Scandinavian Journal of Primary Health Care

ISSN: 0281-3432 (Print) 1502-7724 (Online) Journal homepage: informahealthcare.com/journals/ipri20

Using patient-centred consultation when screening for depression in elderly patients: A comparative pilot study

Maria Magnil, Ronny Gunnarsson & Cecilia Björkelund

To cite this article: Maria Magnil, Ronny Gunnarsson & Cecilia Björkelund (2011) Using patient-centred consultation when screening for depression in elderly patients: A comparative pilot study, Scandinavian Journal of Primary Health Care, 29:1, 51-56, DOI: 10.3109/02813432.2011.554011

To link to this article: https://doi.org/10.3109/02813432.2011.554011

Published online: 16 Feb 2011.

Scandinavian Journal of Primary Health Care, 2011; 29: 51–56

informa
healthcare

ORIGINAL ARTICLE

Using patient-centred consultation when screening for depression in elderly patients: A comparative pilot study

MARIA MAGNIL[1], RONNY GUNNARSSON[1,2] & CECILIA BJÖRKELUND[1]

[1]*Department of Primary Health Care, Institute of Medicine, University of Gothenburg, Sweden,* [2]*Research and Development Unit Södra Älvsborg, Borås, Sweden*

Abstract

Objective. Using validated screening instruments to detect depressive symptoms in the elderly has been recommended. The aim of this study was to compare a patient-centred consultation model with the PRIME-MD screening questionnaire, using the MADRS-S as reference for detecting depressive symptoms in an elderly primary care population. *Design*. Comparative study. *Setting.* Primary care, Sweden. *Subjects*. During an 11-month period 302 consecutive patients aged 60 and over attending a primary care centre were screened with the PRIME- MD and the Montgomery-Asberg Depression Rating Scale-Self-rated version (MADRS-S) instrument. The results were unknown to the GPs who used a structured, patient-centred consultation model comprising seven open-ended "key questions". *Main outcome measures*. Sensitivity, specificity, positive predictive values (PPV), and negative predictive values (NPV) were calculated for the PRIME-MD screening questionnaire and the patient-centred consultation model using MADRS-S as reference for possible depression at two cut-off levels with 15% prevalence. *Results*. Sensitivity was lower for the consultation model than the PRIME-MD screening questionnaire: 78% and 98%, respectively. The GPs failed to identify every fifth patient using the lower cut-off (MADRS-S $\geq$13) but the number of required diagnostic interviews decreased by almost 50%: 85 versus 162, respectively. PPV was 43% and 28%, respectively. Both instruments showed high sensitivity (93%) using the higher cut-off (MADRS-S $\geq$20) and had high NPV: 95% and 99%, respectively. *Conclusions*. The findings suggest that the consultation screening procedure might be as useful in everyday practice as the PRIME-MD screening questionnaire. Both screening procedures may also be useful for ruling out depressive symptoms.

Key Words: *Depressive symptoms, elderly, family practice, primary care, screening instruments*

Detection of depressive disorders in the elderly in primary care is important since they are associated with significant burden and costs and since effective treatment is available [1]. The prevalence of depression in an elderly population is estimated at 12–15%, depending on diagnostic criteria and methodology [2].

Using validated screening instruments to increase the detection of depression in primary care has been the subject of lengthy debate. Currently available findings, comprising several studies and meta-analyses, show that case-finding leads to a modest increase in recognition rates, but fails to demonstrate any consistently positive effects on either younger or older primary care patients' outcome; screening alone is not recommended in primary care settings [3,4]. Screening of high-risk groups has been a proposed strategy but no data from randomized trials support this approach [5]. Studies have indicated that supplementing screening with feedback, diagnostic interviews, or other enhancements of care might improve outcome [6].

The different screening instruments have similar operating performances and there is little evidence to support any one instrument's superiority [6–8]. In the elderly, many instruments have good properties for screening for major depression but they lack accuracy for detection of non-major disorders, which are associated with increased morbidity and risk of developing major depression [9,10].

