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Melpomeni Eleni Sapouna, Andreas Lappas, Myrto Samara, Vasilios P. Bozikas, Nikos Christodoulou

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REVIEW

Barriers to the use of telepsychiatry for the treatment of eating disorders: A systematic review and thematic synthesis

Melpomeni Eleni Sapouna,[1] Andreas Lappas,[2,3] Myrto Samara,[2] Vasilios P. Bozikas,[1] Nikos Christodoulou[2] (2)

1. *Department of Psychiatry, Aristotle University of Thessaloniki, Greece*
2. *Department of Psychiatry, Faculty of Medicine, University of Thessaly, Greece*
3. *Department of Geriatric Psychiatry, Aneurin Bevan University Health Board, Newport, UK*

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----------**ABSTRACT**----------

Eating disorders are mental disorders characterized by disturbed body image and excessive fear of weight gain, leading to disordered eating and weight control behavior. Studies show that early treatment is one of the most important factors in improving the prognosis of these diseases. Nevertheless, a large percentage of patients with eating disorders do not receive treatment or seek treatment until their disorder has progressed. Telepsychiatry promises to expedite treatment times by resolving geographical and cost barriers. However, there are various shortcomings in using telepsychiatry in eating disorders, including its effectiveness in treating patients with eating disorders, difficulty establishing a strong therapeutic relationship, privacy concerns, and security and technological limitations, among others. The purpose of this paper is to review the barriers that limit the usefulness of telepsychiatry in eating disorders. Ultimately, it aims to improve the use of telepsychiatry to better and more safely serve the particular needs of patients with eating disorders. We conducted a systematic review and thematic synthesis using a mixed PRISMA/ ENTREQ methodology, focusing on research that directly or indirectly investigated barriers to the use of telepsychiatry in the treatment of patients with EDs. Fifty-two studies were included, revealing multifaceted challenges in implementing telepsychiatry for patients with EDs. Specific barriers identified include poor therapeutic relationship and poor treatment adherence, clinical limitations (poor therapeutic effect, illness severity, comorbidity, certain eating disorder types are barriers themselves, impersonal care), and technical limitations (program design issues, privacy concerns), as well as negative patient experience. Telepsychiatry shows promise for treating EDs, but it is important to address these barriers in order to reach its full potential. Clinical adaptations, technological improvements, and a person-centered approach are essential to fully realize its potential. Online or hybrid treatment models must be highly personalized and multifaceted and have active therapist involvement, particularly for patients with clinical complexity.

KEYWORDS: Eating disorders, telepsychiatry, online therapy, barriers, person- centered.

Corresponding Author: Melpomeni Eleni Sapouna, Department of Psychiatry, Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece, Email: melina.sap8@gmail.com

Introduction

Eating disorders (EDs) are characterized by abnormal eating behaviors and intense preoccupation with food and body image, often driven by dissatisfaction with body weight and a need to control food intake. Common EDs include anorexia nervosa, bulimia nervosa, and binge eating disorder. These often physically and psychosocially debilitating disorders are commonly comorbid with anxiety, depression, personality disorders, and substance misuse, and their etiology is multifactorial, involving genetic, psychological, and environmental factors.[1] The prevalence of EDs has risen from 3.5% in 2000-2006 to 7.8% in 2013-2018, while the prevalence escalates to 17% if atypical presentations are also considered.[2] A significant increase was noted during the COVID-19 pandemic, especially among marginalized groups.[3] Early detection and intervention are critical for improving prognosis,[1] but EDs are frequently underdiagnosed due to factors like shame and denial.[4] Treatment delays are long and vary, with shorter durations for anorexia nervosa and longer for bulimia nervosa and binge eating disorder.[5] EDs are also undertreated, with only an estimated one-third of patients receiving treatment for their disorder. Men, adolescents, patients with high BMI or transgender/gender-diverse individuals, and people from minority groups face additional barriers to accessing treatment.[6]

Telepsychiatry has emerged as a promising approach for treating EDs, offering benefits like early intervention, reduced wait times, better accessibility and engagement, lower treatment costs, reduced stigma, and improvement of both core ED symptoms and comorbid anxiety and depression.[7–9] Although remote care for EDs may be as effective as in-person treatment while offering patients greater access to care,[10] barriers such as compromised therapeutic relationship, treatment adherence, privacy issues, and technical limitations may limit its overall usefulness. This systematic review and thematic synthesis aims to summarize these barriers and to suggest potential improvements to care.

