A scoping review to determine themes that represent perceptions of self as mother (‘ideal mother’ vs ‘real mother’)

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Abstract

Background: Postnatal Depression (PND) is a key cause of maternal morbidity, with current systems of initial recognition in the UK detecting only 50% of cases. In attempts to predict those potentially at risk, this review suggests a novel approach.

Aim: Implementing the concept of ‘ideal mother’ versus ‘real mother’, and asking the woman to compare their ‘ideal self’ against ‘existent self’, the aim of this instrument development review was to determine themes from the literature that relate to women’s perceptions of self as a mother, and from this identification develop questions for inclusion within a proposed new measure entitled the Self-Image as Mother Scale (SIMS).

Method: A scoping review of the literature was carried out to: (1) identify themes considered to affect perception of self as mother, and from this identification, evidence-based questions for inclusion in the SIMS were developed.

Findings: Themes identified included (1) marital dissatisfaction, (2) inadequate partner support, (3) lack of family support, (4) socio-economic status and associated poverty, (5) concern about infant, (6) antenatal/postnatal complications, (7) acceptance of infant gender, (8) history of mental health problems, (9) unplanned pregnancy.

Conclusions: From this scoping review 18 questions were developed for inclusion in the SIMS, which will then be evaluated for psychometric properties, scale refinement and validation.

Key words: Midwives, Perinatal Mental Illness, Post Natal Depression, ASAP, Predictors, Ideal self, Real Self, Self-Image as Mother Scale (SIMS).
Introduction

Postnatal Depression (PND) is one of the leading causes of postpartum maternal morbidity in the UK (A. R. Gavin et al., 2011; Howard, Flach, Mehay, Sharp, & Tylee, 2011; Lewis & Drife, 2004; Pollock, Manaseki-Holland, & Patel, 2009), with incidence evidence variable 10-15% (McDonald et al., 2012), 21% (N. I. Gavin et al., 2005), and 9% (Evans, Heron, Francomb, Oke, & Golding, 2001). PND is a key cause of maternal morbidity in the UK, with current systems of initial recognition only detecting 50% of cases (Hewitt et al., 2009; Lancaster et al., 2010). Attempting to improve the precision in identifying the remaining 50% of occluded PND cases, we present a novel approach intended to compliment the use of the Edinburgh Postnatal Depression Scale (EPDS) and other screening measures in initial detection of developing PND.

At present in the UK, the National Institute of Clinical Excellence (National Institute of Health and Clinical Excellence (NICE), 2014) recommends that women are asked the 3 Whooley questions (Whooley, Avins, Miranda, & Browner, 1997) at antenatal booking between 4-6 prenatal weeks, and again at 3-4 postnatal months. NICE (2014) advises that the EPDS (Cox, Holden, & Sagovsky, 1987), the Hospital Anxiety and Depression Scale (HADS) (Zigmond & Snaith, 1983) and the Patient Health Questionnaire (PHQ-9) (Spitzer, Williams, Kroenke, Hornyak, & McMurray, 2000) may be used in screening for PND. However, using the current system of detecting PND, less than 50% of women are identified (Hewitt et al., 2009; Lancaster et al., 2010). The objective of this instrument development review was to take a novel approach through developing a system for predicting problems that potentially could manifest in the development of PND. This approach was precipitated also by the desirability of ‘breaking the chain’ of yet another psychiatrically-anchored
screening questionnaire with inadequate precision and contextualised within a disease-orientated model of depression. This new system has been designed to evaluate postnatal women’s perceptions of self as ‘ideal mother’ compared with ‘real mother’, under the rubric that discrepancies potentially arouse negative emotions (Mercer, 2004), which may culminate in an end-state of PND. This concept of comparing ‘perfect self’ against ‘existent self’ is described in terms of ‘Self-Discrepancy Theory’ (Higgins, 1987), which considers what happens when a woman’s actions and beliefs do not align (Bessenhoff, 2006). Self-Discrepancy Theory positions that individuals (in this case new mothers) compare themselves to internal benchmarks called self-guides. These differing representations of self are sometimes contradictory, which can arouse emotional discomfort. Self-Discrepancy is the gap between two of these representations of self. In the context of this study, the theory situates that a new mother is motivated to narrow the gap between contradictory self-guides and by doing so attempts to remove disparity and its associated discomfort. Higgins (1987) describes 4 types of self-guide:

- Actual (own) versus ideal (own)
- Actual (own) versus ideal (other)
- Actual (own) versus ought (own)
- Actual (own) versus ought (other)

When mismatches occur between these self-guides, 1 of 3 responses may occur:

- No emotional reaction
- An adjustment to the self-guides
- A negative emotional reaction
Comparing participants’ evaluations of self as ‘ideal mother’ versus ‘real mother’ is at the heart of this considered approach towards detecting those at risk of developing PND.

