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Internalizing symptoms impede adolescents' ability to transition from in-person to online mental health services during the 2019 coronavirus disease pandemic

Ehud Mekori-Domachevsky[1,2], Noam Matalon[1,2], Yael Mayer[3], Noga Shiffman[4], Ido Lurie[1,5], Doron Gothelf[1,2] and Idit Dekel[1,2]

Abstract

Introduction: Online mental health services were previously found to be effective in many studies. However, this method was not generally used in Israel. By the end of 2019, the coronavirus disease 2019 pandemic erupted, forcing mental health services to transition to online meetings to maintain the standard of care. In this cross-sectional study, we investigated the attitudes of adolescent patients toward this involuntary new mode of care.

Methods: Forty-four adolescents (mean age 14.62 ± 2.12 years, 54.5% females) and 40 of their primary caregivers completed a battery of questionnaires that included the telemedicine satisfaction questionnaire, session evaluation questionnaire, working alliance inventory, and pediatric symptom checklist.

Results: Both adolescents and their caregivers reported a reasonable experience with the online medium and a feeling that the meetings were overall powerful, helpful, and comfortable as demonstrated by medium to high scores on the telemedicine satisfaction questionnaire and session evaluation questionnaire questionnaires. A therapeutic alliance was generally maintained according to working alliance inventory scores. However, working alliance inventory scores were negatively correlated with higher levels of internalizing symptoms and parental stress.

Discussion: Our findings point to the possibility that anxious/depressed adolescents will have greater difficulties re-establishing therapeutic alliance when transitioned from in-person to online meetings. This may be due to the introduction of an "invisible" third party to the therapeutic setting—the computer. Psychologists and psychiatrists should be aware of these difficulties and respond adequately to maintain the standard of care.

Keywords

eHealth, teleconsulting, telemedicine, telepsychiatry, COVID-19, mental health, adolescent, telehealth

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Introduction

Online therapy—whether psychotherapy or pharmacotherapy—has been suggested as a viable treatment method as early as the 1970s.[1] In more recent years, consecutive studies have shown the effectiveness of online psychotherapy for children, adolescents, and adults[2–5] and of online psychiatric examinations.[6–8] Moreover, telepsychiatry for children and adolescents has been known to have some benefits compared with in-person psychiatry. In a systematic review of 27 studies on telepsychiatry, it was found that videoconferencing improved the accessibility of mental health services, served an educational function, and was more time-efficient and cheaper. The drawbacks found were difficulties with non-verbal communication and the audiovisual quality.[9]

Although most adolescents today are accustomed to various modes of online communication,[10] most mental health services in Israel were conducted as "old school"

[1]Sackler School of Medicine, Tel Aviv University, Israel
[2]Child and Adolescent Psychiatry Division, Sheba Medical Center, Israel
[3]Department of Occupational Science and Occupational Therapy, Faculty of Medicine, The University of British Columbia, Canada
[4]Hillel Yafe Medical Center, Israel
[5]Shalvata Mental Health Center, Israel

Corresponding author:
Ehud Mekori-Domachevsky, The Child and Adolescent Psychiatry Clinic, Sheba Medical Center, 52621, Ramat Gan, Israel.
Email: ehud.mekori@sheba.gov.il

face-to-face meetings. This changed, starting at the end of 2019 and during 2020, due to the coronavirus disease 2019 (COVID-19) pandemic that forced entire countries to implement lockdowns to try and limit the spread of the virus. On the last week of March 2020, Israel entered its first lockdown, forcing psychiatrists, psychologists, and patients to shift almost instantly to online sessions to maintain the standard of care. The transition forced adolescent patients and their caregivers to adapt to a new mode of communication, that is familiar to them but in a very different context. To date, there is very little data on the experience of patients with the transition to online meetings,[11–13] and to our surprise, we were not able to find any studies done with adolescents.

