Diagnoses of anxiety and depression in clinical-scenario patients

Survey of Saskatchewan family physicians

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Abstract

Objective To investigate family physicians' differential diagnoses of clinical-scenario patients presenting with symptoms of either generalized anxiety disorder (GAD) or a major depressive episode (MDE).

Design Cross-sectional survey.

Setting Saskatchewan.

Participants A total of 331 family physicians practising in Saskatchewan as of December 2007.

Main outcome measures Type and number of physicians' differential diagnoses for a GAD-scenario patient and an MDE-scenario patient.

Results The survey response rate was 49.7% (331 of 666 surveys returned). Most physicians suggested a diagnosis of anxiety (82.5%) for the GAD-scenario patient and a diagnosis of depression (84.2%) for the MDE-scenario patient. In descending order, the 5 most frequent differential diagnoses for the GAD-scenario patient were anxiety, hyperthyroidism, depression, panic disorder or attack, and bipolar disorder. The 5 most frequent differential diagnoses for the MDE-scenario patient were depression, anxiety, hypothyroidism, irritable bowel syndrome, and anemia. Neither a diagnosis of anxiety nor a diagnosis of depression was associated with physicians' personal attributes (sex, age, and years in practice) or organizational setting (number of total patient visits per week, private office or clinic, solo practice, Internet access, and rural practice setting). However, physicians in solo practice suggested fewer differential diagnoses for the GAD-scenario patient than those in group practice; physicians in practice 30 years or longer suggested fewer differential diagnoses for the MDE-scenario patient than those in practice fewer than 10 years. On average, physicians suggested 3 differential diagnoses for each of the scenarios.

Conclusion Most family physicians recognize depression and anxiety in patients presenting with symptoms of these disorders and consider an average of 3 differential diagnoses in each of these cases.

EDITOR'S KEY POINTS

- Family physicians are often criticized for failing to recognize and diagnose common psychiatric disorders, such as anxiety and depression. This study asked family physicians to suggest tentative diagnoses for clinical-scenario patients presenting with symptoms of either generalized anxiety disorder or a major depressive episode.
- Most family physicians suggested a differential diagnosis of anxiety (82.5%) in the generalized anxiety disorder scenario and a differential diagnosis of depression (84.2%) in the major depressive episode scenario. Family physicians suggested an average of 3 diagnoses for each of the scenarios, indicating that the final diagnoses of anxiety and depression required time and careful consideration.
- These findings indicate that most family physicians recognize depression and anxiety in patients presenting with symptoms of these common psychiatric disorders.

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Diagnostics d'anxiété et de dépression à partir de scénarios cliniques

Enquête auprès de médecins de famille de la Saskatchewan

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Résumé

Objectif Établir ce que les médecins de famille proposent comme diagnostics différentiels en présence de scénarios cliniques de patients présentant les symptômes d'un trouble anxieux généralisé (TAG) ou d'un épisode de dépression majeure (ÉDM).

Type d'étude Enquête transversale.

Contexte La Saskatchewan.

Participants Un total de 331 médecins de famille pratiquant en Saskatchewan en décembre 2007.

Principaux paramètres à l'étude Types et nombres de diagnostics différentiels pour le scénario clinique de TAG et pour le scénario clinique d'ÉDM.

Résultats Le taux de réponse à l'enquête était de 49,7% (331 sur 666). La plupart des médecins ont proposé un diagnostic d'anxiété (82,5%) pour le scénario de TAG et un diagnostic de dépression (84,2%) pour le scénario d'ÉDM. Les 5 diagnostics différentiels les plus fréquents pour le scénario de TAG étaient, en ordre décroissant, l'anxiété, l'hyperthyroïdie, la dépression, le trouble ou la crise de panique et le trouble bipolaire. Les 5 diagnostics différentiels les plus fréquents pour le scénario d'ÉDM étaient la dépression, l'anxiété, l'hypothyroïdie, le syndrome du côlon irritable et l'anémie. Il n'y avait pas de relation entre un diagnostic d'anxiété ou un diagnostic de dépression et les caractéristiques personnelles des médecins (sexe, âge et années de pratique) ou leur contexte organisationnel (nombre total de consultations par semaine, bureau privé ou clinique, pratique solo, accès à l'internet et pratique rurale). Toutefois, les médecins en pratique solo proposaient moins de diagnostics différentiels pour le scénario de TAG que ceux qui pratiquaient en groupe; les médecins qui avaient au moins 30 ans de pratique suggéraient moins de diagnostics différentiels pour le scénario d'ÉDM que ceux qui avaient moins de 10 ans de pratique. En moyenne, les médecins proposaient 3 diagnostics différentiels pour chacun des scénarios.

