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Patient Acceptance, Initiation, and Engagement in Tele-psychotherapy in Primary Care

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Abstract

Objective—To examine factors associated with the utilization of psychotherapy offered in primary care over interactive video (tele-psychotherapy).

Methods—Primary care patients with depression (N=179) recruited from five Federally Qualified Health Centers were randomized to a telemedicine-based collaborative care intervention and offered free tele-psychotherapy in the primary care setting. Independent variables included measures of access and need for depression treatment. Logistic regression identified variables associated with acceptability, initiation and engagement in tele-psychotherapy.

Results—76% of patients reported that psychotherapy was acceptable, 38% scheduled a tele-psychology session, 17% attended a session and 8% engaged in treatment (8 sessions). Because the intervention was designed to minimize treatment barriers, access was not a significant predictor of utilization. However, use of tele-psychotherapy was significantly associated with measures of perceived need.

Conclusions—Even when psychotherapy is delivered in the primary care setting over interactive video to minimize barriers, few patients initiate or engage in tele-psychotherapy.

Most primary care patients with depression prefer psychotherapy over psychotropic medications [1,2]. However, the proportion of patients receiving psychotherapy versus medication has declined and most depressed patients in primary care receive either pharmacotherapy or no treatment at all [3], suggesting that patients may have poor access to their preferred treatment. Attempts to improve access to psychotherapy have not resulted in dramatic improvements in session attendance or treatment retention [4].

Because both “actual” and “perceived” access to care can impact service use, improving access should improve utilization of psychotherapy [5]. Actual access represents directly

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observable and objectively measureable dimensions (e.g., travel distance) while perceived access represents self-reported and subjective dimensions (e.g., perceptions of travel burden) [5]. Dimensions of access include geographical, temporal, financial, cultural, and digital (e.g., connectivity, computer literacy). Perceived need for treatment also impacts service use. Measures of perceived need include perceptions about symptom burden, susceptibility (likelihood that symptoms will go away by themselves), stoicism, and treatment efficacy [5]. Collaborative care is designed to increase access to depression treatment by co-locating specialty mental health services in primary care settings, thereby decreasing cultural (e.g., stigma) and geographical barriers (e.g., transportation) to care [6]. Telemedicine-based collaborative care includes the delivery of “tele-psychotherapy”, the provision of therapy over interactive video from a specialist at an offsite location to patients in the primary care setting. Tele-psychotherapy yields equivalent outcomes as face-to-face treatment [7,8] while consistently receiving high ratings of satisfaction from patients and providers [8].

Because telemedicine-based collaborative care improves access to psychotherapy, we examined rates of tele-psychotherapy acceptability, initiation and engagement for primary care patients randomized to this intervention in a clinical trial. We also examined whether measures of access and need were associated with the use of tele-psychotherapy.

Methods

Participants were recruited in five Federally Qualified Health Centers (FQHC's) without mental health specialists in Arkansas between November 2007 and June 2009. FQHC staff conducted screening and eligibility procedures. Over a 20 months, 19,285 patients were screened using the Patient Health Questionnaire (PHQ9: a 9-item measure of depression symptoms[9]). Fifteen percent (n = 2,863) screened positive (PHQ9 ≥ 10), 62% provided consent (n = 829), and 55% that consented were eligible (n = 364). Patients, stratified by clinic, were randomized to telemedicine-based collaborative care or an active control using 2×2 Latin Square Design. See Fortney et. al. [10] for detailed methods. The study sample includes only those randomized to the telemedicine-based collaborative care (n=179), as patients randomized to practice-based collaborative care were not offered tele-psychotherapy. University of Arkansas for Medical Sciences Institutional Review Board approved the protocol.

Telemedicine-Based Collaborative Care involved a telephone depression care manager who educated patients about treatment options from among: watchful waiting with self-management, antidepressant pharmacotherapy, cognitive behavioral therapy (CBT) or combination. Follow-up telephone encounters occurred every two weeks and included monitoring depression symptoms (PHQ9), medication and psychotherapy adherence, side effects, and self-management. If a patient did not respond to two trials of a treatment (medication or psychotherapy), a tele-psychiatry consultation was scheduled. All patients were offered CBT over interactive video and patients failing an antidepressant trial were specifically encouraged to initiate and complete CBT. The nurse care manager provided detailed information about the treatment modality (interactive video equipment in the primary care office), content (verbal and written descriptions of CBT manual), and duration (e.g., typical course of treatment including 12–16 weekly sessions). Tele-psychotherapy was

offered at no cost, with appointment scheduling and attendance facilitated by the depression care manager. See Fortney et al. [10] for detailed description of the intervention.

