ORIGINAL RESEARCH

How Physician Communication Influences Recognition of Depression in Primary Care

Patricia A. Carney, PhD; M. Scottie Eliassen, MS; George L. Wolford, PhD; Mary Owen, MD; Lee W. Badger, PhD; and Allen J. Dietrich, MD
Hanover, New Hampshire; Seattle, Washington; and Tuscaloosa, Alabama

BACKGROUND. The relationship between physician communication patterns and the successful recognition of depression is poorly understood.

METHODS. We used unannounced visits by actors playing standardized patients to evaluate verbal communication between primary care physicians and a patient presenting with a minor depression scenario. Participants (n = 77) were assigned to receive 2 visits from a man or woman portraying a 26-year-old patient with chronic headaches who meets the criteria for minor depression. The standardized patients carried hidden audiotape recorders and high-fidelity microphones to document the encounters. The audiotapes were coded at 2-second intervals. These data were linked to information gathered from standardized patient checklists, medical records, and debriefing telephone calls with participants.

RESULTS. We obtained complete data on 59 (77%) of the physician-patient encounters; of those, 43 (73%) of the physicians recognized depression. Physicians who recognized depression asked twice as many questions about feelings and affect compared with those who did not (for feelings: 1.9% of total physician activity vs 0.9%, $P = .017$; for affect: composite score of 2.7% of total physician activity vs 1.3%, $P = .003$). We found no differences in the proportion or timing of broad to narrow questioning between those who did and did not recognize depression. Physicians who successfully recognized depression later in the interview showed an increase in questions about feelings in the quartile just before recognition occurred.

CONCLUSIONS. Physicians who recognized depression differed significantly in the percentage of questions about feeling and affect, and an increase in questions about feelings may precede a diagnosis of depression, though more research is needed to establish this as an important finding.

KEY WORDS. Depression; communication; physician-patient relations. *(J Fam Pract 1999; 48:958-964)*

Despite findings that the prevalence of depression symptomatology in general medical practice is comparable with hypertension and arthritis,[1] several studies have found that primary care clinicians identify only half of the patients who meet the criteria for a depressive disorder.[2-8] The barriers contributing to underrecognition of depression have been well documented and include the knowledge and attitudes of patients,[9,10] inadequate physician training,[11-13] physician attitudes,[14,15] reimbursement issues,[16,17] and insufficient time or other health care system factors that lead to inadequate diagnostic interviews.[18-22] One area that has received relatively little attention is how physician-patient communication influences recognition of depression in primary care practice.

Communication is a core component of the physician-patient relationship. Good communication is associated with increased patient satisfaction,[23] better diagnostic performance by physicians, greater patient compliance, improved health status of patients,[24-26] and lower rates of malpractice litigation.[27,28] Few studies have explored how physician-patient communication may influence the successful diagnosis of depression. One study[29] found 2 communication behaviors that predicted successful recognition of depression, including the proportion of the interview devoted to affective interview behaviors (eg, accepting and eliciting feelings) and the use of broad open-ended psychosocial questions by the physician. Another study[30] found that success in diagnosing somatiform disorders was associated with effective interdependent communication between physicians and patients. More research is needed, however, to understand how the timing of specific communication behaviors contributes to the success or failure of recognizing depression.

We conducted an exploratory study using actors portraying standardized patients to evaluate how physician communication contributes to a diagnosis of depres-

Submitted, revised, September 3, 1999.
From the Department of Community and Family Medicine, Dartmouth Medical School (P.A.C., M.S.E., A.J.D.) and the Department of Psychology (G.L.W.), Dartmouth College, Hanover; the Department of Medicine, University of Washington, Seattle (M.O.); and the School of Social Work, University of Alabama, Tuscaloosa (L.W.B.). Dr Badger is now associated with the Graduate School of Social Service, Fordham University, New York, NY. Reprint requests should be addressed to Patricia A. Carney, PhD, Dartmouth Medical School, 1 Medical Center Dr, HB 7925, Lebanon, NH 03756. E-mail: Patricia.Carney@dartmouth.edu.