Exploring the effects of this transition is important not only from a purely scientific perspective, but also from a therapeutic one. One of the key components for a successful treatment is the therapeutic alliance.[14] Also known as working alliance (the terms are interchangeable[15]), it consists of three factors: sharing of clear expectations and goals by both patient and therapist, an understanding between patient and therapist on how to achieves these goals, and a secure relationship between the patient and the therapist.[15,16] A change in the therapeutic alliance in wake of the switch to online session may be detrimental to the treatment.

Therefore, the aims of this study were two-fold: (1) to evaluate the experience of adolescent patients and their caregivers with the transition to the online medium (as opposed to choosing online mental health services a priori). (2) To explore possible factors that may be related to patients' experience and sense of therapeutic alliance with the online medium: demographics, types of symptoms (i.e. internalization vs. externalization symptoms), attitude toward the COVID-19 pandemic and technological competence.

Methods

Participants

In this cross-sectional study, 44 adolescents (mean age 14.62 ± 2.12 years, 54.5% females) and 40 of their primary caregivers were recruited during March to April 2020 at the Child and Adolescent Psychiatry Outpatient Clinic, Sheba Medical Center, Ramat Gan, Israel. All of the participants received mental health services at the clinic prior to the pandemic, psychotherapy and/or psychiatric follow-ups, and had to transition to online meetings during the lockdown. The participants and caregivers were asked to fill a series of questionnaires pertaining to their experience. If treated by more than one staff member, they were instructed to refer to the meetings they had the most.

The study was approved by the internal review board of the Sheba Medical Center. Informed assent and consent were obtained from all of the participants and their caregivers. Participants were approached by researchers who were not part of their treatment team and were assured that no information will be disclosed to the team's members.

Assessment

Participant and their caregivers were asked to provide demographic and clinical data (age, sex, and treatment duration prior to the lockdown) and completed separately a battery of the Hebrew versions of the following questionnaires:

Telemedicine satisfaction questionnaire (TSQ)—A validated 14 items questionnaire that evaluates patient satisfaction with telemedicine.[17,18] It uses a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5) and is divided into three components: quality of care provided (TSQ1), similarity to face-to-face encounter (TSQ2), and perception of the interaction (TSQ3). A total TSQ score >56 denotes a good experience with telemedicine. In the current study, the TSQ scale showed good internal consistency, with alpha Cronbach of 0.88 for the total scale, 0.82 for the TSQ1 subscale, and 0.72 for the TSQ2 subscale (as TSQ3 is composed of a single component, internal consistency was not calculated).

Session evaluation questionnaire, form 4 (SEQ)—A 20 items questionnaire, rated on a seven-point Likert scale, that assesses the quality of a therapeutic session and participant's post-session mood. In this study, we used only the first 10 questions of the SEQ to assess the participants' feelings about the online sessions, rating them on two axes: (a) as powerful and valuable versus weak and worthless and (b) as relaxed and comfortable versus tense and distressing. These two dimensions are denoted as "arousal" and "smoothness," respectively.[19,20]

Working alliance inventory (WAI) short form—A questionnaire comprised of 12 questions covering three domains: agreement between patient and therapist on the goals of the treatment, the tasks needed to achieve, and bond felt by the patient.[21–23] Higher scores suggest better alliance. In the current study, the WAI showed good internal consistency, with an alpha Cronbach of 0.92 for the entire questionnaire, 0.77 for the goal domain, 0.85 for the task domain, and 0.75 for the bond domain.

Pediatric symptom checklist (PSC)—Both self-report and caregivers' versions were used to determine the degree of the participants' externalizing, internalizing, and attention symptoms (each scored independently). The self-report version (PSC-Y) is comprised of 35 items and the caregivers' version of 17 items. In both questionnaires, items are rated as "never," "sometimes," or "often."[24] In the current study, the PSC-Y scale showed good internal consistency, with an alpha Cronbach of 0.88 for the total scale, 0.76 for the attention subscale, and 0.83 for the

internalizing subscale. Cronbach alpha for the externalizing was mediocre of 0.67.

