. La telemedicina también mejoró la asistencia al tratamiento. **Conclusiones:** La telemedicina en el tratamiento interdisciplinario de los trastornos de conducta alimentaria es factible, efectiva y satisfactoria, beneficiando el apego terapéutico, sin embargo, la mayoría entiende que es una necesidad específica a la situación, en lugar de una elección, optando por su regreso a la atención presencial.

**PALABRAS CLAVE:** Telemedicina, Consulta presencial, Trastornos de conducta alimentaria, COVID-19.

### ABSTRACT

**Objective:** To determine the perception of and adherence to psychiatric, psychotherapeutic, and nutritional treatment via telemedicine compared with face to face care in patients with eating disorders. **Methods:** Descriptive quantitative study with nonprobability, convenience sampling of patients treated between May and October 2021. We conducted semi-structured interviews, based on subjects' satisfaction with the telemedicine experience versus face-to-face treatment. Findings were described by grouping responses by significance analysis and systematically drawing conclusions. **Results:** Twenty female subjects aged between fourteen and fifty participated. Seventy-five per cent perceived telemedicine as an effective option and expressed a high degree of satisfaction, while 55% stated that they preferred face-to-face care. The advantages reported included less travel time and expense, and avoiding infection while disadvantages included the difficulty of ensuring technological access, and the lack of privacy and electronic prescriptions. Telemedicine also improved treatment attendance. **Conclusions:** Telemedicine in the interdisciplinary treatment of eating disorders is feasible, effective, and satisfactory, contributing to therapeutic adherence. However, most subjects regard it as being contingent on the situation, rather than a choice, and would prefer to return to face-to-face treatment.

**KEYWORDS:** Telemedicine, In-person consultation, Eating disorders, COVID-19.

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Telemedicine is defined by the World Health Organization (WHO, 2019) as the provision of healthcare services at a distance or conducted between remote healthcare users seeking health services and healthcare providers. This involves the use of telecommunications technology that enables data interpretation, making it possible to achieve appropriate diagnosis and treatment (Gracia Gómez, 2020).

Telemedicine has existed since the early 20th century, when Einthoven transmitted the signal from an electrocardiogram at the university hospital to his physiology laboratory at the University of Leiden in the Netherlands in 1905 (Lama, 2004). In 1951, the first videoconference was held at the New York World's Fair, leading to the development of this innovative technology, which was implemented in various fields. It was not until 1985, however, that the first telemedicine consultations were provided to members of the Papago tribe in Starpahic Arizona, USA. That same year, the National Aeronautics and Space Administration (NASA) delivered remote medical care via telemedicine following the Mexico City earthquake on September 19 (Dabaghi-Richerand et al., 2012). The field of application of telemedicine subsequently expanded rapidly to include several specialties such as neurology and psychiatry, in which close interaction with the patient is required to ensure accurate diagnosis and treatment (Gracia Díaz, 2019; Lepe et al., 2004).

In other words, telemedicine uses information technologies and telecommunications to provide support for healthcare regardless of the distance between those who offer the service (e.g., doctors, paramedics, psychologists and nurses) (Puskin et al., 2010). With the generalization of the Internet as an everyday communication channel, telemedicine has found an ideal medium for the use of a range of services focused on regional and community needs, qualitatively enhancing security and simultaneity, and quantitatively improving speed and availability. This has facilitated quick, simple, flexible, and shared ac-

cess to health professionals for the benefit of the population (Parrasi Castaño et al., 2016).

The social distancing instituted worldwide to control the COVID-19 pandemic had significant psychological repercussions, including a direct association between the increase in anxiety levels and eating disorders (EDs), (Fegert et al., 2020). In this context, out-of-hospital mental health services abruptly transitioned from conventional in-person treatment to remote online treatment to ensure the continued provision of evidence-based management, while minimizing personal contact to mitigate the risk of infection (Elran-Barank & Mozeikov, 2020). It is essential to note that implementation of this type of program requires the participation and training of health personnel, technological support, and a sufficiently effective telecommunications network to transfer data in a timely and reliable manner. It also entails adequate training of the personnel involved, operational knowledge of the technological equipment, as well as short-term economic investment (Frenk, 2005).