Correspondence: Dr Maria Magnil, Department of Primary Health Care, Institute of Medicine, University of Gothenburg, PO Box 454, SE-405 30 Gothenburg, Sweden. E-mail: maria.magnil@vgregion.se

(Received 20 June 2010; accepted 3 January 2011)

ISSN 0281-3432 print/ISSN 1502-7724 online
DOI: 10.3109/02813432.2011.554011

To enhance the detection of elderly patients with depression the use of screening instruments has been recommended. In this study a patient-centred consultation model was used as a screening procedure for detecting depressive symptoms and its performance was compared with the validated screening questionnaire of the PRIME-MD instrument.

- The patient-centred consultation has acceptable properties and is well functioning in the GP's clinical situation in which patient-centredness plays an essential role in the diagnostics.
- The contexts of the presented symptoms need to be considered in relation to psychological, physical, and social factors before the assessment.

Patient-centredness has become increasingly important in primary care. In the patient-centred consultation, it is crucial that the GP addresses the patients' views, allowing them to express their problems, feelings, fears, conceptions, and expectations, as well as taking their values, cultures, and preferences into consideration [11–13].

Older people often have multiple health problems but they participate less in their medical consultations than other patients [14]. In a study with 11 participating countries, elderly patients' main views of their own involvement in consultations were similar [15]. The elderly are a heterogeneous group and not all patients wanted to take an active part in decision-making but they did agree on the important role of building a trusting relationship with their GPs [15]. They also wanted to be respected, receive good information on their health, and have sufficient time during the consultation [15]. A recent systematic review provided evidence that interventions enabling patients to take a more active role in deciding on and planning their medical care yield better health outcomes but it is still unclear whether these findings are applicable to the elderly [14].

A few patient-centred practical models, useful in family practice, have been developed [16,17]. Asking open-ended key questions was shown to be useful when exploring female patients' agendas [18].

The aim of this study was to evaluate whether a patient-centred approach would have the capacity to explore depressive symptoms in an elderly population in a primary care setting. We wanted to study how the GPs managed the variety of conditions seen in primary care, using a well-established working tool – a patient centred-consultation model – and compare its performance in detecting depressive symptoms with the PRIME-MD screening questionnaire for depression using MADRS-S as reference, and evaluate sensitivity, specificity, and positive and negative predictive values (PPV and NPV, respectively) in an elderly population in a primary care setting.

Material and methods

All patients aged 60 and over, consecutively attending between February and December 2003 the Lundby-Brämaregården primary care centre (PCC) in Gothenburg, Sweden, were asked to participate in the study. They were recruited consecutively and without selection. Patients with severe psychiatric diagnoses (schizophrenia, severe general anxiety disorder, bipolar affective disorder, and dementia) were excluded.

A nurse with experience of psychiatry and screening instruments first met the patient and undertook a screening procedure with two validated screening instruments: the Primary Care Evaluation of Mental Disorders (PRIME-MD) screening questionnaire [19] and the Montgomery-Asberg Depression Rating Scale-Self-rated version (MADRS-S) [20]. The two participating GPs were blind to the results of this screening.

The GPs' consultation mode was based on a patient-centred consultation model comprising seven open-ended "key questions" [16,21]. The questions do not address any specific diagnosis. The model is well established as a working tool in Swedish primary care settings. Every tenth consultation was audiotaped, after approval by the patient, and the tapes were evaluated by an independent researcher to minimize the risk of preconceptions and to certify that the model was used according to the standards of patient-centred consultations.

The MADRS-S instrument has nine questions and each question can yield a maximum of six points, with a maximum total of 54 points. Two cut-off levels, 13 and 20 points, respectively, were used according to the guidelines for minor and major depression [22].

The PRIME-MD screening instrument has been specially developed and validated for use in primary care. The instrument has good properties concerning sensitivity and specificity for any psychiatric diagnosis in the instrument [19]. It is a two-stage instrument consisting of a patient screening questionnaire and a follow-up clinical interview. In this study we used the patient screening questionnaire of the PRIME-MD. It consists of 28 yes/no questions. Twenty-one of 28 questions were used. Five questions concerning alcohol (numbers 24–28) and two

concerning pain in conjunction with menstruation and coitus (numbers 4–5) were excluded, as an earlier pilot study of 100 elderly patients showed very low response to them [23]. Questions 17 and 18 concern depression and questions 19–21 concern anxiety. As depression in the elderly often includes symptoms of anxiety [24], our focus was on questions 17–21, and we also analysed questions 17–18 separately.

