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Original article

Improving Treatment Seeking Among Adolescents with Depression: Understanding Readiness for Treatment

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Abstract

Purpose: To examine readiness for treatment among adolescents with depression in primary care.

Methods: This article draws upon data from 184 depressed patients, aged 13 to 17, who participated in the Teen Depression Awareness Project. Adolescents were screened assessed along a number of domains at baseline and 6 months.

Results: Seventy-eight percent of the depressed teens acknowledged they had a problem with depression, yet only 25% were currently getting any sort of counseling or treatment for depression. A total of 40.8% of depressed adolescents were ''ready'' to get care, whereas 26.6% were ''unsure'' and 32.1% were ''not ready.'' Significant differences among these groups were observed for race/ethnicity and household income. Adolescents in the ready group also had more depressive symptoms and lower MHI-5 scores. Being in the ready group versus being ''unsure'' was a significant predictor of service use at the 6-month follow-up, as was the average number of days impaired and overall mental health functioning. Race, gender, and age were not significant predictors of readiness, yet average number of depressive symptoms was significantly associated with greater readiness.

Conclusions: Because teens in primary care settings are not seeking mental health treatments even when depression is detected, providers should be mindful that adolescents may be at different stages of recognition and readiness for treatment. Teens who are less ready for care may need follow-up primary care visits or consultation to help them become more active in seeking care.

Keywords: Depression; Readiness of care; Primary care

Depressive disorders occur in roughly 20% of American youth by age 18 [1] and have deleterious effects on academic, social, and health functioning [2–4]. Although psychosocial and pharmacological treatments have demonstrated efficacy for depressive disorders [5,6], many adolescents do not receive them. Primary care is a promising venue for treatment for depression because most adolescents have contact with a primary care provider, and primary care is a common site for depression treatment [7–10]. Further, research has shown that efforts to improve depression treatment for adults in primary care have paid off [11,12]. Nevertheless, many adolescents with depression fail to seek care [3,13]. How adolescents and their parents conceptualize symptoms and emotional problems as well as what burden the illness places on the family may play a critical role in whether adolescents seek care or adhere to treatment plans [14–16]. Decisions about getting treatment, as well as what type of treatment to seek, may depend on whether one is motivated to seek care. Whether an adolescent is ready to address his or her depression and to consider treatment may predict interest in, acceptance of, and adherence to treatment. Prochaska and DiClemente [17] conceptualize health behavior change as a process that involves progress through six stages—precontemplation, contemplation, preparation, action, maintenance, and termination—and may help us understand why some adolescents do not seek care for their depression.

This article describes acknowledgement of depression, attitudes about treatment, and readiness to seek care among

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a sample of depressed teens drawn from primary care. It also examines the relationship between readiness for care and future service use. We address three specific questions:

1. Which teens are ready to seek care for their depression?
2. How is readiness to seek care associated with treatment preference?
3. To what extent is readiness to seek care related to care seeking or care continuation?

Methods

Data source

Data are from Teen Depression Awareness Project and include 184 adolescent primary care patients aged 13 to 17 years who screened positive for depression on a research diagnostic interview, and 170 parents of those adolescents [18,19]. Participants were recruited from seven healthcare organizations, across 11 sites (in the Los Angeles and Washington, DC areas). We selected sites to maximize diversity of medical offices, including free, public, private-managed care, and private insurance, that served diverse patients in terms of ethnicity and race.