Although telemedicine has substantially expanded in the past two decades, further expansion and effective action plans are still required to reduce the remaining barriers to its universal acceptance (Smink et al., 2012). Among the main barriers to telemedicine are aspects related to the security and confidentiality of the doctor-patient relationship; the risk that communication may be unclear due to network problems or visual-auditory interference; and its impact on diagnosis and treatment quality. Initially, the high cost, the difficulty in its use and the low acceptance by healthcare professionals and patients made this new technology unfeasible or ineffective. Initially, the low acceptance of this new technology by health professionals and patients, high cost and the difficulty of using it made it unfeasible or ineffective (Mariscal Avilés et al., 2012).

Mexico implemented telemedicine in the 2007-2012 National Development Plan, whose main objective was to provide equal

opportunities with efficient health services, with quality and safety for the patient, in addition to expanding health service coverage through the promotion of Telemedicine (Centro Nacional de Excelencia Tecnológica en Salud [CENETEC-Salud], 2022). Mexico currently has a list of applicable legal instruments for the various telemedicine, teleadministration and/or teleeducation programs in each state. However, guidelines or regulations addressing aspects regarding the use of informed consent and personal data protection measures to ensure patient privacy have yet to be implemented (Fernández-Tapia, 2021).

Research conducted prior to the pandemic consists primarily of opinion pieces, policy papers, and literature reviews. Preliminary recommendations support the use of telemedicine, suggesting that online psychological interventions can achieve feasibility, acceptability, and satisfactory treatment outcomes for young people with restrictive EDs. Most of these articles, however, were conducted in specific, intentionally planned settings, which is obviously different from beginning interdisciplinary treatment with new pressures (e.g. controlling the spread of the virus, limited access to mental health services, the disruption of daily routines, restriction of movement and exercise, a greater likelihood of family violence, and an increase in stress load) (Lewis et al., 2021). In addition, there was a forced shift towards virtual care within the scenario of a possible pandemic (Anderson et al., 2017).

Since the onset of the pandemic, initial reports have emphasized the potential benefits of telemedicine in ED treatment, such as a higher level of family participation and better treatment adherence by improving attendance rates at telemedicine sessions compared to face-to-face care (Romo et al., 2022). At the same time, some doctors have expressed concern over the possible negative impact of telemedicine on the therapeutic relationship, as well as the difficulties of adapting interdisciplinary treatment to a virtual environment. The latter could potentially

exhaust therapists due to the possibility of increasing the scheduled patient load or extending care hours as a result of working from home (Matheson et al., 2020). All this is compounded by existing logistical barriers and growing concerns about the potentially detrimental impact on mental health after recovering from isolation (Cooper et al., 2022).

Preliminary reports on patient experiences during the abrupt transition to telemedicine use have also emerged that have received scant attention (Fernández-Aranda et al., 2020). Therefore, in the absence of better knowledge on the patient experience due to the sudden advent of telemedicine as a complex, interdisciplinary treatment like in the EDs field, further research is required to understand the benefits and possible adverse effects of telemedicine (Lamb et al., 2019). Moreover, several researchers have suggested that, in order to mitigate clinical skepticism about this treatment modality, additional research should focus on elucidating the actual effects of telemedicine on the therapeutic relationship and the patient experience to address the barriers related to this format of care than in just evaluating the satisfaction of treating professionals (Alexander & Lattanzio, 2009).

Lastly, this study sought to address the existing gaps in the literature on the patient experience with the use of telemedicine following the transition between in-person and online care. The objective of the present study was to conduct quantitative descriptive research to explore patient perception of interdisciplinary treatment provided via telemedicine during the COVID 19 pandemic compared with interdisciplinary treatment delivered in-person to patients with an ED and to evaluate treatment adherence in both modalities.

