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A comparison of the Edinburgh Postnatal Depression Scale (EPDS) and the Postpartum Depression Screening Scale (PDSS) for peripartum depression screening

# Bachelorprojekt

# Abstract

# Problem Statement

· Does EPDS or PDSS offer the largest area under the curve in a receiver-operating-characteristics-curve?

· What are the trade-offs in deciding on an appropriate cut-off value for each questionnaire in this setting?

# Introduction

The basic background to the question you will work with, ending with a  brief and clear statement of the aim of your work, one aim being better than more aims (!). In this section you may cite individual articles, reviews and other (hopefully) reliable sources (e.g. textbooks). Brevity and clarity are basic virtues.

Major peri-partum depression (MPPD)

Minor peri-partum depression (mPPD)

Postpartum Depression Screening Scale (PDSS)

Edinburg Postpartum Depression Scale (EPDS)

Diagnostic and Statistical Manual of Mental Disorders (DSM)

# Methods

Balancing with the aim(s), a description of how the source literature was found and considered for inclusion in the project. PubMed is recommended as the primary database for sourcing original articles.

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| --- | --- | --- | --- | --- |
| **Criterion** | **Beck et al. (2001)** | | **Zhao et al. (2015)** | |
| **Sample size** | 150 | | 842 | |
| **Inclusion criteria** | · Age ≥ 18  · Able to speak and read English  · 2-12 weeks post-partum  · Delivered a live, healthy infant | | · Obstetric complication | |
| **Gold-standard test** | DSM-IV diagnostic interview | | M.I.N.I. | |
| **Country** | United States | | China | |
| **Language** | English | | Chinese | |
|  | **EPDS** | **PDSS** | **EPDS** | **PDSS** |
| **Cut-off (MDD)** | 12/13 | 79/80 | 12/13 | 79/80 |
| **Cronbach’s α(entire test)** | 0.89 | Not reported | 0.78 | 0.95 |
| **AUC (MPPD)** | 0.96 | 0.98 | 0.898\* | 0.983\* |
| **AUC (MPPD & mPPD)** | 0.83\* | 0.91\* | 0.822\* | 0.979\* |
| **Interviewer** | Nurse psychotherapist | | Not reported | |
| **Blinding** | Yes (interviewer blind to scores) | | No (only high-risk women interviewed) | |

# Findings

*\* EPDS vs. PDSS statistically significant (p < 0.001)*

*Focus areas from the aim statement are investigated in depth based upon the findings of original research articles. Keep the strict connection to the aim(s)!*

Blablabl

# Discussion

For a comparison of articles to make sense, the methodology of the articles must be adequately similar.

Beck et al. examine postpartum whereas Zhao et al. examine antepartum. In the DSM-V, depressive disorders can be appended the qualifier ‘with peripartum onset’ if manifestation is during pregnancy or in the 4 weeks following birth1. Therefore, ante- and postpartum depression are not examined as two separate constructs in this thesis.

Beck et al. published before the publishing of the DSM-V. A natural concern is that their diagnostic criteria for depression would be different than the ones of Zhao et al. However, both articles use a semi-structured interview with the diagnostic criteria of the DSM-IV as their gold-standard. Secondly, the DSM-V has seen no modifications in the criteria for depression relevant to this thesis, except that the specifier ‘with peripartum onset’ has been added2.

Zhao et al. exclusively examine women with obstetric complications. Obstetric complications are a stressor, but there is no reason to believe that they will change the peripartum depression construct in a way that will favour either scale, seeing as neither scale contains questions regarding obstetric complications.

For an analysis of a screening tool to be meaningful, a suitable confirmatory test must be used. In the case of depression, the gold standard is a DSM-structured or semi-structured diagnostic interview. Whether this choice is valid is outside the scope of this thesis. The interview appears to have sufficient interrater reliability with Cohen’s kappas between .7 and 1 for each dimension3,4.

However, every interviewer can affect the interview differently. It is therefore vital that the interviewer is blind to the scores of the screening test and, in the case of multiple interviewers, their concordance is assessed. If the interviewer preferentially diagnoses patients as depressed if they scored highly on one test, this test’s sensitivity and specificity will be artificially inflated.

In Beck et al. the interviewer is a nurse psychotherapist. There is no explicit information on whether multiple therapists are used. The interviewer is blind to the screening results.

In Zhao et al. confirmatory testing is done with the M.I.N.I. by the trained research assistant. The scale is designed for use with minimal training and the selection of interviewer is therefore appropriate. There is no explicit statement of blinding of the interviewer. Therefore, there’s a risk of misclassification. If this misclassification by the interviewer is non-random, i.e. the interviewer exhibits preference towards the results of either questionnaire, it can increase the specificity and sensitivity of this questionnaire, while decreasing the corresponding values for the other questionnaire.

The articles employ different confirmatory tests. The confirmatory tests have been reported as comparable with a Cohen’s kappa of 0.84 for MDD5. This indicates that the confirmatory tests are comparable.

Both the language of the confirmatory test and the screening test differ between the studies. For the confirmatory tests, the Chinese version of the M.I.N.I. has been shown to correlate with the DSM-IV interview in Chinese6. However, the comparability of the Chinese and English versions of the DSM-IV interview is not sufficiently accounted for. The major study validating the translation contain very few cases of depression and a kappa of 0.5 for the inter-rater reliability of accessing moderate depression7. This weakens a comparison of the studies.

The comparability of the English and Chinese version of the PDSS is ensured by proper forward-backward translatability and validation{Li:2011ch}. The same holds true for the EPDS{Wang:2009dm}.

Variation in the cultural manifestations of depression can affect the difference between the results of the two studies if one test’s questions more adequately encompass the dimensions of one culture. A generalized recommendation across cultures can therefore be dubious. Given that both studies favour the PDSS, this effect does not appear to influence the comparison critically.

The questionnaire reliability is accessed by the mean correlation coefficient between all possible split-halves of the questionnaire, i.e. Cronbach’s α. The tests all show sufficient internal consistency in these studies without questions becoming redundant. One must be aware that the αs of two tests of differing lengths are not comparable, since increasing the amount of questions will inevitably increase Cronbach’s α8. This explains why Beck et al. have decided to publish the αs exclusively for each dimension of the PDSS, not for the entire test.

The conclusions of the studies would have been strengthened by a test-retest to determine temporal reliability.

# Conclusion

*Based on the aims, methods, findings and discussion, a very brief summary of the research evaluated in the project as well as an opportunity to suggest future directions for the research area you have analysed – just a few lines with statements – no discussion (!).*

# References

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