© 1999 Dowden Publishing Co/ISSN 0094-3509

sion in primary care. We specifically explored whether successfully recognizing depression was associated with the timing and respective proportion of broad (open-ended) to narrow (close-ended) and medical to psychosocial questioning by the physicians or with the timing of questions about affect and mood. Primary care physicians are in a unique position to identify and treat the 1% to 25% of their patients with depression (of whom 5% to 9% have major depression).[31-33] To identify how best to assist primary care physicians in overcoming the complicated obstacles that hinder recognizing depression, the communication process must be better understood.

METHODS

Study methods for participant recruitment, scenario development, standardized patient recruitment, training and testing are described in detail elsewhere.[34] In 1997, 3 study centers were selected to represent a range of primary care geographic settings. These included one center in northern New England; one in the region around Seattle, Washington; and one in northwest Alabama. Physician recruitment involved peer-to-peer contact. All study procedures were approved by the institutional review boards at the 3 study centers. Participants were informed that they would be visited twice by a standardized patient at some point during a 1-year period and that the encounters would be audiotaped to evaluate scenario replication and the accuracy of the standardized patients' assessments of physician performance. The tapes would also be used to analyze communication patterns between the physicians and the standarized patients. Physicians were blinded to the specific study topic of depression, the dates of the visits, and the standarized patient's age, sex, and specific clinical presentations.

TABLE 1

Standardized Patient Case Scenario

Chief complaint	• Headaches
Clinical presentation	• 26-year-old data entry clerk • Headaches of >1-year duration, worsening during past 2-3 months.
DSM-III-R criteria	• Anhedonia • 10-lb weight gain • Hypersomnia - 10 hrs
Additional history	• Recent divorce • No strong social ties • Social isolation
Appearance	• Becomes visibly saddened when divorce mentioned • Affect neither animated nor flat

DSM-III-R denotes *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised.*

STUDY PARTICIPANTS

The 77 participants represented a sample of primary care physicians serving adults in the 3 study regions. Criteria for selection of this sample included sex and specialty mix (family physicians and internists), as well as geographic accessibility. Recruitment targeted both family physicians and internists. Physicians were excluded if they had practiced at their current location for less than 1 year, their patient panel composition was less than 50% adult, they devoted less than 50% of their clinical time to primary care, they were based in a residency training site, or their practice was closed to new patients.

CASE SCENARIOS

Four months before the first standardized patient visits, participants were assigned randomly to be visited by either a man or a woman enacting the same case scenario. The standardized patient presented with symptoms compatible with minor depression with a chief complaint of chronic headaches of 2-years' duration, worsening during the last 3 months. The standardized patients called the practices in the study and requested an initial visit to address their presenting complaint and to establish ongoing care. They also returned as recommended for a second visit.

Medical and psychiatric faculty worked together to develop the initial case scenario. We chose this scenario because it represented a common presentation for depression in primary care: subtle mental health distress of a sufficient degree to be associated with dysfunction, as demonstrated in other studies.[35] The scenario was evaluated for internal consistency and refined during guided focus groups of community physicians that were held in each study center.[36]

The core elements of the scenario are provided in Table 1. In the scenario, a recent move required initiation of contact with a new care provider. Insurance was described as being in transition because of a new job but was scripted not to be a barrier to care. The standarized patients paid for the encounters in cash and indicated they would submit their claims to their insurance companies on their own. No depressive symptoms were volunteered by these patients unless specifically queried. During the second visit, standardized patients reported that their symptoms were 50% better regardless of the treatment suggested at the first visit.

