Patient Preferences for Treatment of Major Depressive Disorder and the Impact on Health Outcomes: A Systematic Review

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Objective: To summarize the peer-reviewed literature on patient preferences for depression treatments and the impact of these preferences on the outcomes of treatment.

Data Sources: Studies were identified via a systematic search conducted simultaneously in PsycINFO and MEDLINE using EBSCOhost and EMBASE. Publications were retrieved in March 2010.

Study Selection: Search terms included *depression* OR *MDD* OR *major depressive disorder*, *patient preference*, *treatment preference*, *intervention preference*, and *pharmacotherapy preference*. There were no restrictions on years of publication. The search was restricted to research articles written in English.

Data Extraction: Fifteen articles contained unique information on patient preferences for depression treatments and their impact on depression-related outcomes.

Results: The patient preference literature includes a limited number of studies examining the impact of patient preferences on outcomes such as depression severity, treatment initiation, persistence and adherence, treatment engagement, the development of the therapeutic alliance, and health-related quality of life. The majority of the preference research has focused on comparisons of psychotherapy versus pharmacotherapy, with some limited information regarding comparisons of psychotherapies. Results from the research to date suggest that the impact of patient treatment preferences is mixed. The results also indicate that patient preferences have minimal impact on depression severity outcomes within the context of controlled clinical trials but may be more strongly associated with other outcomes such as entry into treatment and development of the therapeutic alliance. However, it is important to note that the literature is limited in that the impact of patient preference has been examined only through secondary analyses, and there have been few studies designed explicitly to examine the impact of patient preferences, particularly outside the context of controlled clinical trials.

Conclusions: Consideration of patient preferences for depression treatments may lead to increased treatment initiation and improved therapeutic alliance. However, despite treatment guidelines and suggestions in the literature, the value of and appropriate procedures for considering patient preferences in real-world treatment decisions deserves more careful study. Further research is needed, and future studies should be conducted in more naturalistic treatment settings that examine patient preferences for other specific approaches to depression treatments including preferences related to comparisons of individual pharmacotherapies and second-step treatments.

Prim Care Companion CNS Disord 2011;13(5):doi:10.4088/PCC.11r01161

Submitted: *February 8, 2011; accepted May 3, 2011.*
Published online: *October 13, 2011.*
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Patients with major depressive disorder (MDD) often have well-defined attitudes and preferences associated with their depression treatment.[1] Therefore, it is important that clinicians are aware of the relevance and potential impacts of patient preferences when they make decisions about depression treatment.[2–4] Incorporation of patient preferences into treatment planning has been advocated in the peer-reviewed literature,[5–9] as well as in guidelines set forth by regulatory and clinical organizations.[3,10] For example, in the United Kingdom, the National Institute for Health and Clinical Excellence guidelines state that "given the current limited knowledge about what factors are associated with better antidepressant or psychotherapy response, most decisions will rely upon clinical judgment and patient preference until we have further research evidence."[3(p20)] Similarly, the American Psychiatric Association's treatment guidelines suggest that "selection of an initial treatment modality should be influenced by both clinical (eg, severity of symptoms) and other factors (eg, patient preference)."[10(p10)] Awareness of and consideration for depressed patients' preferences are also important because these patients are more likely to want

Clinical Points

- Studies evaluating the impact of patient preferences for depression treatments are limited and have primarily used clinical trial data; studies specifically designed to examine the impact of patient preferences on health and outcomes and conducted in more naturalistic settings are needed.
- Research shows that clinician attention to patients' preferences may improve the likelihood of treatment initiation and positively impact the development of the therapeutic alliance, while having minimal impact on depression severity outcomes.

to participate in medical decision making compared with patients affected by other chronic conditions such as hypertension, diabetes, or heart disease.[11]

Consistent with the strong emphasis on patients' depression treatment preferences, considerable research has been devoted to this general topic. Patient preferences have been evaluated through a variety of empirical research approaches, including self-report, economic or willingness-to-pay methodology, qualitative studies, and behavioral/observational data collection. Previous research studies have concluded that patient preferences are related to a variety of factors. Patients with more severe depression are more likely to opt for treatment,[12] and personal experiences and knowledge about depression tend to impact patient preferences as well.[13–16] Many demographic factors have been associated with patient depression treatment preferences, including ethnicity,[13,15,17–19] gender,[15,19] and age.[19–24] In addition, some data suggest that medication costs and insurance copayments affect patients' treatment decisions.[25,26]

In contrast to the many studies that have identified clinical, demographic, and economic factors associated with patient preferences for depression treatment, research examining the impact of these preferences on the outcomes of treatment is more limited. A variety of outcomes may be impacted by patient preferences for depression treatment—the most prominent of which is depression severity. Additional outcomes that have been studied include treatment initiation, persistence and adherence, engagement in treatment, and the development of the therapeutic alliance. Treatment persistence refers to continuing on a treatment for the prescribed length of time as recommended by a health care provider. In studies examining patient preferences for depression treatment, this can be measured using outcomes such as attrition from clinical trials, study dropout, or treatment discontinuation. Treatment adherence refers to participating in a treatment plan as recommended by a health care provider with respect to the timing, dosage, and frequency of medication or therapy. The therapeutic alliance refers to the nature and quality of the relationship between the health care professional and his/her patient.

Research on the impact of patient preferences for depression treatment on outcomes has important implications for clinical practice and research study design. For practicing clinicians, information regarding the impact of patient treatment preferences on health outcomes is important for at least 2 reasons. First, clinicians are interested in obtaining the most favorable outcomes for the patients they are treating, and it is important to understand how patient preferences may impact these outcomes. Second, in order to evaluate the appropriateness of various depression treatment options, knowledge about the impact of patient treatment preferences on the outcomes is critical.

There are 2 major concerns associated with patient preferences in depression treatment that are relevant to the design and interpretation of clinical trial data.[27] The first is that patients participating in the clinical trials may be randomized to a treatment that is incongruent with their preference, which could adversely affect outcomes such as depression severity at follow-up, attrition from the study, adherence to study medication, or engagement in therapy. The second major concern is that patients with strong preferences may be unwilling to participate in clinical trials that require randomization, thereby resulting in a sample of patients that may not be representative of the population of patients encountered by clinicians in general practice. A greater understanding of how patient preferences impact clinical trial participation and other treatment outcomes is necessary to interpret the results of previous studies and to inform future interventions and research designs.

Despite the notable body of research on patient preference in depression, there have been few efforts to synthesize the work to date. The purpose of this systematic literature review was to summarize the peer-reviewed research on patient preferences for depression treatment and the impact of these preferences on outcomes.