Study procedures

Enrollment occurred between January 2005 and March 2006, and consisted of approaching the adolescent (and parent/guardian, if present) at the medical office, explaining the project and obtaining signed adolescent assent and parent/guardian consent (approved by the institutional review boards at RAND and each health organization, if applicable). After completing contact sheets in the primary care setting (refusal rates to complete the form among those approached varied by site and ranged from 1% to 40%), a total of 5407 teens were contacted by phone for study enrollment and screening; 143 were determined to be ineligible (3%), 347 refused study participation (6%), 204 (4%) could not be reached, and 4713 were enrolled in the study. Once enrolled, adolescents were interviewed via telephone to determine eligibility for participation (n = 4713), using the Diagnostic Interview Schedule for Children [20–23] depression module. We defined teens as ''depressed'' (n = 187 or 3.97% of those screened) if they met criteria for a depressive episode of 2 weeks or more in the prior 6 months, and reported at least three depressive symptoms in the prior 2 weeks, so as to include both currently depressed teens and those who reported a recent depressive episode and lingering symptoms at the time of assessment. Other inclusion criteria for the project included: currently attending school within 2 years of expected grade level, currently living with parent/guardian, not currently pregnant, adolescent and parent speaking Spanish or English, and not having a sibling already enrolled in the study. Adolescents and parents who participated in the study were interviewed (via Computer Assisted Telephone Interviews or CATI) at two points in time: immediately or shortly after the diagnostic interview, and again approximately 6 months later (n = 184). Adolescents were assessed along several dimensions, including health status, symptoms of depression, emotional functioning, as well as knowledge/attitudes about treatment, and demographic characteristics. All adolescents received feedback via mail on their screening assessment, as well as an educational brochure about depression. Half of the depressed adolescents (randomly selected) also received a guide to local mental health resources and were scheduled to receive a telephone motivational intervention with the TDAP counselor. (More information about this telephone-based motivational intervention can obtained through the primary author.) The counselor made notes from these sessions that documented adolescents' acknowledgment of depression and willingness to seek care. There were no significant differences on the variables presented in this article between the teens who received those calls and those teens that did not at baseline or 6-month follow-up.

Measures

The *readiness for treatment* measure was constructed by compiling responses from the baseline teen and parent interviews. To create this measure, we first created a six-point readiness variable and then collapsed the six levels into a three level variable for Ready, Unsure, and Not Ready. Using this measure, adolescents and parents were assigned to one of three groups: *the Ready for Care* group includes adolescents in treatment or working on getting treatment at the time of the interview. To be included in this group respondents indicated YES/AGREE to ''Are you currently getting counseling, treatment or medications for depression?'' (RTREAT = 6) OR to ''I am working on getting treatment'' (RTREAT = 5). The *Unsure* group includes adolescents that (at baseline) reported thinking about whether treatment would help or who reported thinking they should get treatment but had not sought care yet. Specifically respondents in this group indicated YES/AGREE to the following: ''I think I should get treatment for my depression'' (RTREAT = 4) OR ''I am thinking about whether or not treatment would help with my depression'' (RTREAT = 3). Finally, the *Not Ready for Care* group included adolescents who at baseline did not acknowledge having depression or who were not thinking about treatment. This group includes respondents who indicated YES to ''Most teenagers are depressed at some time. Do you think you had a problem with depression in the last 4 weeks?'' AND did not fall into ''Ready for Care'' (RTREAT = 2) or ''Unsure'' above OR If the respondent indicated NO to ''Most teenagers are depressed at some time. Do you think you had a problem with depression in the last 4 weeks?'' (RTREAT = 1). We used the same convention for the Parent variable; however, the items were worded to inquire about the teen ''I am working on getting treatment for (his/her name).''

We assessed mental health-related quality of life using the SF-12 [24]; however, modifying the item on physical

impairments and replacing the word ''work'' with ''schoolwork'' to make the scale more relevant to adolescents. To assess mental health functioning, we added items from the Mental Health Index [24] and calculated the Mental Health Composite Score (MCS-12). We measured depressive symptoms/severity using the Patient Health Questionnaire for Adolescents [25]. To assess number of depressive symptoms and depression severity, we created a new variable that added 10 depression-related symptoms and assigned greater value to symptoms experienced ''nearly every day'' (value of 2) versus ''for a few days'' (value of 1). Symptoms that were not experienced were given a value of 0. To measure self-efficacy, we asked adolescents to rate their confidence in their own ability to overcome or control depression on a scale of 0 to 10, where 10 equals as confident as they can be [26]. We assessed overall disability or days of impairment with the Sheehan Disability Scale [27], to produce a composite score for functional impairment. We also assessed experience with mental health treatment in the previous 6 months, using questions to determine if the adolescent had seen a provider or taken medication for an emotional problem in the previous 6 months. A three-point service use measure (0, 1, 2) was constructed to assess intensity of treatment, based on the adolescent's report of currently receiving counseling or antidepressants for depression, where 0 is no treatment, 1 = *either counseling or antidepressants*, and 2 = *the combination of counseling and antidepressants*. We assessed preference for treatment in the future (using a hypothetical need for treatment): no treatment, follow-up with a provider (''watchful waiting''), counseling only, medications only, or counseling and medications together. All items were assessed at baseline and repeated at the 6-month follow-up.

