

Telephone Counseling for Patients with Minor Depression: Preliminary Findings in a Family Practice Setting

Denis J. Lynch, PhD; Marijo B. Tamburrino, MD; and Rollin Nagel, MA
Toledo, Ohio

BACKGROUND. Depression is a frequently occurring condition in family practice patients, but time limitations may hamper the physician's ability to treat effectively. Referrals to mental health professionals are frequently resisted by patients. The need for more effective treatment strategies led to the development and evaluation of a telephone-based, problem-solving intervention.

METHODS. Patients in a family practice residency practice were evaluated through the Medical Outcomes Study Depression Screening Scale and the Diagnostic Interview Schedule to identify those with subthreshold or minor depression. Twenty-nine subjects were randomly assigned to either a treatment or comparison group. Initial scores on the Hamilton Depression Rating Scale were equivalent for the groups and were in the mildly depressed range. Six problem-solving therapy sessions were conducted over the telephone by graduate student therapists supervised by a psychiatrist.

RESULTS. Treatment group subjects had significantly lower post-intervention scores on the Hamilton Depression Rating Scale compared with their pre-intervention scores ($P < .05$). Scores did not differ significantly over time in the comparison group. Post-intervention, treatment group subjects also had lower Beck Depression Inventory scores than did the comparison group ($P < .02$), as well as more positive scores for social health ($P < .002$), mental health ($P < .05$), and self-esteem ($P < .05$) on the Duke Health Profile.

CONCLUSIONS. The findings indicate that brief, telephone-based treatment for minor depression in family practice settings may be an efficient and effective method to decrease symptoms of depression and improve functioning. Nurses in these settings with appropriate training and supervision may also be able to provide this treatment.

KEY WORDS. Depression; psychiatric status rating scales; telephone; patient participation; physicians, family. (*J Fam Pract* 1997; 44:293-298)

Emotional problems, especially depression, are common in family practice patients.¹⁻⁴ While direct treatment by the family physician is desirable, this approach is not always realistic. Time constraints make it difficult to provide the amount of time needed for patient counseling. Specialized techniques of treatment may be needed, and the family physician may not have acquired these skills, nor have the time to learn them.

Referrals to psychiatrists or other mental health professionals may be made, but the majority of such referrals are not carried out.⁵ France et al,⁶ in a study of referral patterns from primary care physicians to a community mental health center, found that only about 10% of the patients followed through with the referral. A variety of explanations may be offered for this situation. For many patients, there is a stigma attached to seeing a mental health professional, and a concern that other people will believe them to be "crazy."⁷ Fear of the new situation and of meeting a new doctor may contribute to the poor adherence noted. For some patients, transportation may be a problem.

As a result, many troubled family practice patients are not receiving effective treatment for emotional problems. Not only does their disturbed emotional condition continue, but it is likely that if

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From the Departments of Family Medicine and Psychiatry, Medical College of Ohio, Toledo, Ohio. Requests for reprints should be addressed to Denis Lynch, Medical College of Ohio, 1015 Garden Lake Parkway, Toledo, OH 43614.

left untreated, they will continue to be high and inappropriate utilizers of other medical services.^{8,9} The welfare of patients, as well as the increasing emphasis on efficient, effective treatment of depression in primary care,¹⁰ provided the motivation to consider alternative forms of service delivery for emotionally troubled family practice patients.

Telephone-based counseling has had a relatively long history for treating persons in emotional crises, such as those contemplating or threatening suicide.¹¹ More recently, telephone counseling has become available for counseling the aged, the infirm, and other housebound patients.¹²⁻¹⁴ Its use, however, in general primary care has not been reported. Many of the difficulties in office-based treatment by the family physician, as well as referral to a mental health professional, could be eliminated by telephone-based counseling provided by trained personnel from the family physician's office.

The goals of this study were to develop and apply a telephone-treatment protocol for family practice patients with minor depression and to assess the impact of this treatment on patient functioning and well-being.

