Identification of depression in a rural general practice

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Major depression is underdiagnosed by general practitioners, but the reasons for this are not clear. This study aimed to establish the prevalence of major depression and coexisting generalised anxiety disorder in a rural general practice in the Orange Free State. It also assessed the predictive value of a screening questionnaire for use by general practitioners. The two practitioners evaluated 858 patients over a 4-week period. Those who met the screening criteria, together with a random sample of 60 patients who did not, were re-evaluated by a registrar in psychiatry who was unaware of the findings of his colleagues. Of the patients studied, 134 (15,6%) had major depression; 59 of these (44,0%) also had coexisting generalised anxiety disorder. The general practitioners had correctly diagnosed major depression in 32 patients (3,7%) before the study started. The screening questionnaire had a 42% chance of correctly identifying a patient with depression and a 97% chance of correctly identifying a patient who did not have major depression. Both practitioners were equally capable at identifying major depression.

The study confirmed both the high prevalence of depression in a rural general practice and its low identification rate. It also showed the advantage of using a screening questionnaire to alert practitioners to the possibility of depression in their patients.

S Afr Med J 1995; **85:** 755-759.

There is a high prevalence of major depression in the general population, but it often goes undetected by general practitioners.[1,2] The reported rate of detection of depression by primary care physicians in Western countries varies between 10% and 20%, depending on the criteria used.[3] Boyd and Weissman[4] showed that men had a lifetime risk of developing depression of 4 - 12% compared with 8 - 26% among women. Major depression is most common in patients younger than 45 years, and the more complicated episodes are seen among patients aged 65 years and older.[5]

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The distinction between depression and anxiety may be difficult, because the two syndromes overlap markedly,[3] and Ormel *et al.*,[6] reported that just over half of patients with depression also had some form of anxiety disorder.

The prevalence of major depression in a general practice depends on whether it is diagnosed by a general practitioner or by a psychiatrist. Ormel *et al.*[7] found that the rate of correct diagnosis of major depression by general practitioners was only 56% that of psychiatrists. Some authors[8,9] have reported that only 2 - 5% of all persons who visit their general practitioner have a major depression diagnosed.

The reasons for the low detection rate are not clear. Montgomery[10] suggested that the individual interest of the general practitioner may contribute, that the length of time available for a consultation may be insufficient to recognise the disorder, and that cultural factors may play a role, since the concept of depression in some indigenous African cultures is vague. Casey[5] explored stereotyping by a general practitioner as a bias against the diagnosis — depression will, for example, not be suspected in young unmarried men as often as in middle-aged married women. She also stated that the coexistence of an anxiety disorder could confuse a general practitioner. Other authors,[3,11] have noted the confusion caused by the association between depression and somatic syndromes.

The aims of this study were to establish the prevalence of major depression in a rural general practice and determine how often it was associated with a generalised anxiety disorder, to assess the predictive value of a questionnaire designed for general practitioners, and to see if there was any difference in the ability of the two general practitioners in the same practice to diagnose major depression with the help of the questionnaire.

Patients and methods

The study was carried out at the consulting rooms of H.J.S. and K.J.D.W. in Petrusburg in the Orange Free State. At the time of the study they were the only general practitioners in the town. They were also acting as district surgeons.

Petrusburg and its surrounding district has a total population of 9 083 adults, 4 410 men and 4 673 women.[12] All patients who reported during surgery hours for a consecutive 4-week period (5 working days per week) were considered for inclusion in the study. Oral informed consent was obtained from the participants, the study protocol having been approved by the Ethics Committee of the University of the Orange Free State. Children under the age of 4 years and any other patients unable or too ill to communicate intelligibly in English, Afrikaans, Xhosa, Tswana or Sesotho were excluded.

H.J.S. and K.J.D.W. were supplied with a questionnaire (appendix A) consisting of a self-explanatory socio-biographical data sheet and a clinical section which followed threefold lines of inquiry: (*i*) the presenting complaint was recorded; (*ii*) the continuation of depressed mood, loss of pleasure in activities, apathy, or social withdrawal, sleep disorder, and appetite disorder or weight loss or gain for longer than 2 weeks were noted, and behavioural problems were recorded for children 16 years and younger; and (*iii*) if the patient was taking an antidepressant, it was recorded together with its name and dosage.

Except for being instructed to recognise patients as having depression when any of the symptoms in the second set of questions was present, or when the patient was currently taking an antidepressant, the general practitioners received no additional instructions about the way they should carry out the screening.

All patients in whom screening indicated possible depression, together with every 10th randomly selected patient in whom it did not indicate depression, were then evaluated by P.R.S. He did not know which general practitioner had seen the patient or what information had been collected on the questionnaire, except that patients who were taking antidepressants were identified to him by the staff, because he had to complete a subsection on his own questionnaire (appendix B) about the validity of the general practitioners' previous diagnosis of major depression in this group.

P.R.S. noted any psychiatric family history and the patient underwent a structured interview that rigidly adhered to the (A) diagnostic criteria for a major depressive episode in the *DSM-III-R*.[13] The severity of the episode was noted if appropriate.