Assessments

Data were collected via blinded telephone interview. At baseline, the Depression Outcomes Module was used to collect socio-demographic information and depression treatment history [11]. Antidepressant treatment was measured from self-report as having been prescribed an antidepressant medication at any time during the 12-month period following baseline. Current major depression was measured using the Mini International Neuropsychiatric Interview (MINI) at baseline [12]. Depression Health Beliefs Inventory items were used to measure perceived access to and perceived need for depression treatment in primary care [13] according to the conceptualization of access described in Fortney et al [5] and summarized in the introduction. Perceived access was measured with four statements, each on a five-point scale from strongly agree to strongly disagree. Perceived access variables were coded so that higher number represented higher barriers to access. Perceived need variables were coded so that higher numbers represented higher perceived need. See Table 1 for perceived access and perceived need items and how each variable was coded in the model. The primary outcomes were: stated acceptability of counseling, scheduling a tele-psychotherapy appointment, attending at least one tele-psychotherapy session, and engaging in tele-psychotherapy. Acceptability of counseling was measured using the following statement: "I'm going to read you a list of things that other people have tried when they are sad to help them feel better. How acceptable is each activity to you?" Patients who rated "seeking one-on-one counseling from a mental health professional" as "definitely acceptable" or "acceptable" were coded as accepting of counseling. Scheduling a tele-psychotherapy appointment data was collected via depression care manager records and was defined as the requesting or agreeing to enroll in tele-psychotherapy. Engagement in tele-psychotherapy was defined as attending at least 8 sessions, an adequate number to achieve a therapeutic effect [14].

Patients were the unit of the intent-to-treat analysis. It was not necessary to adjust standard errors due to the potential nesting of patients within clinics. Independent variables with missing values were imputed using the MI and MIANALYZE procedures in SAS. We specified four logistic regression models with the following dependent variables: acceptability of counseling, scheduling tele-psychotherapy, attending a tele-psychotherapy session and engagement in tele-psychotherapy. The entire sample randomized to the Tele-medicine Based Collaborative Care intervention ($n = 179$) was used in the analysis. Variables were included in the model based on our theoretical conceptualization of access to care [5]. Treatment history variables were included in the model because past utilization is a strong predictor of future utilization (and may tap into perceptions of need not captured by the other independent variables). Race was not included in the model predicting engagement as all of the patients who engaged were Caucasian.

Results

The sample ($n=179$) was predominately female (82%), white (71%) and middle aged ($\mu=47$). Most (81%) met diagnostic criteria for major depressive disorder at baseline [12]. The average travel distance to the primary care clinic was 11.6 miles. Three quarters of patients in the sample (76%) stated that counseling was acceptable or very acceptable. In comparison, 83% reported that antidepressant medication was acceptable or very acceptable. Only 18% of the sample gave higher acceptability ratings for antidepressant medication than psychotherapy and only 11% gave higher acceptability ratings for psychotherapy than antidepressant medication. Despite the high rate of self-reported acceptability of counseling, only 38% scheduled an appointment, 15% attended at least one session and 8% engaged in tele-psychotherapy (attended 8 sessions). Of those who attended at least one session ($n = 24$), the average number of sessions was 10 (range of 1–19). Very few patients (in either arm of the study) received specialty mental health care outside of the study. Six (3%) patients in the telemedicine-based collaborative care study arm and seven (4%) patients in the practice-based arm had outpatient specialty mental health encounters with a psychiatrist, psychologist, social worker, psychiatric nurse or counselor.

The first logistic regression model predicted stated acceptability of counseling (Table 1). None of the demographic or access variables significantly predicted acceptability. Of the perceived need for care variables, higher perceived effectiveness for counseling ($OR = 9.15$, 95% $CI = 4.30-19.43$, $p < .001$) was associated with stated acceptability of counseling. None of the treatment history variables were significantly associated with stated acceptability.