METHODS

SUBJECTS

A total of 239 patients, aged 18 and older, waiting to see their family physicians were administered the Medical Outcomes Study (MOS) Depression Screening Inventory.¹⁵ An effort was made to approach all eligible patients, but approximately 77 were not contacted during the enrollment period because of logistic considerations (eg, not interrupting the flow of patients in the office). In addition, approximately 36 were approached but declined to complete the MOS Depression Screening Inventory. Those scoring above the recommended cutoff score were also given the Diagnostic Interview Schedule (DIS)¹⁶ by telephone; this test identifies patients meeting criteria for major depression and dysthymia, according to the *Diagnostic and Statistical Manual of Mental Disorders, Third edition revised* (DSM III-R).¹⁷ Sixty-three patients were administered the DIS. This process allowed classification of individuals reporting depressive symptoms but not meeting criteria for psychiatric diagnosis (ie, patients with subthreshold or minor depression).

In our approach, we followed the procedure used

by Sherbourne and her associates¹⁸ from the Medical Outcomes Study Group in identifying subjects with minor depression. They used a two-stage approach in which subjects initially responded to an 8-item scale that measured intensity of depressive symptoms over the past week and periods of depression over the previous year. Those who exceeded the established cutoff score, but did not receive a diagnosis of depression on the DIS were classified as having minor depression.

Potential subjects from our study pool came from the 63 patients who were administered the DIS. These patients were contacted, informed of the requirements of the study, and invited to enter the study. Three patients were already receiving counseling services and so were excluded. Those agreeing to participate were randomly assigned to either the treatment or comparison group, after first stratifying for sex. Only one subject was receiving antidepressant medication and was randomly assigned to the comparison group. Fifteen subjects were assigned to the treatment group while 14 were placed in the comparison group. Prior to the intervention, both the treatment and comparison groups were administered the Hamilton Depression Rating Scale^{19,20} by telephone.²¹

TREATMENT

The experimental treatment was based on the problem-solving therapy developed by Nezu and his colleagues²² for the treatment of depression. This approach took subjects through 5 steps with the goal of developing more useful methods for dealing with life problems. Briefly, the steps involved demonstrating for subjects the connection between depressed mood and problems, helping them to express their problems in a form that facilitates finding solutions, brainstorming to generate possible solutions, evaluating these solutions for their practicality and acceptability, and finally, trying out these solutions in their lives while noting their effectiveness and making appropriate modifications. This model was adapted for the telephone format used in the current study. Nezu and his associates²² describe the application of their approach over 10 face-to-face sessions, and have used it in both individual and group formats. They note that the individual format is preferred because it allows for tailoring to meet the patient's needs. In our adaptation, the program was presented over six sessions by combining content

presented in the sessions and was administered by the telephone.

Two student therapists, one a second-year medical student and the other a graduate nursing student, conducted the telephone therapy in this study. The therapists received 40 hours of training in the model, which included reading about the therapy, discussing its application, and role-playing simulated patient situations. In addition, they met 1 hour weekly with one of the authors who is a psychiatrist (M.B.T.) for supervision during the course of the treatment.

Subjects were randomly assigned to the two therapists, who were instructed to present and discuss the appropriate steps of the problem-solving model by telephone with the subjects once a week for 20 minutes. Relevant homework assignments, the focus for each session, were mailed to the subjects each week and were discussed during sessions. These assignments were based on the steps of the problem-solving method used and adapted from the session components described by Nezu et al.²² Subjects were requested to describe their problems in ways that facilitated finding solutions, to generate a number of possible solutions, and then to evaluate them on a number of dimensions, such as practicality, cost, morality (consistency with subject's values and morals), and reaction of family and friends.

At the end of the intervention, both treatment and comparison subjects were again contacted by telephone and re-administered the Hamilton Depression Rating Scale by a research assistant who was blinded to group assignment. In addition, all subjects were mailed the Beck Depression Inventory,²³ the Duke Health Profile,²⁴ and the Problem Solving Inventory (PSI)²⁵ at the end of the intervention; subjects were instructed to return these questionnaires in the envelope provided. Included with the inventories was a letter to the subjects that indicated they would receive a \$10 compensation once they returned the forms, in recognition of their time in filling out these questionnaires. Both treatment and comparison groups received the money after the questionnaires were returned.