P.R.S. then determined whether there was any organic factor that had caused or maintained the depression, and whether the patient had an underlying primarily psychotic disorder or a bipolar mood disorder. These excluded the patient from further evaluation.

The rest of the patients were then screened for symptoms of anxiety, using the modified Goldberg criteria. If 5 or more of the 9 items were present, an anxiety disorder was diagnosed. The type(s) of anxiety disorder was then identified, ensuring at the same time that the identified anxiety was not merely part of the depressive disorder.

Before the study all the questionnaires were translated into Afrikaans, Tswana, Xhosa and Sesotho. A translator was used if the patient could speak only one of the latter three languages.

P.R.S. then referred all patients who required treatment back to the general practitioners.

Statistical analysis was done by SAS. Frequencies and percentages were calculated, with 95% confidence intervals (CIs) for the main results.

Results

Sociobiographical data

A total of 901 patients were considered for inclusion in the study during the 4-week period, but 43 were not screened (18 refused consent, 22 did not meet the inclusion criteria, and for 3 the screening was not completed), which left 858 for analysis. Their median age was 42 years (range 4 - 100 years).

Prevalence of major depression

Fig.1 shows the diagnostic findings in the 858 patients who were screened. Of the 222 patients with a major depressive syndrome, 83 had an identifiable organic cause, 4 were

overtly psychotic (schizophrenia), and 1 was in the depressive phase of a bipolar mood disorder.

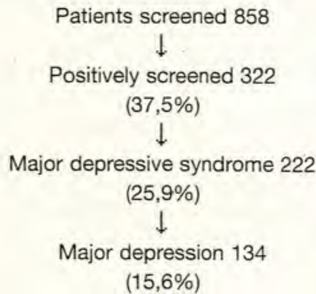

Fig. 1. Prevalence of major depression in a rural general practice.

Every 10th patient who did not have depression according to the general practitioners' questionnaire was questioned further by P.R.S. Of these 60, 5 (8%) had a major depressive syndrome; 3 of the 5 had an organic mood disorder, and the remaining 2 (3%, 95% CI 0,41 - 11,5%) had major depression.

If 3% of the random sample of patients considered by the general practitioners not to be depressed did have major depression, theoretically another 18 (95% CI 2 - 62) of the 536 patients may be added to the figure of 134, giving a total of 152 people with major depression (18% of all patients in this rural practice who were entered into the study).

Coexistence of depression and generalised anxiety disorder

One hundred of the 134 patients with major depression (75%) had an element of anxiety in their clinical picture, and 59 patients (44%) had a generalised anxiety disorder.

Predictive value of positive screening

H.J.S. regarded 238 of the 506 of the patients he screened to be depressed (47%), compared with 84 of 352 patients (24%) for K.J.D.W.

The number of patients in whom P.R.S. diagnosed a major depression (134), expressed as a fraction of the total number of patients regarded by the general practitioners to be depressed (322), was considered to be the predictive value of the general practitioners' screening questionnaire (134/322 = 42%). Both H.J.S. (101/238 = 42%) and K.J.D.W. (33/84 = 39%), considered individually, had similar percentages.

One hundred and one of the patients H.J.S. thought were depressed were diagnosed as having major depression by P.R.S. (20% of all the patients seen by H.J.S.), while 33 of those K.J.D.W. thought were depressed were diagnosed as such by P.R.S. (9% of all the patients seen by K.J.D.W.).

Predictive value of negative screening

The negative predictive value of the general practitioners' questionnaire was considered to be the number of randomly selected patients who P.R.S. found not to have major depression (58), expressed as a fraction of the total number of randomly selected patients who were also thought by the general practitioners not to be depressed (60). This value was 97% (58/60) for the total sample, and 97% (29/30) for both H.J.S. and K.J.D.W. individually.

Patients on antidepressants

Fifty-two patients were taking antidepressants at the time of their visit to the surgery, during the study period. Of these 32 (62%) had been correctly diagnosed: 12 of the 32 (38%) had been successfully treated and no longer suffered from major depression (3 were in complete remission and 9 in partial remission). The other 20 (62%) still suffered from major depression. This means that 3,7% of all the patients who consulted the doctors during the study period had had major depression correctly diagnosed.

Twenty of the 52 (38%) had been incorrectly diagnosed: 14 had an organic mood disorder, 1 was psychotic, and 5 did not meet the criteria for major depression.

Discussion

The prevalence of major depression (16%) and its coexistence with generalised anxiety disorder (44%) in this general practice corresponds to reported rates.[3,6] The diagnostic questionnaire used was a valuable tool for detecting major depression. It took a short time to complete (about 5 minutes) and enabled the general practitioners to pick out almost all the patients in their practice with no major depression (97%). The prevalence of major depression in this practice immediately preceding the study was 3,7%, and use of the questionnaire therefore increased the rate of identification of major depression from 4% to 16% (95% CI 13,2 - 18,0%).

Since K.J.D.W. regarded a lower percentage of patients to be depressed than H.J.S. (24% v. 47%), it would be assumed that only the clear cases were identified by K.J.D.W., and therefore also that the proportion of K.J.D.W.'s patients identified as having major depression would be higher than that of H.J.S. If this was the case, possible differences between the two could have been explored in an effort to understand some of the reasons for the low rate of detection of major depression by general practitioners. They had, however, essentially the same proportion (0,39 and 0,42 respectively), suggesting that both were equally sensitive in identifying major depression.