METHOD

Data Sources

Studies were identified via a systematic search conducted simultaneously in PsycINFO and MEDLINE

using EBSCOhost and EMBASE. Publications were retrieved in March 2010. Search terms included *depression* OR *MDD* OR *major depressive disorder*, *patient preference*, *treatment preference*, *intervention preference*, and *pharmacotherapy preference*. There were no restrictions on years of publication. The search was restricted to research articles written in English. Letters, books, editorials, dissertations, and notes were excluded. References were imported into a database,[28] and duplicates were deleted.

Review Methods

The results of the literature search were evaluated by title and/or abstract in order to select empirical studies and theoretical/review articles that specifically addressed the impact of patient preference on depression treatment outcomes. The concept of depression treatment outcomes was broadly defined, and the results of the search included studies measuring self-report and clinical measures of depression severity levels, initiation of treatment, treatment persistence and adherence, development of the therapeutic alliance, and economic data. Relevant articles were limited to those that included depressed patients as the primary sample and those studies that measured patient preferences directly, either through verbal (eg, stated preference) or behavioral (eg, would only participate in a trial if assigned to their preferred treatment) responses by the participants. Full manuscripts of potentially relevant articles were obtained and assessed for inclusion.

RESULTS

Literature Search Results

After removal of duplicates, the MEDLINE/PsycINFO search produced a total of 186 articles for potential inclusion, and the EMBASE search resulted in a total of 163 articles. A total of 73 of the 186 articles from MEDLINE/PsycINFO and 22 of the 163 articles from EMBASE were initially accepted on the basis of a review of the titles and abstracts. After reviewing the full text of these 95 initially accepted articles, 15 met our inclusion criteria, were relevant to our review, and were found to contain unique information. These 15 articles are reviewed in-depth in this article.

Summary of Findings

Each of the primary studies reviewed is presented in Table 1 with details including the comparison groups, sample description, study design, method of preference assessment, key outcome measures, and results relating specifically to patient preference. There were several broad categories of comparisons within the patient preference studies. Most commonly, studies examined patient preferences between pharmacotherapy and psychotherapy.[29–37] Two studies examined patient preferences for different formulations or dosing schedules of antidepressant pharmacotherapies,[38,39] and 2 studies examined only preferences related to psychotherapy.[40,41] Four studies examined patient preferences for usual care versus alternative mental health care programs.[31,36,42,43] The studies are discussed by comparison topic in the sections that follow. Two of the articles[31,36] were relevant to more than 1 topic area.

The largest group of studies included comparisons of patient preferences for pharmacotherapy versus psychotherapy and is discussed first. The findings are summarized according to the outcomes of interest including findings related to depression severity, treatment initiation, persistence and adherence, development of the therapeutic alliance and treatment engagement, and health-related quality of life outcomes. Subsequently, the more limited research including comparisons within pharmacotherapies, comparisons within psychotherapies, and comparisons across different models of care is reviewed.

Studies Comparing Pharmacotherapy to Psychotherapy

Pharmacotherapy versus psychotherapy: depression severity. For practicing physicians, depression severity outcomes as measured by clinician ratings, self-reports, or other means may be the most important outcome of interest in patient preference studies of depression treatment. Many of the studies reviewed included commonly used clinician or self-reported depression severity outcomes including the Beck Depression Inventory (BDI),[45] the Research Diagnostic Criteria (RDC),[46] and the Hamilton Depression Rating Scale (HDRS) or 24-item HDRS (HDRS-24).[47] The specific results from each of these studies are discussed below.

In a short-term study examining BDI scores at 4-week follow-up in a sample of 82 patients who were randomly assigned to treatment with cognitive-behavioral therapy, interpersonal psychotherapy, or pharmacotherapy with imipramine, there were no significant differences in BDI scores at 4-week follow-up for those who received treatment congruent with their preference compared to those who did not.[32] Similarly, Bedi and colleagues[29] studied 323 patients recruited from general practices in the United Kingdom who met RDC criteria for major depression. The trial design was a partially randomized preference trial, and patients who refused to be randomized to antidepressants, cognitive therapy, or placebo were included in the study and given their treatment of choice. There were no differences in either the BDI or RDC scores at 8-week follow-up between patients who were randomized and those who received their treatment of choice. The same sample was followed up 12 months later,[30] and similar comparisons yielded no significant differences in depression severity outcomes (BDI scores), clinician global ratings, or relapse or remission rates.

Table 1. Detailed Summary of 15 Relevant Articles on Patient Preferences in the Treatment of Depression

Citation	Comparison	Sample	Study Design	Preference Assessment	Key Outcome Measures	Preference Results
Bedi et al (2000)[29]	Psychotherapy vs pharmacotherapy: (1) Randomized to counseling (2) Randomized to antidepressants (3) Preference counseling (4) Preference antidepressants	323 patients recruited from general practices in the United Kingdom meeting RDC for major depression (randomized: n = 103, preference counseling: n = 140, preference antidepressants: n = 80)	Partially randomized preference trial	Preference for those who refused randomization was based on treatment selected. Baseline comparisons between randomized and preference patients. Outcomes for patients in randomized vs preference groups, including within-treatment–type analyses	(1) Demographic and clinical characteristics compared at baseline (2) Depression outcome: BDI at 8-wk follow-up (3) Depression outcome: RDC at 8-wk follow-up (4) Quality of life: SF-36 at 8-wk follow-up	(1) The only significant difference between randomized and preference patients at baseline on a wide range of demographic and clinical variables was that patients who preferred antidepressants had more severe depression at baseline as rated by their general practitioner ($P < .004$) (2) Depressive scores on the BDI at 8-wk follow-up were not significantly different between randomized and preference patients (counseling: $P = .69$; antidepressants: $P = .66$) (3) Depression scores on the RDC at 8-wk follow-up were not significantly different between randomized and preference groups (counseling: $P = .70$; antidepressants: $P = .86$) (4) SF-36 scores were not significantly different for within-treatment–type comparisons (P values not reported, not significant)
Chilvers et al (2001)[30] (same sample as Bedi et al[29])	Psychotherapy vs pharmacotherapy: (1) Psychotherapy arms included 6 counseling sessions by experienced treatment providers, and treatment approach was at the discretion of each counselor (2) Pharmacotherapy was based on written guidelines for routine drug treatment provided to general practitioners	323 patients recruited from general practices in the United Kingdom meeting RDC for major depression (randomized: n = 103; preference counseling: n = 140; preference antidepressants: n = 80)	Partially randomized preference trial	Preference for those who refused randomization was based on treatment selected Is the effectiveness of generic counseling and antidepressants different for patients with mild to moderate depression? Does treatment preference influence remission?	(1) Depression outcome: response rate at 12 mo (2) Depression outcome: BDI score at 12 mo (3) Global outcome: rating by a blinded psychiatrist as good, moderate, poor, or unknown (4) Depression outcome: remission (score < 4 on the RDC or < 10 on the BDI or clear documentation in the practitioner's notes that the patient was well (5) Relapse: deterioration within 6 mo of remission	(1) No significant differences in response rates at 12 mo between patients who were randomized and those who were included in the preference arm ($P = .34$) (2) No differences on the BDI between randomized and preference patients treated with antidepressants (P value not reported). Patients who chose counseling did (marginally) better than those randomized to counseling (95% CI, 0.0–9.2; P value not reported) (3) No difference in global outcome between randomized and preference groups ($P = .63$) (4) Proportion of patients with remission was similar across groups ($P = .74$) (5) No differences among the groups in rates of relapse ($P = .46$)