Conclusion La plupart des médecins de famille reconnaissent la dépression et l'anxiété chez des patients qui présentent les symptômes de ces conditions et ils envisagent en moyenne 3 diagnostics différentiels pour chacun de ces cas.

POINTS DE REPÈRE DU RÉDACTEUR

- On reproche souvent aux médecins de famille de ne pas reconnaître et diagnostiquer des problèmes psychiatriques aussi fréquents que l'anxiété et la dépression. Cette étude demandait à des médecins de famille de proposer des diagnostics à partir de scénarios cliniques de patients présentant les symptômes d'un trouble anxieux généralisé ou d'un épisode de dépression majeure.
- La plupart des médecins de famille suggéraient un diagnostic différentiel de trouble anxieux généralisé (82,5 %) pour le scénario de trouble anxieux généralisé et un diagnostic différentiel de dépression (84,2 %) pour le scénario d'épisode de dépression majeure. Les participants suggéraient en moyenne 3 diagnostics pour chacun des scénarios, ce qui indique que le diagnostic final exigeait du temps et une certaine réflexion.
- Ces résultats indiquent que la plupart des médecins de famille reconnaissent la dépression et l'anxiété chez les patients qui présentent des symptômes de ces troubles psychiatrique fréquents.

Cet article a fait l'objet d'une révision par des pairs.
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Family physicians are continually challenged to accurately diagnose patients presenting with multiple and undifferentiated complaints.[1] Particularly challenging are patients who present with anxiety or depression, or both, given that somatic symptoms are more commonly reported by such patients than psychological symptoms.[2,3]

The differential diagnosis is a key component of an accurate psychiatric diagnosis.[4-6] *Differential diagnosis* "is a comprehensive list of conditions that could account for a patient's symptoms."[7] A shorter list of restricted "rule-outs" includes serious diagnoses that must be considered.[8] Physicians refine the list on the basis of patients' symptoms, history, and laboratory findings.[9]

Depression and anxiety are highly comorbid[2,4,6,10-13] and frequently co-occur with other psychiatric disorders,[2,6,10-13] substance abuse,[2,10-12] and medical conditions.[2,4-6,10-18] Common comorbid medical conditions among patients with depression include neurologic conditions,[5,6,16] emphysema or chronic obstructive pulmonary disease,[16] heart disease,[6,16] multiple sclerosis,[15,16] cancer,[11,12,16] thyroid disorders,[4,6,12,16] stroke,[12] diabetes,[6,12,14,16] asthma,[14] arthritis,[14] and migraine.[11,14] Complaints of pain are also common[2,6,12,17]; depression is more frequent among individuals with long-term conditions associated with pain and inflammation, such as chronic fatigue and fibromyalgia, than among individuals with other long-term conditions.[18] Anxiety disorders have been found to be highly comorbid with thyroid disorders,[6,10] neurologic disorders,[6,13,17] cardiovascular disease,[6,10,17] diabetes,[6] musculoskeletal disorders,[13,17] respiratory conditions,[10,17] and gastrointestinal disease.[17]

We report on family physicians' diagnoses of clinical-scenario patients presenting with symptoms of either a major depressive episode (MDE) or generalized anxiety disorder (GAD). We investigated the type and number of differential diagnoses provided by physicians for each clinical scenario; the factors associated with a diagnosis of anxiety in the case of the GAD-scenario patient and depression in the case of the MDE-scenario patient; and the factors associated with the average number of differential diagnoses for each scenario. This study was part of a larger project that also examined family physicians' treatment and follow-up of the clinical-scenario patients, in addition to issues associated with caring for patients with symptoms of depression or anxiety.

