Acta Psychiatr Scand 2000: 102: 71–73
Printed in UK. All rights reserved

ACTA PSYCHIATRICA SCANDINAVICA
ISSN 0902-4441

Short communication

Are commonly used self-report inventories suitable for screening postpartum depression and anxiety disorders?

Muzik M, Klier CM, Rosenblum KL, Holzinger A, Umek W, Katschnig H. Are commonly used self-report inventories suitable for screening postpartum depression and anxiety disorders?
Acta Psychiatr Scand 2000: 102: 71–73. © Munksgaard 2000.

Objective: The utility of several self-report symptom inventories were examined for detecting postpartum depression (MDD) and anxiety disorders (AD).
Method: Fifty women (3 or 6 months postpartum), at heightened risk for MDD, completed several depression and anxiety symptom checklists. Psychiatric diagnoses were obtained via SCID interview.
Results: Rates of MDD ($n=9$) and AD ($n=9$) were equivalent in this sample, with minimal diagnostic overlap. While all the self-report depression inventories screened accurately for MDD, none discriminated AD sensitively and reliably.
Conclusion: The frequent occurrence of AD emphasizes the need to identify appropriate screening instruments for postpartum anxiety disorders.

M. Muzik[1,2], C. M. Klier[2], K. L. Rosenblum[3], A. Holzinger[2], W. Umek[4], H. Katschnig[2]

[1]Department of Psychiatry and Behavioral Neurosciences, Wayne State University, Detroit, MI, USA, [2]Department of Psychiatry, University of Vienna, Austria, [3]Department of Psychology, Center for Human Growth and Development, University of Michigan, Ann Arbor, MI, USA and [4]Department of Obstetrics and Gynecology, University of Vienna, Austria

Key words: anxiety disorders; depression; postpartum; psychometrics; community psychiatry

Maria Muzik, Department of Psychiatry and Behavioral Neurosciences, Wayne State University, 2751 E. Jefferson Avenue, 4th floor, Suite 460, Detroit, MI 48207, USA

Accepted for publication March 2, 2000

Introduction

Despite reports that postpartum anxiety symptoms often co-occur with postpartum depression (1), to date there are no brief screening instruments designed specifically to assess anxiety symptoms among postpartum women. In the present study we examine the utility of several commonly employed self-report symptom checklists, including a newly developed Edinburgh Postnatal Depression Scale (EPDS)–German version, for the detection of both postpartum depression (MDD) and anxiety disorders (AD).

Material and methods

Participants were drawn from a larger epidemiological study of postpartum depression in Austria (2). In order to ensure adequate rates of postpartum depression, women with EPDS total scores above 7 (completed either 3 or 6 months postpartum) were invited to participate in the present study.

Participants

Seventy-seven women were contacted and the majority ($n=50$) agreed to participate. There were no significant demographic or EPDS-score differences between the study sample and those who declined to participate. Participants' mean age was 28 years (range 21–40), and in all cases their babies were healthy. Seventy-seven per cent of the women were married; of the remaining single or divorced women, half had a live-in partner. Fifty-four per cent of the women were multiparous, 25% held a university degree and 52% of the women had completed high school only.

Instruments

The Edinburgh Postnatal Depression Scale (EPDS) (3). This 10-item self-report measure has demonstrated good sensitivity and specificity in identifying postpartum depression. The EPDS-German translation (2) yielded an acceptable level of internal consistency (Chronbach's alpha = 0.82).

Table 1. Means and standard deviations on EPDS, SCL90R and SDS in the no-diagnosis, anxiety disorder and major depressive disorder groups

	No diagnosis (ND) ($n=31$) *M* (SD)	Anxiety disorder (AD) ($n=9$) *M* (SD)	Major depressive disorder (MDD) ($n=9$) *M* (SD)	*Post-hoc* comparisons*
EPDS	6.52 (3.12)	7.75 (2.0)	12.90 (4.65)	MDD > AD, ND
SCL90R				
Depression scale	0.48 (0.38)	0.80 (0.39)	1.78 (0.86)	MDD > AD, ND
Anxiety scale	0.23 (0.24)	0.58 (0.41)	0.87 (0.43)	MDD, AD > ND
SDS	41.55 (6.80)	47.30 (9.64)	58.11 (11.1)	MDD > AD, ND

* All reported *post-hoc* comparisons are significant at $p<0.01$.