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Delini-Stula et al (2009)[38]	Pharmacotherapy: (1) Fast-dissolving (FDT) formulation of mirtazapine (2) Conventional mirtazapine	5,428 for Internet survey and an additional 3,283 for post hoc analyses including patients from Korea (total N = 8,811) 62.3% female; majority between age of 25 and 50 y Inclusion criteria: at least aged 18 y; diagnosis of MDD according to *DSM-IV* criteria; previously treated with conventional mirtazapine or no antidepressant Recruitment: 17 countries in Europe, Latin America, and Asia	Global Internet survey of patient preference. Groups were determined based on the formulation that patients were prescribed by their physicians prior to the survey	Patient preference was assessed using a survey question of preference for FDT or conventional mirtazapine Which formulation of mirtazapine do patients prefer? Is compliance different between the 2 formulations?	(1) Treatment preference (2) Compliance: self-reported	(1) FDT formulation was preferred to conventional formulation by 62.1% of all subjects: 68% in Europe, 62.5% in Latin America, and 58.6% in Asia (2) For patients who had experienced both formulations, 41.33% had improved compliance with FDT
Dobscha et al (2007)[42]	Models of care comparison: (1) Collaborative intervention (consisting of 1 early patient-educational contact by a care manager, ongoing depression monitoring, and communication of depression severity scores and treatment recommendations to clinicians over 12 mo) (2) Usual care	314 veterans Inclusion criteria: moderate to severe depression (10–25 on the PHQ) Recruitment: through clinics at 2 Veterans Affairs medical centers	Randomized controlled trial	Preferences assessed at study entry. Asked patients to select 1 preferred option from antidepressants, individual counseling, group counseling, antidepressants plus counseling, or watchful waiting Identify overall treatment preferences Identify relationships between baseline characteristics and preferences Determine whether there is a relationship between preferences and treatment offered or treatment received	(1) Baseline characteristics (2) Treatment offered: medical records review (antidepressants = prescription in computer, counseling = referral generated, watchful waiting = doctor's note indicating that patient chose not to initiate treatment) (3) Treatment received: database review (antidepressant: prescription data; counseling: mental health appointments) (4) Depression outcome: change in PHQ score (5) Patient satisfaction: measurement method not stated	(1) Patients preferring antidepressants (alone or with therapy) had significantly more severe depression ($P = .02$). Patients who had worked in the previous 12 mo were more likely to prefer individual counseling (along or with antidepressants; $P = .01$). Patients with active PTSD were more likely to prefer antidepressants and counseling ($P = .04$). Patients who were taking antidepressants at study entry were significantly more likely to prefer antidepressants ($P = .001$) (2) Treatments offered were associated with patient preferences for all groups except for group therapy. Patients with a preference for specific treatments were more likely to be offered that treatment (P values = .001–.04) (3) Having a preference for a specific treatment was associated with being offered that treatment but *not* with receiving that treatment (4) There were no associations between being offered or receiving one's preferences and depression change scores (5) There were no associations between being offered or receiving a preferred treatment and patient satisfaction

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Citation	Comparison	Sample	Study Design	Preference Assessment	Key Outcome Measures	Preference Results
Dwight-Johnson et al (2001)[31]	Models of care comparison: (1) Usual care (2) Pharmacotherapy with quality improvement (QI-Meds) (3) Psychotherapy with quality improvement (QI-Therapy)	N = 742 (mean age of 44 y; 74% female) Inclusion criteria: met criteria for probably depressive disorder (≥ 1 wk of depressed mood or loss of interest in pleasurable activities during last year or persistent depression during year plus at least 1 wk of depression in last 30 days); intended to use clinic as source of primary care for next year; had insurance that covered care from Partners in Care behavioral health care providers Recruitment: from 46 primary care clinics in the United States	Longitudinal group-level, randomized, controlled trial of a quality improvement program in depression compared with usual care Clinics were randomized to 1 of the 3 interventions	Treatment preferences were assessed at baseline and 6 mo by patient self-report using a question that included options for medication, individual counseling, group counseling, and "wait and see." Each option included associated costs, side effects (where applicable), and chance of a cure. Outcomes for patients receiving quality improvement interventions were compared Do these interventions increase likelihood of patients entering depression treatment and receiving preferred treatment?	(1) Entry into depression care (having received any care) (2) Receipt of preferred treatment (having received an antidepressant or 1 specialty mental health counseling visit)	(1) For patients not in treatment at baseline who preferred medication, QI-Meds was significantly better than QI-Therapy ($P = .020$) or usual care ($P = .001$) in encouraging patients to enter depression care. For those preferring therapy, both QI-Meds ($P = .001$) and QI-Therapy ($P = .015$) were more effective than usual care in encouraging patients to enter depression care (2) Patients in intervention clinics were more likely to get the treatments they preferred compared with those in usual care ($P < .003$)
Elkin et al (1999)[32]	Psychotherapy vs pharmacotherapy: (1) Cognitive-behavioral therapy (2) Interpersonal psychotherapy (3) Medication (imipramine) plus clinical management (4) Placebo plus clinical management	N = 82 (40 congruent; 42 noncongruent) Inclusion criteria: meet criteria for major depressive disorder according to RDC; score ≥ 14 on amended 17-item HDRS	Randomized, controlled collaborative (3 research sites) clinical trial Random assignment to treatment groups	Based on responses to questions on attitudes and expectations associated with each form of treatment offered in the study Comparison of outcomes for patients who received treatment congruent vs incongruent with their stated preferences	(1) Attrition (2) Engagement: patient perception of therapeutic conditions assessed using the Barrett-Lennard Relationship Inventory (3) Therapeutic alliance assessed using the Modified Vanderbilt Therapeutic Alliance Scale (4) Depression outcome: BDI	(1) Incongruent group: more likely to drop out (odds ratio = 4.76; $P < .05$) (2) Congruence significantly predicted patients' ratings of engagement (R^2 change = 0.06; $P < .05$) (3) Congruent group: higher ratings of patients' contribution to the therapeutic alliance (R^2 change = 0.14; $P < .01$) (4) Depression severity at 4 wk was not significantly associated with congruence when baseline depression scores were included in the model ($P = .32$)
Granger et al (2006)[39]	Different dosing schedules for bupropion: (1) Bupropion sustained release (SR) once daily (2) Bupropion SR twice daily (3) Bupropion SR thrice daily	N = 527 Inclusion criteria: aged > 18 y; diagnosed with depression by a physician; taking bupropion SR for at least the previous 6 wk	Participants were identified through a survey research group and completed a 20-item Web-based survey	Patients indicated interest in a once-daily formulation of bupropion by answering the question, "How interested would you be in a new form of bupropion that worked just as well as bupropion SR but that you only had to take once a day?"	Adherence assessed by the question, "Do you always take your bupropion SR as many times per day as your doctor told you to?"	(1) Adherence failure: 15% of once-daily users, 37% of twice-daily users, 65% of thrice-daily users (2) Twice-daily users were 6 times more likely and thrice-daily users were 28 times more likely to be interested in a daily formulation compared with current once-daily users[a]