Since the initial phase of therapy is a critical period for the formation of the therapeutic alliance, necessary for building trust and collaborative work, and given the unexpected challenge of building a therapeutic alliance at a distance, Aafjes-van

Doorn hypothesized that patients with EDs would have a more positive perception of interdisciplinary treatment via telemedicine than in-person treatment. Their findings corroborated their hypothesis by showing that the majority of patients perceived interdisciplinary treatment via telemedicine as robust and with a sufficient therapeutic alliance for the continuity of care (Aafjes-van Doorn et al., 2021). We also hypothesized that patients with an ED would show greater adherence to interdisciplinary telemedicine than in in-person treatment and would therefore have a more positive attitude to online care.

## METHOD

### Sample

A descriptive quantitative study was conducted with non-probabilistic convenience sampling until saturation was achieved on patients treated between May and October 2021 at the Eating Disorders Clinic of the Ramón de la Fuente Muñiz National Institute of Psychiatry in Mexico City. The final sample comprised twenty subjects. Eligible subjects were male and female adolescents and adults, participating in the outpatient service, with an ED diagnosis according to the criteria of the American Psychiatric Association's Diagnostic and Statistical Manual, Fifth

Edition (DSM- 5) (American Psychiatric Association, 2014). At the start of the COVID-19 pandemic, they either continued their medical, psychotherapeutic, and nutritional care via telemedicine and/or continued or began with a hybrid modality (telemedicine and face-to-face), for a minimum of five follow-up consultations.

### Instruments

A semi-structured interview was designed based on the Customer Satisfaction Interview (Larsen et al., 1979), with prior piloting, to explore patient experience regarding telemedicine versus face-to-face treatment (See Table 1). The interview comprised thirteen questions that explored the ease of accessing or using technological tools, confidentiality and interaction with the multidisciplinary team (e.g., psychiatrist, psychologist and/or nutritionist), and the perceived advantages and disadvantages of both care modalities. Finally, we also sought to determine subjects' views on the use of technological tools outside the context of the pandemic. In addition, eight items were included to collect sociodemographic data, such as name, age, sex, marital status, occupation, education, and religion.

TABLE 1.  
Semi-structured Satisfaction Telemedicine Interview.

Satisfaction telemedicine interview
1. Do you think you were given enough information about the use of telemedicine? If not, could you tell me what was missing?
2. How satisfied are you with the videoconference consultation? What aspects would you change?
3. How satisfied are you with the audio quality of your consultation?
4. How satisfied are you with the video quality of your consultation?
5. Did you have difficulty accessing the access link provided by your treating physician for your video consultation?
6. How satisfied are you with the environment and physical appearance of the place where the consultation took place?
7. How satisfied would you be if you had to continue your treatment by video call?
8. How likely would you be to recommend the use of video call consultations to other patients?
9. Do you think you were able to comment on the same information you would have commented on in your face-to-face consultation? If the answer is no, could you explain why?
10. Do you think that the health personnel understood your needs and problems? If the answer is no, could you explain why?
11. What advantages do you see in the use of video call consultations compared to face-to-face consultations?
12. What advantages do you see in the use of video call consultations compared to face-to-face consultations?
13. In general, which treatment modality (video call consultations versus face-to-face consultations) do you feel more comfortable with?

## Procedure

### Ethical considerations

In keeping with the bioethical standards of the Ramón de la Fuente Muñiz National Institute of Psychiatry, informed consent was approved for adults and parents, and assent for patients under the age of 18. All participants were given an informed consent letter explaining the objectives of the study and guaranteeing their physical and psychological integrity. In the event that a minor was invited, first the objectives were explained and consent to participate was requested from the parent or guardian. The minor was subsequently invited to participate, and their assent requested. It was pointed out that if the parent or guardian decided that their child should not participate in the study, the minor would not continue to be invited. There were no consequences regarding the follow-up of their treatment within the institution for patients who freely chose not to participate or who decided to drop out of the study. The project did not entail any financial costs for the subjects, nor did they receive any financial compensation. Authorization was also requested from the External Consultation Sub-directorate of the Ramón de la Fuente Muñiz National Institute of Psychiatry to review the health files through the health center system to measure patient attendance in both modalities.