The GP asked, not necessarily in this exact order, the following questions during the first part of the consultation, with the aim of exploring the patient's agenda [21].

1. What made you come here today?
2. What do you think your problem is?
3. What do you think caused your problem?
4. Are you worried about anything in particular?
5. What have you tried to do about the problem so far?
6. What would you like me to do about your problem?
7. Is there anything else you would like to discuss today?

If during the consultation, on her/his own initiative, the patient presented at least two of the criteria-based symptoms for depressive disorders according to DSM IV [25], where one of them had to be "depressed mood" or "loss of interest", the GPs assessed the patient to have a possible depression, an assessment based on both verbally and non-verbally expressed thoughts and feelings, the responses to the "key questions", presented symptoms of depression, and the patient's emotional and cognitive aspect and behaviour.

Sensitivity, specificity, PPV, and NPV were calculated, with 95% confidence intervals (CI). The MADRS-S was used as the reference. Two cut-off levels for MADRS-S ($\geq$13 and $\geq$20) were used when calculating sensitivity, specificity, PPV, and NPV for the consultation and for the PRIME-MD questionnaire (in the following denominated only as PRIME-MD).

Results

All 302 consecutive patients 60 years and older agreed to participate (participation rate 100%) and were successfully screened during the 11-month study period. The population consisted of 207 women (mean (SD) age 75 (8.2) years) and 95 men (mean (SD) age 76 (8.2) years).

Some 46 patients scored MADRS-S $\geq$13, yielding a 15% prevalence of depressive symptoms. At the lower cut-off point the GP's assessment of a possible depression, using the open-ended "key questions", was found to have moderate sensitivity and specificity (Table I). Ten patients out of 46 (22%) scoring $\geq$13 on the MADRS-S were not identified by the GPs. The PPV was higher for the consultation than for the PRIME-MD and 85 patients out of 302 (28%) were assessed as having a possible depression, compared with 162 patients out of 302 (54%) with the PRIME-MD.

Similar results concerning sensitivity, specificity, PPV, and NPV were obtained when the PRIME-MD questions concerning depression and anxiety (17–21) were merged (see Table I). At the higher cut-off point the sensitivity was high for both the GP's assessment and the PRIME-MD (Table II). The GPs failed to identify one in 10 patients scoring $\geq$20 on the MADRS-S.

Discussion

Using the PRIME-MD for depression yielded higher sensitivity but lower PPV, compared with the reference MADRS-S, identifying twice as many patients requiring further diagnostic interventions. Although the consultation model had lower sensitivity and failed to identify every fifth patient, the gain was the almost 50% reduction in the number of diagnostic interviews required, as the number of false positive outcomes was so much lower using the consultation model. The GPs' assessments showed acceptably good agreement with the MADRS-S in the clinical situation, compared with the PRIME-MD. Both screening procedures had high NPVs, indicating excellent properties in ruling out depressive symptoms.

The important question is how to aid the GPs in detecting depressive symptoms in the elderly in primary care. It has previously been shown that clinicians can be expected to miss about 20% of patients with depression when using case-finding instruments [26]. Elderly individuals often do not express their

Table I. Test characteristics for PRIME-MD and patient-centred consultation: Depressive symptoms defined by the reference MADRS-S score $\geq$13.[1]

	Sensitivity %	Specificity %	PPV %	NPV %
Consultation, GP's assessment	78 (66–90)	81 (76–86)	43 (32–53)	95 (93–98)
PRIME-MD 17–18	98 (94–100)	54 (48–60)	28 (21–35)	99 (98–100)
PRIME-MD 17–21	100	52 (45–58)	27 (20–33)	100

[1]Prevalence of depressive symptoms was 15%.

