Screening for depression in pre- or postnatal women

This is an excerpt from the full technical report, which is written in Norwegian.

The excerpt provides the report's main messages in English.

No. 01–2013

Report

kunnskapssenteret

Title	Screening for depression in pre- or postnatal women
Norwegian title	Depresjonsscreening av gravide og barselkvinner
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We would like to thank all contributers for their expertise in this project. Norwegian Knowledge Centre for the Health Services assumes final responsibility for the content of this report.

Norwegian Knowledge Centre for the Health Services
Oslo, January 2013

Key messages (English)

Each year between six to nine thousand Norwegian women experience depressive symptoms during pregnancy or the first year after birth. In order to supply the right treatment it is essential to identify whether the woman has a clinical depression, depressive symptoms or is downcast. This review looks at accuracy studies of screening for pre- and postnatal depression as well as the effect of screening combined with interventions on depressive symptoms.

Screening tests accuracy for identification of depression

- We identified the Edinburgh Postnatal Depression Scale (EPDS, score for 0 to 30) as the most commonly used instrument for accuracy and effect.
- EPDS identified 93 percent (95 % CI: 85 to 97) of the postpartum women with clinical depression.
- EPDS identified 78 percent (95 % CI: 68 to 97) of the postpartum women without clinical depression as healthy.
- Approximately 20 percent of the women without clinical depression were classifed at risk for developing depression (false positive) with the use EPDS.

Effect of screening in combination with intervention for depressive symptoms

- The prevalence of depressive symptoms up to six months after birth is reduced from 10 to 6 percent (95 % CI: 5 % to 8 %) with the use of a postnatal screening programme.
- No studies reported physical or social outcomes for the mother, and no results of negative or adverse effects of screening or intervention for the mother, child or family were identified.

Title:
Screening for depression in pre- or postnatal women

Type of publication:

Systematic review

A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyse and summarise the results of the included studies.
[Info will add description]

Doesn't answer everything:

- Excludes studies that fall outside of the inclusion criteria
- No health economic evaluation
- No recommendations

Publisher:

Norwegian Knowledge Centre for the Health Services

Updated:

Last search for studies: March 2012.

Peer review:

External: Signe K Dørheim, Consultant, Sandnes DPS, Stavanger University Hospital Atle Klovning, Associate professor, University of Oslo

Internal: Signe A Flottorp, researcher, Vigdis Lauvrak, researcher, Inger Natvig Nordehaug, researcher, all for the Norwegian Knowledge Centre for the Health Services

Executive summary (English)

Background

Prenatal and postnatal care in Norway aims to promote health and prevent physical and mental disease for both the woman and the child. Depression can occur both the in prenatal and postnatal period and it is estimated that approximately 10 percent of Norwegian women experience depressive symptoms during this period. To provide the appropriate treatment and support it is essential to identify whether the woman has a clinical depression, depressive symptoms or is downcast. The National Council for Priority Setting in the Health Care in Norway will discuss whether screening for depression in the prenatal and postnatal period should be introduced in Norway.

Objective

The objective of this report was to identify:

1) The accuracy of screening tests in identifying depression during pregnancy and up to 12 months after giving birth.
2) The effect of prenatal and postnatal screening programmes for depression on depression and depressive symptoms for pregnant women and women up to 12 months after birth. Outcomes were: long term effect on mental, physical or social factors as well as adverse events for the mother, the child or the whole family.

Method

A search was undertaken for studies of diagnostic accuracy of a screening test against a reference standard for diagnosing clinical depression. Effect studies comparing screening and intervention versus usual care and no screening were searched for. A systematic search was carried out in March 2012 in the following databases: MEDLINE (Ovid), EMBASE (Ovid), PsycINFO (Ovid), AMED (Ovid), Cinahl and Cochrane Library.

Two researchers screened titles and abstracts independently in accordance with the inclusion- and exclusion criteria. Risk of bias were assed with QUADAS for the diagnostic accuracy studies and Cochrane`s Risk of Bias tool used for the effect studies.