The short *depression, anxiety, and stress scale 21* (DASS 21)—was administered to the caretakers to evaluate their degree for depressive, anxious, and stress symptoms. Its 21 items are scored on a four-point Likert scale and a higher score denotes worse symptomatology.[25,26] Alpha Cronbach was 0.94.

Fear of COVID-19[27,28]—a self-report scale that contains seven items referring to fear responses to the pandemic. Participants were requested to respond on a five-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). The total score ranges from 7 to 35, a higher total score indicating greater fear of COVID-19. In the current study, the scale showed good internal consistency, with a Cronbach alpha of 0.86.

Finally, the participants were asked to score eight questions on a five-point scale about how much they used online communication in the past, their overall sense of the transition to telehealth, and their willingness to use it in the future. This assessed their technological competence.

Statistical analysis

All analyses were performed using IBM SPSS v.25. Demographic data and overall questionnaire scores were described using standard descriptive statistics. Given the exploratory nature of this study and to identify the intricate and mutual relationships between the various facets of the patients' experience with online sessions an exploratory factor analysis was done incorporating the TSQ, SEQ, and WAI subscales. The output "online factors" were correlated with PSC and Fear of COVID-19 scores, participants' age, technologic competence score, and treatment duration prior to the lockdown to search for possible influences. Then, the "online factors" were correlated with the caregivers' DASS 21 and fear of COVID-19 scores and the caregivers' age and technological competence scores. Finally, median scores of the online factors were compared between females and males. Non-parametric Spearman's correlation and median test were used in all of the analyses.

Results

The demographic and clinical data are presented in Table 1. Most participants (59.1%) had an internalizing disorder diagnosis. The participants' median TSQ scores were medium to high: total TSQ score = 54.50 ± 19.50, TSQ1 = 3.75 ± 1.59, TSQ2 = 3.80 ± 1.20 and TSQ3 = 4.00 ± 2.00 (Figure 1). Caregivers scored similarly on the three components (4.00 ± 1.31, 4.10 ± 1.20, and 4.00 ± 1.00) and on the total score (57.00 ± 17.25). SEQ scores were also medium to high for the participants (arousal: 4.60 ± 1.40; smoothness: 5.40 ± 2.40) and the caregivers (arousal: 4.20 ± 2.80; smoothness: 5.20 ± 2.80). Participants' WAI scores for the bond, task, and goal factors were 17.50 ± 5.00, 13.00 ± 7.00, and 16.00 ± 7.00, respectively. Caregivers' scores were similar: 16.00 ± 7.00, 12.00 ± 4.00, and 15.00 ± 5.00.

Table 1. Demographics and questionnaire scores.

	Participants ($N = 44$)	Caregivers ($N = 40$)
Age (years ± SD)	14.62 ± 2.12	48.24 ± 10.63
Females (%)	24 (54.0)	32 (80.0)
Diagnosis spectrum (%)		
Internalizing	26 (59.1)	NA
Externalizing	11 (25)	NA
Mixed	7 (15.9)	NA
Questionnaires (median ± IQR)		
Technology competence score	23.00 ± 8.00	22.50 ± 7.00
TSQ1—quality	3.75 ± 1.59	4.00 ± 1.31
TSQ2—similarity	3.80 ± 1.20	4.10 ± 1.20
TSQ3—perception	4.00 ± 2.00	4.00 ± 1.00
TSQ total	54.50 ± 19.50	57.00 ± 17.25
SEQ—arousal	4.60 ± 1.40	4.20 ± 2.80
SEQ—smoothness	5.40 ± 2.40	5.20 ± 2.80
WAI—bond	17.50 ± 5.00	16.00 ± 7.00
WAI—task	13.00 ± 7.00	12.00 ± 4.00
WAI—goal	16.00 ± 7.00	15.00 ± 5.00
Fear of COVID-19	14.00 ± 9.00	14.00 ± 8.00
PSC—internalizing	4.00 ± 6.00	4.00 ± 3.00
PSC—externalizing	2.00 ± 4.00	4.50 ± 7.00
PSC—attention	5.00 ± 4.00	4.00 ± 4
PSC—total	12.00 ± 9.00	12.00 ± 12.00
DASS 21—depression	NA	0.00 ± 4.00
DASS 21—anxiety	NA	0.00 ± 2.00
DASS 21—stress	NA	2.00 ± 8.00
DASS 21—total	NA	4.00 ± 14.00