METHODS

The sampling frame (N = 792) of the current study included all Saskatchewan family physicians actively practising in Saskatchewan as of December 2007, as identified by the Canadian Medical Directory and the College of Physicians and Surgeons of Saskatchewan mailing list (N = 892), less 100 family physicians included in a previous pilot study. Eligible physicians were family physicians or locum tenens physicians, in full-time or part-time medical practice, currently practising or on leave of absence. Specialists, medical students, residents, retirees, physicians employed primarily in medically related fields (ie, administration, teaching, research), and physicians who were included in the pilot study sample were ineligible. This study received approval from the Behavioural Research Ethics Board of the University of Saskatchewan in Saskatoon.

Data collection for the study occurred from January through April 2008. Data were collected using a cross-sectional mailed survey with a small financial incentive to participate ($10), based on the Dillman tailored design method[19] with repeated and personalized contacts. The initial contact included a letter inviting physicians to participate in the study, followed by a second contact 2 weeks later with the first questionnaire package. The questionnaire package consisted of a cover letter, the survey questionnaire, and a self-addressed stamped envelope. Two weeks later, the third contact served as a thank-you to respondents and as a reminder to nonrespondents. The fourth contact to nonrespondents 2 weeks later was a second questionnaire package. One month later, the fifth contact to nonrespondents consisted of a third questionnaire package. Respondents to the fourth and fifth contacts received a thank-you letter.

Respondents received 1 of 2 similar questionnaires (either the GAD or the MDE scenario). First drafts of the questionnaires were reviewed by 4 family physicians to ensure that the questions and instructions were straightforward. Second drafts of the questionnaires were used in a pilot study of 100 Saskatchewan family physicians conducted in 2007. The pilot study had 4 main purposes: to test the survey questionnaire, to evaluate the mail survey procedures for this study, to estimate the response rate for this study, and to evaluate the effects on the response rate of an incentive to participate. Final drafts of the questionnaires were developed for use in the current study.

The 2 survey questionnaires each consisted of 5 parts and took approximately 20 minutes to complete. Part 1 included a clinical scenario of a patient presenting with symptoms of either GAD (**Box 1**), as adapted from 2 previous studies,[20,21] or MDE (**Box 2**), as adapted from 3 earlier studies.[20-22] The GAD-scenario patient presented with symptoms that met *Diagnostic and Statistical Manual of Mental Disorders,* fourth edition, text revision,[12] criteria for GAD. Two practising clinical psychiatrists independently agreed that the MDE scenario accurately depicted a patient presenting with symptoms of MDE. With reference to the clinical scenario, respondents were asked to list their specific tentative diagnoses, the tests and consultations they would order, a treatment plan, the number of weeks

Box 1. Generalized anxiety disorder (anxiety) clinical scenario as it appeared in part 1 of the questionnaire

Your patient is a 31 year-old man, married with two young children. He presents with muscle and joint discomfort, heart palpitations, and dizziness of more than one year duration. He complains of being restless and edgy most of the time and believes that he's "losing it" because he's constantly apprehensive. His mind races and he "can't seem to pin them (the thoughts) down". He has come to see you because he's concerned that his health is deteriorating to the point that sometimes he has to leave work when the symptoms become intolerable. As well, he has given up many social contacts aside from family and close friends. Shortly after he began feeling this way, he cut back his coffee intake to 1 cup/day. Physical exam: General—alert and oriented. Skin—moist, Color—good, HEENT—unremarkable, Chest—grade II murmur. Abdomen—unremarkable, Extremities—unremarkable. Reflexes—brisk bilaterally.

Box 2. Major depressive episode (depression) clinical scenario as it appeared in part 1 of the questionnaire

Your patient is a 42 year-old employed woman, married for 21 years with 2 adult children. She is being seen for a four-week history of fatigue, insomnia, headache and abdominal pain. The pain is generalized over the abdomen, constant in nature. She denies signs and symptoms of an acute infectious process and was in relatively good health before the previous month. She has obtained intermittent relief from headache by using acetaminophen, and takes a multivitamin regularly. She complains, "food just doesn't taste good anymore". She has been finding it harder lately to concentrate at work, and to get up the energy to socialize with friends and family. Your patient has reached a point where she wonders if she will ever feel normal again, yet denies any stress or significant problems in her life. She does not smoke, and drinks 2 cups of coffee/day. She denies alcohol intake. Physical exam: General—tired but in no acute distress. Skin—normal, color—good, HEENT—unremarkable. Pelvic exam—normal. Abdomen—generalized tenderness. Extremities—unremarkable.