It was estimated how sensitivity and specificity correlated by using statistical modeling (summary Receiver Operating Characteristic – SROC) as well as calculating an estimate for sensitivity and specificity (summary operating point). Positive and Negative Predictive Value (PPV+, PPV-) were calculated for EPDS up to three months after birth. For the effect studies risk ratio (RR), mean difference where calculated if possible and Grading of Recommendations Assessment, Development and Evaluation (GRADE) was used to grade the quality of the evidence.

Results

The accuracy of screening tests

4442 references were identified and we included four studies testing pregnant women and 22 testing women after birth. The Edinburgh Postnatal Depression Scale (EPDS) was used in almost all the studies. Sixteen studies showed that screening with EPDS for depressive symptoms in postnatal women have a sensitivity of 0.93 (95 % CI: 0.85 to 0.97) and specificity of 0.78 (95 % CI: 0.68 to 0.85) given a cut off of ≥10. If ten percent of women are depressed after birth in a random 1000 there will be 100 depressed women. If all the 1000 women are screened with EPDS (cut off ≥ 10) we can expect that 90 of the 100 women with depression will be identified. 900 of 1000 women would not have depression, but by screening with EPDS a 200 of these will be identified as "sick" (false positive). By screening 1000 women 290 will have a positive test while only 90 of them are depressed. In other words, among the women whom have a positive test the risk of them actually having a depression is 31 percent. Among the screened women who have a negative test the possibility of them actually having a depression is 1.4 percent.

Effects of screening and intervention on depressive symptoms in pregnant women and women up to 12 months after birth

Four randomised controlled trials and two observational studies with a total of 5052 participants were included. Mapping of depressive symptoms varied among studies e.g. collected retrospectively for medical journals or from a clinical assessment. Follow up also varied between the studies in both the intervention- and the control group.

The prevalence of depressive symptoms at four to six months after birth was reduced from approximately 10 percent without a screening program to 6 percent (95 % CI: 5 % to 8 %) with the use of a screening program postnatally. This gives an odds ratio of 0.60 (95 % CI; 0.49 to 0.75) and the quality of the evidence high.

No studies reported physical or social outcomes for the mother or the child nor adverse effects of screening. The number of visits to the doctor increased by approximately 20 percent (from 1.97 visits in the non-screening group compared to 2.39 in the group that was screened) and the quality of this evidence was moderate. The

quality of the evidence for marital satisfaction and the number of referrals for the mother were respectively low and very low.

Discussion

The screening tests accuracy varies between the studies and there will inevitably be a group of women falsely identified as depressed. Screening with EPDS after birth (0 to 12 weeks) shows that there is hardly any difference between the time of the test or cut-off when it comes to identify women at risk for developing depression. When looking at the effect of screening studies all countries could be included. This might have reduced the transferability to the Norwegian population, but all the studies show a reduction in the number of depressed women in the intervention group compared to the control group, regardless of geography or recruitment.

Health Technology Assesments and guidelines for different organisations such as National Institute for Health and Clinical Excellence (NICE, UK), Agency for Healthcare Research and Quality (AHRQ, USA) as well as Statens beredning för medicinsk utvärdering (SBU, Sverige) have differing conclusions and recommendations regarding use of screening for depression. The reports indicate that the evidence is too weak to say whether screening for depression is better than usual care. PsykTest has evaluated Scandinavian EPDS studies and concludes that there is a need for more validation studies of the Norwegian translation of EPDS.

Conclusion

EPDS has a sensitivity of > 90 percent at a cut off of ≥ 10 points. This means that the test will identify 90 percent of the depressed women after birth. The specificity is approximately 80 percent, which means that 80 percent of the women that are not depressed will be identified. There will be a significant number of women classified as at risk for developing depression, but who are in fact not depressed (false positives). EPDS is the most common test used both in the accuracy and the effect studies.

Screening postnatally combined with intervention compared to usual intervention with no screening reduces the number of women with depressive symptoms at 4-6 months OR 0.6 (95 % CI; 0.49 to 0.75) and the level of evidence is high. This means that the probability for women in the non-screened group having depressive symptoms is 10 percent and in the screened group is 6 percent (from 6 to 8 percent) up to six months after birth.