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Gum et al (2006)[43]	Models of care comparison: (1) Mental health services (depression care manager) integrated into primary care and included medications (2) Treatment typically received in primary care clinic—could include antidepressants, referral to mental health specialist, or any other depression treatments	1,602 depressed older (aged 60 to >75 y, mean = 71.1 y) primary care patients Inclusion criteria: individuals met criteria for major depression or dysthymia according to *DSM-IV* criteria; planned to use the primary clinic for the next year; spoke English Recruitment: patients attending 18 primary care clinics from 8 health care organizations in 5 states	Multisite, randomized, controlled clinical trial	At baseline, patients were asked to state their preference for 1 of the 2 active treatments. Comparison of outcomes for those who had received preferred treatment vs those who had not. Receipt of preferred treatment (assessed based on self-report of care received)	(1) Receipt of preferred treatment (2) Satisfaction with treatment (single question, Likert scale rating) (3) Depression outcome: improvement in depression (50% reduction in depression symptoms based on the 20-item SCL)	(1) Patients who preferred counseling or antidepressants were significantly more likely to receive their preferred treatment in collaborative care (counseling: $P < .0001$; antidepressants: $P < .001$) (2) Receipt of preferred treatment did not significantly impact treatment satisfaction ($P = .73$) (3) At 12-mo follow-up there was no significant difference in depression outcome between those who had received preferred treatment vs those who had not ($P = .79$)
Iacoviello et al (2007)[33]	Pharmacotherapy (active or placebo) vs psychotherapy (twice-weekly sessions for 4 wk, then weekly sessions for 12 wk)	N = 75 Inclusion criteria: enrolled in efficacy study of supportive-expressive psychotherapy; primary diagnosis of MDD according to *DSM-IV* criteria; score ≥ 14 on HDRS	Randomized controlled trial	Preference was assessed before randomization with a single question that asked patients whether they would prefer drug treatment or talking treatment Determine how congruence or incongruence of treatment preference and treatment received influence development of therapeutic alliance	Therapeutic alliance assessed using the California Psychotherapy Alliance Scale (higher scores = greater alliance) at baseline and 3, 5, and 9 wk	Among patients preferring psychotherapy, therapeutic alliance scores increased significantly over time for those receiving psychotherapy ($P < .04$), did not change significantly for those receiving medication ($P = .15$), but decreased significantly for those receiving placebo ($P < .002$). Among patients preferring pharmacotherapy, there were no differences in alliance development regardless of the treatment they received (all *P* values = not significant)
Kocsis et al (2009)[34]	Psychotherapy vs pharmacotherapy: (1) Pharmacotherapy with nefazodone (2) Cognitive Behavioral Analysis System of Psychotherapy (3) Combination therapy	N = 429 Inclusion criteria: aged 18–75 y; met *DSM-IV* criteria for current MDD of at least 2 y duration, MDD superimposed on antecedent dysthymic disorder, or recurrent MDD with incomplete interepisode recovery with total continuous illness duration of at least 2 y HDRS-24 score ≥ 20 at screening and at baseline following 2-wk drug-free period	Randomized trial with crossover design; groups were randomly assigned after 2-wk evaluation period; nonresponders to monotherapy were crossed over and treated with the other monotherapy	Assessed at baseline by a single written question: asked if they preferred medication, psychotherapy, combination treatment, or had no preference; 88 had no preference, 33 preferred medications, 53 preferred psychotherapy, 255 preferred combined treatments Does patient preference impact treatment response for patients with chronic forms of MDD?	(1) Remission (HDRS-24 score ≤ 8 at both wk 10 and 12 and partial response (≥ 50% reduction from baseline in the HDRS-24 score, plus a total score between 8 and 15 at wk 10 and 12 (2) Attrition	(1) There was a statistically significant interaction between patient preference and outcome. Patients who received a treatment concordant with their preference were significantly more likely to achieve remission or partial response over the course of the trial ($P = .039$). For patients who preferred and received combination therapy, the remission rate was 39.1%. For patients who preferred monotherapy (only psychotherapy or medication) but received combination therapy, the remission rate was 42.2% (2) There were no significant differences in attrition rate for those who received their preferred treatment vs those who did not