to first and subsequent follow-up visits, and barriers to care. These questions were adapted from an early study by Yager and colleagues.[21] The questions about treatment, follow-up, and barriers to care are examined in a companion paper (**page e152**).[23] Part 2 included questions about information and resource use, and part 3 addressed issues associated with caring for patients with symptoms of depression or anxiety (eg, length of time in consultations, number of patients diagnosed and treated on a weekly basis, medication preferences, knowledge, and attitudes). The topics addressed in parts 2 and 3 are not examined in the present analysis. Part 4 included questions about the organizational setting in which physicians spent the most time providing patient care (eg, number of total patient visits per week, private office or clinic, solo practice, Internet access, and rural practice setting). Part 5 asked physicians to provide details about their personal attributes (eg, sex, age, and years in practice). The present analysis is restricted to an investigation of physicians' diagnoses of the GAD and MDE clinical scenarios and the factors associated with diagnoses of anxiety and depression. A report to respondents that summarized the study findings is available from the authors.

We used χ^2 analysis, *t* tests, and 1-way ANOVA (analysis of variance) with post-hoc Scheffe tests to measure the associations between the outcome measures and the independent variables.

RESULTS

Of the 792 physicians contacted to participate in the study, 666 physicians were eligible, 87 were ineligible, 30 had incorrect addresses on record, 8 were retired, and 1 was deceased. Of the 666 eligible physicians, 129 (19.4%) declined to participate and 206 (30.9%) did not respond. The remaining 331 physicians completed and returned surveys for a response rate of 49.7%. Respondents' demographic characteristics are outlined in **Table 1**. There were no significant differences in demographic characteristics between the GAD (N = 160) and MDE (N = 171) groups.

Most physicians detected anxiety in the GAD scenario and depression in the MDE scenario. Specifically, 82.5% (132 of 160) of physicians responding to the GAD scenario provided a differential diagnosis of anxiety, 13.8% (22 of 160) suggested differential diagnoses that did not include anxiety, and 3.8% (6 of 160) did not provide differential diagnoses. Of the physicians responding to the MDE scenario, 84.2% (144 of 171) suggested a differential diagnosis of depression, 13.5% (23 of 171) provided differential diagnoses that did not include depression, and 2.3% (4 of 171) did not provide differential diagnoses.

The χ^2 analysis at a .05 level of significance determined that neither a diagnosis of anxiety nor a diagnosis of depression was associated with any of the physicians' personal attributes or any of the organizational setting measures.

The GAD scenario

The 5 most frequent differential diagnoses for the GAD-scenario patient were anxiety (82.5%), hyperthyroidism (48.8%), depression (39.4%), panic disorder or attack (21.2%), and bipolar disorder (16.9%) (**Table 2**). A further 28.8% (46 of 160) of physicians suggested at least 1 diagnosis not listed in **Table 2**, and 3.8% (6 of 160) did not suggest a diagnosis.

Those physicians who did not provide a differential diagnosis of anxiety (22 of 160) were most likely to suggest diagnoses that included hyperthyroidism

Table 1. Demographic characteristics of survey respondents: *N* = *331*.

CHARACTERISTICS	GAD CLINICAL SCENARIO (N = 160), N (%)	MDE CLINICAL SCENARIO (N = 171), N (%)	*P* VALUE
Sex			.076
• Male	119 (74.4)	112 (65.5)	
• Female	40 (25.0)	58 (33.9)	
• NR	1 (0.6)	1 (0.6)	
Age, y			.264
• < 40	28 (17.5)	42 (24.6)	
• 40-59	91 (56.9)	92 (53.8)	
• ≥ 60	36 (22.5)	32 (18.7)	
• NR	5 (3.1)	5 (2.9)	
Years in practice			.481
• <10	34 (21.2)	48 (28.1)	
• 10-19	34 (21.2)	39 (22.8)	
• 20-29	47 (29.4)	45 (26.3)	
• ≥ 30	40 (25.0)	36 (21.1)	
• NR	5 (3.1)	3 (1.8)	
Main practice setting			.938
• Private office	107 (66.9)	113 (66.1)	
• Other*	53 (33.1)	57 (33.3)	
• NR	0 (0)	1 (0.6)	
Practice type			.342
• Solo	32 (20.0)	27 (15.8)	
• Group	128 (80.0)	142 (83.0)	
• NR	0 (0)	2 (1.2)	
Practice setting			.293
• Rural (≤ 1000 population)	13 (8.1)	11 (6.4)	
• Small town (1001-10 000 population)	30 (18.8)	44 (25.7)	
• Urban (≥ 10 001 population)	117 (73.1)	116 (67.8)	