MEASURES

The Beck Depression Inventory²³ is a widely used self-report instrument to assess depressive symptoms. Internal consistency reliability has been reported as .93 and correlation with clinician ratings was

.66.²⁶ Later studies with a variety of samples have yielded stability correlations from .48 to .86 in patient populations.²⁶ Higher scores would indicate more serious depressive symptomatology.

The Duke Health Profile²⁴ contains six health measures of functioning and well-being (physical, mental, social, general, perceived health, and self-esteem), and was included to assess possible improvement in these areas following the intervention. Internal consistency correlations range from .55 for social health, to .78 for general health, with most scores being around .65.²⁴ Stability correlations range from .30 to .78.²⁴ Convergent and discriminant validity was substantiated with a number of other assessment instruments.

The Confidence Subscale of the PSI²⁵ has been recommended by Nezu and associates as a measure of subjects' confidence in their problem-solving abilities, and thus would be expected to be higher for therapy subjects. A higher score would be considered more desirable and would indicate that the subject has greater confidence in his or her problem-solving abilities. Internal consistency for the Confidence Subscale is reported as .93 and test-retest, .85.²⁵ In our study, items with a loading of less than .50 on the problem-solving confidence factor were dropped, resulting in the retention of 7 of the 11 original items. A goal of this approach was to maximize the validity of the scale while minimizing the number of items.

RESULTS

Demographic characteristics of study subjects and their initial scores on the Hamilton Depression Rating Scale can be found in Table 1. Differences between the groups were not significant, and the mean scores were in the mildly depressed range, confirming that these subjects had minor depression.

In the first few weeks of treatment, four of the members of the treatment group withdrew from the study. One indicated a traveling conflict for the inability to continue. It is unclear why the others withdrew. An examination of initial Hamilton scores revealed no significant differences between those who withdrew and those who continued with therapy. At week 7, when the therapy was finished, complete follow-up data were obtained from 7 in the treatment group and 9 in the comparison group,

TABLE 1

Characteristics of Treatment and Comparison Groups Before Treatment Initiated

Characteristic	Treatment (n=15)	Comparison (n=14)
Sex (% male)	12.5	14.3
Age, mean years	46.8	49.9
Years of education, mean	12.3	10.9
Hamilton scores, mean	14.4	12.4
Medication	1*	2**

*Patient is already taking anxiolytic agent.

**One patient is taking an anxiolytic agent, the other is taking an anti-depressant.

NOTE: No significant differences were revealed between the groups on these variables.

while 4 in the treatment group and 4 in the comparison group completed only the Hamilton scale.

Matched *t* tests were applied to the pre- and post-intervention Hamilton scores for the treatment group and also for the comparison group. Subjects in the treatment group showed a significant reduction in Hamilton scores ($t = 1.90$, degree of freedom [*df*] = 10, $P < .05$), while those in the comparison group did not ($t = -0.53$, $df = 12$, $P > .60$). The difference between the treatment and comparison groups following treatment was not significant. Mean scores for the two groups on the outcome measures can be found in Table 2.

Beck Depression Inventory scores were significantly lower in the treated group than the comparison group ($t = 2.27$, $df = 13$, $P < .02$). Although the Beck scores were not obtained prior to the intervention, random assignment of subjects led us to assume initial scores would not have been significantly different in the treatment and comparison

TABLE 2

Mean Scores on Hamilton Depression Rating Scale of Treatment and Comparison Groups Before and After Treatment

	Before Treatment	After Treatment	<i>P</i> Value
Treatment group (n=11)	15.6	10.9	.05
Comparison group (n=13)	12.4	13.3	.60

NOTE: Higher scores indicate more severe depressive symptoms on the Hamilton Depression Rating Scale.

groups, and that the significantly different scores at the end were due to the intervention. This assumption of similar scores prior to the intervention is supported by the lack of significant differences between the treatment and comparison group scores on the initial Hamilton scale.