INSTRUMENTS

An evaluation checklist (to be completed by the standardized patients) with dichotomous (yes/no) responses was developed to assess how participating physicians pursued the presenting complaints and the criteria for a depressive disorder as listed in the *Diagnostic and Statistical Manual of Mental Disroders, Third Edition, Revised* (*DSM-III-R*).[37] We pilot-tested the checklist in each study center to ensure that each item was readily

observable and accurately scored by the standardized patients. The actors also used audiotape recorders with high-fidelity microphones to record the physician-patient interactions. These machines were concealed in briefcases or book bags specially adapted for this purpose. After each encounter, the standardized patient completed the checklist, reviewing the audiotape when necessary.

At the end of the study, audiotapes were sent to Allegheny Medical College for interview coding using the Interaction System for Interview Evaluation (ISIE-81) originally developed by the National Board of Medical Examiners to specifically evaluate physician-patient communication when medical or surgical and psychological problems were present.[38] Using ISIE-81, specially trained persons coded the audiotapes at 2-second intervals, classifying the segments into 35 subgroups of 7 major categories. Each code indicated what was occurring at that time. Interrater reliability of the ISIE-81 averages 0.84.[39] The ISIE-81 categories include both physician and patient behaviors. Because ISIE-81 was developed to code videotapes rather than audiotapes, not all categories were codeable. The ISIE-81 categories we used in these analyses and their definitions are outlined in Table 2. Narrow psychosocial questions could be answered with yes, no, or another short direct answer. Broad psychosocial questions encouraged more than a short direct answer.

TABLE 2

Interaction Analysis System for Evaluation of Patient-Centered Interviewing Behaviors

Category	Definition
Medical Questions	
Narrow	Physician asks medically oriented questions that can be answered with yes, no, or a short direct answer.
Broad	Physician asks medically oriented questions that encourage the patient to respond with more than yes, no, or a short direct answer.
Psychosocial Questions	
Narrow	Physician asks psychosocially oriented questions that can be answered with yes, no, or a short direct answer.
Broad	Physician asks psychosocially oriented questions that encourage more than yes, no, or a short direct answer.
Affective Focus	
Accepts feelings	Physician verbally acknowledges a feeling previously expressed by a patient.
Elicits feelings	Physician verbally calls attention to a feeling, emotion, or emotional state.
Shows approval	Physician gives verbal approval of patient's behavior or agrees with patient's ideas.
Reassures	Physician makes statements that reassure or assure patient of physician's continued attention and help.
Discloses feelings	Physician makes statement that discloses his or her feelings.

Implementation

Twelve actors were recruited from medical education programs that use standardized patients for teaching and evaluation. All standardized patients were within 120% of their ideal body weight, and the clothing they wore to the visits was consistent with the cases being enacted. The specifics of standardized patient training and testing are described elsewhere.[34] Three weeks after the final standardized patient visit, physicians were informed that the visits had taken place. They were asked to either describe or name the patient. If the standardized patient was detected, physicians were asked when during the encounter the detection occurred. Detection occurred in 22.8% of cases. The majority of the detections occurred at the end of the second visit or in retrospect after the second visit had occurred, which likely did not influence the physicians' performance to a significant degree. Therefore all of the detected cases were included in the analysis. All physicians forwarded standardized patient medical records for abstraction and participated in a debriefing telephone call about their interactions with their assigned patient after both visits were completed.

Data Elements

The data elements we used in these analyses were derived from 4 sources. First, we used the demographics and practice survey completed by participants to characterize participants. Second, we used a data file composed of variables derived from the standardized patient checklist (an instrument designed to evaluate pursuit of presenting symptoms, *DSM-III-R* criteria, patient education, and management recommendations or decisions, which was completed by the standardized patients immediately after each encounter), and variables abstracted from the medical record to classify whether the physician was successful in recognizing depression. Any of the following indicators were used when classifying encounters as successful: discussion of depression with the standardized patient, diagnosis of depression in the medical record, prescription

for an antidepressant, or a recommendation for ongoing counseling with a social worker, psychiatrist, or psychologist. The third data file contained information from the debriefing telephone calls with the physicians. The final data source was the ISIE-81 coded data from the encounter dialogue.[38]