GAD—generalized anxiety disorder, MDE—major depressive episode, NR—no response.
*Community clinic (n = 33), walk-in clinic (n = 7), community hospital (n = 2), academic health sciences centre (n = 12), and other unspecified settings (n = 56).

(50.0%, 11 of 22), depression (31.8%, 7 of 22), bipolar disorder (27.3%, 6 of 22), and panic disorder (27.3%, 6 of 22).

Ten percent (16 of 160) of physicians suggested 1 diagnosis for the GAD-scenario patient, 26.2% (42 of 160) suggested 2 diagnoses, 28.8% (46 of 160) suggested 3 diagnoses, 31.2% (50 of 160) suggested 4 to 9 diagnoses, and 3.8% (6 of 160) suggested no diagnoses. Physicians suggested a mean (SD) of 3.2 (1.6) differential diagnoses (range 1 to 9) for the GAD-scenario patient. Physicians in solo practice offered significantly ($P < .05$) fewer differential diagnoses than physicians in group practice (**Table 3**).

The MDE scenario

For the patient depicted in the MDE scenario, the 5 most popular differential diagnoses were depression (84.2%), anxiety (36.3%), hypothyroidism (32.2%), irritable bowel syndrome (21.6%), and anemia (16.4%) (**Table 4**). A further 44.4% (76 of 171) of physicians suggested at least 1 diagnosis not listed in **Table 4**, and 2.3% (4 of 171) did not suggest a diagnosis.

Table 2. Differential diagnosis of the GAD clinical-scenario patient: *N* = *160*.

TENTATIVE DIAGNOSIS*	PHYSICIANS SUGGESTING DIAGNOSIS, N (%)
Anxiety†	132 (82.5)
Hyperthyroidism	78 (48.8)
Depression‡	63 (39.4)
Panic disorder or attack	34 (21.2)
Bipolar disorder	27 (16.9)
Drug use	20 (12.5)
Cardiac arrhythmia	16 (10.0)
Other psychiatric disorders§	12 (7.5)
Thyroid disorder	8 (5.0)
Anemia	8 (5.0)
Hypothyroidism	7 (4.4)
Mitral valve prolapse	7 (4.4)
Alcohol use	6 (3.8)
Thyrotoxicosis	6 (3.8)

ADHD—attention deficit hyperactivity disorder, GAD—generalized anxiety disorder, MDD—major depressive disorder, MDE—major depressive episode, OCD—obsessive-compulsive disorder, SAD—seasonal affective disorder.
*Diagnoses suggested by fewer than 5 physicians are not listed.
†Included anxiety, anxiety disorder, and GAD.
‡Included depression, major depression, depressive disorder, depressive illness, MDD, MDE, mood, and mood disorder.
§Included ADHD, SAD, social phobia, phobic disorder, schizophrenia, schizoaffective disorder, bipolar disease, mania, hypochondria, OCD, and agoraphobia.

Those physicians who did not provide a differential diagnosis of depression (23 of 171) were most likely to suggest diagnoses that included anxiety (43.5%, 10 of 23), hypothyroidism (26.1%, 6 of 23), irritable bowel syndrome (21.7%, 5 of 23), and abdominal pain not yet diagnosed (17.4%, 4 of 23).

Sixteen percent (27 of 171) of physicians suggested 1 diagnosis for the MDE-scenario patient, 18.1% (31 of 171) suggested 2 diagnoses, 20.5% (35 of 171) suggested 3 diagnoses, 43.3% (74 of 171) suggested 4 to 11 diagnoses, and 2.3% (4 of 171) suggested no diagnoses. Physicians suggested a mean (SD) of 3.3 (1.7) differential diagnoses (range 1 to 11) for the MDE-scenario patient (**Table 3**). Physicians in practice 30 years or longer provided significantly ($P < .05$) fewer diagnoses than those in practice for fewer than 10 years (**Table 4**).