Statistical analysis

During the CATI process, respondents were allowed to skip items they did not know or refused to answer, resulting in a small amount of missing data. A few items, such as household income and insurance type, were missing for the 8% of adolescents whose parents did not complete the parent survey. Therefore, we used multiple imputation to impute five copies of the missing data elements and used these imputations to construct five replicates of completed data. All bivariate and multivariate analyses were conducted five times on each data set and then results were combined using standard multiple imputation rules [28,29] to obtain parameter estimates and their adjusted standard errors that reflect the uncertainty because of imputation. The amount of missing data was minimal; the most missing data occurred for the indicator that a teen had depression in the past 4 weeks (10% missing), with the next highest number of missing values for number of days impaired (2% missing). For both regression analyses presented in Tables 4 to 5, the relative increase in the variance of our estimates attributable to missing data was trivial (at most 2%) and the relative efficiencies of our multiple imputation-based estimates were almost one in all cases.

We performed basic descriptive analyses of demographic and clinical characteristic and performed bivariate descriptive analyses to present the percentage of adolescents in each of the Readiness Groups by relevant demographic and clinical characteristics. Analysis of variance was used to test whether continuous individual characteristics (e.g., age, MHI-5, number of depressive symptoms, number of days impaired) significantly varied by readiness for treatment. We examined Wald chi-squared test statistics for predictors in simple ordinal logistic regressions of readiness for treatment on categorical predictors to identify significant bivariate associations. The SURVEYREG and SURVEYLOGISTIC procedures in SAS 9.1.4 were used so that bivariate significance tests accounted for intracluster correlation among clients within treatment site. Testing bivariate associations using regression modeling also allowed us to combine results across analyses of multiple imputed data sets to account for uncertainty because of missing data. We examined the association between clinical and demographic characteristics, readiness for treatment, and service use to assess what factors predict service use at 6-month follow-up. We also examined the association between clinical and demographic characteristics and readiness for treatment to assess what might predict readiness. To do this, we modeled readiness for treatment at baseline and service use at 6-month follow-up using multilevel ordinal logistic regressions as implemented in SAS Proc GLIMMIX [30]. We included a random intercept term in each model to account for intracluster correlation among clients within treatment site. We controlled for teen demographic (e.g., age, race/ethnicity, and gender) and mental health characteristics (e.g., number of depressive symptoms, average number of days impaired, and MCS-12) in our analyses. We present adjusted odds ratios for each model coefficient. We assessed the adequacy of the ordinal regression model fit relative to multinomial logistic regression by comparing the Bayesian Information Criterion (BIC) between models to see whether the additional complexity of the multinomial logistic regression model was warranted.

Results

Adolescent and parent demographic characteristics

Table 1 shows the demographic and clinical characteristics of depressed adolescents (n = 184) and their parents (n = 170). Depressed adolescents averaged 15.2 years of age, were mostly female (78.3%), and predominantly Hispanic (50.6%) or black (30.4%). Parents of the depressed adolescents averaged 44.2 years of age, were mostly female (89.4%) and predominantly Hispanic (47.0%) or black (32.7%). Almost half of the parent sample had at least some college education (45.0%) and just over a third (35.1%) reported household income of at least $50,000. Depressed adolescents had an average MHI-5 score of

Table 1
Characteristics of participating adolescents with depression and their parents

	Adolescents (N = 184)		Parents (N = 170)	
	N	%	N	%
Age, years, mean (SD)	15.2	SD = 1.3	44.2	SD = 8.0
Gender				
Male	40	21.7	19	11.2
Female	144	78.3	151	88.8
Race				
White	26	14.1	30	17.8
Black	56	30.4	57	33.7
Hispanic	93	50.6	72	42.6
Other	9	4.9	10	5.2
Education				
Did not finish high school			42	24.7
High school graduate or GED			47	27.6
Some college			40	23.5
4 year college degree			20	11.8
Graduate or professional school			21	12.4
Household income				
Less than $15,000			29	17.3
$15,000–$30,000			46	27.4
$30,000–$50,000			29	17.3
$50,000–$75,000			23	13.7
$75,000 or more			41	24.4
Marital status	N/A			
Married			91	53.5
Divorced/separated/widowed			46	27.1
Never married			33	19.4
Intervention status			N/A	
Letter and brochures only	89	48.4		
Letter, brochure plus local resource guide and phone call	95	51.6		
Mental Health Status at Baseline				
Average MHI-5 score	13.93	SD = 3.59	118.96	SD = 3.91
Average # of depression symptoms	3.41	SD = 2.21		
Average # of days impaired	11.92	SD = 8.80		

Note: Percentages may not add to 100% due to rounding.
N/A = not applicable.