Data Analysis

To evaluate the use of broad questioning in either medical or psychosocial categories, we compared the proportion of the interview devoted to broad questions (ISIE-81 codes 11, 12, 31, and 32) between physicians who recognized depression and those who did not. To evaluate how the blend of broad and narrow questioning contributed to a successful diagnosis of depression, a dependent measure (DM1) was created in the analysis file that would allow comparisons of interview characteristics between physicians who recognized depression and those who did not. The DM1 consisted of the percentage of broad medical and broad psychosocial questions divided by the sum of all broad and narrow questions (total percentage). A high percentage on this measure indicated that the majority of questions asked by the physician were broad questions. Finally, we examined whether physicians interrupted patients to redirect the encounter (ISIE-81 code 16).

To evaluate how the use of affective interview behaviors contributed to the diagnosis of depression, 2 different measures were used. One was an individual ISIE-81 code (code 18, elicits feelings), which indicates physicians were asking about or commenting on patient feelings. The second measure was a composite of 3 ISIE-81 codes (DM2) including use of summary statements (code 14), asking about feelings (code 18), and showing approval (code 19). To address timing or sequencing effects in the use of broad to focused questioning, each visit was divided into quartiles and the distribution of open-ended to focused questioning was explored in each quartile. Comparisons were made by treating percentiles as means.

Descriptive statistics were used to characterize study participants and encounters. All tests comparing performance on the basis of whether depression was successfully diagnosed were 2-tailed. An α level of 0.05 was considered statistically significant, except when more than 1 test was used on the same study variable. In those cases, the α levels were set at 0.025. Independent t tests were used to compare continuous data between those who recognized depression and those who did not. Levene's F test was used to evaluate the variance between 2 groups, and multivariate analysis of variance was used for multivariate comparisons.

RESULTS

A total of 77 internists and family physicians who met eligibility requirements were visited by an unannounced standardized patient. Results on the use of diagnostic criteria in recognizing and managing depression are reported elsewhere.[34] Depression was recognized in 79% (61 of 77) of the standardized patients. Complete ISIE-81 data were only available for 59 physicians. Transcripts were not available for 21.3% of the first visits and 28% of the second visits because of either poor sound quality of recordings or mechanical failure. When depression was recognized, it usually occurred during the first visit. Recordings of encounters varied widely in length, from 4 to 35 minutes with a mean of 14.9 minutes. Therefore in our analysis of questioning sequence, quartile length differs considerably across physicians. In some cases quartile length is very short.

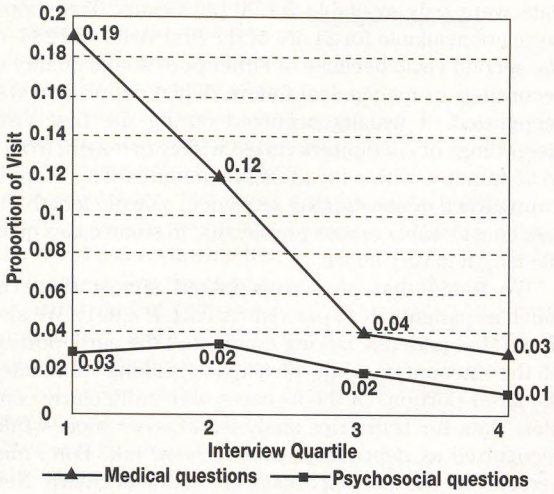
We found that physicians talked almost twice as much as patients (0.44 per visit vs 0.24, $P < .001$). We also found that patients' talking dominated the early portion of the encounter, while physicians' talking dominated the latter portion. Of the 59 cases with sufficiently complete data for transcript analysis, 43 were successfully recognized as depression, and 16 were not. Forty-nine percent of the participants were from northern New England, 34% from Washington, and 17% from Alabama. Physicians from northern New England were overrepresented because of specialty and sex-specific recruitment difficulties at other sites. There were no statistical differences in physician characteristics by site. The mean age of physician participants was 44.2 years; 66% were men; 64% were family physicians; and 85% were board certified. We found no differences in physician characteristics between those who did and did not recognize depression. We also found no differences in physician versus patient verbal activity over time between those who successfully recognized depression and those who did not.