IQR: interquartile range; TSQ: telemedicine satisfaction questionnaire; SEQ: session evaluation questionnaire; WAI: working alliance inventory; COVID-19: coronavirus disease 2019; PSC: pediatric symptom checklist; DASS: depression, anxiety, and stress scale.

A principal axis factor analysis with Varimax rotation (Kaiser-Meyer-Olkin [KMO] test = 0.73, Bartlett's measure = 0.00) revealed two factors with an eigenvalue >1. The first was composed of all of the TSQ and SEQ subscales (factor 1) and the second of the WAI subscales (factor 2; Table 2). Factor 1 did not have any significant correlation with PSC, fear of COVID-19, participants' age or technological competence, or treatment duration prior to the lockdown.

Conversely, factor 2 was negatively correlated with the PSC internalizing and total scores ($r_s = -0.33$, $p = 0.028$ and $r_s = -0.30$, $p = 0.05$, respectively). Therefore, we repeated the correlations with the WAI subscales and found that both the "task" and the "goal" subscales were inversely correlated with internalizing symptoms on the PSC ($r_s = -0.31$, $p = 0.040$ and $r_s = -0.30$, $p = 0.048$, respectively). Lastly, factor 1 was not significantly correlated with the caregivers' various scores, but factor 2 was inversely correlated with the DASS 21 stress score