Table II. Test characteristics for PRIME-MD and patient-centred consultation. Depressive symptoms defined by the reference MADRS-S score ≥20.[1]

	Sensitivity %	Specificity %	PPV %	NPV %
Consultation, GP's assessment	93 (79–100)	75 (70–80)	15 (8–23)	100 (99–100)
PRIME-MD 17–18	93 (79–100)	48 (42–54)	8 (4–12)	99 (98–100)
PRIME-MD 17–21	100	46 (40–52)	8 (4–12)	100

[1]Prevalence of depressive symptoms was 15%.

true agendas in the consultation [27] and factors other than the patients' clinical presentations are associated with depressive symptoms [28]. It has been proposed that the high NPVs of several screening instruments indicate usefulness, especially when the aim is to rule out depressive symptoms [8].

A stronger emphasis on prevention has been recommended and the use of a simple checklist consisting of well-known risk factors for depressive symptoms might help increase the detection of depression in the elderly [29]. Other authors suggest that rather than spending time on screening procedures, GPs should devote their time to optimizing treatment and care of those already afflicted by depression, for example by increasing the number of follow-up assessments, an intervention shown to have a significant therapeutic effect [30,31].

GPs feel that they have been unfairly criticized for missing up to half of the patients with depression. Most studies are cross-sectional and do not reveal whether the depressive symptoms are of clinical importance or if they have been recognized at a later date. Primary care has longitudinal characteristics and a follow-up study supported the GPs' view, showing that depressive symptoms are often detected at subsequent consultations [32]. GPs rating patients as "psychiatric cases" in the consultation were shown in one recent study to be an important marker of a major depressive episode [33].

The PRIME-MD screening questionnaire is easy to use in primary care with its easily self-administered yes/no format [19]. In one study the PRIME-MD screening questionnaire showed good sensitivity and reasonable specificity for screening for depression when asked verbally [34]. Adding a "help" question to the two screening questions improved the specificity of a general practitioner diagnosis of depression and reduced the large number of false positives usually seen in screening studies [35].

In an elderly population who not always express depressive symptoms as the main complaint or reason for visiting their GP we believe that missing one in five elderly patients with depressive symptoms when screening with the patient-centred consultation model on one occasion, as in this cross-sectional study, might be acceptable. Using the "key questions" without asking any specific "depression questions" might have similar ability to detect depressive symptoms to using a "help" question added to the two PRIME-MD screening questions.

The recruited patients were probably representative in this clinical situation since all patients had had active contact with the PCC.

One weakness of the study was the use of the MADRS-S as reference since it is not a diagnostic instrument. On the other hand, the instrument is frequently used in studies for exploring the patients' perceptions of their own symptoms and change under treatment. The correlation between MADRS-S and physicians' MADRS, which is diagnostic, is in several studies moderate, indicating that the patients' and the clinicians' perception of the disease differ. The psychometric properties of MADRS-S are demonstrated in two recent studies supporting MADRS-S to be a valuable complement to MADRS [36,37].

Patients scoring MADRS-S ≥13 had depressive symptoms indicating a depressive disorder, but the diagnosis had not yet been verified. This could be another weakness of the study as we did not perform a diagnostic process at this first visit using the complete PRIME-MD two-stage instrument. We compared the screening performances of the consultation model and the PRIME-MD screening questionnaire for depressive symptoms. The exclusion of the PRIME-MD questions regarding alcohol might be another limitation. If included, they might have revealed additional information. Further, we did not compare GPs using the consultation model with GPs not using the consultation model and the number of participating GPs was low. These are challenging limitations for future studies.

The different characteristics of a screening instrument should be well balanced if it is to be useful. The sensitivity and specificity of a test have no applicability, especially in primary care, if they are not complemented by the PPV and NPV. The PPV is the probability that the condition or disease is present if the test is positive [38]. It is dependent on sensitivity, specificity, and, above all, on the prevalence of the condition or disease [38]. The PPV will give the GP important information regarding the expected number of screening-positive subjects the procedure will identify [5,39]. The PPV for the Prime MD was low; more than half of the unselected elderly patients who attended the primary care centre were considered to have depressive symptoms. This created a huge workload for the GPs in the follow-up procedure, supporting earlier findings indicating that conducting a

diagnostic interview with all patients who test positive for depression may be neither feasible nor cost-effective in primary care [40].

