Depression Treatment in Rural California: Preliminary Survey of Nonpsychiatric Physicians

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ABSTRACT: *Depressive disorders have been recognized as disabling conditions of public health proportions. However, in areas underserved by mental health professionals, the treatment of depressed patients becomes challenging. Furthermore, patients living in rural areas and communities underserved by health professionals are at risk for high levels of depressive symptoms and low access to care. Physicians (N = 58) of multiple nonpsychiatric specialties in Imperial County, a rural underserved area in California, were surveyed to ascertain their preferred strategies in the management of depressed patients. More than half (57%) of the respondents preferred to either refer patients to a mental health specialist ($p < .01$) as the only strategy, or in combination with counseling, prescribing medication, or both. The most commonly reported form of counseling was of a supportive nature. The most commonly prescribed drugs were selective serotonin reuptake inhibitors (in order of frequency: fluoxetine, sertraline, and paroxetine). Tricyclic antidepressants and benzodiazepines were identified as first-line drugs by some pediatricians and surgeons. The results of this study support the need for enhanced postgraduate training in the treatment of depression for nonpsychiatric physicians, and greater exposure of psychiatric residents to rural psychiatry.*

Depressive disorders are common and result in high utilization of mental health and general health services, causing considerable limitations in daily functioning (Lambert, Agger, & Hartley, 1996; Lambert & Agger, 1995). The 1-year prevalence has been measured to be as high as 10.3% (Kessler et al., 1994), with a calculated cost of up to $43.7 billion in treatment, absenteeism, and suicide-related loss in productivity (Greenberg et al., 1993).

A major barrier to mental health care for people living in rural areas is the low supply of mental health providers. However, the likelihood of rural people receiving care for depression may be better than for other psychiatric disorders because of the ability of primary care providers to diagnose and treat depression (Lambert & Agger, 1995; Lambert et al., 1996). Barriers to accessing mental health services in rural areas exist not only in the United States, but also in other parts of the world (Judd et al., 2001; Malcolm, 2000). Several researchers have addressed the issue of depression in urban primary care (Coyne et al., 1994; Gask et al., 1998; Johnson & McFarland, 1994; Jones et al., 1987; Kessler et al., 1985; Klinkman et al., 1997; Main et al., 1993; Schwenk et al., 1998; Schulberg et al., 1985; Weiner, 1994; Williams et al., 1999), finding that training, experience, pressures from managed care organizations (MCOs), availability of specialists,

and other factors make a difference in treatment strategies.

The existing literature on mental health care in rural areas has suggested that depression is probably undertreated. The main barriers for treatment include few referral resources, long waiting lists, inadequate follow up, and patients' difficulties with transportation to treatment centers (Bachcrach, 1983; Hartley et al., 1998; Rost et al., 1994; Rost et al., 1995; Salazar, 1996; Strauss et al., 1995; Susman et al., 1995). Furthermore, only a small percentage of those who receive treatment are treated according to approved policies (Rost et al., 1995). As with physicians in urban areas, rural physicians are pressured by MCO guidelines. In addition, they may be more hesitant to diagnose depressive syndromes because of the perceived social stigma, the desire to preserve the relationship with the patient, and the lack of referral resources (Strauss et al., 1995; Susman et al.).

What seems to go unrecognized is that not only primary care doctors but also physicians of other specialties practicing in rural underserved areas may find themselves needing to diagnose and treat depressed patients. This is a potential problem in 75% of the territory of the state of California, which encompasses around 2.6 million rural residents, including Imperial County where the study took place. In general, rural communities in the state of California are more economically depressed and have lower incomes than their urban counterparts. People in these areas tend to be older, sicker, and poorer, with little or no access to public transportation (Lewis, 2000; Avery, 2000).