In evaluating the proportion of the encounter devoted to broad questions (ISIE-81 codes 11, 12, 31, 32), we found the composite medians to be identical at 10.2% between those that did and did not recognize depression. The mean for encounters where depression was recognized was 10.5% (standard deviation [SD] = 4.0%) and was 11.3% (SD = 5.1%) in those who did not recognize depression ($P = .552$). The calculated measure on the ratio of broad to narrow medical and psychosocial questioning (DM1) was 79% in those who recognized depression and 82% in those who did not ($P = .453$). All physicians asked broad to narrow questions in a ratio of approximately 4 to 1.

On the basis of the single ISIE-81 code that indicates physicians were asking about or commenting on patient feelings (code 11), we found that physicians who recognized depression asked twice as many questions about feelings on average as those who did not recognize depression (1.9% of total physician activity vs 0.9%, $P = .017$). Using the composite measure of affective focus (DM2), we found physicians who recognized depression spent 2.7% of their time on the composite affective focus

FIGURE 1

The relationship of medical to psychosocial questions over time (n=59).



compared with 1.3% for physicians who did not recognize depression, a ratio of about 2 to 1 (P = .003). No instances of physicians interrupting patients to redirect the encounters occurred (ISIE-81 code 16).

On the basis of the physician debriefing telephone calls, we learned that in 60% of encounters depression was recognized immediately; in 26% depression was recognized in the middle of the first interview; and in 4% depression was recognized at the end of the first interview. Ten percent of physicians could not specifically remember when depression was recognized. In evaluating the timing or sequencing of questioning as they relate to a diagnosis of depression, we had initially hypothesized that successful recognizers would show a different pattern. However, no sequence differences related to broad to narrow questions were found between doctors who did and did not recognize depression. All physicians asked many more broad medical questions than psychosocial questions, as illustrated in Figure 1, but that difference was very marked in the first quartile and decreased as the visit went on. The interaction between quartile and medical versus psychosocial questioning was highly significant using multivariate analysis of variance (F [3,55] = 67.54; P <.001). No statistical differences existed between recognizing depression and interview quartile.

Figure 2 shows the timing of questions about patients' feelings (ISIE code 11) as a function of whether depression was recognized and the point in the visit when depression was recognized. Physicians who successfully recognized depression later in the interview showed an increase in questions about feelings in the quartile just before recognition occurred. It appears that some physicians initiated a series of questions about affect and feelings once they suspected a patient might have minor depression. Physicians who did not recognize depression spent the least amount of time asking affective questions.

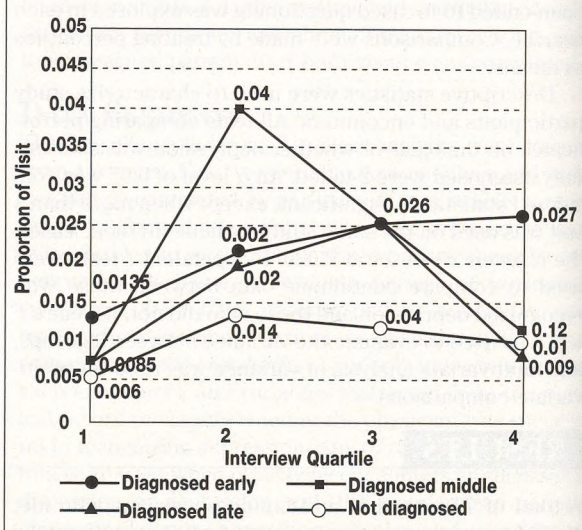
DISCUSSION

We found a high proportion (73%) of primary care physicians recognized minor depression, and when this occurred, physician self-reports indicated that it typically happened at the beginning of the encounter (60%). However, we cannot validate the physicians' self-reports. (Though the standardized patients reported whether depression was recognized, they could not determine when in the encounter it occurred.) We found no differences in the use of broad to narrow questioning between those who successfully recognized depression and those who did not. We did find that the use of affective questioning was associated with successful recognition.