The patient-centred consultation model showed good properties for use in primary care when assessing depressive symptoms. The findings suggest that the consultation model could be as useful as the PRIME-MD screening questionnaire in the clinical situation. The method is well functioning in the GPs' clinical situation in which patient-centredness plays an essential role in diagnostics, patient satisfaction, adherence, and health outcome [41,42]. The advantage of using the "key questions" is that the interview is a well-integrated part of the consultation and that it also provides an opportunity for the GPs to identify comorbidities.

Acknowledgements

This study was supported by grants from the Västra Götaland Region and from Gothenburg Primary Care. The authors would like to thank the patients and the staff at the Lundby-Brämaregården Primary Care Centre for their cooperation.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

[1] Lebowitz BD, Pearson JL, Schneider LS, Reynolds CF 3rd, Alexopoulos GS, Bruce ML, et al. Diagnosis and treatment of depression in late life. Consensus statement update. JAMA 1997;278:1189–90.

[2] Copeland JR, Beekman AT, Braam AW, Dewey ME, Delespaul P, Fuhrer R, et al. Depression among older people in Europe: The EURODEP studies. World Psychiatry 2004;3:45–9.

[3] Williams JW Jr, Mulrow CD, Kroenke K, Dhanda R, Badgett RG, Omori D, et al. Case-finding for depression in primary care: A randomized trial. Am J Med 1999;106:36–43.

[4] Gilbody S, Sheldon T, House A. Screening and case-finding instruments for depression. CMAJ 2008;178:997–1003.

[5] Gilbody SM, House AO, Sheldon TA. Screening and case-finding for depression. Cochrane Database Syst Rev 2005; Oct 19;(4):CD002792.

[6] Williams JW Jr, Noel PH, Cordes JA, Ramirez G, Pignone M. Is this patient clinically depressed? JAMA 2002;287:1160–70.

[7] Williams JW, Pignone M, Ramirez G, Perez Stellato C. Identifying depression in primary care: A literature synthesis of case-finding instruments. Gen Hosp Psychiatry 2002;24: 225–37.

[8] Whooley MA, Avins AL, Miranda J, Browner WS. Case-finding instruments for depression. Two questions are as good as many. J Gen Intern Med 1997;12:439–45.

[9] Watson LC, Pignone MP. Screening accuracy for late-life depression in primary care: A systematic review. J Fam Pract 2003;52:956–64.

[10] Banazak DA. Minor depression in primary care. J Am Osteopath Assoc 2000;100:783–787.

[11] McWhinney IR. A textbook of family medicine. New York: Oxford University Press; 1997.

[12] Stewart M, Brown JB, Weston WW, McWhinney IR, McWilliam CL, Freeman TR. Patient-centered medicine: Transforming the clinical method. 2nd ed. Abingdon: Radcliffe Medical Press; 2003.

[13] Stewart M. Towards a global definition of patient centred care. BMJ 2001;322:444–5.

[14] Wetzels R, Harmsen M, Van Weel C, Grol R, Wensing M. Interventions for improving older patients' involvement in primary care episodes. Cochrane Database Syst Rev. 2007 Jan 24;(1):CD004273.

[15] Bastiaens H, Van Royen P, Pavlic DR, Raposo V, Baker R. Older people's preferences for involvement in their own care: A qualitative study in primary health care in 11 European countries. Patient Educ Couns 2007;68:33–42.

[16] Larsen JH, Risor O, Putnam S. P-R-A-C-T-I-C-A-L: A step-by-step model for conducting the consultation in general practice. Fam Pract 1997;14:295–301.

[17] Laerum E, Steine S, Finckenhagen M, Finset M. The final version of the Patient Perspective Survey (PPS): A new tool to improve consultation outcome and patient participation in general practice patients with complex health problems. Doctors' and patients' evaluations and guidelines for clinical use. Fam Pract 2002;19:264–71.

[18] Malterud K. Allmennpraktikerens møte med kvinnelige pasienter [The encounter between the general practitioner and female patients]. Oslo: TANO, 1990 (in Norwegian with English summary).

[19] Spitzer RL, Williams JB, Kroenke K, Linzer M, deGruy FV 3rd, Hahn SR, et al. Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study. JAMA 1994;272:1749–56.