Imperial County is a desert area geographically situated in the southeast quadrant of the state of California. It borders with Mexico, the state of Arizona, and San Diego and San Bernardino counties. The California Health Manpower Policy Commission defines a rural Medical Service Study Area as an area with a population density of less than 250 people per square mile and no town within the area with a population in excess of 50,000. Imperial County has a population density of 34.4 people per square mile and the largest town has 45,000 people. During the study (1998), Imperial County was a federally designated mental health professional underserved area, as it had a population to psychiatrist ratio of 31,111:1 (criteria met when in excess of 20,000:1) and the nearest contiguous area of resources was 120 minutes away (criteria met when in excess of 40 minutes; Yarnall, P., Imperial County Behaviorial Resources, personal communication, January 17, 2002). Like most communities on the U.S. border with Mexico, Imperial County is highly represented by Hispanics, corresponding to 73% of the total population. Slightly over half of the adults older than 25 years are high-school graduates. Thirty percent of the population live below the poverty level and receive health services through Medicaid and other state-funded programs. The unemployment rate is 10%, with most job options in the areas of agriculture, retail, and service (United States Census Bureau, 2000).

According to the Hispanic Health and Nutrition Examination Survey (HHANES), low educational achievement and low income are factors associated with increased risk for higher levels of depressive symptoms (Moscicki et al., 1989). Mexican-American agricultural workers, who are often poorly educated and earn low incomes, have higher symptom levels and decreased access to mental health providers, compared to the general population (Muñoz, 1999; Vega et al., 1985; Wells et al., 1989).

Given the peculiarities of an underserved area like Imperial County, it is clear that there may be both advantages and disadvantages to nonpsychiatric physicians being responsible for the treatment of depressed individuals. A principal advantage is that depressed patients benefit from treatment they might otherwise not receive if a specialist were required to provide it. This is a very important issue given the high prevalence of depression. In addition, continuity of care with a single, trusted provider is maintained—an important issue among patients who might be skeptical about accessing a separate mental health system. Disadvantages include the risk of inappropriate diagnosis, inappropriate treatment, or both, and an exclusive reliance on medication rather than the combination of medication and psychotherapeutic interventions.

In summary, populations in rural areas having a high percentage of Hispanics probably have higher incidence of depressive symptoms than their urban counterparts. They have limited access to specialized mental health care as well. Given our impression that all nonpsychiatric physicians—not only primary care doctors—may treat depressed patients in underserved areas, a preliminary survey was conducted to understand how physicians of all specialties in this community preferred to treat depressed patients.

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Methods

This study was divided into two stages. The first one involved the design of the survey. The second stage involved identifying potential participants, administering the survey, and analyzing the data.

First Phase. The survey instrument was pilot tested by three physicians. Because physicians are busy with their patients and because mailed surveys tend to have low response rates, a survey that would provide as much information as possible but would also minimize the rate of nonresponse was designed. On the basis of this pilot test, it was determined that the survey had to be short, with multiple-choice questions, and with the notation that the participants would not be identified. The instrument was therefore designed to be brief, with a total of six questions regarding treatment modalities for patients with major depressive disorder to be answered in a maximum of 8 minutes.

Second Phase. All physicians who advertised in the Imperial County Yellow Pages were mailed a survey packet. The Yellow Pages were believed to be the most inclusive resource. Other potential sources, such as state medical license data or hospital staff data, may not include physicians who are based in a neighboring county or state and practice part-time in Imperial County. The packet included a cover letter explaining the nature of the study, the survey, and a self-addressed envelope to return the answered survey. The letter also noted that the physicians' names would not be associated with their responses. After 1 month, all of the physicians were contacted again by fax as a reminder for those who had not yet responded.

Responses for each question were analyzed and then tabulated by medical specialty. Chi-square statistics using SPSS 9.0 software were applied to determine if responses to the questions differed significantly by medical specialty.

Results

A total of 140 questionnaires were mailed; 58 (41%) were completed and returned. Two questionnaires (1.4%) were returned unanswered because the physicians were no longer at that address. Although a larger than usual response rate for studies such as this was achieved, it cannot be assumed that this preliminary survey is representative.

Table 1. Physician Responses Regarding Treatment of Patients With Depression.