We found differences in the use of affective questioning and the timing of that questioning between those who successfully recognized depression and those who did not. Physicians who reported recognizing depression early in the encounter increased their use of affective questions as the interview progressed. This is likely because they need affective information as they consider treatment options. The curve for physicians who recognized depression in the middle of the encounter shows a marked increase of questions about feelings in the second quartile. Physicians who recognized depression late

FIGURE 2

The relationship between questions about feelings when or whether depression was diagnosed (n=59—both visits combined).



show an increase in questions about feelings in the third quartile. We did not have the appropriate design or the appropriate data to firmly attribute causality, but if questions about affect were an important contributor to a diagnosis of depression, they would be expected to closely precede the successful diagnosis. Our data are consistent with questions about affect playing an important role in the diagnosis.

Our results agree in some ways and not in others with those of Badger and colleagues,[29] who found that 3 communication behaviors predicted with 60% accuracy when physicians would recognize depression and 74% accuracy when physicians would not. These included the proportion of the interview devoted to affective interview behaviors (accepts and elicits feelings, shows approval, reassures, and discloses own feelings), use of broad open-ended psychosocial questions by the physician, and when the physician did the majority of the talking. Though we found use of affective questions was associated with a diagnosis of depression, we did not find support for their finding of the use of broad to focused psychosocial questioning. We found that the majority of questions asked by physicians were broad medical questions, which likely indicates their pursuit of the patient's presenting complaints of headache.

Results of a focus group study[36] we conducted during the development phase suggested that physicians use 3 different approaches for recognizing depression, depending on patient cues. Physicians may take a biomedical approach first, where they consider depression only after possible medical conditions are ruled out. Another approach involved considering depression first, where antidepressants were used to help rule depression in. The last approach involved simultaneously addressing possible depression and pursuing any suspected medical problems. In this study, all 3 approaches were familiar to the focus group physicians. The various patterns of questioning we found associated with recognition of depression may be related to the approach physicians took in considering how to pursue the possibility of depression as part of their differential diagnoses in responding to the standardized patient scenario.

In our study, we found no instances of physicians interrupting the patient to redirect the encounter. This finding differs from those of Marvel and colleagues,[40] who found in a linguistic analysis of 264 physician-patient encounters that 75.4% of physicians interrupted patients and redirected the dialogue. In that study, physicians began interrupting patients approximately 23 seconds into the encounter. Our study was restricted to encounters with a new patient, where interrupting may be less common than for established patients, where certain problems or diagnoses have already been defined.

LIMITATIONS

Our study has some limitations. Obtaining complete interview data for ISIE coding was challenging. Sound quality diminished when audiotapes were copied, which affected the amount of data we could include in our final analysis. When mechanical failures occurred during the encounters, we dropped those encounters from the analysis, since we could not determine what occurred during the missing interview segment. In addition, while unannounced standardized patients allow control for patient factors, interactions with actual patients who have depressive symptoms and established relationships with their providers may have yielded different findings.

A final issue concerns interview timing and the interpretation of findings. If the interest is in determining the type of behavior that occurs during an office visit that assists the physician in recognizing depression, it is important to distinguish the behaviors that occurred before diagnosis from the behaviors that occurred afterward. We had only physician self-report data to indicate when depression was recognized, which may have questionable validity. In any case, although it is difficult to argue that differences in communication occurring after recognition are responsible for successful recognition, it is possible that physicians' thoughts and feelings are also responsible for successful recognition. Unfortunately, evaluating this possibility was beyond the scope of this investigation, but this is an important area for future research on this topic.