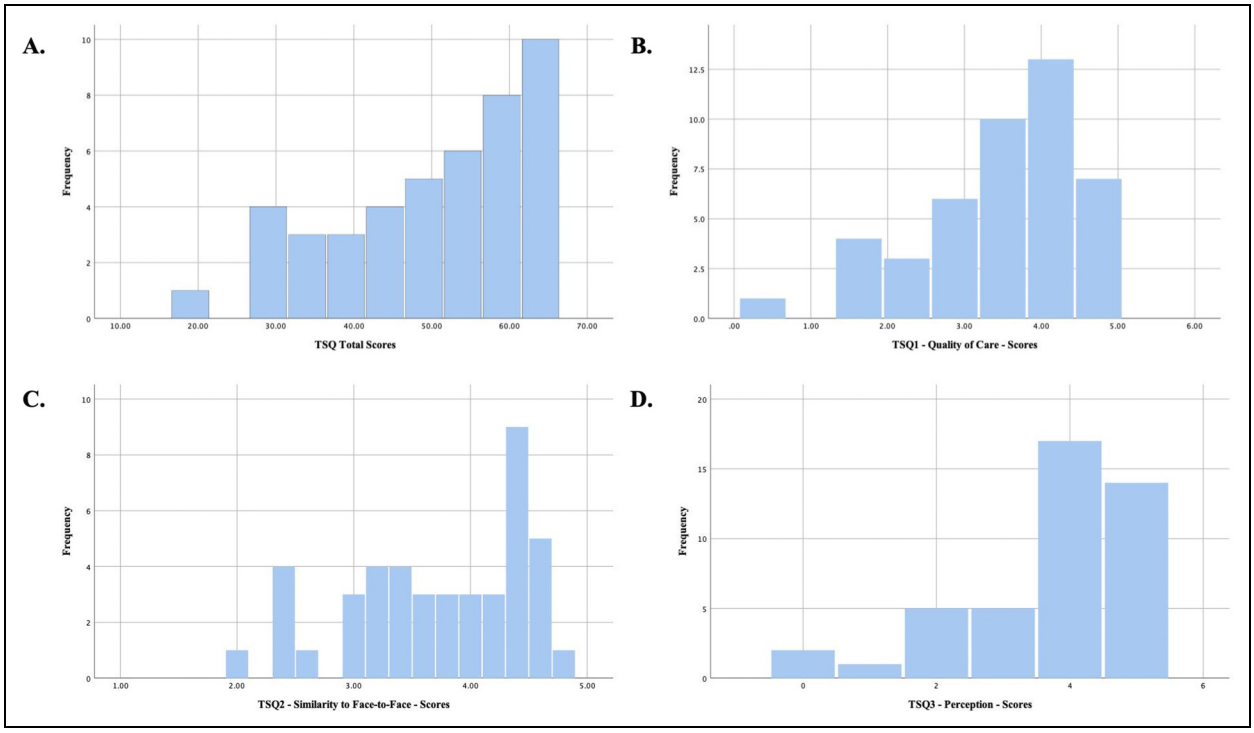

Figure 1. Frequency of telemedicine satisfaction questionnaire (TSQ) total and component scores. The adolescents who participated in the study scored medium to high on the total TSQ score (A), the quality of care subscale of the TSQ (B), the similarity to face to face subscale (C), and the perception subscale (D).

Table 2. Online factors composition.

	Factor	
	1	2
TSQ—quality	0.886	
TSQ—perception	0.826	
SEQ—smoothness	0.755	
TSQ—similarity	0.725	
SEQ—depth	0.659	0.426
WAI—goal		0.952
WAI—bond		0.736
WAI—task	0.366	0.733

TSQ: telemedicine satisfaction questionnaire; SEQ: session evaluation questionnaire; WAI: working alliance inventory.

($r_s = -0.35$, $p = 0.027$). The breakdown to WAI subscales showed that the "goal" subscale was also inversely correlated with DASS 21 stress score ($r_s = -0.36$, $p = 0.022$).

A comparison of both factor 1 and 2 scores between females and males did not yield significant differences as was for the discrete questionnaires' subscales.

Discussion

The aim of the present study was to explore the experience of adolescents and their caregivers with transitioning to online mental health services during the first COVID-19 lockdown in Israel. Both groups scored medium to high on the TSQ and SEQ questionnaires signifying a reasonable experience with the online medium and a feeling that the meetings were overall powerful, helpful, and comfortable. These feelings were not influenced by the type of the participants' disorder, age, sex, fear of COVID-19, or technological competence. Caregivers fared similarly. WAI scores were also medium to high, signifying that the therapeutic alliance was generally maintained. Yet, higher levels of internalizing symptoms and parental stress were associated with lower WAI scores, that is, worse therapeutic alliance.

Our findings are in line with previous studies that reported that clients were generally satisfied with telemental health services.[15] However, the issue of the therapeutic alliance in the online medium merits further discussion.

In our cohort of adolescents, the total WAI score was inversely correlated with the total and internalizing PSC scores, as were the task and goal WAI subscales. Additionally, the goal subscale was also inversely correlated with the caregivers' DASS 21 stress score. Our finding suggests that patients with greater levels of internalizing symptoms (and greater parents' stress levels) had a harder time establishing a therapeutic alliance and possibly had difficulty with transitioning to the online medium. In his seminal paper from 1979, Bordin[29] defined the goals