Methods

This systematic review and thematic synthesis utilized a mixed PRISMA/ENTREQ methodology. [11,12] We employed a mixed methodology in order to enhance the rigor of systematic search and reporting of the thematic synthesis. Risk of bias assessment / study appraisal was not relevant for our study. The study was registered with PROSPERO (registration number: CRD42021265611).

Search Strategy

We searched PubMed using the following pre-planned search strategy: (telepsychiatry OR internet-based treatment OR online intervention OR online treatment OR videoconference) AND (eating disorder OR anorexia nervosa OR bulimia OR binge eating OR orthorexia), date up to January 2022. Included studies were also cross-checked for references of eligible studies.

Inclusion/exclusion criteria

Inclusion criteria followed the review's PICOS, and included the whole clinical spectrum of disordered eating, with no limitations to patient age or gender, form of telepsychiatry used, or control condition used. To capture barriers comprehensively, we also included studies involving caregivers, qualitative studies of patients' lived experience, and studies directly or indirectly investigating barriers. The search included primary research of all types (randomized controlled trials, non-randomized control trials, single group trials, observational studies, and service evaluation papers for qualitative data). Exclusion criteria were systematic and scoping

reviews, thematic deviation, and language other than English.

Study selection and data extraction

Eligible studies were screened independently by two authors (MS, NC), based on the aforementioned eligibility criteria, as depicted in figure 1. Unresolved cases were externally arbitrated. Data extraction was doubly checked. The following study characteristics were tabulated: authors, publication year, design, sample size, type and duration of telepsychiatry intervention, type of ED, research outcome, dropout rate, and negative consequences.

Results

Selection of articles

Following screening, 52 studies were included in the current review (PRISMA flow chart, figure 1), which are summariszed in tabular form in the supplementary material (table S1). In total, there were 15 studies (n=2,451) with ED (diagnosis were not specified), 7 studies (n=716) with AN, 11 studies (n=1187) with BN, 7 studies (n=615) with BED, and 12 studies (n=1138) with mixed diagnosis (diagnosis was specified). Table S2 in the supplementary material shows the types of intervention in each diagnostic category. There was considerable heterogeneity in interventions, so further analysis of the results in each intervention separately was not possible. Nevertheless, we see that there are more studies and patients for i-CBT and i-GSH interventions.

Barriers to treatment

A thematic analysis of included studies revealed a total of 10 barriers (Figure 2). The most frequently reported barrier was reduced adherence- increased dropout rate (n = 29), followed by poor therapeutic result (n = 23), and type-severity of ED (n = 21).

Reduced adherence – increased dropout

The most common barrier was reduced adherence and increased dropout, reported by 25 studies.[15,17–21,25–27,30,31,37,39,40,42,47,50,51,53,56,57,59,60,63,64] Some of the reasons reported were: Technical issues,[20,59] treatment ineffectiveness,[19,58] initial design flaws,[25,59,64] severe types of ED,[19,21,26,30,31,40,57,59,60,64] comorbidities,[26,30,31,40,50,53,59,63,64] personality traits,[24,34,45,47,48,50] social characteristics,[40,42,59] personal obligations,[30,50] family distraction,[19,20,32,52] and privacy and confidentiality.[23,43,55]

Poor therapeutic result

23 studies reported poor and/or slow therapeutic results of telepsychiatry,[21,35,41,47,54,57] or even no improvement whatsoever (for instance, in binge eating episodes and purging behaviours).[13–15,20,22,30,31,33,39,45,49,56,61,63,64] Motivational support did not improve outcomes[27] and a fully automated online intervention[25] failed to increase initial appointment attendance.