Information on the subjects and access to the database was restricted to study researchers, with folios being used to ensure confidentiality. If the subject so desired, they were given the option of having their answers shared with their treating physician, to improve their care and treatment. Informed consent and, where appropriate, the assent of the subjects was obtained through a form approved by the Ethics Committee of the Ramón de la Fuente Muñiz National Institute of Psychiatry. The date, time, and modality of choice (Zoom or In-person meeting at the Eating Disorders Clinic) were subsequently agreed on for the administration of the semi-structured interview designed for the study. When the subjects' consultations took place

via telemedicine, their physicians were asked to subsequently invite them to contact them by telephone so that they could explain the nature of the study and request their informed consent, or where appropriate assent, by e-mail. A Zoom meeting was subsequently scheduled to conduct the semi-structured interview. The interview lasted approximately thirty minutes and was conducted by the principal investigator (ACA).

### Qualitative analysis

We directly transcribed and organized all response into tables for their description and eliciting the categories. Each category was coded according to the following groups: sex, type of consultation (telemedicine or face-to-face) in the areas of psychiatry, nutrition, or psychology. The concepts, categories and patterns present were subsequently described, as well as the links between categories. Data were subsequently analyzed using the technique of comparing the groups in terms of similarities and differences and sorted into general and specific issues to provide them with meaning and therefore be able to interpret and explain them based on the theoretical framework. Findings were described by grouping the answers by analysis and systematically drawing conclusions. Finally, treatment adherence was defined by the average and percentage of scheduled consultations attended in both care modalities.

## RESULTS

All subjects were active patients of the Eating Disorders Clinic of the Ramón de la Fuente Muñiz National Institute of Psychiatry and met the criteria for an ED diagnosis according to the DSM-5. During the COVID-19 pandemic, they began or continued their medical, psychotherapeutic, and nutritional care by telemedicine or in-person. It is worth noting that all subjects attended a minimum of five consultations in either of the two modalities and voluntarily agreed to participate.

Demographic Information

The final sample comprised twenty subjects, consisting entirely of females aged fourteen to fifty. The highest percentage were aged twenty to thirty, with 60% (n=12), followed by those aged fourteen to nineteen with 25% (n=5) and those aged thirty-one to fifty, with 15% (n=3). The average age was 24.8 years (SD=8.75). As for employment status, most subjects engaged in some form of unpaid activity. From the sample, 70% (n=14) were students, 20% (4%) earned a fixed salary and 10% (n=2) were unemployed at the time of the interview.

Treatment Modality Satisfaction

The following results are based on the description of the analysis of the free text answers obtained from the semi-structured interview (See Table 2). Overall, more subjects were satisfied with the use of

telemedicine as a new care modality for the interdisciplinary treatment of eating EDs than face-to-face care. However, the analysis of subjects' recommendations and preference for their use beyond the context of the COVID-19 contingency yielded mixed results. Over half of the subjects were not convinced about the possibility of continuing with telemedicine follow-up. They would recommend it as a modality of care suitable for specific contexts such as the health contingency, long distances between the hospital and their place of residence and having to miss work or school to attend consultations. Likewise, even without being asked, some subjects expressed a desire for a hybrid option as their preferred long-term modality to enjoy the benefits of both modalities. It is important to note that greater acceptance and ease of adapting to the use of information technologies were observed in the fourteen to thirty age group.

TABLE 2. Main Results of the Telemedicine Satisfaction Interview.

Satisfaction Variables	Telemedicine		Face-to-face	
	f	%	f	%
Very satisfied	12	60	15	75
Satisfied	15	3	5	25
Dissatisfied	5	25	-	-

  

Post-pandemic treatment preference Variables	Telemedicine		Face-to-face	
	f	%	f	%
Satisfied	9	45	11	55
Dissatisfied	1	5	-	-
Other: Hybrid	10	50	9	45

Treatment Modality Physician-Patient Relationship

Regarding the physician-patient relationship, most subjects reported feeling comfortable and confident about providing the necessary information during their consultation, with only a third of the subjects reporting a perceived lack of privacy related to the place where they were at the time of the consultation (See Table 3). This generally took place at home, where they believed they could be overheard by their relatives. It made no difference if they had the consultation in the bathroom, since they were

unsure whether a relative might be listening on the other side of the door. This was compounded by wireless connection failures affecting two-way communication.