In the main, prior research has concentrated upon risk factors that contribute towards developing PND. Lancaster et al. (2010), for example, studied risk factors for developing depressive symptoms during pregnancy (57 studies). Causal factors identified support that anxiety, life stress, history of depression, lack of social support, unintended pregnancy, domestic violence, lower income, lower education, smoking, single status, and poor relationship quality put women at risk of developing PND. McDonald et al. (2012) developed a prenatal psychosocial screening tool underpinned by risk factors for developing PND, which identified that depression and stress in late pregnancy, history of abuse, and poor relationship with partner contributed towards developing PND. Comparison of this screening tool with the EPDS in late pregnancy showed that the instrument had significantly better sensitivity. Edwards, Galletly, Semmler-Booth, and Dekker (2008) also examined whether the Antenatal Psychosocial Questionnaire (APQ) which screens for psychosocial risk factors for developing PND, predicts subsequent development of PND. Logistic regression identified that the only item on the APQ that predicted development of PND was emotional abuse as a child, with Edwards et al. (2008) concluding that the APQ is a useful psychosocial screening tool during the antenatal period, but not as a predictor for PND. Prior attempts to develop risk scales for developing PND have been carried out by Austin, Hadzi-Pavlovic, Saint, and Parker (2005), Blackmore et al. (2006) et al. (2006), Davis, Cross, and Lind (2008) and Oppo et al. (2009). Austin et al. (2005) examined the value of using the 18-item antenatal Pregnancy Risk Questionnaire (PRQ) and the EPDS to detect PND at 32
weeks gestation, concluding that the PRQ is better at antenatal prediction of PND than other available measures. A further study by Blackmore et al. (2006) investigated the effectiveness of using the Antenatal Psychosocial Health Assessment (ALPHA) questionnaire for detecting risk factors associated with developing PND. Risks were found to include intimate partner violence, child abuse, and couple dysfunction, with RCT’s showing that women presenting with these risk factors are significantly more likely to develop PND. Further, in a prospective descriptive study, Davis et al. (2008) explored the value of using the Postpartum Adjustment Questionnaire (PAQ) as a predictor for developing PND and successfully identified 40% of women. In addition, Oppo et al. (2009) used the PND Predictors Inventory-Revised (PDPI-R) to determine predictive validity at detecting those at risk of developing PND, concluding that it presents as a valid screening tool.

Since, Austin et al. (2005), Blackmore et al. (2006), Davis et al. (2008) and Oppo et al. (2009) highlight the worth of developing predictor scales for identifying women at risk of developing PND, and with a view towards increasing detection rates of the large pool of unidentified (50%) cases (Hewitt et al., 2009; Lancaster et al., 2010), our goal was to take a new approach. Using Higgins (1987) concept of ‘ideal mother’ versus ‘real mother’, the aim was to determine themes from the literature that relate to women’s perceptions of self as mother, and from this identification develop questions that compare and contrast ‘ideal-self as mother’ with ‘real-self as mother’.

The rationale behind undertaking this study lies in the fact that prior conceptions of diagnosing PND have in the main been rooted around developing questions that measure aspects of anxiety and depression. Nearly ‘no’ attention has been payed to the cognitive approach of looking at women’s perceptual
constructions of self and their relationships to developing PND. This successful undertaking, through development of a robust scale, will appreciably add to the theory base underpinning causes of PND and its diagnosis. As such, items on the SIMS were designed to assess women’s perceptions of ‘self as mother’. To develop items for inclusion on the SIMS, a scoping review of the literature was conducted to (1) determine themes that represent perceived ability to mother and from this identification (2) develop evidence-based questions for inclusion in the SIMS.

Method

A scoping review was selected, because they aim to map key concepts to underpin ventures (Mays, Roberts, & Popay, 2001). In this case the key concept was to examine the extent, range, and nature of prior research that has focused upon predictors for developing PND and focus on studies that were considered to represent women’s perceptions of ‘self as mother’. There was no intention to describe findings in any great detail, but instead to map fields that meet this requirement (Arksey & O'Malley, 2005). This scoping review has been conducted in a rigorous and transparent way (Centre for Reviews and Dissemination, 2001; Mays et al., 2001). A description of the stages follow in accordance with Arksey and O'Malley (2005):

(1) **Identifying the research question**

The research question asked: what factors influence women’s perceptions of self as mother?

(2) **Identifying relevant studies**

Identify studies that answer the research question through electronic databases, reference lists, and hand-searching of key journals. The following electronic databases were searched:
A combined free-text and thesaurus approach was used to recognise relevant papers for inclusion in the scoping study. The following keywords were used:

- Anxiety
- Depression
- Postnatal Depression
- Self-worth

The above search terms were combined with:

- Validated
- Scales
- Mental health
- Pregnancy
- Antenatal
- Postnatal
- Mother

Papers retrieved were required to be published in English.

(3) Study selection

Inclusion criteria involved counting studies or literature reviews that relate to women’s feelings of self-worth, personal behavioural abilities, and capacity to mother.
(4) **Charting the data**

Charting according to Ritchie and Spencer (1994) involved sifting, recording and organising papers according to key themes. Our mapping approach was akin to a ‘narrative review’ (Pawson, 2002).