The second logistic regression model predicted scheduling tele-psychotherapy. None of the demographic variables significantly predicted scheduling psychotherapy. Of the perceived access variables, higher perceived barriers to geographic access ($OR = .59$, 95% $CI = .38-.92$, $p = .02$) was negatively associated with scheduling tele-psychotherapy. Of the perceived need for treatment variables, higher perceived susceptibility ($OR = 1.62$, 95% $CI = 1.04-2.51$, $p = .03$) and higher perceived effectiveness of counseling ($OR = 2.28$, 95% $CI = 1.27-4.09$, $p < .01$) were positively associated with scheduling tele-psychotherapy. None of the treatment history variables were significantly associated with scheduling tele-psychotherapy.

The third logistic regression model predicted attending at least one session of tele-psychotherapy. None of the demographic, perceived access to treatment, perceived need for treatment, or depression treatment history variables predicted attending at least one session of tele-psychotherapy. The fourth logistic regression model predicted engagement in tele-psychotherapy. None of the demographic variables were significant predictors. However, no minorities were engaged in tele-psychotherapy. None of the perceived access to or need for treatment variables significantly predicted engagement in tele-psychotherapy. Of the treatment history variables, having received prior counseling ($OR = 4.59$, 95% $CI = 1.17-18.07$, $p = .03$) and being prescribed an antidepressant during the course of the study ($OR = 13.63$, 95% $CI = 1.15-161.81$, $p = .04$) were both associated with engagement in tele-psychotherapy.

Discussion

Although 76% of patients in the Tele-medicine Collaborative Care intervention reported one-on-one counseling to be acceptable, only 16% attended a session and only 8% engaged in at least 8 sessions of tele-psychotherapy. However, when patients *did* attend tele-psychotherapy, the mean number of sessions was 10 and over half of the patients attended 8 sessions or more, suggesting that many patients engaged once treatment was initiated.

Telemedicine-based collaborative care was designed to improve access to psychotherapy by offering services via interactive video in a timely manner, nearby, free of charge and in the less stigmatizing primary care setting [7]. Thus, the low levels of utilization were not likely attributable to barriers such as long travel distance, wait time or cost. Higher perceived geographical access was associated with scheduling an appointment but not with initiation or engagement in tele-psychotherapy. It is also unlikely that negative perceptions about interactive video influenced utilization. Research has consistently found that patient satisfaction with tele-psychotherapy is comparable to face-to-face and the rates of psychotherapy utilization are similar for other studies that refer to on-site face-to-face psychotherapy[7].

A history of depression treatment was associated with utilization of tele-psychotherapy, prior counseling was associated with attending at least one session and engaging in tele-psychotherapy and being prescribed an antidepressant during the study was associated with engaging in tele-psychotherapy. This is consistent with previous research and supports the idea that previous treatment is a predictor of engagement in psychotherapy [1]. It is also possible that treatment history is correlated with depression severity, which would influence both help-seeking and providers' encouraging their patients to attend tele-psychotherapy.

The relatively low proportion of patients that initiated or engaged in psychotherapy suggests a continued need to consider how patient perceptions can influence utilization. Two of the perceived need variables, perceptions of susceptibility (believing that the depression symptoms would persist without treatment) and treatment efficacy were predictors of initiating tele-psychotherapy. This suggests that providing more information about the potential chronicity of depression symptoms, the low likelihood of depression symptoms remitting without treatment, and the effectiveness of psychotherapy may improve willingness to initiate psychotherapy treatment.

Based on these findings, it will be important to explore alternative approaches to improve psychotherapy utilization, such as the referral process. In the intervention, the referral process was similar to traditional referral processes to offsite specialty mental health. In contrast to traditional referral models where patients are given a future appointment with an unknown therapist, models of spatially co-located, fully integrated models of collaborative care have demonstrated very high initiation rates of mental health referrals [15]. High level of initiation in fully integrated models is likely attributable to "open access" clinics where there is an immediate "warm handoff" from the primary care provider to the therapist. In light of the findings of this study, it is important to consider how the open access approach can be adapted for telemedicine.