Questions	Answers of the Total Sample (N = 58)	Percent
1. How do you usually treat a patient with ... DSM IV criteria for major depressive disorder?	Counseling	10
	Medication	17
	Referral	38
	Counseling + medication	16
	Referral + medication	3
	Referral + counseling	7
	Counseling + medication + referral	9
2. If you start counseling, what do you usually do?	Listen to the patient	64
	No answer	26
	Combination of other options	10
3. If you prescribe medication, please identify the 3 drugs you usually prescribe in order of importance.	Fluoxetine	46
	Paroxetine	41
	Sertraline	30
	Alprozalam	19
4. If you refer to a professional, whom do you usually refer to?	Psychiatrist	69
	Combination of other professionals	28
	No answer	3
5. What better describes your area of work?	Family practice	22
	Internal medicine	31
	Gynecology and obstetrics	8
	Pediatrics	8
	Surgery	29
6. How long have you practiced in a nonmetropolitan area?	≤10 years	46
	11–20 years	26
	21–30 years	21
	>30 years	5
	No answer	2

Note: Sum of percentages for questions 3 and 5 do not equal 100% because multiple responses were allowed.

Responses are shown in Table 1. Specialties of respondents included Internal Medicine (31%), Surgery (29%), Family Practice (22%), Gynecology/Obstetrics (8%), and Pediatrics (8%). Respondents were about evenly split between those who had been in practice for less than or more than 10 years. The rates of response were roughly equal across specialties. To ensure anonymity, we did not ask for more specifics regarding subspecialties, as some of the physicians were among one or two in the whole county within a particular subspecialty, and they could be readily identi-

Table 2. Usual Treatment Modality and Medication Preference by Medical Specialty.

Therapeutic Approach	Medical Specialty				
	Family Medicine *n* (%)	Internal Medicine *n* (%)	Gynecology/ Obstetrics *n* (%)	Pediatrics *n* (%)	Surgery *n* (%)
N	13	18	5	5	17
Treatment Modalities					
Counseling	3 (23)	2 (11)			1 (6)
Medication	2 (15)	7 (39)			1 (6)
Referral		3 (17)	2 (40)	4 (80)	13 (76)
Counseling + Medication	4 (31)	2 (11)	3 (60)		
Medication + Referral		2 (11)			
Counseling + Referral		2 (11)			2 (12)
Counseling + Referral + Medication	4 (31)			1 (20)	
Medication Preferences					
Anxiolytic					3 (43)
Antidepressant	8 (61)	9 (50)	3 (60)	1 (50)	2 (29)
Both	5 (38)	9 (50)	2 (40)	1 (50)	2 (29)

Note: Separate analyses were run for Treatment Modalities and Medication Preferences. Chi-square statistics were significant for each analysis ($p < .01$).

fied by this information (i.e., vascular surgeon, neurosurgeon, rehabilitation medicine, sports medicine).

The most frequently selected response to Question 1 ("How do you usually treat a patient with major depressive disorder?") was "Referral to another professional" (Table 1). Over half of respondents reported using this modality (57%), with 38% of respondents reporting the use of referral alone and another 19% reporting referral in combination with other modalities.

For Question 2 ("If you start counseling, what do you usually do?"), nearly two thirds of respondents reported listening to the patient. Selective serotonin reuptake inhibitors (SSRIs) were the most commonly prescribed medication (Question 3), and alprozalam the most frequently reported medication other than antidepressants. Regarding referral of patients (Question 4), over two thirds of respondents referred to psychiatrists.

Next, responses were analyzed by medical specialty (Table 2). Chi-square statistics were examined to determine if there were significant differences by specialty for each question. Significant differences emerged for Questions 1 (treatment modality) and 3 (medications prescribed) (chi-square $< .01$), but not for Questions 2 (counseling technique) or 4 (referral). Although sample size limitations prohibit post hoc statistical analysis of these differences, several are worth noting.

Family Medicine physicians reported using referral only in conjunction with counseling and prescribing. Internal Medicine physicians (i.e., cardiologists, nephrologists, neurologists) were the most likely to use prescribing (39%) as the only modality. Seventy-six percent of surgeons reported using referral as the only modality. Because only five gynecology and five pediatric physicians responded, interpretation of their results would be highly speculative.

Prescribing medication was the least common strategy, whether alone or in combination with another intervention. Not all respondents to Question 3 ranked medications in order of preference as requested; therefore, the answers were studied by the frequency the drugs were chosen, regardless of ranking. By frequency the three most commonly named drugs were SSRIs. In descending order, these were fluoxetine, paroxetine, and sertraline. More remarkable was that the fourth most commonly used drug was alprozalam, which was mentioned by one in five physicians, as the

superiority of antidepressants over benzodiazepines in the treatment of depression has been well established (Charney, et al., 1995; Stahl, 2000). Benzodiazepines continue to be used as an adjuvant in some cases of depression with significant anxiety but other forms of antidepressants can still be used for this. On the other hand, some respondents reported prescribing alprozalam exclusively, which is of greater concern.