(5) **Collating, summarising and reporting the results**

We collated, summarized, and reported results, with no attempt to present ‘weight’ of evidence of relevant predictors. Having ‘charted’ information, our narrative account is presented in basic numbers of papers that relate to each theme. Using this approach we quickly gained a flavour of areas that underpin perceptions of ‘self as mother’. The literature was organised into 9 themes, and a template developed that includes; author(s), date, method, participants, and results. Using these themes we developed questions for inclusion in the SIMS questionnaire.

**Consultation Exercise**

A ‘consultation group’ was gathered to inform and validate findings from the main scoping review (Oliver, 2001). The group consisted of 4 individuals; (1) a midwifery lecturer, (2) 3rd year student midwife, (3) new mother, and (4) midwife and psychologist. Contributors provided valuable insights into development and interpretation of questions for inclusion in the SIMS. The first two authors together initially developed the questions. The consultation group proceeded to review each question one-by-one, and where perceived necessary altered wording. When there was consensus of the whole group on wording, the question was accepted as fit for purpose. The next step in this study is to collect data and undertake robust psychometric validation of each question and complete scale.
Results

The preliminary search of electronic databases yielded 107 articles. Forty-one did not reach the inclusion criteria, one paper was a duplicate, which resulted in 66 studies being considered to influence self-identity as mother. These articles were organised into 9 themes (see Table 1):

| Theme 1: Marital dissatisfaction |
|----------------------------------|
| 21 studies showed that marital dissatisfaction plays a significant part in a postnatal woman developing PND. It was considered that the relationship between marital dissatisfaction and ‘ideal self as mother’ lies in ability as a mother to provide a harmonious environment for her family to thrive in. In relation to this theme the ‘consultation group’ developed the following questions. |
| Q I have a good relationship with my husband/partner. |
| Q I am dissatisfied in my current relationship with my husband/partner. |

Theme 2: Inadequate partner support

21 studies showed that inadequate partner support can significantly affect whether or not a woman develops PND. Lack of engagement from an unsupportive partner can
result in additional physical workload for a mother, and at a psychological level
create feelings of not being valued. In relation to this theme, the following questions
were developed.

Q I have a supportive husband/partner.
Q My husband/partner does not help with the household tasks.

**Theme 3: Lack of family support**

24 studies showed that help from family/friends contributes to a positive transition to
motherhood. This additional help with tasks around the home and with caring for the
infant can affect self-perception as a successful mother through helping to create an
organised home. In addition, good relationships with family members will provide
psychological support. In relation to this theme the following questions were
developed.

Q My family/friends help me around the house.
Q I have little backup from my relatives/friends.

**Theme 4: Socio-economic status and associated poverty**

19 studies evidence that lack of money and resources are key predictors of
developing PND. The reality of being unable to provide possessions and personal
affects that create an ideal home can affect a woman’s perception of capability as a
mother. In relation to this theme the following questions were developed.

Q I am unable to provide my baby with the home and belongings I want.
Q I have enough money to buy all the possessions I want my baby to have.
**Theme 5: Concern about infant**

13 studies showed that concern about the infant (e.g., ability to feed/settle/ill baby) play a significant part in a new mother developing PND. The reality of dealing with a persistently crying baby and being unable to settle them is likely to raise worry about the infant’s health and personal ability to mother. In relation to this theme the following questions were developed.

  - Q I constantly worry about my baby’s health and well-being.
  - Q My baby is healthy, happy and thriving.

**Theme 6: Antenatal/postnatal complications**

12 studies showed that complications and personal health problems play a significant part in a woman developing PND. Physical problems with a mother's personal health that impinge upon her ability to care for her infant are likely to affect her perceptions of self as mother. In relation to this theme the following questions were developed.

  - Q My physical health affects my ability to be a good mother.
  - Q I am fit and able to fully care for my baby.

**Theme 7: Acceptance of infant gender**

6 studies showed that having a baby of the desired gender plays a significant part in developing PND. Ability to produce a male heir is paramount in some cultures, or already having infants of a particular sex and anxiously desiring one of the other may affect a woman’s perception of self as mother. In relation to this theme the following questions were developed.

  - Q I am really happy with the sex of my baby.
Q I would have preferred that my baby was of the opposite sex.

**Theme 8: History of mental health problems**

16 studies showed that having a history of mental health problems plays a significant part in developing PND. Being unable to cope with everyday engagements, chores and relationships is likely to profoundly influence a woman’s perceptions of self and ability to provide a conventional life for her baby. In relation to this theme the following questions were developed.

Q I have a history of experiencing mental health problems.

Q In general I cope well with life and the problems it throws at me.

**Theme 9: Unplanned pregnancy**

13 studies showed that having an unplanned pregnancy plays a significant part in developing PND. Having an unplanned pregnancy at a time when a woman is unprepared either materially or mentally, may profoundly influence her feelings about ideal self as a mother. In relation to this theme the following questions were developed.

Q We planned our pregnancy.