Zung self-rating depression scale (SDS-German version) (4). The SDS is a standard measure of depression with a clinical cut-off score of 50.

Symptom Checklist-90-Revised (SCL-90-R) (5). The Depression and Anxiety subscales of the SCL-90-R were used to assess symptoms of anxiety and depression; a cut-off T-score of 63 was employed.

Structured Clinical Interview for DSM-III-R (SCID-German version) (6). Current diagnoses of MDD and any anxiety disorder were derived from the SCID-German version (6), a semi-structured clinical interview administered by a trained psychiatrist.

Results

No significant associations were obtained between number of days postpartum and scores on any of the self-report questionnaires or receipt of diagnosis. Therefore the number of days postpartum was not used as a statistical control in subsequent analyses.

Ten women met criteria for a current diagnosis of MDD, and 10 met criteria for an AD. Only one woman met criteria for both MDD and AD; in order to make meaningful group comparisons, she was dropped from subsequent analyses.

We created three diagnostic groups based upon the SCID interview: no diagnosis ($n=31$), pure AD ($n=9$) and pure MDD ($n=9$). One-way analysis of variance tests for diagnostic group differences on each of the self-report questionnaires revealed significant overall F values (all $p<0.05$). Table 1 presents means, standard deviations, and *post-hoc* comparisons for each measure by diagnostic group. *Post-hoc* analyses (Scheffé's correction) revealed that all the self-report depression measures distinguished the MDD group from the AD and no diagnosis groups. In contrast, the SCL-90-R Anxiety Scale distinguished only the two diagnosis groups from the no diagnosis group, and did not distinguish between AD and MDD.

Table 2 provides the sensitivity, specificity and positive and negative predictive values for the self-report questionnaires predicting MDD. Multiple cut-points were employed to determine the effects on the sensitivity and specificity of the newly developed EPDS; a cut-off of 10/11 appeared to yield maximal sensitivity and specificity.

Discussion

Although the present sample was screened to ensure adequate prevalence of postpartum depression, rates of anxiety disorder were also quite high. Consistent with a recent report we found minimal diagnostic overlap between MDD and AD (7).

Each of the self-report depression questionnaires, including the newly developed German-version EPDS, appeared to screen reliably for postpartum depression. In contrast, only the SCL-90-R Anxiety Scale identified women who met criteria for an AD, and yet none the less failed to distinguish AD from

Table 2. The sensitivity, specificity, PPV and NPV for major depressive disorder using different measures and cut-points

	Major depressive disorder			
	Sensitivity	Specificity	PPV	NPV
EPDS cut-off				
8/9	0.78	0.62	0.32	0.92
9/10	0.78	0.75	0.44	0.94
10/11	0.87	0.87	0.58	0.97
11/12	0.66	0.92	0.66	0.92
12/13	0.67	0.95	0.75	0.92
SDS > 50	0.89	0.77	0.47	0.97
SCL90R depression	0.78	0.87	0.58	0.94

MDD. Further research is clearly needed in order to identify or create screening measures for postpartum anxiety disorders.

References

1. Stuart S, Couser G, Schilder K, O'Hara MW, Gorman L. Postpartum anxiety and depression: onset and comorbidity in a community sample. J Nerv Men Dis 1998;**186**:420–424.
2. Herz E, Thoma M, Umek W et al. Nicht-psychotische postpartale Depression. Pilotstudie zur Epidemiologie und Risikofaktoren. Geburtshilfe Frauenheilkd 1997;**57**:282–288.
3. Cox JL, Holden JM, Sagovsky R. Detection of postnatal depression: development of the 10-item Edinburgh Postnatal Depression Scale. Br J Psychiatry 1987;**150**:782–786.
4. Collegium-Internationale-Psychiatriae-Scalarum, eds. Selbstbeurteilungs Depressions-Skala. Weinheim: Beltz Test GmbH, 1986.
5. Derogatis LR. SCL-90-R administration, scoring and procedures manual-II. Towson, MD: Clinical Psychometric Research, 1992.
6. Wittchen HU, Schramm E, Zaudig M et al. Strukturiertes Klinisches Interview fur DSM-III-R. Version 2.0. Weinheim: Beltz Test GmbH, 1990.
7. Ballard CG, Davies R, Handy S, Mohan RNC. Postpartum anxiety in mothers and fathers. Eur J Psychiatry 1993;**7**: 117–121.