The data were then collapsed into three medication categories to facilitate analysis: anxiolytics, antidepressants, and both anxiolytics and antidepressants (Table 2). What is remarkable is that surgeons (43%) were the only specialty to prescribe anxiolytics alone; none of the other specialties prescribed only anxiolytics. Otherwise, the specialties were fairly evenly split between prescribing antidepressants alone or in combination with anxiolytics. When analyzing data by type of antidepressant, it was observed that surgeons seemed to favor tricyclic antidepresssants (TCAs) over SSRIs, whereas other specialties favored SSRIs. The limited sample size, however, precludes making definitive statements about these observations.

Discussion

In spite of the relatively high incidence of depression, people residing in rural communities such as Imperial County have difficulty accessing care from psychiatrists and other mental health professionals. They are at risk of facing problems such as long waiting lists, non-specialized professionals, and inadequate transportation to get to treatment centers (Bachcrach, 1983; Hartley et al., 1998; Rost et al., 1994; Rost et al., 1995; Salazar, 1996; Strauss et al., 1995; Susman et al., 1995; United States Census Bureau, 2000).

These findings are based on preliminary data from a study with a limited sample size. Although the chi-square statistics indicate that significant differences exist for two of the questionnaire items, we did not have the power to conduct post hoc analyses to determine where these specific differences were. Therefore, interpretation must be made with caution and these findings must be accepted as provisional until replicated. Nevertheless, several findings are intriguing.

The majority (57%) of physicians who responded to the survey favored referring depressed patients to a mental health professional ($p < .01$), suggesting their preference to rely on psychiatrists and other mental health professionals to treat these patients. Counseling was the second most commonly used strategy, either alone or combined with other interventions, suggesting that some respondents recognized the value of spending time with depressed patients, in spite of constraints currently imposed on regular patient visits. Prescribing was the least common strategy and SSRIs seemed to be the favored options by most physicians.

Despite the fact that results of this study provide an important insight into the treatment practices of rural nonpsychiatric physicians, there are some limitations, which may affect the generalizability of these findings. One limitation of this study is the small sample, which may not be representative. Another limitation was the instrument itself, because of its brevity. In addition it could not be assessed how often respondents used one modality compared to another (e.g., referring vs. medicating), or variations in management according to severity. We could not learn either how difficult it was to make referrals or strategies used when a referral was delayed. The questionnaire did not capture information regarding how much time or how many visits were devoted to counseling or data regarding medication doses and decisions to switch antidepressants. It is therefore hard to draw conclusions regarding some disquieting responses (e.g., use of tricyclic antidepressant by a pediatrician, or alprozalam as the only drug mentioned by some surgeons).

Conclusion

As evidenced by the respondents, physicians of multiple specialties—and not just family physicians—treat depressed patients in rural areas. Most physicians still prefer referring depressed patients to a mental health specialist, in spite of practicing in an underserved area and other barriers to access. This supports the idea that more efforts are essential to recruit professionals to mental health underserved areas. Unfortunately, recruiting and keeping psychiatrists and mental health professionals in rural areas is a difficult task that has been recognized for years but which has shown only limited progress; in fact, the possibility of psychologists getting prescribing privileges in order to make up for the deficiency of psychiatrists has been considered in some states (Heiman, 1983, Rosack, 2002; Tucker et al., 1981). Some models have proposed having mental health professionals as consultants for primary care physicians on site to provide ongoing updating and assistance in the management of depression (Judd et al., 2001; Malcolm, 2000), whereas others have proposed enhanced interventions

to treat depressed patients in rural areas (Smith, et al., 2000).

These are preliminary data that require replication in a study with a larger sample size. Further investigations on the treatment of mental illness in rural settings, as well as an evaluation of medical curricula vis-à-vis mental healthcare in rural settings are encouraged. It is our impression, however, that for rural underserved areas, nonpsychiatric physicians are probably doing more good than harm by addressing the needs of depressed patients.

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