Q I was surprised to find myself pregnant.
Discussion

A key strength of this scoping study is that we provided an evidence-centric, evidence-contextualised and transparent method for mapping themes to underpin questions for inclusion in the SIMS. However, it is important to acknowledge limitations of this scoping exercise. We have not appraised the quality of included papers, with our approach valuing breadth, contribution, and inclusivity. Nevertheless, this exercise has served its purpose of furnishing us with themes to underpin our SIMS questions. This scoping review has provided a narrative descriptive account of research to underpin each of the 9 identified themes considered to relate to perception of self as mother. It is erroneous to view this scoping exercise as an easy option with hard questions about quality appraisal and synthesis omitted, because a high degree of analytical skills have been used to develop the framework. Our approach was considered ‘fit for purpose’, embracing a broad range of study designs and methods, which differs from a systematic review that focuses on for example Randomised Controlled Trials (RCT) (Centre for Reviews and Dissemination, 2001)

Taking this novel approach towards identifying women at risk of developing PND, we have determined themes that represent perceived aptitude to mother and potential to develop PND, and from this identification we have developed evidence-based questions for inclusion on the SIMS (see Table 3).

TABLE 3

Defining perception of self as mother is not an objective concept, like asking date of last menstrual period. Instead, it is about capturing a multi-dimensional
assortment of associated factors. We also acknowledge that women construct aspects of ‘ideal mother’ differently, which are informed through individual beliefs, responses, cultures, emotions, and reflections. Within the themes identified, aspects of cultural influence are noticed. For example, in some cultures men do not play a large role in childrearing (Theme 2: inadequate partner support), which may be more acceptable to a mother when this expectation is absent. In addition, in societies where having a son is culturally important (Theme 7: Acceptance of infant gender), feelings of failure when a girl is born may influence the ideal self as mother.

In full awareness of these complexities, we have captured aspects of the concept ‘ideal mother’ and from these attributes have labelled themes from which we have developed related questions for inclusion in the SIMS.

Conclusion

From a scooping review we have identified 9 evidenced-based themes that underpin the concept ‘ideal mother’, and from this foundation we have developed 18 questions (2 per theme) for inclusion in the SIMS. From a research perspective, this 18 item SIMS has potential to be developed into a multi-dimensional instrument. The data has been formatted into straightforward statements that women respond to on a 5-point Likert scale based on level of agreement or disagreement. Half of the items are reverse scored with a possible range of scores between 0-90. A score of 0 (Total score of 0) represents lowest ‘ideal self as mother’ and 4 (Total score 72) highest ‘ideal self as mother’. Our next step is to gather survey data for psychometric validation and scale refinement.
References

Akincigil, A., Munch, S., & Niemczyk, K. C. (2010). Predictors of maternal depression in the first year postpartum: marital status and mediating role of relationship quality. *Social Work in Health Care, 49*(3), 227-244. doi: 10.1080/00981380903213055

Al Dallal, F. H., & Grant, I. N. (2012). Postnatal depression among Bahraini women: prevalence of symptoms and psychosocial risk factors. *Eastern Mediterranean Health Journal, 18*(5), 432-438

Arksey, H., & O’Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology, 8*(1), 19-32

Austin, M. P., Hadzi-Pavlovic, D., Saint, K., & Parker, G. (2005). Antenatal screening for the prediction of postnatal depression: validation of a psychosocial Pregnancy Risk Questionnaire. *Acta Psychiatrica Scandinavica, 112*(4), 310-317

Bener, A., Burgut, F. T., Ghuloum, S., & Sheikh, J. (2012). A study of postpartum depression in a fast developing country: prevalence and related factors. *International Journal of Psychiatry in Medicine, 43*(4), 325-337

Bessenhoff, G. R. (2006). Can the media affect us? Social comparison, self-discrepancy, and the thin ideal. *Psychology of Women Quarterly, 30*(3), 239-251

Beydoun, H. A., Beydoun, M. A., Kaufman, J. S., Lo, B., & Zonderman, A. B. (2012). Intimate partner violence against adult women and its association with major depressive disorder, depressive symptoms and postpartum depression: a systematic review and meta-analysis. *Social Science & Medicine (1982), 75*(6), 959-975. doi: 10.1016/j.socscimed.2012.04.025
Bielinski-Blattmann, D., Lemola, S., Jaussi, C., Stadlmayr, W., & Grob, A. (2009). Postpartum depressive symptoms in the first 17 months after childbirth: the impact of an emotionally supportive partnership. *International Journal Of Public Health, 54*(5), 333-339. doi: 10.1007/s00038-009-0056-4

Bilszta, J. L. C., Gu, Y. Z., Meyer, D., & Buist, A. E. (2008). A geographical comparison of the prevalence and risk factors for postnatal depression in an Australian population. *Australian and New Zealand Journal of Public Health, 32*(5), 424-430

Blackmore, E. R., Carroll, J., Reid, A., Biringer, A., Glazier, R. H., Midmer, D., . . . Stewart, D. E. (2006). The use of the Antenatal Psychosocial Health Assessment (ALPHA) tool in the detection of psychosocial risk factors for postpartum depression: a randomized controlled trial. *Journal Of Obstetrics And Gynaecology Canada: JOGC = Journal D'obstétrique Et Gynécologie Du Canada: JOGC, 28*(10), 873-878

Britton, J. R. (2008). Maternal anxiety: Course and antecedents during the early postpartum period. *Depression and Anxiety, 25*(9), 793-800. doi: 10.1002/da.20325