Types and Severity of ED

Patients with severe body image distortion, frequent binge eating and purging, strict dietary restriction, and longer illness duration show lower adherence,[19,31,40] higher dropout rates,[30,31,48,57,59,60,64] and poorer outcomes.[14,31,35,43,48,56,58,59,64] The type of ED also affects results. Anorexia nervosa is associated with poor outcomes[17,26,32,33] and so is severe bulimia.[14,35,39] Patients prefer online treatment at the early stages of EDs, believing it to be more beneficial then.[43]

Therapeutic alliance

A very important barrier documented in the literature is the difficulty to developing a strong

therapeutic relationship. 17 studies[15,20,23,29,32,36,43,44,52,55,57–62,64] refer to the lack of intimacy and the difficulty of recognizing emotions and non-verbal behavior, resulting in patients feeling the treatment as impersonal and the therapist as unsupportive. The difficulty to develop a therapeutic alliance is often mentioned in combination with a low therapeutic effect and/or a negative patient experience,[15,20,23,36,43,44,58,61,64] low adherence, and/or high dropout from treatment.[18,25,34,43,47–49,55] Also, many studies, such as V C Sánchez-Ortiz et al and Natalie Pretorius et al,[43,44,62] mention that the patients need more support and guidance (via email, phone calls, etc.) during the treatment process.

Technical difficulties and design issues

Twelve studies identified technical difficulties as a significant barrier to telepsychiatry,[15,16,20,29,30,32,33,43,44,52,55,59] while 17 studies pointed to poor design of online treatment programs as problematic.[13,15,16,20,25,28,29,34,36,39,44,49,52,55,57,62,64] Factors such as internet access, program workload, required devices, session duration/frequency, and communication methods with mentors/therapists influence patient experience and treatment outcomes. Unstable internet and difficulty using the program (e.g., playing audiovisual modules) led to low adherence to self-help exercises and reduced therapeutic effects.[33,44] Technical limitations hinder the development of a strong therapeutic alliance, reducing patient satisfaction and trust.[29,59] Lastly, poor program design negatively influenced some patients, as they exchanged harmful weight loss ideas with peers.[44]

Negative patient experience

Many qualitative studies[15,16,24,32,43,44,47,58] report patient experience of online treatment as boring, impractical, less helpful, less personalized, and less satisfying than face-to-face therapy. Also, several studies report that face-to-face treatment is considered necessary, at least in parallel to online treatment, and online treatment alone is inadequate.[16,17,35,39,43,55,56,61]

Comorbidities, social attributes, personality traits

Stress, mood disorders, and substance misuse negatively affect patient adherence to treatment.[20,24,32–34,37,45,46,50,56,61] Poor education,[40,42] unemployment[59] and high workload[19] are linked with low adherence to treatment. Finally, personality traits like vulnerability, difficulty in socializing, low self-esteem, and low self-discipline are associated with poor therapeutic outcomes.[19,38,43,44,59,60]

Discussion

Internet-based therapy is certainly effective for EDs, as demonstrated by Barakat et al,[65] Samara et al,[10] and Dufour et al.[66] It enhances early intervention and results in symptomatic improvement, especially when CBT-based intervention[10,65] or FBT[66] for adolescents is employed, and when good technical equipment is used and an emphasis on the therapeutic relationship is achieved.

This review aimed to investigate the barriers to using telepsychiatry for treating EDs so that addressing them could make an already effective treatment even more effective.

We identified several barriers, many of which are interlinked, and they may be inductively grouped as follows:

- Therapeutic relationship and adherence to treatment
- Clinical limitations: poor therapeutic effect, illness severity, comorbidity, certain eating disorder types are barriers themselves, personalised care
- Technical limitations: program design issues, privacy concerns, patient experience