There are several limitations to the study. First, no causal inferences for stated acceptability of psychotherapy can be made because both the dependent and independent variables were measured at baseline. In addition, acceptability of treatment may not be directly comparable to treatment preference elicited in other studies, as patients in the present study were not asked to rank treatments as preferable to one another. Although this limits comparability to findings of preference, our findings are consistent with current practice, as patients are rarely asked to choose *either* medication *or* psychotherapy treatment. Another possible limitation is that acceptance was not specific to the intervention being provided (e.g., did not ask about acceptability of CBT conducted over interactive video). Because acceptance was measured at baseline for primary care patients (presumed to be naïve to CBT and interactive video), the term “one-on-one counseling” was used to measure general acceptance of this treatment as opposed to medication. Lastly, the small numbers of patients that attended or engaged in tele-psychotherapy limited our ability to detect the significance of potentially important predictors. Post hoc power analysis revealed that there was adequate power (0.8) to detect odds ratios of 3.7 for attending tele-psychotherapy to 4.7 for engaging in tele-psychotherapy.

Overall, patient attendance and engagement in tele-psychotherapy was relatively rare. Perceived need variables that were associated with utilization of tele-psychotherapy were limited to perceived susceptibility and efficacy, which should encourage the use of psychoeducational interventions to promote engagement. It may be that the traditional referral process negatively impacted the utilization. Future research should determine how to successfully integrate tele-psychotherapy services into remote primary care clinics in such a way that patients will initiate and engage in evidence-based psychotherapies.

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References

1. Dwight-Johnson M, Sherbourne CD, Liao D, et al. Treatment Preferences Among Depressed Primary Care Patients. *Journal of General Internal Medicine*. 2000; 15:527–534. [PubMed: 10940143]
2. Kwan BM, Dimidjian S, Rizvi SL. Treatment preference, engagement, and clinical improvement in pharmacotherapy versus psychotherapy for depression. *Behavior Research Therapy*. 2010; 48:799–804.
3. Marcus SC, Olfson M. National trends in the treatment for depression from 1998 to 2007. *Archives of General Psychiatry*. 2010; 67:1265–1273. [PubMed: 21135326]
4. Jaycox LH, Miranda J, Meredith LS, et al. Impact of a primary care quality improvement intervention on use of psychotherapy for depression. *Mental health services research*. 2003; 5:109–120. [PubMed: 12801074]
5. Fortney JC, Burgess JF Jr, Bosworth HB, et al. A re-conceptualization of access for 21st century healthcare. *Journal of General Internal Medicine*. 2011; 26 (Suppl 2):639–647. [PubMed: 21989616]

6. Williamsjr J, Gerrity M, Holsinger T, et al. Systematic review of multifaceted interventions to improve depression care. *General Hospital Psychiatry*. 2007; 29:91–116. [PubMed: 17336659]
7. Frueh BC, Monnier J, Yim E, et al. A randomized trial of telepsychiatry for post-traumatic stress disorder. *Journal of Telemedicine and Telecare*. 2007; 13:142–147. [PubMed: 17519056]
8. Mair F, Whitten P. Systematic review of studies of patient satisfaction with telemedicine. *British Medical Journal (Clinical Research Ed)*. 2000; 320:1517–1520.
9. Kroenke K, Spitzer RL. The PHQ9: A new depression diagnostic and severity measure. *Psychiatric Annals*. 2002; 32:509–515.
10. Fortney, JC.; Pyne, J.; Mouden, SP., et al. A Pragmatic Randomized Comparative Effectiveness Trial of Practice Based Versus Telemedicine Based Collaborative Care for Depression in Rural Federally Quailified Health Centers. 2012. Submitted for Publication
11. Smith, GR.; Burnam, A.; Burns, BJ., et al. American Psychological Association. Handbook of Psychiatric Measures. Washington, DC: 2000. Depression Outcomes Model (DOM).
12. Sheehan DV, Lecrubier Y, Harnett Sheehan K, et al. The validity of the Mini International Neuropsychiatric Interview (MINI) according to the SCID-P and its reliability. *European Psychiatry*. 1997; 12:232–241.
13. Edlund MJ, Fortney JC, Reaves CM, et al. Beliefs about depression and depression treatment among depressed veterans. *Medical Care*. 2008; 46:581–589. [PubMed: 18520312]
14. Center for Advancing Health. Center for Advancing Health: Snapshot of people's engagement in health care. 2010. http://www.cfah.org/pdfs/CFAH_Snapshot_2010_Full.pdf
15. Pomerantz AS, Sayers SL. Primary care-mental health integration in healthcare in the Department of Veterans Affairs. *Families, systems & health : the journal of collaborative family healthcare*. 2010; 28:78–82.