Burgut, F. T., Bener, A., Ghuloum, S., & Sheikh, J. (2013). A study of postpartum depression and maternal risk factors in Qatar. *Journal of Psychosomatic Obstetrics and Gynaecology, 34*(2), 90-97. doi: 10.3109/0167482X.2013.786036

Centre for Reviews and Dissemination. (2001). *Undertaking Systematic Reviews of Research on Effectiveness: CRD’s Guidance for those Carrying Out or Commissioning Reviews, CRD Report 4* York.
Cerulli, C., Talbot, N. L., Tang, W., & Chaudron, L. H. (2011). Co-occurring intimate partner violence and mental health diagnoses in perinatal women. *Journal Of Women’s Health (2002)*, 20(12), 1797-1803. doi: 10.1089/jwh.2010.2201

Chojenta, C., Loxton, D., & Lucke, J. (2012). How do previous mental health, social support, and stressful life events contribute to postnatal depression in a representative sample of Australian women? *Journal Of Midwifery & Women’s Health*, 57(2), 145-150. doi: 10.1111/j.1542-2011.2011.00140.x

Clarke, K., Saville, N., Shrestha, B., Costello, A., King, M., Manandhar, D., . . . Prost, A. (2014). Predictors of psychological distress among postnatal mothers in rural Nepal: A cross-sectional community-based study. *Journal of Affective Disorders*, 156, 76-86. doi: 10.1016/j.jad.2013.11.018

Cline, K. M. C., & Decker, J. (2012). Does weight gain during pregnancy influence postpartum depression? *Journal of Health Psychology*, 17(3), 333-342. doi: 10.1177/1359105311414954

Coelho, H. F., Murray, L., Royal-Lawson, M., & Cooper, P. J. (2011). Antenatal anxiety disorder as a predictor of postnatal depression: a longitudinal study. *Journal of Affective Disorders*, 129(1-3), 348-353. doi: 10.1016/j.jad.2010.08.002

Cooklin, A. R., Canterford, L., Strazdins, L., & Nicholson, J. M. (2011). Employment conditions and maternal postpartum mental health: results from the Longitudinal Study of Australian Children. *Archives Of Women’s Mental Health*, 14(3), 217-225. doi: 10.1007/s00737-010-0196-9

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *British Journal of Psychiatry*, 150, 782-786
D’Amelio, R., Rauccio, V., Melluso, J., Feraudo, E., Grande, S., Dettori, C., & Brittelli, M. (2006). Is it possible to predict postnatal depression? Research into the origin of blues and depression. The role of the gynaecologist. *Clinical And Experimental Obstetrics & Gynecology, 33*(3), 151-153

Dagher, R. K., & Shenassa, E. D. (2012). Prenatal health behaviors and postpartum depression: is there an association? *Archives Of Women's Mental Health, 15*(1), 31-37. doi: 10.1007/s00737-011-0252-0

Davey, H. L., Tough, S. C., Adair, C. E., & Benzies, K. M. (2011). Risk factors for sub-clinical and major postpartum depression among a community cohort of Canadian women. *Maternal And Child Health Journal, 15*(7), 866-875. doi: 10.1007/s10995-008-0314-8

Davis, S., Cross, J., & Lind, B. K. (2008). Exploring the Postpartum Adjustment Questionnaire as a predictor of postpartum depression. *Journal Of Obstetric, Gynecologic, And Neonatal Nursing: JOGNN / NAACOG, 37*(6), 622-630. doi: 10.1111/j.1552-6909.2008.00286.x

de Tychey, C., Briançon, S., Lighezzolo, J., Spitz, E., Kabuth, B., de Luigi, V., . . . Vincent, S. (2008). Quality of life, postnatal depression and baby gender. *Journal of Clinical Nursing, 17*(3), 312-322

Dennis, C.-L., & Letourneau, N. (2007). Global and relationship-specific perceptions of support and the development of postpartum depressive symptomatology. *Social Psychiatry and Psychiatric Epidemiology, 42*(5), 389-395

Dennis, C.-L., & Ross, L. (2006). Women’s perceptions of partner support and conflict in the development of postpartum depressive symptoms. *Journal of Advanced Nursing, 56*(6), 588-599
Dennis, C.-L., & Vigod, S. (2013). The relationship between postpartum depression, domestic violence, childhood violence, and substance use: epidemiologic study of a large community sample. *Violence Against Women, 19*(4), 503-517. doi: 10.1177/1077801213487057

Dubey, C., Gupta, N., Bhasin, S., Muthal, R. A., & Arora, R. (2012). Prevalence and associated risk factors for postpartum depression in women attending a tertiary hospital, Delhi, India. *The International Journal Of Social Psychiatry, 58*(6), 577-580. doi: 10.1177/0020764011415210

Eastwood, J. G., Phung, H., & Barnett, B. (2011). Postnatal depression and socio-demographic risk: factors associated with Edinburgh Depression Scale scores in a metropolitan area of New South Wales, Australia. *Australian and New Zealand Journal of Psychiatry, 45*(12), 1040-1046. doi: 10.3109/00048674.2011.619160