The most frequent barrier was low treatment adherence, which is often linked to several other barriers, including the second most common barrier, poor therapeutic effect.[15,20,21,25,27,30,31,36,37,39,48,57,60,61,63,64] One common and simple strategy to enhance adherence is using brief telephone prompts, which improve adherence rates in patients with bulimia, even when delivered by non-healthcare professionals.[67] Conversely, rejecting telephone prompts leads to non-attendance at psychiatric outpatient appointments.[68] Treatment adherence can also improve by making program design more user-friendly and reducing technical difficulties. This is in line with the finding of the review of Barakat et al, who mention that user-friendly utilization of multimedia has been associated with symptomatic improvement in EDs.[65]

Our review also shows that clinical complexity (symptom severity, certain eating disorder (ED) subtypes, and comorbidity) compromises telepsychiatry's effectiveness. Severe symptoms were linked to lower effectiveness, reduced treatment adherence, and higher dropout rates. Anorexia nervosa was often associated with poor results, probably due to the limitations of online treatments to supervise meals, to measure weight, and to check for weight-reduction behaviors.[69] Face-to-face interventions were also found to be more effective than remote interventions in achieving abstinence from binge/purge episodes. [10] Given the importance of weight gain in recovery,[70] it may be useful for patients with very low weight to initially receive face-to-face treatment until some weight gain is achieved before transitioning to online treatment. It is important to individualize online treatment or develop hybrid models that combine online and in-person therapy for patients with anorexia nervosa, severe bulimia, and other ED subtypes with severe psychopathology or comorbidities.

A careful synthesis of our findings suggests that person-centered care, or the lack thereof, is the common denominator to the barriers highlighted in our report. Among the barriers, the therapeutic relationship, personalized care, privacy, and patient experience are particularly dependent on person-centered care. Equally, the fact that treatment adherence and clinical complexity (illness severity, comorbidity, ED subtypes) also emerge as barriers suggests that telepsychiatry lacks a longitudinal clinical effect. Taken together, even though generally effective, our study suggests that telepsychiatry misses the multifaceted and longitudinal nature of person-centered care.[71,72] Indeed, as suggested by Dufour et al, a sense of connection is crucial for therapeutic success.[66]This is in line with several studies in our review suggesting that more active therapist involvement could improve outcomes.

The aforementioned reviews by Barakat et al,[65] Samara et al,[10] and Dufour et al,[66] recommend online therapy for EDs but also point out several barriers. More specifically, Barakat et al support that eTherapies currently available for ED treatment are limited in their interactive and personalized design features,[65] which is in line with the findings of Dufour et al, where both patients and clinicians report their experience of decreased connection in exclusively online treatment.[66] Samara et al found that remission was more likely with face-to-face interventions compared to online interventions.[10] Also, despite the fact that mobile apps are generally acceptable to youth, they have limited effects on ED psychopathology.[66]

This literature review presents several limitations. Firstly, there was considerable study design heterogeneity, including inconsistent diagnostic criteria, different inclusion/exclusion criteria, and interventions. Anorexia nervosa was under-represented in this review, rendering the findings more pertinent to bulimia nervosa, binge eating disorder, and eating disorder not otherwise specified (EDNOS) phenotypes. In many studies, comorbidities influenced the response to treatment, and patient characteristics varied significantly, including age, sex, illness duration, and prescribed medication. Furthermore, heterogeneity was evident in the study outcomes, complicating direct comparisons between findings. The nature of this review did not allow a formal risk of bias assessment or meta-analysis. Consequently, this review

adhered to a modified PRISMA checklist, adapted to accommodate a more flexible synthetic approach.

Future research should determine the most effective type of telepsychiatry for eating disorders (EDs) and explore different psychotherapy modalities and pharmacotherapy options. Systematic reviews indicate that CBT is superior to pharmacotherapy for binge eating disorder (BED),[73] while pharmacotherapy outperforms placebo for bulimia nervosa[74] and BED.[75] It is essential to investigate if telepsychiatry affects this treatment hierarchy. Additionally, hybrid models combining face-to-face and online therapy, especially for cases with clinical complexity, should be explored for potentially better outcomes.

In conclusion, while this study seems pessimistic, due to the nature of investigating barriers, in reality telepsychiatry is very useful and promising for treating EDs. Clinical adaptations, technological improvements, and a person-centered approach are essential to fully realize its potential.