Three of the measures from the Duke Health Profile were also significantly better in the treatment group: social health

($t = 3.48$, $df = 14$, $P < .002$), mental health ($t = 1.81$, $df = 14$, $P < .05$) and self-esteem ($t = 1.89$, $df = 14$, $P < .05$). There was no significant difference between the groups on physical health. The difference between the groups in their confidence in problem solving ability as measured by the PSI also was not statistically significant. Means of the treatment and comparison groups can be found in Table 3.

DISCUSSION

The results of this study indicate that using a brief, telephone-based, problem-solving therapy as a treatment for patients with minor depression can reduce their level of depression and increase some aspects of their functioning. Confidence in problem solving was not apparently affected by the treatment, although the work of Nezu suggests that it should have been. One explanation may be that providing the treatment over the telephone resulted

in subjects having less confidence in what they had achieved, even though their mood and functioning had improved. Dropping 4 of the 11 items of the PSI may have had an adverse effect on its measurement characteristics and interfered with its ability to detect differences. Another possibility may be the specific therapeutic aspects of the problem-solving training were

TABLE 3

Mean Scores of Treatment and Comparison Groups on Outcome Measures as Tested by Psychiatric Self-rating Scales

Psychiatric Scale	Treatment (n=7)	Comparison (n=9)	P Value
Beck Depression Inventory	12.9	22.4	.02
Duke Health Profile			
Physical	43.3	48.6	.66
Mental	71.1	52.9	.05
Social	75.6	55.6	.002
Self-esteem	80	62.9	.05
Problem Solving Inventory	29.5	28.4	.64

NOTE: Higher scores on the Beck Depression Inventory indicate poorer functioning, while higher scores on the Duke Health Profile and the Problem Solving Inventory indicate better functioning.

not the cause of improvement, but rather the attention or other "nonspecific" factors in the treatment package.²⁷ Further research, controlling for the attention provided, would be needed to clarify this issue.

That the treatment in this study was administered by trained and supervised graduate students indicates that this method may also be used successfully by nurses or nursing assistants within the family physician's office, if they receive the appropriate training and supervision. Wilkinson and his colleagues²⁸ have pointed out the valuable role nurses may play in the treatment of depression in primary medical care patients. Although the therapists in our study received 40 hours of training, further research could determine whether nurses or therapists could be adequately trained in less time. Reduction in training time would make the intervention more cost efficient.

While time from the mental health specialist was required in our study to supervise the therapists, this supervision might come from the family physician, or possibly an experienced nurse in the office who has received additional training in the intervention. Providing supervision would require some time from the family physician, but the impact and benefit of the physician's time would be maximized and thus be used more efficiently. The ready availability of a psychiatric consultant is desirable, just as it would be in the usual operation of a family practice office. At its current stage in development, this intervention model would probably require too much time to be efficient in the office of a practicing family physician. Further research could address ways to streamline the model. For example, it may be that fewer hours of training may be adequate preparation, and with a nurse experienced in the intervention, regular supervision could be replaced with consultation as needed. Any analysis of the cost or efficiency of this model, however, should consider the high utilization of medical services by

untreated depressed patients, as well as their lowered productivity.²⁹ While issues of billing and finances are relevant in considering any application of such an approach, they would be premature, given these very preliminary research findings. It is clear, however, that family medicine needs to explore new ways of delivering treatment to depressed patients.

After comparing the quality of care for depression in primary care with that provided by mental health specialists, Sturm and Wells¹⁰ concluded that "substantial quality improvement of care for depression in general medical practice is necessary." At the same time, there has clearly been a shifting of responsibility for such care from mental health specialists to the primary care provider. It is understandable that the family physician may feel overwhelmed by this increased responsibility, while at the same time annoyed by the criticisms of the quality of care provided. For this reason, it is imperative that alternative forms of service delivery for the depressed patients be researched within the family medicine framework. We believe that our work may provide an introduction to and limited testing of such an approach. Because of the small sample size, replication of our work is needed. In addition, the number of subjects who withdrew from the study needs to be addressed in future research. Understanding the motivation behind dropping out may help us to make the intervention more useful and effective.

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