Edwards, B., Galletly, C., Semmler-Booth, T., & Dekker, G. (2008). Does antenatal screening for psychosocial risk factors predict postnatal depression? A follow-up study of 154 women in Adelaide, South Australia. *The Australian And New Zealand Journal Of Psychiatry, 42*(1), 51-55

Escribà-Agüir, V., Royo-Marqués, M., Artazcoz, L., Romito, P., & Ruiz-Pérez, I. (2013). Longitudinal study of depression and health status in pregnant women: incidence, course and predictive factors. *European Archives of Psychiatry and Clinical Neuroscience, 263*(2), 143-151. doi: 10.1007/s00406-012-0336-5

Evans, J., Heron, J., Francomb, H., Oke, S., & Golding, J. (2001). Cohort study of depressed mood during pregnancy and after childbirth. *BMJ, 323*(7307), 257-260
Gaillard, A., Le Strat, Y., Mandelbrot, L., Keïta, H., & Dubertret, C. (2014). Predictors of postpartum depression: prospective study of 264 women followed during pregnancy and postpartum. Psychiatry Research, 215(2), 341-346. doi: 10.1016/j.psychres.2013.10.003

Gavin, A. R., Melville, J. L., Rue, T., Guo, Y., Dina, K. T., & Katon, W. J. (2011). Racial differences in the prevalence of antenatal depression. General Hospital Psychiatry, 33(2), 87-93. doi: 10.1016/j.genhosppsych.2010.11.012

Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: a systematic review of prevalence and incidence. Obstetrics and Gynecology, 106(5 Pt 1), 1071-1083. doi: 10.1097/01.AOG.0000183597.31630.db

Gold, K. J., Spangenberg, K., Wobil, P., & Schwenk, T. L. (2013). Depression and risk factors for depression among mothers of sick infants in Kumasi, Ghana. International Journal Of Gynaecology And Obstetrics: The Official Organ Of The International Federation Of Gynaecology And Obstetrics, 120(3), 228-231. doi: 10.1016/j.ijgo.2012.09.016

Green, K., Broome, H., & Mirabella, J. (2006). Postnatal depression among mothers in the United Arab Emirates: socio-cultural and physical factors. Psychology, Health & Medicine, 11(4), 425-431

Hassanein, I. M. A., Fathalla, M. M. F., & Abdel Rahim, T. (2014). The role of newborn gender in postpartum depressive symptoms among women in Upper Egypt. International Journal Of Gynaecology And Obstetrics: The Official Organ Of The International Federation Of Gynaecology And Obstetrics, 125(2), 138-140. doi: 10.1016/j.ijgo.2013.11.006
Hewitt, C. E., Gilbody, S. M., Brealey, S., Paulden, M., Palmer, S., & Mann, R. (2009). Methods to identify postnatal depression in primary care: an integrated evidence synthesis and value of information analysis. Executive Summary: Health Technology Assessment. Perth: P. P. Ltd.

Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. Psychological Review, 94(3), 319-340

Horwitz, S. M., Briggs-Gowan, M. J., Storfer-Isser, A., & Carter, A. S. (2007). Prevalence, correlates, and persistence of maternal depression. Journal of Women’s Health (2002), 16(5), 678-691

Howard, L. M., Flach, C., Mehay, A., Sharp, D., & Tylee, A. (2011). The prevalence of suicidal ideation identified by the Edinburgh Postnatal Depression Scale in postpartum women in primary care: findings from the RESPOND trial. BMC Pregnancy and Childbirth, 11, 57. doi: 10.1186/1471-2393-11-57

Humayun, A., Haider, I. I., Imran, N., Iqbal, H., & Humayun, N. (2013). Antenatal depression and its predictors in Lahore, Pakistan. Eastern Mediterranean Health Journal, 19(4), 327-332

Iles, J., Slade, P., & Spiby, H. (2011). Posttraumatic stress symptoms and postpartum depression in couples after childbirth: the role of partner support and attachment. Journal of Anxiety Disorders, 25(4), 520-530. doi: 10.1016/j.janxdis.2010.12.006

Iranfar, S., Shakeri, J., Ranjbar, M., NazhadJafar, P., & Razaie, M. (2005). Is unintended pregnancy a risk factor for depression in Iranian women? Eastern Mediterranean Health Journal = La Revue De Santé De La Méditerranée Orientale = Al-Majallah Al-Ṣīḥḥīyah Li-Sharq Al-Mutawassīt, 11(4), 618-624
Kheirabadi, G.-R., Maracy, M.-R., Barekatain, M., Salehi, M., Sadri, G.-H., Kelishadi, M., & Cassy, P. (2009). Risk factors of postpartum depression in rural areas of Isfahan Province, Iran. *Archives of Iranian Medicine, 12*(5), 461-467

Kim, T. H. M., Connolly, J. A., & Tamim, H. (2014). The effect of social support around pregnancy on postpartum depression among Canadian teen mothers and adult mothers in the maternity experiences survey. *BMC Pregnancy and Childbirth, 14*, 162-162. doi: 10.1186/1471-2393-14-162