13.93 (SD = 3.59), and reported an average of 3.41 depressive symptoms in the past 4 weeks, and having been impaired an average of 12 days of the last 30.

Adolescent and parent clinical characteristics and perceptions about treatment

A total of 78.1% of adolescents acknowledged having a problem, and slightly more than a half (54.1%) of parents acknowledged their child had a problem (Table 2). A third of depressed adolescents (33.6%) reported that depression was a serious problem. Yet only one-quarter of the depressed adolescents (25.1%) reported currently being in treatment. With respect to readiness for treatment, we found 40.8% of depressed adolescents were ''ready,'' 26.6% were ''unsure,'' and 32.1% ''not ready.'' Slightly over a third (34.8%) reported receiving help from a mental health specialist in the prior 6 months. The majority of adolescents (based on a hypothetical need for help in the future) preferred counseling only (32.2%), followed by a combination of counseling and antidepressant medications (22.4%); antidepressants alone were preferred only by 10.9% of depressed adolescents. Parents of these same adolescents, however, preferred some form of treatment to no treatment (no parent indicated a desire for no treatment as opposed to 16.9% of adolescents), and overwhelmingly preferred counseling only to other options (57.1% of parents preferred counseling only; less than 1% indicated a preference for medications only).

Differences by readiness group

Adolescents were compared along several demographic and clinical characteristics by readiness group (see Table 3). More females were ready for treatment, although the difference was not statistically significant, χ^2 (3) = 3.70, p = .054. Significant differences were observed for race/ethnicity, χ^2 (3) = 27.84, $p < .0001$, with the majority of African American teens in the unsure group and the majority of Hispanics in the not ready group; and household income, χ^2 (4) = 10.78, $p = .029167$, with the majority of those in the ready group having a household income over $30,000 per

Table 2
Depression status and perceptions about treatment among adolescent with depression and their parents

	Adolescents (N = 183)		Parents (N = 170)	
	N	%	N	%
Acknowledgement of depression at baseline				
Thinks he/she (teen) has problem in past 4 weeks	143	78.1	92	54.1
Somewhat of a problem	97	66.4	63	68.5
Serious problem	49	33.6	29	31.5
Prior experience with MH care (6 months prior to baseline)[b]				
Any counseling from MH specialist	64	34.8	53	72.6
Any counseling from school provider	54	29.4		
Any counseling from health provider (in or outside school)	44	24.0		
Any counseling from pastoral/religious counselor	16	8.7		
Any prescription medication for emotional or personal problem	37	20.1	56	33.0
Stayed overnight in mental health facility	19	10.3	7	4.1
Readiness to treat adolescent's depression[a]				
Ready (currently in tx or working on tx)	75	40.8	125	74.0
Unsure (thinking about treatment)	49	26.6	28	16.6
Not ready (not thinking about tx or do not acknowledge problem)	59	32.1	16	9.5
Treatment preference at baseline[a]				
No treatment	31	16.9	0	0
Watchful waiting	32	17.5	29	17.1
Counseling only	59	32.2	97	57.1
Antidepressants only	20	10.9	1	0.6
Counseling and antidepressants	41	22.4	43	25.3

[a] Percentages may not add to 100% due to rounding.
[b] Percentages may not add to 100% as response categories were not mutually exclusive.

year. Adolescents in the ready group also had more depressive symptoms, $F\ (2,\ 173) = 8.91$, $p = .0002$, and lower MHI-5 scores, $F\ (2,\ 173) = 6.47$, $p = .0019$. Given a hypothetical future need for care adolescents in the ready group were also more likely to report a preference for combined treatment (counseling and medication) than adolescents in the other groups; where as adolescents in the not-ready group reported a preference for counseling only or no treatment, $\chi^2\ (4) = 76.76$, $p < .0001$. No significant differences were observed by age, parent education, perceived severity, or utilization of care in the past 6 months.