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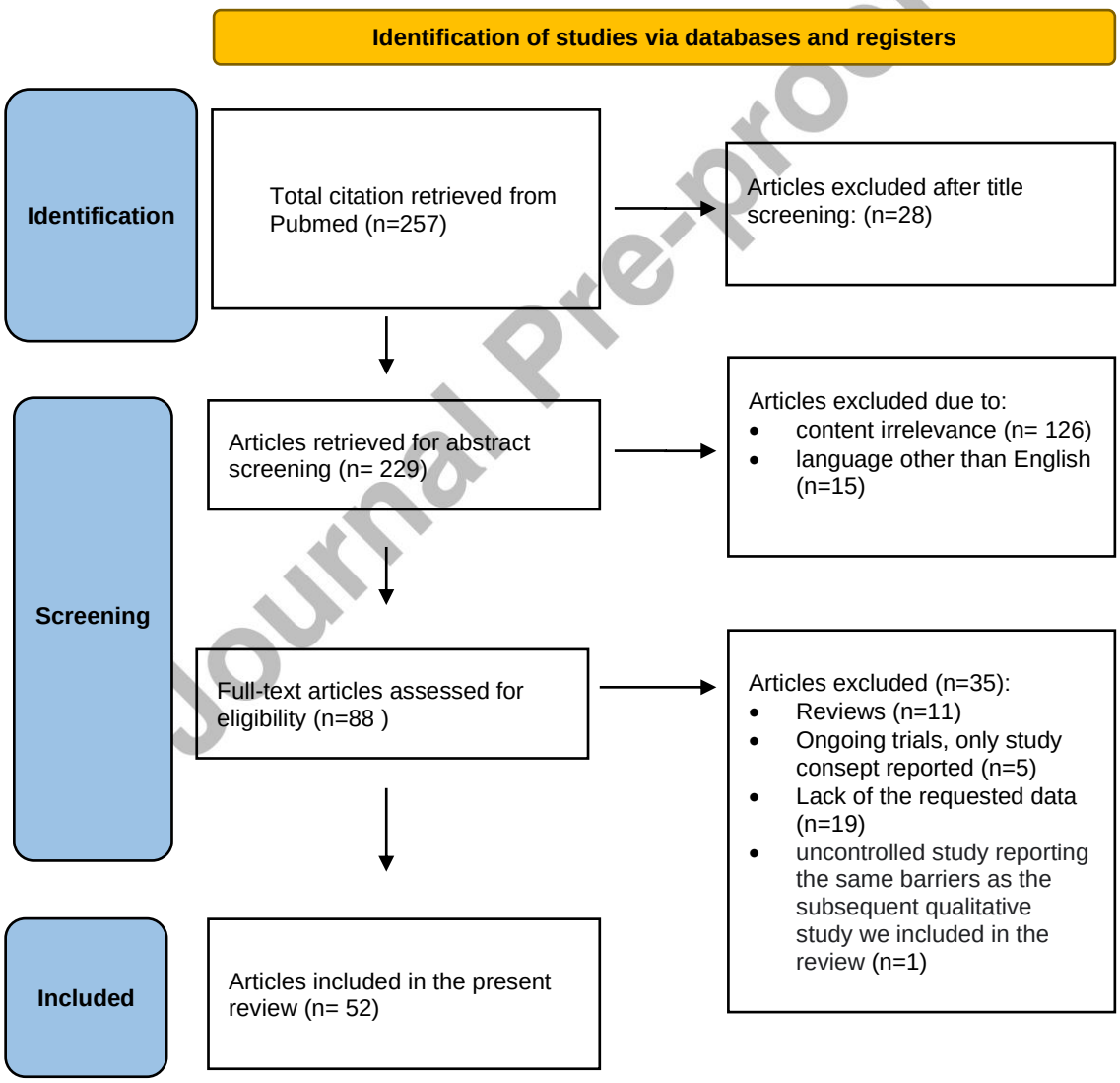

Figure 1.PRISMA flow diagram of the study-selection procedure.