Kingsbury, A. M., Hayatbakhsh, R., Mamun, A. M., Clavarino, A. M., Williams, G., & Najman, J. M. (2015). Trajectories and Predictors of Women's Depression Following the Birth of an Infant to 21 Years: A Longitudinal Study. *Maternal and Child Health Journal, 19*(4), 877-888. doi: 10.1007/s10995-014-1589-6

Lancaster, C. A., Gold, K. J., Flynn, H. A., Yoo, H., Marcus, S. M., & Davis, M. M. (2010). Risk factors for depressive symptoms during pregnancy: a systematic review. *American Journal of Obstetrics and Gynecology, 202*(1), 5-14. doi: 10.1016/j.ajog.2009.09.007

Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2011). Postnatal depression in first-time mothers: prevalence and relationships between functional and structural social support at 6 and 12 weeks postpartum. *Archives of Psychiatric Nursing, 25*(3), 174-184. doi: 10.1016/j.apnu.2010.08.005

Lewis, G., & Drife, J. (2004). *Why mothers die 2000–2002. The sixth report of confidential enquiries into maternal deaths in the United Kingdom*. London.

Liu, C. H., & Tronick, E. (2013). Re-conceptualising prenatal life stressors in predicting post-partum depression: cumulative-, specific-, and domain-specific approaches to calculating risk. *Paediatric and Perinatal Epidemiology, 27*(5), 481-490. doi: 10.1111/ppe.12072
Luoma, I., Korhonen, M., Salmelin, R. K., Helminen, M., & Tamminen, T. (2015). Long-term trajectories of maternal depressive symptoms and their antenatal predictors. *Journal of Affective Disorders, 170*, 30-38. doi: 10.1016/j.jad.2014.08.017

Mays, N., Roberts, E., & Popay, J. (2001). Synthesising research evidence. In N. Fulop, P. Allen, A. Clarke & N. Black (Eds.), *Studying the Organisation and Delivery of Health Services: Research Methods* (pp. 188-220). London: Routledge.

McDonald, S., Wall, J., Forbes, K., Kingston, D., Kehler, H., Vekved, M., & Tough, S. (2012). Development of a prenatal psychosocial screening tool for postpartum depression and anxiety. *Paediatric and Perinatal Epidemiology, 26*(4), 316-327. doi: 10.1111/j.1365-3016.2012.01286.x

Mercer, R. T. (2004). Becoming a mother versus maternal role attainment. *Journal of Nursing Scholarship, 36*(3), 226-232

Mercier, R. J., Garrett, J., Thorp, J., & Siega-Riz, A. M. (2013). Pregnancy intention and postpartum depression: secondary data analysis from a prospective cohort. *BJOG: An International Journal of Obstetrics and Gynaecology, 120*(9), 1116-1122. doi: 10.1111/1471-0528.12255

Milgrom, J., Gemmill, A. W., Bilszta, J. L., Hayes, B., Barnett, B., Brooks, J., . . . Buist, A. (2008). Antenatal risk factors for postnatal depression: a large prospective study. *Journal of Affective Disorders, 108*(1-2), 147-157

Mohamad Yusuff, A. S., Tang, L., Binns, C. W., & Lee, A. H. (2015). Prevalence and risk factors for postnatal depression in Sabah, Malaysia: A cohort study. *Women & Birth, 28*(1), 25-29. doi: 10.1016/j.wombi.2014.11.002
Mohammed, E. S., Mosalem, F. A., Mahfouz, E. M., & Abd ElHameed, M. A. (2014). Predictors of postpartum depression among rural women in Minia, Egypt: an epidemiological study. *Public Health, 128*(9), 817-824. doi: 10.1016/j.puhe.2014.06.006

Mori, T., Tsuchiya, K. J., Matsumoto, K., Suzuki, K., Mori, N., & Takei, N. (2011). Psychosocial risk factors for postpartum depression and their relation to timing of onset: the Hamamatsu Birth Cohort (HBC) Study. *Journal of Affective Disorders, 135*(1-3), 341-346. doi: 10.1016/j.jad.2011.07.012

National Institute of Health and Clinical Excellence (NICE). (2014). Antenatal and postnatal mental health: clinical management and service guidance. https://www.nice.org.uk/guidance/cg192.

Ngai, F.-W., & Ngu, S.-F. (2015). Predictors of maternal and paternal depressive symptoms at postpartum. *Journal of Psychosomatic Research, 78*(2), 156-161. doi: 10.1016/j.jpsychores.2014.12.003

Nongrum, R., Thomas, E., Lionel, J., & Jacob, K. S. (2014). Domestic violence as a risk factor for maternal depression and neonatal outcomes: a hospital-based cohort study. *Indian Journal of Psychological Medicine, 36*(2), 179-181. doi: 10.4103/0253-7176.130989

Northrup, T. F., Evans, P. W., & Stotts, A. L. (2013). Depression among mothers of high-risk infants discharged from a neonatal intensive care unit. *MCN. The American Journal Of Maternal Child Nursing, 38*(2), 89-94. doi: 10.1097/NMC.0b013e318270f8b8

Nunes, A. P., & Phipps, M. G. (2013). Postpartum depression in adolescent and adult mothers: comparing prenatal risk factors and predictive models.
Nylen, K. J., O'Hara, M. W., & Engeldinger, J. (2013). Perceived social support interacts with prenatal depression to predict birth outcomes. *Journal of Behavioral Medicine, 36*(4), 427-440. doi: 10.1007/s10865-012-9436-y

O'Hara, M. W., & Wisner, K. L. (2014). Perinatal mental illness: definition, description and aetiology. *Best Practice & Research. Clinical Obstetrics & Gynaecology, 28*(1), 3-12. doi: 10.1016/j.bpobgyn.2013.09.002

Oliver, S. (2001). Marking research more useful: integrating different perspectives and different methods. In S. Oliver & G. Peersman (Eds.), *Using Research for Effective Health Promotion* (pp. 167-179). Buckingham: Open University Press.