[20] Svanborg P, Åsberg M. A comparison between the Beck Depression Inventory (BDI) and the self-rating version of the Montgomery Asberg Depression Rating Scale (MADRS). J Affect Disord 2201;64:203–16.

[21] Malterud K. Key questions – a strategy for modifying clinical communication. Transforming tacit skills into a clinical method. Scand J Prim Health Care 1994;12:121–7.

[22] Svanborg P, Ekselius L. Self-assessment of DSM-IV criteria for major depression in psychiatric out- and inpatients. Nord J Psychiatry 2003;57:291–6.

[23] Magnil M, Björkelund C. PRIME-MD 1000 som screening instrument för depression hos äldre primärvårdspatienter [PRIME-MD 1000 as a screening instrument for depression in elderly primary care patients]. Allmänmedicin 2000;21: 187–90.

[24] Lenze EJ. Comorbidity of depression and anxiety in the elderly. Curr Psychiatry Rep 2003;5:62–7.

[25] Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Text Revision. Washington, DC: American Psychiatric Association; 2000.

[26] Mulrow CD, Williams JW Jr, Gerety MB, Ramirez G, Montiel OM, Kerber C. Case-finding instruments for depression in primary care settings. Ann Intern Med 1995;22: 913–21.

[27] Barry CA, Bradley CP, Britten N, Stevenson FA, Barber N. Patients' unvoiced agendas in general practice consultations: Qualitative study. BMJ 2000;320:1246–50.

[28] Harman JS, Schulberg HC, Mulsant BH, Reynolds CF III. The effect of patient and visit characteristics on diagnosis of depression in primary care. J Fam Pract 2001;50:1068.

[29] Smit F, Ederveen A, Cuijpers P, Deeg D, Beekman A. Opportunities for cost-effective prevention of late-life

depression: An epidemiological approach. Arch Gen Psychiatry 2006;63:290–6.
[30] Pignone M, Gaynes BN, Lohr KN, Orleans CT, Mulrow C. Questionnaires for depression and anxiety: Systematic review is incomplete. BMJ 2001;323:167–8.
[31] Posternak MA, Zimmerman M. Therapeutic effect of follow-up assessments on antidepressant and placebo response rates in antidepressant efficacy trials: Meta-analysis. Br J Psychiatry 2007;190:287–92.
[32] Kessler D, Bennewith O, Lewis G, Sharp D. Detection of depression and anxiety in primary care: Follow up study. BMJ 2002;325:1016–7.
[33] Ostergaard SD, Foldager L, Allgulander C, Dahl A, Huuhtanen M-T, Rasmussen IB, et al. Psychiatric caseness is a marker of major depressive episode in general practice. Scand J Prim Health Care 2010;28:211–5.
[34] Arrol B, Khin N. Screening for depression in primary care with two verbally asked questions: Cross sectional study. BMJ 2003;327:1144–6.
[35] Arrol B, Goodyear-Smith F, Kerse N. Effect of the addition of a "help" question to two screening questions on specificity for diagnosis of depression in general practice: Diagnostic validity study. BMJ 2005;331:884.
[36] Fantino B, Moore N. The self-reported Montgomery-Åsberg depression rating scale is a useful evaluative tool in major depressive disorder. BMC Psychiatry 2009;9:26.
[37] Bondolfi G, Jermann F. Self- and clinician-rated Montgomery-Åsberg Depression Rating Scale: Evaluation in clinical practice. J Affect Disord 2010;121:268–72.
[38] Altman DG. Practical statistics for medical research. London: Chapman & Hall/CRC; 1991.
[39] Gaynes BN, West SL, Ford CA, Frame P, Klein J, Lohr KN. Screening for suicide risk in adults: A summary of evidence for the US Preventive Services Task Force. Ann Intern Med 2004;140:822–35.
[40] Gilbody SM, House AO, Sheldon TA. Routinely administered questionnaires for depression and anxiety: Systematic review. BMJ 2001;322:406–9.
[41] Maguire P, Pitceathly C. Key communication skills and how to acquire them. BMJ 2002;325:697–700.
[42] Stewart M. Effective physician–patient communication and health outcomes: A review. CMAJ 1995;152:1423–33.