Relationship between readiness for treatment and future service use

At the 6-month follow-up, 48.9% of the depressed adolescents reported receiving either counseling or an antidepressant since the baseline interview, with 14.7% of the depressed adolescents reported receiving both counseling and an antidepressant during that time (data not shown); however, only 29% were in treatment at the actual time of the follow up interview. To examine whether baseline readiness was a significant predictor of service use at the follow-up interview, we employed an ordinal logistic regression model using the three-level measure of service use, where service use could have been new since baseline or continued since baseline ($0 =$ *no treatment*, $1 =$ *either counseling or antidepressants*, and $2 =$ *combination of counseling and antidepressants*). Being in the ready group versus being ''unsure'' was a significant predictor of service use at the 6-month follow-up, as was the average number of days impaired and overall mental health functioning (as measured by the MCS-12). Race/ethnicity was also a significant predictor of service use at follow-up, with blacks and Hispanics having significantly less service use than whites; gender and age were not significant (see Table 4). Depressive symptoms at baseline were not related to service use at follow-up in the regression models that also controlled for demographic factors. The BIC for the ordinal logistic regression model was 393.79, which was smaller than that for the multinomial logistic regression (BIC = 428.28), thus providing greater support in the data for modeling the outcome as ordinal.

To examine what factors were significant predictors of readiness, we employed a second ordinal logistic regression model using the three-level readiness measure defined earlier (Table 5). The BIC for the ordinal logistic regression model was 406.64, which was smaller than that for the multinomial logistic regression (BIC = 442.08), thus providing greater support in the data for modeling the outcome as ordinal. Race, gender, and age were not significant predictors of readiness. Average number of symptoms was significantly associated with greater readiness; yet days impaired, mental health functioning, and perceived self-efficacy were not associated with readiness. Parent acknowledgement of the teen having a problem with depression was significantly associated with greater teen readiness, although the parent's previous service use at baseline was not a significant predictor of treatment at 6-month follow-up.

Table 3
Relationship between readiness to care, demographic, clinical and treatment characteristics among adolescents with depression

	Ready (n = 75)		Unsure (n = 49)		Not ready (n = 59)		
	N	SD or %	N	%	N	SD or %	Test statistic
Demographic characteristics							
Age (mean)	15.3	SD = 1.28	15.4	SD = 1.22	15.03	SD = 1.46	F (2, 173) = 0.85, p = 0.4296
Gender (female)	62	82.7%	40	81.6%	41	69.5%	$\chi^2(1) = 3.70$, $p = .054$
Race[a]							$\chi^2(3) = 27.84$, $p < .0001$***
White	15	20.0%	7	14.3%	4	6.8%	
Black	21	28.0%	19	38.8%	15	25.4%	
Hispanic	37	49.3%	20	40.8%	36	61.0%	
Other	2	2.7%	3	6.1%	3	5.1%	
Household Income[a]							$\chi^2(4) = 10.78$, $p = .029167$
Less than $15,000	17	22.7%	9	18.4%	10	16.9%	
$15,000–$30,000	11	14.7%	13	26.5%	17	28.8%	
$30,000–$50,000	17	22.7%	12	24.5%	14	23.7%	
$50,000–$75,000	15	20.0%	7	14.3%	6	10.2%	
$75,000 or more	15	20.0%	8	16.3%	12	20.3%	
Parent education[a]							$\chi^2(4) = 7.11$, $p = .13004$
Did not finish high school	19	25.3%	13	26.5%	17	28.8%	
High school graduate or GED	22	29.3%	14	28.6%	17	28.8%	
Some college	15	20.0%	15	30.6%	13	22.0%	
4-Year college degree	8	10.7%	4	8.2%	6	10.2%	
Graduate or professional school	11	14.7%	3	6.1%	6	10.2%	
Clinical Functioning (at baseline)							
Perceived severity							
Somewhat of a problem	47	62.7%	30	61.2%	19	32.2%	$\chi^2(1) = 2.33$, $p = .12727$
Serious problem	28	37.3%	19	38.8%	2	3.4%	
Mental health status (average MHI-5)	13.15	SD = 3.340	13.51	SD = 3.76	15.25	SD = 3.38	F (2, 173) = 6.47, $p = .0019$**
Average # depressive symptoms	3.9	SD = 2.22	3.83	SD = 2.15	2.45	SD = 1.99	F (2, 173) = 8.91, $p = .0002$***
Average # of days impaired	13.7	SD = 9.86	11.08	SD = 8.45	10.52	SD = 7.23	F (2, 173) = 2.50, $p = .084557$
Utilization of MH care (6 months prior to baseline)[b]							
Any counseling or therapy	64	85.3%	21	42.9%	24	40.7%	$\chi^2(1) = 0.5684$, $p = .45091$
Any prescription medication for emotional problem	32	42.7%	3	6.1%	2	3.4%	$\chi^2(1) = 2.2389$, $p = .13458$
Stayed overnight in a mental health facility	12	16.0%	0	0.0%	7	11.9%	$\chi^2(1) = 3.09$, $p = .078405$
Treatment preferences (reported at baseline in response to potential future need)[a]							$\chi^2(4) = 76.67$, $p < .0001$***
No treatment	6	8.0%	7	14.3%	18	30.5%	
Watchful waiting	8	10.7%	11	22.4%	13	22.0%	
Counseling only	19	25.3%	16	32.7%	23	39.0%	
Medications only	13	17.3%	5	10.2%	2	3.4%	
Counseling and medications	29	38.7%	9	18.4%	3	5.1%	
Parental readiness for teen to receive treatment at baseline							$\chi^2(4) = 17.01$, $p = .0019$**
Ready	62	88.6%	28	60.9%	35	66.0%	
Unsure	8	11.4%	10	21.7%	10	18.9%	
Not ready	0	0%	8	17.4%	8	15.1%	