Several advantages of using telemedicine were reported (See Table 4). The greatest advantage mentioned was the reduced travel times from their place of residence or work to the institution, allowing them to make better use of their time. This advantage was followed by not having to miss work or school to receive in face-to-face treatment. A smaller number of subjects mentioned the convenience of

accessing a consultation by video call from anywhere. Finally, and in the same proportion, subjects mentioned spending less on public

transport or gasoline and avoiding possible infection during the COVID-19 contingency.

TABLE 3.  
Results of Physician-Patient Relationship in Telemedicine versus Face-to-Face.

Variables	Telemedicine		Face-to-face	
	f	%	f	%
Comfortable and reliable	13	65	20	100
Distrust	7	35	-	-

TABLE 4.  
Results of Advantages of Telemedicine versus Face-to-Face.

Variables	Telemedicine		Face-to-face	
	f	%	f	%
Reduce travelling time	7	35	-	-
Not miss work/school	6	30	-	-
Comfort	2	10	-	-
Cost reduction	1	5	-	-
Health contingency	1	5	-	-

Concerning the disadvantages of telemedicine, the main barrier mentioned was the absence of the physical and anthropometric examination performed specifically by medical and nutrition staff. This finding was not replicated with psychological care. The next disadvantage cited in the three areas of care were the difficulties caused by Internet connectivity, specifically when slow speed hampered effective communication (See Table 5). Subjects also thought that

some warmth was lost during virtual meetings. A key aspect, despite being mentioned by a smaller number of subjects, was that in the face-to-face modality, patients can personally receive medical prescriptions. This was cited as a major drawback of telemedicine. Lastly, subjects mentioned the lack of privacy at home, which prevented them from having a relaxed consultation or expressing themselves as naturally as they do during in face-to-face consultations.

TABLE 5.  
Results of Disadvantage of Telemedicine versus Face-to-Face.

Variables	Telemedicine		Face-to-face	
	f	%	f	%
Absence of physical examination and weighing	8	40	-	-
Difficulties connecting to the internet	4	20	-	-
Lack of prescription	3	15	-	-
Lack of privacy	2	10	-	-

In regard to the remaining questions designed to describe their experience with audio and video quality and the physical appearance of the place where the consultation was given, (See Table 6) most subjects were extremely satisfied. A limited number of subjects expressed dissatisfaction with the audio quality, mainly due to the distortion or echoing of the health personnel's

voices, which caused difficulties in transmitting the message or giving medical instructions. In psychology consultations, this also had a negative impact on psychotherapeutic feedback.

TABLE 6.  
Results of Digital Qualities Telemedicine versus Face-to-Face.

Video Variables	Telemedicine		Face-to-face	
	f	%	f	%
Very satisfied	19	95	20	100
Dissatisfied	1	5	-	-

  

Audio Variables	Telemedicine		Face-to-face	
	f	%	f	%
Very satisfied	15	75	20	100
Dissatisfied	1	5	-	-

Finally, treatment adherence was determined by measuring the attendance of subjects in these periods: from May 2020 to May 2021, during which care was exclusively provided through telemedicine, and then from May to October 2021, when the face-to-face modality was reactivated (See Table 7).

Overall, the sample interviewed displayed a higher adherence rate to follow-up in the telemedicine modality, with an average attendance of fourteen consultations, versus an average of six consultations in the face-to-face modality.

TABLE 7.  
Treatment Adherence by Modality.

Time Frame	Telemedicine	Attendance	%	Face-to-face	Attendance	%
May 2020 to October 2022	40	35	87.5	40	22	54.0

DISCUSSION

Our purpose in the present study was to conduct descriptive quantitative research to explore patient perception of the interdisciplinary treatment delivered via telemedicine during the COVID 19 pandemic compared to the interdisciplinary treatment provided in the in-person modality in patients with an ED and to evaluate treatment adherence in both modalities.

Based on the results obtained, most subjects (75%) perceived that the online treatment modality was effective for them and expressed an adequate level of satisfaction with this service compared to the treatment provided in the in-person modality. Previous studies have reported similar results. Cormi et al. (2021), reported that the use of telemedicine offers equivalent treatment to in-person consultations, in both psychiatric and psychotherapeutic care, with a high degree of patient satisfaction with a group of health professionals. Within the context of EDs,

mixed-design research by Stewart and colleagues reported that online care format for treating eating disorders are feasible, acceptable, and effective (Stewart et al., 2021).