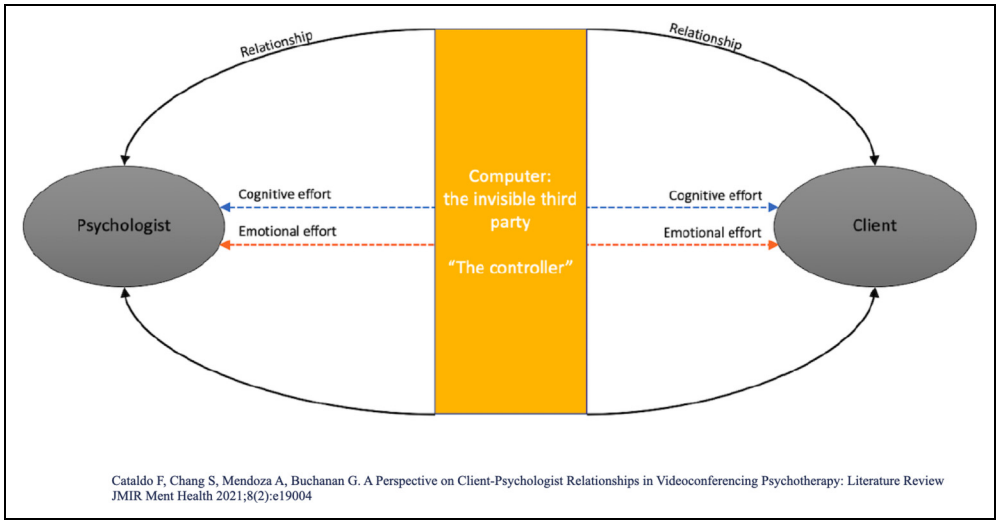

Figure 2. The third party model. The computer as an "invisible" third party in online session as suggested by Cataldo et al.[15]

and task components of the therapeutic alliance as follows: "psychoanalytic (perhaps all psychodynamic) treatment rests on the mutual agreement that the patient's stresses, frustrations, and dissatisfactions are to a significant extent a function of his own ways of thinking, feeling and acting. The aim of treatment is to examine, modify or ameliorate his or her own contributions to, or exacerbation of, these pains" and "collaboration between patient and therapist involves an agreed upon contract, which takes into account some very concrete exchanges… Even more crucial for differences in therapeutic methods are the kinds of tasks as assigned to patient and therapist." Our findings point to the possibility that patients who were more anxious/depressed had greater difficulties adjusting to what are the expected outcomes of the online sessions, as well as how to achieve them.

In their excellent review, Cataldo et al.[15] concluded that most studies on video conferencing psychotherapy found an increase in patients' sense of intimacy, security, and participation while psychologists had difficulties establishing therapeutic relationships. They suggested the model of the "invisible third party," drawing attention to the role of the computer as a presence and not only a technological means (Figure 2). They deduced that psychologists might need to invest greater mental and emotional efforts in online session to establish the same therapeutic relationship.[15] This new "invisible" party may explain the difficulties for some of our participants with re-establishing therapeutic alliance. As the online medium was forced upon the existing therapeutic relationships, it changed the "rules of the game" for our patients and it stands to reason that the more anxious/depressed had greater difficulties adjusting to the change. Mental health professionals should be aware of these new therapeutic aspects and address them with themselves and their patients to smoothen, as much as possible, the transition to online sessions.

Our study has several limitations that need to be addressed. First, it has a relatively small sample and a cross-sectional design. Therefore, bigger and prospective studies are needed to allow generalizations of our findings. Secondly, it groups together therapeutic sessions as well as psychiatric follow-ups. As the type of relationship differs between the two, this grouping may influence the results. Finally, we did not assess the psychologists' and psychiatrists' opinions of the online sessions. These may also influence the patients and their ability to establish a therapeutic alliance.

In conclusion, we found that online mental health sessions were overall well received by our cohort of adolescents (who were forced to transition to it during the first COVID-19 lockdown in Israel). However, participants with greater internalizing symptoms and caregivers' stress levels found it harder to establish a therapeutic alliance over the online medium. This may be due to the addition of a third "invisible" party to the therapeutic relationship —the computer. Bigger and prospective studies are needed to further establish our findings.

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ORCID iDs

Ehud Mekori-Domachevsky https://orcid.org/0000-0002-5334-2851
Ido Lurie https://orcid.org/0000-0001-8033-2432
Idit Dekel https://orcid.org/0000-0001-8737-6163

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