CONCLUSIONS

We found that physicians who recognized depression differed significantly in the percentage of questions they asked about feeling and affect and that an increase in questions about feelings may precede a diagnosis of depression. We found that physicians who recognized depression did not differ in their use of open-ended or close-ended questions compared with physicians who did not; the groups also did not differ in the use of medical versus psychosocial questions. Overall, these physicians spent the majority of their time asking about broad medical issues. More research is needed to verify these important findings.

ACKNOWLEDGMENT

This study was supported by the John D. and Catherine T. MacArthur Foundation.

REFERENCES

1. Wells KB. Caring for depression in primary care: defining and illustrating the policy context. J Clin Psychiatry 1997; 58(suppl 1):24-7.
2. Kaaton W, Schulberg H. Epidemiology of depression in primary care. Gen Hosp Psychiatry 1992; 14:237-47.
3. Jancks SF. Recognition of mental distress and diagnosis of mental disorder in primary care. JAMA 1985; 253:1903-7.
4. Wells KB, Hays RD, Burnam A, Rogers W, Greenfield S, Ware JE. Detection of depressive disorder for patients receiving prepaid or fee-for-service care: results from the Medical Outcomes Study. JAMA 1989; 262:3298-302.
5. Gerber PD, Barrett J, Barrett J, Manheimer E, Whiting R, Smith R. Recognition of depression by internists in primary

care: a comparison of internists and "gold standard" psychiatric assessments. J Gen Intern Med 1989; 4:7-13.