Oddly enough, although most subjects failed to report negative effects in their telemedicine care, 55% stated that they would prefer to continue with in-person treatment. Interestingly, over 40% would not recommend online treatment to other patients outside the context of the pandemic, which is similar to the findings of other authors. Lewis et al. conducted a qualitative and comparative study on people with EDs during the COVID-19 pandemic. They reported that although online treatment was well accepted, it was not powerful enough to achieve a long-term impact, mainly due to the perception of feelings of disconnection and reduced containment (Lewis et al., 2021). We therefore consider our finding that most of our subjects would not voluntarily choose online treatment to be consistent with other similar studies. In



this regard, recent publications have called on the professional world to adopt telemedicine as a first-line tool to implement stepped integrated, psychiatric care (Yellowlees et al., 2018). However, evidence in the ED field appears to suggest that the majority of patients understand that online treatment meets a specific need in the health emergency situation, rather than constituting a regular choice. In this respect, telemedicine as a tool of proven utility for remote medical care facilitates the psychiatric and psychological treatment of patients who so require, particularly those with EDs, who also require nutritional advice by this means. However, this study detected different needs and obstacles in the care of patients with EDs, such as the lack of physical examinations and weighing, difficulty connecting to the Internet, lack of privacy, and the absence of electronic prescriptions. On the other hand, telemedicine makes it possible to provide features that enhance its evolution such as sending videos and psychoeducational brochures or information on how to take anthropometric measurements at home and in collaboration with a family member; send photographs of a skin lesion for medical inspection and possible treatment by the treating physician; and, in the future, e-prescriptions for controlled substances (Fisk et al., 2020).

Concerning the barriers to or disadvantages of the widespread adoption of telemedicine, we did not find any differences from those reported in previous research. These include issues related to access to a wireless broadband network with sufficient capacity to maintain good audio and video transmission, as well as different clinical aspects (e.g. physical examinations and e-prescriptions) and privacy (Kruse et al., 2017). Most subjects reported not having a private or safe space to talk about their problems, which is recurrent in the literature. The findings of the work group of Levinson et al. of a pilot study comparing an online program and in-person program with interdisciplinary approaches for the treatment of EDs reported uncertainty due to the perceived lack of privacy and

confidence to express or discuss their emotions as the main barrier to online care. A weak internet connection and poor audio quality directly resulted in a sense of distance and demotivation for long-term use (Levinson et al., 2021). This contrasts with the perspectives shared by other authors, who report that, in particular, patients with an ED feel more comfortable and able to be more honest when they discuss difficult issues because they regard the distance offered by the online modality as “protection” (Cowan et al., 2019).

In particular, our population perceived specific barriers to care in the area of psychiatry and nutrition, predominantly related to aspects of the clinical environment, which did not occur in the area of psychotherapy. Forty percent reported the lack of physical examination while 15% mentioned the difficulty of obtaining prescriptions in telemedicine. Raykos et al. highlight the difficulty of checking vital signs, physical examination and weighing as one of the main drawbacks in maintaining online modality treatment in patients with eating disorders. However, the issue of the difficulty of e-prescribing does not seem to be replicated by other researchers (Raykos et al., 2021), which we assume is due to the fact that Mexico lacks a system for issuing electronic prescriptions like those available in the United States of America and European countries. This highlights the urgent need for the Mexican Health Secretariat to implement an efficient e-prescription system. In Mexico, there are as yet no guidelines or regulations (Ruiz Ibáñez et al., 2007), only a certificate of legal instruments applicable to telehealth, which addresses aspects of the use of informed consent and personal data protection measures to ensure patient privacy (CENETEC-Salud, 2021).