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Citation	Comparison	Sample	Study Design	Preference Assessment	Key Outcome Measures	Preference Results
Leykin et al (2007)[35]	Psychotherapy vs pharmacotherapy: (1) Antidepressant medication, (2) cognitive therapy, (3) placebo pill	240 adults (59% female, 41% male) Inclusion criteria: met criteria for MDD according to *DSM-IV* criteria; HDRS score ≥ 20 on 2 assessments at least 1 wk apart Recruitment: from physician referrals and media advertisements	Randomized, placebo-controlled clinical trial	During the intake visit, participants were asked to state which treatment they would prefer: drug treatment, talking treatment, or no preference (treatment preference). Participants were also offered the same 3 choices but asked which treatment they expected would be the most effective (expectation preference). The 2 preference measures were highly correlated ($r = 0.68$) Is receipt of preferred treatment a predictor of treatment success?	(1) Attrition (2) Depression outcome: HDRS score at wk 16 (3) Depression outcome: BDI score at wk 16	(1) There were no significant differences between those who were assigned to their preferred treatment and those who were not in dropouts (treatment preference: $P = .51$; expectation preference: $P = .57$) (2) At wk 16, there was no significant effect of being matched with preferred treatment on depression as measured by the HDRS (treatment preference: $P = .39$; expectation preference: $P = .86$) (3) At wk 16, there was no significant effect of being matched with preferred treatment on depression as measured by the BDI (treatment preference: $P = .87$; expectation preference: $P = .23$)
Lin et al (2005)[36]	Methods of care comparison: (1) Usual care (consult-liaison) (2) Collaborative care (structure approach that integrates primary care and specialty mental health care)	N = 335 (mean age of 57 y; 95.5% were male; 78.8% were white Inclusion criteria: no ongoing intensive treatment for depression; must not require acute treatment for substance abuse, PTSD, or other conditions; must not have acute suicidality and psychosis Recruitment: internal medicine clinic of department of Veterans Affairs; from 2 ongoing unrelated studies, prevention survey in the clinic, and direct referral	Randomized, controlled, longitudinal trial of depression management; patients assigned to treatment group based on location of treatment; random assignment of clinics to 1 of 2 methods of chronic illness management	At initial screening visit, patients were asked their preference from options that included medication, counseling, both, neither, or don't know/refused Does treatment preference match have an impact on depression treatment outcome?	(1) Depression outcome: 20-item SCL score at 3 mo (2) Depression outcome: 20-item SCL score at 9 mo	(1) At 3-mo follow-up, patients who received their preferred treatment had significantly larger improvements in their depression scores ($P < .05$) (2) At 9-mo follow-up, there was no significant difference in improvements for those who received their preferred treatment vs those who did not ($P = .064$). These results may suggest a more rapid treatment response for those patients matched to their preferred treatment modality

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2011;13(5): doi:10.4088/PCC.11r01161

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Raue et al (2009)[37]	Psychotherapy vs pharmacotherapy: (1) Interpersonal psychotherapy (2) Escitalopram	60 primary care patients meeting *DSM-IV* criteria for MDD Inclusion criteria: > 21 y, meet SCID criteria for MDD, score ≥14 on HDRS	Randomized controlled trial with patients receiving treatment either congruent or incongruent with their primary treatment preference	Rank ordering of treatment options that included antidepressant medication, individual or group psychotherapy, combined medication and psychotherapy, herbal remedies, religious/spiritual activities, exercise, or "do nothing" Determine whether treatment preference is related to treatment initiation, adherence, and depression outcomes	(1) Treatment initiation (taking 1 dose of medication or attending 1 therapy session) (2) Adherence to treatment (based on the proportion of scheduled treatments—psychotherapy adherence: care manager records; medication adherence: self-reports) (3) Depression outcomes: HDRS severity (24-item) (4) Remission	(1) Significantly more patients who were randomly assigned to their preferred treatment initiated treatment (congruent = 100%; incongruent = 74%; $P = .005$). Treatment initiation was also associated with stronger preferences ($P = .001$) (2) Being assigned to preferred treatment was not significantly associated with treatment adherence rates at 12 wk; however, preference strength was positively associated with greater adherence ($P = .002$) (3) Being assigned to preferred treatment was not significantly associated with depression as measured by HDRS ratings at 12 or 24 wk. Preference strength was significantly negatively associated with depression outcomes at 12 wk, which was an unexpected finding ($P = .028$) (4) Treatment congruence was not associated with remission rates at 12 or 24 wk
Van et al (2009)[40]	Short-term psychodynamic supportive psychotherapy: (1) Randomized patients (2) By-preference patients	59 randomized and 60 preference patients (mean age of 35.9 y; 79.8% were female) Inclusion criteria: between age of 18 and 65 y, depressive episode with or without dysthymia (*DSM-IV*), 17-item HDRS score between 14 and 25 Recruitment: referred outpatients from a large psychiatric teaching hospital in Amsterdam	Randomized trial with patient preference arm. For those willing to receive randomized therapy, block randomization stratified by age and gender was used. Those who refused randomization were given treatment of choice	Patients refusing randomization were given their treatment of choice, only those electing psychotherapy were included in the analyses, as only 3 patients chose to start with pharmacotherapy; treatment preference was not assessed in those patients who were randomized Do dropout rates and depression outcomes vary between patients who are randomized to treatment or those who choose their treatment?	(1) Baseline clinical and sociodemographic characteristics (2) Dropout: during first 8 wk of treatment (attended fewer than 5 therapy sessions) (3) Depression outcome: response rate (> 50% reduction on the HDRS) (4) Depression outcome: CGI-Severity of Illness and CGI-Improvement scales (5) Depression outcome: depression subscale of 90-item SCL	(1) There was no significant difference between the randomized and preference groups for demographic and clinical characteristics (2) There was no significant difference in dropout rate during the first 8 wk between the randomized and preference groups ($P = .23$) (3) There was no significant difference in depression outcome (response rate) after 8 wk. No significant differences were found in the response rates from wk 8 to 24 (4) There was a significant difference on CGI-Severity of Illness scale in favor of preference group ($P = .03$) at 8 wk. There was no significant difference in the CGI-Improvement scale at 8 wk. No significant differences were found in the clinician ratings from wk 8 to 24 (5) There were no significant differences on the depression subscale of the 90-item SCL at 8 wk. No significant differences were found on the 90-item SCL depression subscale from wk 8 to 24

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Table 1 (continued). Detailed Summary of 15 Relevant Articles on Patient Preferences in the Treatment of Depression

Citation	Comparison	Sample	Study Design	Preference Assessment	Key Outcome Measures	Preference Results
Ward et al (2000)[41] (Data also presented in King et al, 2000)[44]	Two types of psychotherapy were compared: (1) Nondirective counseling (2) Cognitive-behavioral therapy	464 (mean age of 37 y; 75% were female) Inclusion criteria: at least aged 18 y; depressed or depressed and anxious assessed by a score ≥ 14 on BDI Recruitment: 73 general practices in London and greater Manchester; general practitioners referred all patients with depression or depression and anxiety; general practitioners believed brief psychological intervention was necessary for the patient	Prospective, controlled trial with randomized and patient preference allocation arms; 197 patients were randomly assigned to treatment; 137 chose their treatment; 130 were randomized only between 2 psychological therapies	Preference for those who refused randomization was based on treatment selected Are there differences in outcomes between randomized and preference patients?	Depression outcome: BDI scores	There were no significant differences in BDI scores between the randomized and preference groups at either 4 or 12 mo

[a]The impact of dosing preference on adherence was not directly tested in this study.
Abbreviations: BDI = Beck Depression Inventory; CGI = Clinical Global Impressions scale; *DSM-IV* = *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition; HDRS = Hamilton Depression Rating Scale; MDD = major depressive disorder; PHQ = Patient Health Questionnaire; PTSD = posttraumatic stress disorder; RDC = Research Diagnostic Criteria; SCID=Structured Clinical Interview for *DSM-IV*; SCL = Hopkins Symptom Checklist; SF-36 = 36-item Short-Form Health Survey.