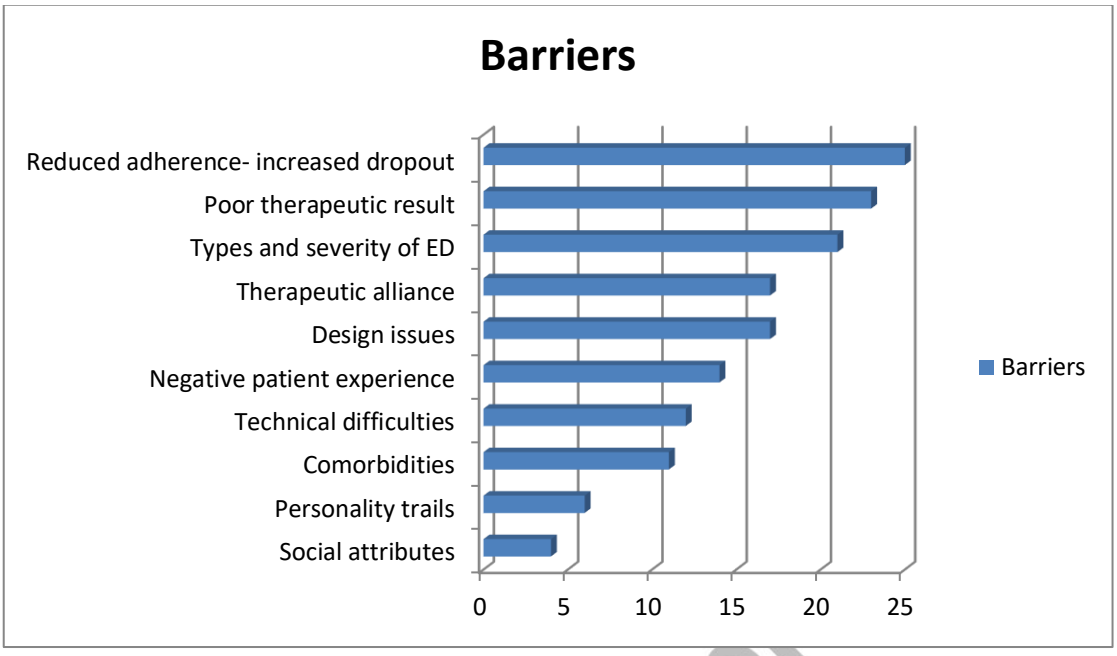

Figure 2. Frequency of barriers of telepsychiatry in Eds

ΑΝΑΣΚΟΠΗΣΗ

Τα εμπόδια της τηλεψυχιατρικής στη θεραπεία ασθενών με διαταραχές πρόσληψης τροφής: Συστηματική ανασκόπηση και θεματική σύνθεση

Μελπομένη Ελένη Σαπουνά,[1] Ανδρέας Λάππας,[2,3] Μυρτώ Σαμαρά,[2] Βασίλειος Π. Μποζίκας,[1] Νίκος Χριστοδούλου [2]

1. *Τμήμα Ψυχιατρικής, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Ελλάδα*
2. *Τμήμα Ψυχιατρικής, Ιατρική Σχολή, Πανεπιστήμιο Θεσσαλίας, Ελλάδα*
3. *Τμήμα Γηριατρικής Ψυχιατρικής, Aneurin Bevan University Health Board, Newport, UK*

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----------**ΠΕΡΙΛΗΨΗ**----------