* $p = .05$; ** $p < .01$; *** $p < .001$.
[a] Percentages may not add to 100% due to rounding.
[b] Percentages do not add to 100% as response categories were not mutually exclusive.

Insights from qualitative interviews

Roughly half of the depressed adolescents received a telephone call about 2 months following their baseline interview to confirm that the adolescent received the feedback letter and education materials. The counselor asked several questions about how the teen perceived the information and whether the adolescent was considering following up on the information. Although participation in this call had no impact on our results, the notes from these calls provide interesting insights. In general, adolescents were willing to discuss their thoughts about their depression and their thoughts on getting help. Counselors asked teens to rate their readiness to get help for depression on a ''readiness ruler.'' We found that the adolescents who were ready to change their depression (based on their self-report during the call) were more interested in formal treatment options, whereas the adolescents who were not ready were most comfortable talking about informal or self-help options, such as learning more about depression or talking with a parent. Many of the adolescents who reported a high motivation to change intended to get help but also needed prompting: although many adolescents noted that they wanted to get help for their depression, they had not yet taken the steps needed. In these cases, it appeared

Table 4
Baseline predictors of service use at 6-month follow-up among adolescents with depression using multiple ordinal regression[a]

Parameter	Odds ratio	95% Confidence limits		t	Pr > |t|
Race*					
White	1.00				
Black	0.28	0.11	0.74	2.59	0.0096
Other race	0.93	0.22	3.87	0.1	0.9188
Hispanic	0.34	0.14	0.80	2.45	0.0141
Female gender	0.86	0.40	1.85	0.39	0.6994
Age group 13 to15	1.04	0.57	1.90	−0.13	0.8935
Readiness for treatment**					
Not ready	1.52	0.67	3.42	−1.01	0.3148
Unsure	1.00				
Ready	4.37	2.06	9.29	−3.83	0.0001
# Depression symptoms (at baseline)	0.89	0.76	1.04	1.46	0.1445
Average days impaired (at baseline)	1.04	1.00	1.08	−2.12	0.0344
Mental health functioning (MCS-12; at baseline)	0.95	0.92	0.99	2.37	0.0179

−2 log likelihood = 331.28.
Comorbidity related to PTSD, hyperactivity, aggression and substance use were not significant when included in the model.
* F (3, 171) = 3.13, p = .0270; ** F (2, 171) = 8.34; p = .0003.
[a] Intervention group and an interaction term for intervention group and readiness for treatment were both not significant when included in the model, t (168) = 1.07, p = .3024; F (1, 168) = 1.75, p = .1765.

that the time with the counselor to go through the educational materials helped them to set a concrete goal for taking the next step.

Discussion

Although prior work on adults has shown that readiness to seek care is an important factor in seeking mental healthcare, there has been little work done related to teens. This work represents the first step. Our results indicate that readiness is important, because it is related to the propensity to seek or continue care 6 months after detection of depression. Teen readiness for care at baseline increased the odds of getting care at 6 months, even after controlling for symptom severity. It should be noted that this care included psychotherapy, medication, and combination treatment, with no judgment of what type of care might be most appropriate for teens with varying levels of symptoms. Recent studies on the treatment of teen depression show that combination treatment is most effective for teens with major depression [31], but there has been little information to date to guide treatment decision making for particular teens or for particular severity levels. Our sample included teens with recent depression and lingering symptoms, as well as those with current depression, and thus all of them would be candidates for intervention of some type. Thus, our analysis only comments on the intensity of treatment, not on treatment type or appropriateness.