In a randomized, placebo-controlled, clinical trial of drug versus talking treatment with 240 adult participants, Leykin and colleagues[35] found no significant differences between those receiving their preferred treatment and those who did not in HDRS or BDI scores after 16 weeks. Another randomized, controlled trial by Raue et al[37] that recruited 60 patients from primary care settings and compared interpersonal psychotherapy with escitalopram treatment drew similar conclusions; there were no significant differences in HDRS ratings or remission rates between the preference-congruent and preference-incongruent groups at either 12- or 24-week follow-up visits.

In contrast to these findings, a very large study (n = 429) by Kocsis et al[34] measured HDRS-24 overall scores and used HDRS-24 ratings to assess remission and partial response in patients treated with either nefazodone or the Cognitive Behavioral Analysis System of Psychotherapy. They found that patients who received treatments congruent with their preferences had lower overall depression scores following treatment and were more likely to achieve remission or partial response over the course of the 12-week trial.[34] This study differed from others mainly in that patient preferences were assessed not just for psychotherapy compared with pharmacotherapy, rather, patients were also given the additional preference options of "combination therapy" (ie, pharmacotherapy and psychotherapy/counseling) and/or "no preference."[34] In addition, 1 of the randomized treatment groups in the study included a "combined" treatment wherein patients received both psychotherapy and pharmacotherapy treatment concurrently.[34]

A similarly designed study by Lin et al[36] compared patients (n = 335) who had received treatments that were either congruent or incongruent with their stated treatment preferences. Similar to the preference choices offered in the study by Kocsis and colleagues,[34] patients indicated their preference among the following options: medication, counseling, both, neither, or "I don't know." The results of the study at 3-month follow-up were that patients receiving preference-congruent treatment had significantly larger decreases in the 20-item Hopkins Symptom Checklist (SCL-20) depression scale compared with those receiving preference-incongruent treatment.[36] One limitation of this finding is that the preference groups differed on SCL-20 depression scores at baseline, with the treatment-congruent group having higher scores and thus a greater opportunity to show improvement. In addition, by 9-month follow-up, there were no differences in SCL-20 scores between the 2 groups.[36]

In sum, the majority of the studies that compared psychotherapy versus pharmacotherapy and evaluated depression severity outcomes for patients found that receipt of preferred depression treatment, be it psychotherapy or pharmacotherapy, does not significantly improve posttreatment depression severity. In contrast to these findings, 2 studies[34,36] did find significant differences in

depression severity at 1 or more follow-up assessments for those patients receiving preference-congruent treatment. As discussed above, there were key methodological differences in both of these studies, and it is not clear how these differences may have affected the findings. The 2 studies that concluded there was an effect of patient preference on depression outcomes had very large sample sizes, suggesting perhaps that there is a small effect detectable only with sufficient power.

Pharmacotherapy versus psychotherapy: treatment initiation, persistence, and adherence. At least 2 studies have examined the impact of patient treatment preferences for pharmacotherapy versus psychotherapy on entry into treatment. Raue and colleagues[37] reported that significantly more primary care patients initiated treatment when assigned to their preferred treatment. Similarly, a study of a quality improvement intervention designed to address primary care patient preferences in depression treatment (n = 742) by Dwight-Johnson et al[31] found that patients who were not in treatment at baseline, and who preferred pharmacotherapy over psychotherapy, were significantly more likely to enter treatment if they were randomized to the medication-specific quality intervention program that was congruent with their preference rather than to the psychotherapy-specific quality intervention program or usual care.[31]

For patients who enter into depression treatment, persistence and adherence to the intervention to which they have been prescribed has also been an outcome of interest in the patient preference literature. Three randomized, controlled trials comparing pharmacotherapy and psychotherapy examined the relationship between persistence and patient treatment preferences. A smaller study by Elkin et al (n = 82)[32] found that patients randomized to receive treatments incongruent with their preferences were more likely to drop out of the study (odds ratio = 4.76), while 2 larger studies by Kocsis et al[34] and Leykin et al[35] found no such effect (N = 429 and N = 240, respectively). The study of treatment adherence by Raue et al[37] found that treatment preference congruence was not associated with adherence rates for either pharmacotherapy or psychotherapy at 12 weeks. Surprisingly, this same study also found that the strength of the patient preferences as rated on a 5-point Likert scale was significantly negatively associated with adherence,[37] and patients who indicated that they strongly agreed that they needed the specific treatment to which they were assigned tended to have lower levels of adherence. This study was the only one to examine the strength of the patient preferences; future research to replicate this result is needed.

Pharmacotherapy versus psychotherapy: therapeutic alliance and treatment engagement. Patient preferences for pharmacotherapy versus psychotherapy have also been examined in terms of both treatment engagement and development of the therapeutic alliance. Elkin and colleagues[32] found that patients receiving treatment congruent with their preference for either pharmacotherapy or psychotherapy were more engaged in treatment and had higher ratings of their contributions to the development of the therapeutic alliance.

Another study by Iacoviello et al[33] reported that among patients preferring psychotherapy, therapeutic alliance scores increased significantly more over time for those receiving congruent treatment (psychotherapy), did not change for those receiving incongruent treatment (pharmacotherapy), and decreased significantly among those receiving inactive treatment (placebo pill). In this same study, there were no differences found in the development of the therapeutic alliance for those preferring pharmacotherapy regardless of the treatment to which they were randomized.[33] These results suggest that the relationship between patient preferences and development of the therapeutic alliance is particularly germane to those preferring psychotherapy, but should still be considered for patients preferring pharmacotherapy. In addition, the results suggest that treatment efficacy may be a significant mediating factor as evidenced by the fact that patients in the placebo group experienced decreases in the therapeutic alliance, while those who were in an active but preference-incongruent treatment group experienced no such decrease.[33]

Pharmacotherapy versus psychotherapy: health-related quality of life. Data on the health-related quality of life impact of patient preferences in the context of pharmacotherapy versus psychotherapy were extremely limited. Only a single study that met our search criteria included any measure designed to evaluate health-related quality of life.[29] This study by Bedi et al[29] found that patient scores on the Medical Outcomes Study 36-item Short-Form Health Survey, a broad quality of life measure, were not significantly associated with receiving preference-congruent pharmacotherapy or psychotherapy treatment.