Table 1

Logistic Regression Models Predicting Acceptability, Initiation, and Engagement in Tele-Psychotherapy

	Regression 1. Counseling Acceptable N = 179			Regression 2. Scheduled Tele-Psychotherapy N = 179			Regression 3. Attended at Least 1 Tele-Psychotherapy Session N = 179			Regression 4. Completed 8 Tele-Psychotherapy sessions N = 179		
	Odds Ratio, p-value	95% Confidence Interval		Odds Ratio, p-value	95% Confidence Interval		Odds Ratio, p-value	95% Confidence Interval		Odds Ratio, p-value	95% Confidence Interval	
Age	.99, .85	.96–1.05		.97, 0.17	.94–1.01		.98, .29	.94–1.02		.98, .55	.93–1.04	
Male	.63, .43	.19–2.01		.33, 0.09	.09–1.17		.54, .46	.11–2.76		.26, .27	.02–2.85	
Caucasian	1.08, .90	.32–3.67		1.57, .35	.61–4.02		1.49, .50	.47–4.73		--	--	
Perceived Access to Care												
Geographical ^a	1.70, .08	.93–3.46		.59, .02	.38–.92		.83, .48	.50–1.37		.39, .06	.15–1.05	
Temporal ^b	.92, .78	.53–1.41		.87, 0.56	.54–1.41		.91, .50	.51–1.61		1.61, .25	.71–3.65	
Financial ^c	.96, .88	.60–1.55		1.01, .96	.67–1.52		.78, .31	.49–1.25		1.47, .35	.64–3.38	
Cultural ^d	.87, .58	.54–1.41		1.24, .28	.84–1.83		1.30, .25	.83–2.04		1.12, .74	.57–2.19	
Perceived Need for Care												
Symptom Burden ^f	1.65, .11	.89–3.08		1.63, .08	.95–2.82		1.29, .45	.66–2.51		1.68, .36	.55–5.10	
Susceptibility ^g	1.24, .42	.74–2.09		1.62, .03	1.04–2.51		1.05, .86	.63–1.74		1.07, .86	.50–2.29	
Stoicism ^h	.77, .27	.50–1.21		.91, .59	.65–1.27		1.16, .47	.78–1.72		.69, .23	.38–1.25	
Psychotherapy Treatment Efficacy (1–4) ^j	9.15, <.001	4.30–19.4		2.28, 0.006	1.27–4.0		1.51, .23	.77–2.95		1.04, .92	.46–2.36	
Medication Treatment Efficacy (1–4) ^j	.81, .57	.39–1.66		.72, .24	.42–1.25		1.12, .73	.58–2.19		1.28, .65	.42–3.91	
Depression Treatment												
Prior Counseling	2.28, .26	.60–8.65		.85, .89	.08–8.81		2.48, .07	.93–6.58		4.59, .03	1.17–18.07	
Prior Antidepressant	.45, .26	.11–1.77		.93, .91	.31–2.84		.72, .59	.21–2.41		3.53, .29	.90–37.57	
Concurrent Antidepressant Treatment	.53, .30	.16–1.75		1.92, .15	.79–4.69		1.64, .36	.57–4.75		13.63, .04	1.15–161.81	

* p < .05; **p < .01

^aArranging transportation to receive depression treatment from my regular doctor would be difficult. (strongly agree = 5; strongly disagree = 1)

^bReceiving depression treatment from my regular doctor would take too much time or be inconvenient. (strongly agree = 5; strongly disagree = 1)

^cReceiving depression treatment from my regular doctor would cost too much. (strongly agree = 5; strongly disagree = 1)

- d* If I saw my regular doctor for treatment of depression symptoms I've been experiencing, I would be embarrassed about what my friends or family might think. (strongly agree = 5; strongly disagree=1)
- e* The depression symptoms I have been experiencing are serious enough that I have considered getting help from a doctor for them. (strongly agree = 5; strongly disagree = 1)
- f* The depression symptoms I have been experiencing will go away by themselves eventually. (strongly agree=1; strongly disagree=5)
- g* I ought to be able to handle my depression symptoms on my own. (strongly agree=1; strongly disagree=5)
- h* If I got counseling for depression, it would be helpful. (strongly agree=5; strongly disagree=1)
- i* If I took medication for depression, it would be helpful. (strongly agree=5; strongly disagree=1)