Table 5
Baseline predictors of readiness for care among adolescents with depression using multiple ordinal regression

Parameter	Odds ratio	95% Confidence limits		t	Pr > |t|
Race[a]					
White	1.00				
Black	0.47	0.19	1.17	1.63	0.1038
Hispanic	0.53	0.22	1.27	1.42	0.1543
Other race	0.34	0.08	1.45	1.46	0.1447
Female gender	1.46	0.70	3.04	−1.02	0.3079
Age group 13 to15	0.84	0.47	1.49	0.60	0.5497
# Depression symptoms (at baseline)	1.20	1.03	1.39	−2.30	0.0216
Average days impaired at baseline	1.01	0.98	1.05	−0.73	0.4674
Mental health functioning (MCS-12; at baseline)	0.99	0.95	1.02	0.66	0.5120
Self-efficacy (at baseline)	0.97	0.87	1.07	0.61	0.5410
Parent acknowledgement of problem (at baseline)	2.28	1.26	4.11	−2.72	0.0065
Parent service use for depression (at baseline)	1.44	0.77	2.71	−1.15	0.2514

−2 log likelihood = 339.95.
Comorbidity related to post-traumatic stress disorder (PTSD), hyperactivity, aggression, and substance use were not significant when included in the model.
[a] F (3, 153) = 1.18, p = .3189.

Our results revealed substantial variability among teen's readiness for care at the baseline assessment. Adolescents with more severe depression were more ready to seek care, as were girls, white teens, and adolescents with a parent-reported household income above $30,000 per year. Thus, many teens may need help increasing readiness to seek care [32]. In particular, boys and those with milder depression may need special outreach. Teens' readiness to seek care was also related to a higher preference for combined treatments, whereas those who were unsure said they would prefer counseling or watchful waiting. Thus, teens in the ready group were not only more ready to seek care, but they were also more open to seeking care with the best evidence-base at present. Parent acknowledgement of the teen's depression had a strong impact on teen readiness independent of symptoms, suggesting that educational and motivational interventions may be needed to help teens and parents improve awareness that teens may be suffering from depression, to understand treatment options, and to seek care. Although a similar percentage of teens and parents preferred combination treatment, most parents preferred counseling alone, suggesting that evidence-based counseling needs to be more readily available to teens and parents. These findings highlight that in the primary care setting, detection of depression and feedback to parents, teens, and providers is only one part of the process in helping teens get treatment, given that many teens and parents are not ready to begin taking steps to obtain care.

Implications for future research and practice

Efforts to enhance depression care for teens in primary care settings [3] show that modest uptake of services can improve teen outcomes. Because teens in primary care are not seeking mental health treatment, providers who detect depression in these settings should be mindful that adolescents may be at different stages of recognition and readiness for intervention. Although these teens have at least sought primary care, they may not have considered or be ready for mental health treatment. As such, screening or detection efforts should include questions about how the teen and parent perceive the problem, how severe they think it is, and whether they are considering care. These questions appear to be important in deciding which teens can get a referral with reasonable confidence of follow-up, and which teens will need more discussion before receiving a referral. Providers might also inquire about what types of help appeal most to the adolescent and parent so that the education about options and the relative efficacy of each can be delivered. Teens who are less ready may need follow-up visits or phone consultation to become more active in seeking care for themselves. Lessons from substance abuse research, including ways to increase readiness or to move people from contemplation to action, such as motivational interviewing, may apply to depressed teens in primary care settings [33,34].

This study demonstrated that readiness is associated with later treatment use and preferences among a group of teens seeking care in primary care office setting; however, more work is needed to examine factors that influence readiness for depression treatment, particularly how parent and teen readiness interact and drive treatment decision making among noncare-seeking populations as well. More work is also needed to assess whether readiness for care can be enhanced through techniques such as motivational interviewing or patient activation and empowerment. Alegria et al's [35] findings suggest that such an approach can increase treatment attendance and retention in adults, but more research is needed to examine if these strategies will increase treatment uptake in adolescents.

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