Studies Comparing Pharmacotherapies

Two studies focused on comparisons of patient preferences within pharmacotherapies. It is likely that such studies are rare because few patients are highly knowledgeable about the specific characteristics of the various pharmacologic agents that are available to treat depression. This limited knowledge is not surprising as patients who are aware of multiple agents are likely to have gained this knowledge through negative (ie, side effects) or unsatisfactory (ie, nonresponse) experiences with a specific pharmacotherapeutic agent and subsequent treatment with another.

The first study by Delini-Stula et al,[38] which examined patient preferences for different forms of

pharmacotherapy, was focused on comparing different formulations of mirtazapine. The study was designed as an Internet survey of 8,811 participants and compared a fast-dissolving formulation of mirtazapine with a conventional formula. Patients tended to prefer the fast-dissolving formulation as measured by stated preferences and by increased self-reported adherence with the fast-dissolving formulation.[38] In addition, a second study by Granger et al[39] among patients taking bupropion sustained-release used a Web survey to assess adherence and patient preferences. Patients with an increased number of daily doses were less compliant, and the majority of patients (77% of twice-daily, 94% of thrice-daily users) expressed an interest in a once-daily formula.[39] Patients cited scheduling convenience, fewer pills, and fewer missed doses as reasons for this preference.[39] It is important to note the survey nature of these studies and their inherent limitations, particularly that they did not involve a controlled research design. There were no studies identified that compared patient preferences for different classes of pharmacotherapeutic medications and the impact on outcomes.

Studies Comparing Psychotherapies

Two studies that compared patient preferences for psychotherapy were identified in this review. The first study by Ward et al[41] compared 464 patients who participated in either nondirective counseling or cognitive-behavioral therapy. Patients were either randomized or included in the study under a patient preference arm. There were no significant differences in the depression severity as measured by the BDI between the randomized and preference groups at either 4- or 12-month follow-up visits.[41] The second study by Van et al[40] compared 119 patients who were randomized to short-term psychodynamic supportive therapy versus those who were included in the same therapy under a preference arm. There were many depression-related outcome measures including depression severity as measured by response rate of > 50% reduction in symptoms on the HDRS, the depression subscale of the 90-item SCL, and Clinical Global Impressions-Severity of Illness (CGI-S) and CGI-Improvement (CGI-I) scales. In addition, persistence was measured by dropout during the first 8 weeks of treatment. There were no significant differences between the preference and randomization groups on any of the measures at 8 or 24 weeks, with the only exception being the CGI-S at 8-week follow-up for which the preference group showed a more favorable response. Both studies concluded that generally there were not significant differences between patients who were randomized versus those who insisted on a specific preference-congruent psychotherapy in terms of depression severity outcomes.[40,41]

Studies Comparing Different Models of Care

The literature search identified several studies that were focused on comparing alternative models of care, such as treatment received under a collaborative care model involving additional aspects of depression management including depression care managers, specialty mental health care, and medication management, to typical management in a primary care setting.[36,42,43] Table 1 outlines additional details specific to each collaborative care model and the results of each of these studies that are discussed in greater detail below.

These studies concluded that alternative models of care that attempt to integrate primary care with specialty mental health care are more successful in either offering[42] or providing[43] patients with their preferred treatment. However, consistent with findings reported in other patient preference studies, patients receiving their preferred treatment generally did not have more favorable depression outcomes compared with those who did not receive their preferred treatment, even under these specialty models of care.[36,42,43] It is interesting to note that in the study by Lin and colleagues,[36] initially (ie, after 3 months) patients who had received their preferred treatment experienced significantly larger improvements in their depression scores; however, by 9-month follow-up, there were no such differences between groups. The authors suggest that this finding may reflect a more rapid treatment response for those who are matched with their preferred treatment; however, further research to confirm this conclusion is needed. In addition to the results on depression severity, patients who received their preferred treatment were no more satisfied with their treatment than those who did not.[42,43]

DISCUSSION

Despite clear documentation in both the literature and treatment guidelines directing clinicians to consider patient preferences when making treatment decisions for depression, this review found a limited amount of evidence supporting a significant impact of patient preference on depression-related outcomes. This finding may call into question the value of considering patients' preferences for MDD treatments, although there are several gaps in the currently published research that should be considered. The most notable limitation is that the vast majority of studies to date have focused on the impact of preferences for psychotherapy as compared to pharmacotherapy. While clearly an important topic, this particular focus does not fully reflect the entire range of treatment options and challenges in the initial and ongoing clinical management of depression. Current trends in depression treatment increasingly involve combined regimens of pharmacotherapy and psychotherapy, and, in many cases, a sequenced

approach to treatment for the significant proportion of patients who do not achieve a satisfactory outcome with initial treatment.[3,10,49] In addition, research to date on the topic of patient preferences has primarily been based on secondary analyses of clinical trial data; these clinical trials were not designed explicitly to examine patient preferences and the consequent impact on the outcomes of treatment. Additional research of broader scope and with more intentional study designs is needed prior to drawing firm conclusions.

One of the more notable findings is that the majority of studies reported that patients who received treatment congruent with their preference, whether it was psychotherapy versus pharmacotherapy or among different psychotherapies, did not exhibit a greater degree of improvement in depression severity as compared to those who were randomized. One potential explanation for this surprising result is that the majority of studies have been conducted within the context of clinical trials. Treatment persistence and adherence tend to be higher in clinical trials as compared to the community practice setting. Regardless of the treatment modality, persistence and adherence represent considerable challenges in the treatment of depression.[50] In a more naturalistic context, such as in the primary care setting, patient preferences and attitudes about different treatments may have a more substantial impact on depression severity outcomes through the moderators of decreased persistence and adherence. Further studies are clearly needed in more naturalistic community treatment settings. Supporting this, some evidence from the studies reviewed here suggests that patient preferences impact treatment initiation,[31,37] persistence,[32] treatment engagement,[32] and the development of the therapeutic alliance.[32,33] However, the results from the studies reviewed were mixed, with some studies failing to show positive associations between patients' preferences and patterns of persistence[34,35] or adherence.[37] Further research is needed to clarify previous findings and to identify the specific preferences and impacts that warrant consideration.