Since H.J.S. was twice as likely as K.J.D.W. to suspect depression, it seems that the patients who consulted H.J.S. were more likely to have major depression than those who consulted K.J.D.W. Why this should be so is not answered by this study, and it also does not identify the reasons for the generally low rate of detection of major depression by general practitioners.

We acknowledge statistical support by Ms G. Joubert of the University of the Orange Free State.

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Accepted 19 Apr 1994.

Appendix A

General practitioners' screening questionnaire

Presenting complaint

A: Physical

Please show the presence of the presenting complaint by marking it with a (1).

If it is not present, enter (0). Choose only one (1) from group A, if group A is applicable.

1. Fatigue
2. Irritability
3. Headache
4. Exacerbation of previous chronic disease
5. Sexual dysfunction
6. Lack of drive
7. Other. Specify please.

B: Depressive symptoms

If any of the symptoms mentioned below is present as presenting complaint or with specific enquiry, mark it with a (1).

If the complaint is not present, enter (0).

HAS THERE BEEN A CONTINUOUS PRESENCE OF LONGER THAN 2 WEEKS' DURATION OF ANY OF THE FOLLOWING SYMPTOMS/SIGNS?

1. Depressed mood
2. Decrease in pleasurable activities and/or apathy and/or social withdrawal
3. Sleep disorder
4. Appetite disorder and/or weight disorder
5. Behavioural problems (patients aged 16 years and younger).

C: Is the patient currently taking antidepressants?

1. Yes
0. No

If 'Yes', please specify.

IF **ANY ITEM** PRESENT IN GROUP B AND/OR 'YES' IN GROUP C, CONTINUE WITH EVALUATION BY PSYCHIATRIST.

Appendix B

Questionnaire — major depressive syndrome

Please note the presence of a symptom with a (1) or its absence with a (0).
Psychiatric family history — please specify.

IF AT LEAST **ONE** OF THE FOLLOWING SYMPTOMS HAS BEEN CONTINUOUSLY PRESENT FOR THE PAST 2 WEEKS:

1. Depressed mood
2. Decrease in pleasurable activities/apathy/social withdrawal

AND IF **THREE** OF THE FOLLOWING MAIN SYMPTOMS HAVE BEEN PRESENT CONTINUOUSLY FOR THE PAST 2 WEEKS:

1. Sleep disorder:
   - Insomnia
   - Hypersomnia
2. Appetite disorders:
   - Appetite decreased
   - Appetite increased
   - Weight loss
   - Weight gain
3. Psychomotor:
   - Agitation
   - Retardation
4. Fatigue or decrease in energy
5. Feelings of worthlessness or excessive guilt
6. Decrease in concentration or inability to make decisions
7. Suicide:
   - Thought
   - Plan
   - Attempt

AND IF THERE ARE **FIVE** OF ALL THESE SYMPTOMS ALTOGETHER:

A: Note the severity of the major depressive episode

1. Mild
2. Moderate
3. Severe

B: Assess losses

0. Not worked through
1. Worked through

AND CONTINUE WITH QUESTIONNAIRE — EXCLUSION CRITERIA:

Questionnaire — exclusion criteria

Note the presence (1) or the absence (0) of a condition.

1. Organic initiating or maintaining factor:
   Specify
2. Underlying primarily psychotic disorder
3. Manic episode.

IF NONE OF THE ABOVE ITEMS IS PRESENT, CONTINUE WITH THE SCREENING QUESTIONNAIRE — ANXIETY:

Screening questionnaire — anxiety

1. Worry
2. Irritability
3. Inability to relax
4. Feels anxious or tense
5. Headache
6. Any of the following:
   - Tremor
   - Lightheadedness
   - Paraesthesiae
   - Sweating
   - Urinary frequency
   - Diarrhoea
7. Initial insomnia
8. Increased startle response
9. Lump in throat or dry mouth or tight feeling in pit of stomach.

IF IN TOTAL **FIVE** OF ALL NINE ITEMS ARE PRESENT, CONTINUE WITH THE QUESTIONNAIRE — ANXIETY DISORDER:

Questionnaire — anxiety disorder

1. Duration of disorder:
   - 6 months and longer
   - 1 month and longer, but less than 6 months
   - Less than 1 month
2. Onset:
   - Before the onset of depression
   - With the onset of depression
   - After the onset of depression
3. Unrealistic fear and avoidance of:
   - Empty spaces
   - Social embarrassment
   - Other
4. Catastrophic stress factors that are re-experienced and avoided
5. Episodic attack of anxiety without an identifiable trigger
6. Unwelcome, repetitive obsessive thoughts and actions that cause a decrease in functioning socially and at work
7. Worry and symptoms of anxiety revolve around a psychiatric condition.

Questionnaire — antidepressant management

Diagnosis correct (retrospectively)
Depression in remission
Depression in partial remission
Depression unchanged
Coexisting anxiety disorder.