6. Higgens ES. A review of unrecognized mental illness in primary care: prevalence, natural history, and efforts to change the course. Arch Fam Med 1994; 3:908-17.
7. Alarcon FJ, Isaacson JH, Franco-Bronson K. Diagnosing and treating depression in primary care patients: looking beyond physical complaints. Cleveland Clin J Med 1988; 65:251-60.
8. Coyne JC, Schwenk TL, Fechner-Bates S. Nondetection of depression by primary care physicians reconsidered. Gen Hosp Psychiatry 1995;17:3-12.
9. Robbins JM, Kirmayer LJ. Physician sensitivity to emotional and nonverbal expression and the recognition of depression and anxiety in primary care. Proceedings of the fifth annual NIMH international research conference on the classification, recognition and treatment of mental disorders in general medical settings. Bethesda, Md: National Institute of Mental Health; 1991.
10. Hirschfeld RMA, Keller MB, Panico S, et al. The National depressive and manic-depressive association consensus statement on the undertreatment of depression. 1977; 277:333-9.
11. Cohen-Cole SA, Baker J, Bird J. Psychiatric education improves internists' knowledge: a three-year randomized controlled evaluation. Psychosom Med 1993; 55:212-8.
12. Kamerow DB, Pincus HA, Macdonald DI. Alcohol abuse, other drug abuse, and mental disorders in medical practice: prevalence, costs, recognition and treatment. JAMA 1996; 255:2054-7.
13. el-Mallakh RS, Wright JC, Breen KJ, Lippmann SB. Cues to depression in primary care practice. Postgrad Med 1996; 100:85-8, 93-6.
14. Main DA, Stulp CS, Miller RS. Primary care clinician attitudes, beliefs, and training: their role in the diagnosis and management of depression. Proceedings of the sixth annual NIMH international research conference on primary care mental health research: concepts, methods, and obstacles. Bethesda, Md: National Institute of Mental Health; 1992.
15. Verhaak PFM. Variations in the diagnosis of psychosocial disorders: a general practice observation study. Soc Sci Med 1986; 23:595-604.
16. Eisenberg L. Treating depression and anxiety in primary care: closing the gap between knowledge and practice. N Engl J Med 1992; 326:1080-3.
17. Speilberg TE. Treating depression and anxiety in primary care. Letter. N Engl J Med 1992; 327:731.
18. Hankin J, Oktay JS. Mental disorder and primary medical care: an analytic review of the literature. Washington, DC: US Government printing office; 1979.
19. Pardes H. Future needs for psychiatrists and other mental health personnel. Arch Gen Psychiatry 1979; 36:1401-8.
20. Docherty JP. Barriers to the diagnosis of depression in primary care. J Clin Psychiatry 1997; 58(suppl 1):5-10.
21. Schulberg HC, Magruder KM, deGruy F. Major depression in primary medical care practice: research and future priorities. Gen Hosp Psychiatry 1996;18:395-406.
22. Cole S, Raju M. Making the diagnosis of depression in the primary care setting. Am J Med 1996; 101:10S-7S.
23. Vojnovic M, Martinov-Cvejin M, Grujic V. Biosocial aspects of physician-patient communication in general practice. Medicinski Pregled 1997; 50:395-8.
24. Rosenberg EE, Lussier MT, Beaudoin C. Lessons for clinicians from physician-patient communication literature. Arch Fam Med 1997; 6:279-83.
25. Hall JA, Roter DL, Milburn MA, Daltroy LH. Patients' health as a predictor of physician and patient behavior in medical visits: a synthesis of four studies. Med Care 1996; 34:1205-18.
26. Stewart MA. Effective physician-patient communication and health outcomes: a review. Can Med Assoc J 1995; 152:1423-33.
27. Weyrauch KF. Malpractice, patient satisfaction and physician-patient communication. Letter. JAMA 1995; 274:22-4.
28. Levinson W. Physician-patient communication: a key to malpractice prevention. JAMA 1994; 272:1619-20.
29. Badger LLW, deGruy FV, Hartman MA, et al. Psychosocial interest, medical interviews, and the recognition of depression. Arch Fam Med 1994; 3:899-907.
30. Langewitz W, Kiss A, Schachinger H. From perception to symptom—from symptom to diagnosis: somatoform disorders as a communication phenomenon between physician and patient. J Suisse Med 1998; 128:231-44.
31. Barrett JE, Barrett JA, Oxman TE, Gerber PD. The prevalence of psychiatric disorders in a primary care practice. Arch Gen Psychiatry 1998; 45:1100-6.
32. Katon W. Epidemiology of depression in medical care. Int J Psychiatry Med 1987; 17:93-112.
33. Coyne JC, Fechner-Bates S, Schwenk TL. The prevalence, nature and co-morbidity of depressive disorders in primary care. Gen Hosp Psychiatry 1994; 16:267-76.
34. Carney PA, Dietrich AJ, Eliassen MS, Owen M., Badger, LW. Recognizing and managing depression in primary care: a standardized patient study. In press.
35. Hays RD, Wells KB, Sherbourne CD, Rogers W, Spritzer K. Functioning and well-being outcomes of patients with depression compared with chronic general medical illnesses. Arch Gen Psychiatry 1995; 52:11-9.
36. Carney PA, Rhodes LA, Eliassen MS, et al. Variations in approaching the diagnosis of depression: a guided focus group study. J Fam Pract 1998; 46:73-82.
37. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 3rd ed. Revised. Washington, DC: American Psychiatric Press; 1987.
38. Templeton B, McDonald M. Use of interactional analysis in assessing physician trainee interpersonal skills. In: Lloyd JD, ed. Evaluation of noncognitive skills and clinical performance. Chicago, Ill: American Board of Medical Specialities; 1982:155-67.
39. Templeton B, Allen MM. Interrater reliabillity in evaluating trainee interviewing skills. Acad Psychiatry 1990; 14:188-96.
40. Marvel MK, Epstein RM, Flowers K, Beckman HB. Soliciting the patient's agenda: have we improved? JAMA 1999; 281:283-7.