Future studies could include a variety of research designs with the primary objective of assessing the impact of patient preferences on depression treatment outcomes. One study design option might be a randomized, controlled study that could include all patients seeking treatment for depression regardless of the nature or strength of their treatment preference. After an initial thorough assessment of each patient's preference (ie, specific treatment preference and the strength of that preference), patients would be randomized to receive either preference-congruent or preference-incongruent treatment. Treatment outcomes (including all of those discussed in the current review) would be examined at follow-up to determine whether the strength and/or nature of the treatment preference had a significant impact on each outcome of interest. To more closely approximate real-world depression treatment, these studies could have participating physicians prescribe each patient's treatment regimen (based on randomization but without knowledge of the patient's preference) according to their usual standards of care.

A second design alternative would be a more observationally-based design that might include data gathered by examining patients' real-world experiences with depression treatment that include restrictions on access to care based, for example, on health insurance coverage. Within this design, patients who initially seek treatment would be assessed for their treatment preferences, then provided with care as usual after consultation with their physicians and based on their health insurance coverage (and other factors). Follow-up assessments to evaluate patient outcomes could be analyzed to examine whether treatment preferences (as indicated prior to treatment) were significantly related to these outcomes. Although observational studies, such as this proposed design, would not allow for conclusions about causal relationships between patient preferences and outcomes, these designs might provide more accurate information regarding the importance and strength of the relationships among these variables in naturalistic treatment settings.

There is also a need for research that expands beyond the narrow scope of evaluating patient preferences in terms of comparisons of psychotherapy versus pharmacotherapy to more accurately reflect what is most commonly encountered in community settings. In the United States, patients are increasingly prescribed antidepressants by primary care physicians as the first-line treatment.[51,52] Treatment guidelines from the American Psychiatric Association on the choice of specific pharmacologic treatment indicate that patient preferences should be considered when selecting among the available antidepressant medications.[10] To our knowledge there are no studies that have formally examined patient preferences among different pharmacotherapeutic agents and their impact on outcomes, and, thus, there is limited information regarding the potential value, expected outcomes, and basis for considering patient preferences in these scenarios. The limited research to date suggests that patients may have some clear preferences related to the characteristics of antidepressants and antidepressant treatment regimens, including side effect burden, medication properties, duration of treatment, dosing schedule, symptom severity, or change in symptom severity after treatment.[39,49,53,54] Not surprisingly, patients prefer pharmacotherapies that are convenient, that result in fewer side effects, and that are more effective. However, further research is needed to establish whether such preferences vary by individual, and to establish whether there are direct relationships between patients'

preferences for specific characteristics of antidepressants and other treatment outcomes, including medication persistence and adherence and depression severity.

In addition to considerations for patients' preferences for first-line treatment of depression, many patients experience nonresponse, partial response, or response without remission to initial treatment and seek second-line treatment strategies from their health care providers.[55–57] There are several options for second-line treatment for patients who have not achieved remission after the first line of therapy, and most commonly this includes switching to a different treatment or using adjunctive therapy.[6] While many of these strategies are supported by efficacy data, Papakostas[6] advises that treating physicians should also consider patient preference when choosing a second-line treatment strategy. Surprisingly, there is little research regarding patients' preferences for second-step treatment strategies.[49,58] Perhaps the most well-known study of second-step depression treatments is the Sequenced Treatment Alternative to Relieve Depression trial, a study wherein 1,439 participants entered second-step treatment after unsatisfactory outcomes to initial treatment with citalopram. In this study, patients considering second-line treatment options who had experienced a greater side effect burden with citalopram clearly favored switching medications, while those who had experienced a better response to citalopram in terms of depression severity outcomes favored an augmentation strategy.[49] These results suggest that patients' previous experiences with treatments, including their level of response, tolerability of the initial medication, and other factors, can impact later preferences. However, to our knowledge there is not yet published information regarding the impact that these preferences had on treatment outcomes later in the study. Further research that specifically examines patient preferences for second-step treatments and the associated outcomes, both across and within treatment modalities, is greatly needed. Additional information regarding patients' preferences for second-line treatment strategies may be of considerable value given that patients who initially experience unsatisfactory outcomes are at increased risk for treatment discontinuation and poor long-term outcomes.

The results regarding the impact of patient preferences on depression treatment outcomes that are known to date have important clinical implications. While further research is still needed to evaluate the impact of patients' treatment preferences on depression severity outcomes in ecologically valid settings and under varied treatment approaches, there are several reasons to conclude that attention to patients' preferences is still of importance. The clinical importance of considering patients' preferences is underscored by findings suggesting that entry into depression treatment is significantly more likely to occur if patients are offered treatment that is congruent with their preference, and that the development of the therapeutic alliance can be positively affected by receiving treatment congruent with preferences. Thus, clinicians who ascertain and consider patients' treatment preferences have an opportunity to positively impact those patients in precise and potentially important ways.

Finally, researchers conducting or interpreting the results of clinical trials who are concerned about the implications of randomizing patients to treatments that are incongruent with their preferences may be comforted by the results of comparisons of depression outcomes associated with preferences for psychotherapy versus pharmacotherapy. Determining or comparing the effectiveness of pharmacotherapeutic versus psychotherapeutic depression treatments appears to be adequately ascertained by randomizing patients willing to participate in the clinical study and comparing their depression outcomes across the various treatment groups. This conclusion is based on findings that patients participating in clinical trials are unlikely to differ on key variables of interest from those unwilling to accept randomization,[29,40] and assignment to a treatment incongruent with a patient's preference is unlikely to significantly impact depression severity outcomes under controlled and carefully monitored clinical trial conditions. As suggested earlier, further research is needed to ascertain if these findings are similar in comparisons of specific pharmacotherapies. In addition, conclusions surrounding the impact of patients' preferences on depression severity and other depression-related outcomes in real-world settings need to be evaluated using more realistic and ecologically valid study designs.

Drug names: bupropion (Wellbutrin, Aplenzin, and others), citalopram (Celexa and others), escitalopram (Lexapro and others), imipramine (Tofranil and others), mirtazapine (Remeron and others).

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Potential conflicts of interest: **Drs Gelhorn** and **Sexton** are employed by the United BioSource Corporation (UBC), which provides consulting and other research services to pharmaceutical, device, government, and nongovernment organizations. As UBC employees, they work with a variety of companies and organizations and are expressly prohibited from receiving any payment or honoraria directly from these organizations for services rendered. **Mr Classi** is an employee of and minor stock shareholder in Eli Lilly and Company.

Funding/support: Eli Lilly and Company provided funding for this research.

Acknowledgments: The authors would like to acknowledge the contributions of Tiffany Burch, MSc, United BioSource Corporation, Hammersmith, United Kingdom, for assistance with extracting data for the tables and Fritz Hamme, BA, United BioSource Corporation, Bethesda, Maryland, and Jessica Barnett, BA, United BioSource Corporation, Lexington, Massachusetts, for technical assistance with manuscript development.

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