The advantages or benefits of telemedicine are many and varied, and our findings are consistent with what has been reported in other research, such as improved access to care, and a reduction in travel times

and transportation costs. In addition, 40% mentioned the convenience of being able to have their consultations anywhere without interrupting their daily activities. Another qualitative study, conducted by Budhwani et al., obtained similar results regarding the convenience of not having to leave the house. However, the authors note that this could be a disadvantage, since it facilitates the avoidance and isolation characteristic of EDs (Budhwani et al., 2021). Along these same lines, telemedicine has the potential to reduce waiting times and costs. We therefore suggest that it could improve adherence, a hypothesis confirmed by the 87.5% attendance rate in telemedicine consultation versus the 54% rate reported for face-to-face consultation, which tallies with the findings of other authors in the literature (Gude et al., 2021).

At the same time, some studies explored the experience in the use of both modalities with health personnel, highlighting major concerns about the impact on the construction of the therapeutic alliance and technical challenges, and suggesting the future development of a hybrid modality (Waller et al., 2020). Although these aspects were not purposely evaluated in our research, 10% of subjects thought it would be advisable to develop a treatment plan comprising both modalities to increase the advantages of telemedicine while reducing the disadvantages.

Overall, our findings suggest that the implementation of telemedicine in the treatment of EDs is feasible, effective and satisfactory, in addition to improving therapeutic adherence. However, concerns about privacy, accessibility and electronic prescription persist, which may explain why subjects continue to hope to resume in face-to-face care as soon as the health situation permits.

Initial evidence suggests that the implementation of telemedicine in ED treatment is feasible, effective, and satisfactory, as well as contributing to therapeutic adherence. However, concerns about privacy, accessibility and e-prescription persist, which

perhaps explains why subjects hope to resume in-person care as soon as the health situation allows.

We consider that the strengths of the present research include the possibility of examining the perception and experience of a sample of patients with ED with a wide age range. Moreover, the fact that all subjects received both treatment modalities (face-to-face and online), made it possible to identify the differences or similarities in the perception of patients with varying degrees of experience in the use of digital platforms. The opinions of the latter were obtained freely and anonymously, without the constraints of a survey with predetermined answers, which provided us with a greater understanding of the constant facilitators and persistent challenges, in order to contribute to eliminating barriers detected in the future. In addition, all data on the experience of using telemedicine were prospectively collected through self-reports, thereby reducing the likelihood of recall bias.

Limitations include the fact that our sample, which exclusively included women, failed to include the perspectives of the health personnel in our interdisciplinary team (psychiatry, psychotherapy, and nutrition) and/or family members, which reduced our ability to compare and contrast the results with those recently published by other authors.

Finally, future studies could continue to explore the effectiveness of the online or hybrid modality in EDs treatment in more ample samples that include males, in conjunction with the experiences of family members and health personnel in the post-pandemic. In addition, we believe it will be necessary to evaluate the impact of remote care on the diagnostic subtypes of EDs, to determine whether variations exist. It will also be essential to clearly identify the barriers and facilitators specific to each of them, to develop new or better intervention protocols to meet the needs of people with an eating disorder (Datta et al., 2020).

## Conclusions

This study provided supporting information to understand the impact of treatment by online modality compared to the face-to-face modality in people with an ED. Our main findings show that although patients do not think that telemedicine is preferable face-to-face care, it is a valid, pertinent, effective, and safe option to guarantee continuity of care. It particularly contributes to greater and better care adherence. It also has significant implications at the local level to develop strategies designed to overcome the barriers described, such as outlining the essential elements in the legislative framework for e-prescribing, facilitating strategies for weighing or exploring patients in collaboration with family members, improving privacy aspects in consultations and reducing inequality in access to technological resources to achieve widespread acceptance and implementation of telemedicine. Finally, our results invite us to reflect on the impact of change in care modalities, the feasibility of treatment and continuity of care as the pandemic continues and at a time when technology use in ED treatments is potentially increasing at an international level.

## Research Ethical Standards

**Funding:** This study did not receive any funds.

**Declaration of Conflicting Interest:** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Approval from the Institutional Review Board for Human Research:** This study was approved by Ethics Committee of the Ramón de la Fuente Muñiz National Institute of Psychiatry, CDMX (approval number: CEI/C/020/2021).

**Informed Consent/Assent:** Consent for participation was obtained via a consent letter, or assent letter for minors, and via e-mail.

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