DISCUSSION

The popular maxim is that only 50% of patients presenting with depression are correctly recognized as

Table 3. Mean number of differential diagnoses of clinical-scenario patients by selected family physician characteristics

CHARACTERISTICS	MEAN NO. OF DIAGNOSES FOR GAD CLINICAL SCENARIO (N = 160)	*P* VALUE	MEAN NO. OF DIAGNOSES FOR MDE CLINICAL SCENARIO (N = 171)	*P* VALUE
Personal attributes				
Sex		.507		.261
• Male	3.2		3.2	
• Female	3.0		3.5	
Age, y		.739		.162
• < 40	3.0		3.6	
• 40-59	3.2		3.3	
• ≥ 60	3.2		2.9	
Years in practice*		.559		.018
• <10	3.4		3.7	
• 10-19	3.4		3.5	
• 20-29	3.1		3.4	
• ≥ 30	3.0		2.5	
Organizational setting				
Total no. of patient visits/wk		.834		.360
• Low (< 100)	3.1		3.3	
• Medium (100-150)	3.3		3.6	
• High (151-450)	3.3		3.1	
Office setting		.139		.624
• Private office or clinic	3.1		3.3	
• Other office	3.4		3.4	
Type of practice		.020		.697
• Solo practice	2.6		3.2	
• Group practice	3.3		3.3	
Internet access		.188		.206
• Internet access in main practice setting	2.8		3.4	
• No Internet access in main practice setting	3.3		2.9	
Practice setting		.212		.559
• Rural (≤ 1000 population)	2.5		2.9	
• Small town (1001-10 000 population)	3.4		3.5	
• Urban (≥10 001 population)	3.2		3.3	

GAD—generalized anxiety disorder, MDE—major depressive episode.
*Post-hoc Scheffe test indicated that < 10 group was significantly different from ≥ 30 group (*P* = .028).

Table 4. Differential diagnosis of the MDE clinical-scenario patient: *N = 171.*

TENTATIVE DIAGNOSIS*	PHYSICIANS SUGGESTING DIAGNOSIS, N (%)
Depression†	144 (84.2)
Anxiety‡	62 (36.3)
Hypothyroidism	55 (32.2)
Irritable bowel syndrome	37 (21.6)
Anemia	28 (16.4)
Cancer	22 (12.9)
Diabetes	17 (9.9)
Menopause	15 (8.8)
Somatization	14 (8.2)
Abdominal pain not yet diagnosed	12 (7.0)
Gastroesophageal reflux disease	11 (6.4)
Dysthymia	8 (4.7)
Thyroid disorder	5 (2.9)

GAD—generalized anxiety disorder, MDD—major depressive disorder, MDE—major depressive episode.
*Diagnoses suggested by fewer than 5 physicians are not listed.
†Included depression, major depression, depressive disorder, depressive illness, MDD, MDE, mood, and mood disorder.
‡Included anxiety, anxiety disorder, and GAD.

such in general practice.[24-26] Likewise, researchers have found that general practitioners recognized only 34% to 50% of patients with anxiety.[27,28] However, few studies have provided estimates of the proportion of physicians who recognize depression and anxiety in patients.

This study found that more than 80% of physicians diagnosed anxiety in a GAD clinical-scenario patient and depression in an MDE clinical-scenario patient. These results are consistent with similar studies that found that more than three-quarters of physicians suggested diagnoses of depression[21,29] and anxiety[21] in clinical scenarios of patients with these psychiatric disorders, and inconsistent with research that found that fewer than half of physicians diagnosed depression and anxiety[30] in clinical scenarios of such patients.

Our findings that depression and anxiety were among the 3 most frequent diagnoses for each of the scenarios suggested that physicians were aware of the high degree of comorbidity between the 2 psychiatric disorders. Physicians also demonstrated that they were

aware of the frequent overlap between thyroid disorders, anxiety, and depression, as nearly half of physicians suggested a differential diagnosis of hyperthyroidism for the GAD scenario, and one-third suggested a differential diagnosis of hypothyroidism for the MDE scenario.