Οι διαταραχές πρόσληψης τροφής είναι ψυχικές διαταραχές, με κύρια χαρακτηριστικά τη διαταραγμένη εικόνα σώματος και τον υπέρμετρο φόβο για αύξηση του σωματικού βάρους, που οδηγούν σε διαταραχή του τρόπου λήψης τροφής και της συμπεριφοράς ελέγχου του βάρους. Μελέτες δείχνουν πως η έγκαιρη παροχή θεραπείας είναι από τους σημαντικότερους παράγοντες βελτίωσης της πρόγνωσης αυτών των ασθενειών. Παρ' όλα αυτά, μεγάλο ποσοστό των ασθενών με διαταραχές πρόσληψης τροφής δεν λαμβάνουν θεραπεία ή αναζητούν θεραπεία σε προχωρημένο στάδιο της νόσου. Η τηλεψυχιατρική φαίνεται ότι θα μπορούσε να αποτελέσει μια λύση σε αυτό το πρόβλημα, με την άρση των γεωγραφικών εμποδίων και την ελάττωση του κόστους μετακίνησης που προσφέρει. Παρ' όλα αυτά, υπάρχουν ανησυχίες σχετικά με την αποτελεσματικότητά της στη θεραπεία ασθενών με διαταραχές πρόσληψης τροφής, την εγκατάσταση ισχυρής θεραπευτικής σχέσης, τη διασφάλιση της προστασίας προσωπικών δεδομένων, την ασφάλεια και τους τεχνολογικούς περιορισμούς. Σκοπός της παρούσας εργασίας είναι η επισκόπηση των εμποδίων που περιορίζουν τη χρησιμότητα της τηλεψυχιατρικής στη θεραπεία των διαταραχών πρόσληψης τροφής. Ο απώτερος στόχος είναι η βελτίωση των υπαρχόντων υπηρεσιών τηλεψυχιατρικής, ώστε να εξυπηρετούν καλύτερα και ασφαλέστερα τις ιδιαίτερες ανάγκες των ασθενών με διαταραχές πρόσληψης τροφής. Διενεργήσαμε συστηματική ανασκόπηση και θεματική σύνθεση χρησιμοποιώντας μικτή μεθοδολογία PRISMA / ENTREQ, εστιάζοντας στις έρευνες που διερεύνησαν άμεσα ή έμμεσα τα εμπόδια στη χρήση της τηλεψυχιατρικής για τη θεραπεία ασθενών με διαταραχές πρόσληψης τροφής. Συμπεριλήφθηκαν πενήντα δύο μελέτες, οι οποίες απεκάλυψαν πολύπλευρες προκλήσεις στην εφαρμογή της τηλεψυχιατρικής για ασθενείς με διαταραχές πρόσληψης τροφής. Συγκεκριμένα εμπόδια που εντοπίστηκαν περιλαμβάνουν δυσκολίες στη δημιουργία ισχυρής θεραπευτικής σχέσης και στη διατήρηση της συμμόρφωσης στη θεραπεία, κλινικούς περιορισμούς (φτωχό θεραπευτικό αποτέλεσμα, βαρύτητα ασθένειας, συννοσηρότητα, ορισμένοι τύποι διατροφικών διαταραχών που αποτελούν οι ίδιοι εμπόδια, απρόσωπη φροντίδα) και τεχνικούς περιορισμούς (ζητήματα σχεδιασμού προγραμμάτων, ανησυχίες για την προστασία της ιδιωτικότητας), καθώς και αρνητική εμπειρία ασθενών. Η τηλεψυχιατρική δείχνει πολλά υποσχόμενη για τη θεραπεία των διαταραχών πρόσληψης τροφής, αλλά είναι σημαντικό να αντιμετωπιστούν και τα εμπόδια που εντοπίζονται κατά την εφαρμογή της. Η κλινική προσαρμογή, οι τεχνολογικές βελτιώσεις και η προσωποκεντρική προσέγγιση είναι

ουσιαστικής σημασίας για την πλήρη αξιοποίηση του δυναμικού της. Τα διαδικτυακά ή υβριδικά μοντέλα θεραπείας χρειάζεται να είναι εξατομικευμένα, πολυδιάστατα και με ενεργή συμμετοχή του θεραπευτή, ιδιαίτερα για ασθενείς με κλινική πολυπλοκότητα.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Διατροφικές διαταραχές, τηλεψυχιατρική, διαδικτυακή θεραπεία, εμπόδια, προσωποκεντρική ιατρική.

Επιμελητής συγγραφέας: Μελπομένη Ελένη Σαπουνά, Τμήμα Ψυχιατρικής, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, 54124, Θεσσαλονίκη, Ελλάδα, Email: melina.sap8@gmail.com