With respect to the GAD scenario, physicians' differential diagnoses focused less on medical conditions (aside from hyperthyroidism and cardiac arrhythmia) and concentrated more on psychiatric disorders such as depression, panic disorder or attack, and bipolar disorder, as well as drug use. It is apparent that physicians were aware of the high degree of comorbidity among anxiety and other psychiatric disorders,[2,4,6,10-13,17] and between depression and anxiety,[2,4,6,10-13,17] but less conscious of the overlap between anxiety and medical conditions.[6,10,13,17]

In contrast, physicians' differential diagnoses of the MDE scenario largely overlooked psychiatric disorders (other than anxiety) in favour of medical conditions such as hypothyroidism, irritable bowel syndrome, anemia, cancer, diabetes, menopause, and gastrointestinal disorders. This finding suggests that physicians were well aware of the comorbidity of depression and medical conditions,[2,4-6,11,12,14,16-18] but less aware of the comorbidity of depression and psychiatric disorders aside from anxiety.[4,6,11,12]

Physicians suggested an average of 3 diagnoses for each of the scenarios, a finding that lends support to the argument that final diagnoses of depression and anxiety require consideration of several differential diagnoses. Considering more than 1 diagnosis involves refining these diagnoses[31] over the course of follow-up visits,[32] a process that requires time[33] and negotiation between physician and patient.[34]

This study found that compared with physicians in group practice, those practising solo suggested fewer differential diagnoses for the GAD scenario. Previous research suggests that solo practice is negatively associated with diagnostic accuracy, in so far as physicians in group practice were significantly more likely to accurately diagnose patients presenting with a common psychiatric disorder ($P < .05$).[35] Possibly, physicians in solo practice have less time to consider multiple diagnoses. This group of physicians might also be more confident in their ability to accurately diagnose patients, and therefore less inclined to consider several diagnoses. Likewise, compared with physicians in practice for fewer than 10 years, those in practice for 30 years or longer offered fewer differential diagnoses for the MDE scenario. Perhaps physicians in practice for such a length of time rely upon their many years of experience to accurately diagnose patients. That is, physicians with considerable clinical experience might have more confidence to generate fewer differential diagnoses.

Limitations

The response rate (49.7%) might limit the generalizability of the study's findings. However, this response rate is comparable to response rates obtained by other survey studies of Canadian family physicians.[36-39] Given that physicians are aware that they are being evaluated when responding to survey questions about a clinical scenario, as in this study, their responses to these scenarios might differ from responses to actual patients.[40] This possibility leads to the question of whether scenarios measure actual physician behaviour or rather physician competence.[41] The criterion validity of scenarios might be reduced by the limited amount of information available to physicians to support their decisions, and by the requirement that physicians base their decisions upon a single encounter. However, clinical scenarios allow researchers to present identical patient information to all physicians,[42] thereby reducing the possibility of bias. Further, in a comparison study of scenarios, medical records, and standardized patients, Peabody et al[43] found that scenarios provided a more accurate measure of quality of care than medical records did.

Conclusion

This study indicated that most family physicians (>80%) detected depression and anxiety in clinical scenarios of these psychiatric disorders. Given that Canadians who use health services for mental health reasons consult family physicians more often than other service providers,[44] it is imperative that we have confidence in the ability of physicians to recognize common mental disorders such as depression and anxiety. This study suggests that most family physicians are able to recognize depression and anxiety in patients presenting with symptoms of these common psychiatric disorders. Further research is required that investigates the care process for patients with depression and anxiety in family practice, from recognition to diagnosis, treatment, and management, oftentimes over the course of several visits. A better understanding of the care process, from the point of view of physicians, might lead to improved support and resources for physicians and ultimately to improved care for those who look first to their family physicians for help with common psychiatric disorders.

Dr Kosteniuk is a postdoctoral fellow and **Dr Morgan** is Professor, both in the Canadian Centre for Health and Safety in Agriculture at the University of Saskatchewan in Saskatoon. **Dr D'Arcy** is Professor in the Department of Psychiatry and the School of Public Health at the University of Saskatchewan.

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Contributors

Drs Kosteniuk, D'Arcy, and **Morgan** contributed to the concept and design of the study, and critically revised the manuscript. **Dr Kosteniuk** was responsible for collecting, analyzing, and interpreting the data, and she drafted the manuscript. All authors approved the final version of the manuscript.

Competing interests
None declared

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