Oppo, A., Mauri, M., Ramacciotti, D., Camilleri, V., Banti, S., Borri, C., . . . Cassano, G. B. (2009). Risk factors for postpartum depression: the role of the Postpartum Depression Predictors Inventory-Revised (PDPI-R). Results from the Perinatal Depression-Research & Screening Unit (PNDReScU) study. *Archives Of Women’s Mental Health, 12*(4), 239-249. doi: 10.1007/s00737-009-0071-8

Owoeye, A. O., Aina, O. F., & Morakinyo, O. (2006). Risk factors of postpartum depression and EPDS scores in a group of Nigerian women. *Tropical Doctor, 36*(2), 100-103

Ozbaşaran, F., Coban, A., & Kucuk, M. (2011). Prevalence and risk factors concerning postpartum depression among women within early postnatal periods in Turkey. *Archives of Gynecology and Obstetrics, 283*(3), 483-490. doi: 10.1007/s00404-010-1402-8

Maternal And Child Health Journal, 17(6), 1071-1079. doi: 10.1007/s10995-012-1089-5
Pawson, R. (2002). Evidence-based policy: in search of a method. *Evaluation, 8*(2), 157-181

Poçan, A. G., Aki, O. E., Parlakgümüs, A. H., Gereklioglu, C., & Dolgun, A. B. (2013). The incidence of and risk factors for postpartum depression at an urban maternity clinic in Turkey. *International Journal of Psychiatry in Medicine, 46*(2), 179-194

Pollock, J. I., Manaseki-Holland, S., & Patel, V. (2009). Depression in Mongolian women over the first 2 months after childbirth: prevalence and risk factors. *Journal of Affective Disorders, 116*(1-2), 126-133. doi: 10.1016/j.jad.2008.11.010

Pooler, J., Perry, D. F., & Ghandour, R. M. (2013). Prevalence and risk factors for postpartum depressive symptoms among women enrolled in WIC. *Maternal And Child Health Journal, 17*(10), 1969-1980. doi: 10.1007/s10995-013-1224-y

Räisänen, S., Lehto, S. M., Nielsen, H. S., Gissler, M., Kramer, M. R., & Heinonen, S. (2014). Risk factors for and perinatal outcomes of major depression during pregnancy: a population-based analysis during 2002-2010 in Finland. *BMJ Open, 4*(11), e004883-e004883. doi: 10.1136/bmjopen-2014-004883

Ramchandani, P. G., Richter, L. M., Stein, A., & Norris, S. A. (2009). Predictors of postnatal depression in an urban South African cohort. *Journal of Affective Disorders, 113*(3), 279-284. doi: 10.1016/j.jad.2008.05.007

Rich-Edwards, J. W., Kleinman, K., Abrams, A., Harlow, B. L., McLaughlin, T. J., Joffe, H., & Gillman, M. W. (2006). Sociodemographic predictors of antenatal and postpartum depressive symptoms among women in a medical group practice. *Journal of Epidemiology and Community Health, 60*(3), 221-227
Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & R. G. Burgess (Eds.), *Analysing Qualitative Data*. London: Routledge.

Séjourné, N., Vaslot, V., Beaumé, M., Goutaudier, N., & Chabrol, H. (2012). The impact of paternity leave and paternal involvement in child care on maternal postpartum depression. *Journal of Reproductive and Infant Psychology, 30*(2), 135-144. doi: 10.1080/02646838.2012.693155

Silva, R., Jansen, K., Souza, L., Quevedo, L., Barbosa, L., Moraes, I., . . . Pinheiro, R. (2012). Sociodemographic risk factors of perinatal depression: a cohort study in the public health care system. *Revista Brasileira De Psiquiatria (São Paulo, Brazil: 1999), 34*(2), 143-148

Siu, B. W. M., Leung, S. S. L., L. P, P., Hung, S. F., & Hara, M. W. O. (2012). Antenatal risk factors for postnatal depression: A prospective study of Chinese women at maternal and child health centres. *BMC Psychiatry, 12*. doi: 10.1186/1471-244X-12-22

Smith, L. E., & Howard, K. S. (2008). Continuity of paternal social support and depressive symptoms among new mothers. *Journal Of Family Psychology: JFP: Journal Of The Division Of Family Psychology Of The American Psychological Association (Division 43), 22*(5), 763-773. doi: 10.1037/a0013581

Spitzer, R. L., Williams, J. B., Kroenke, K., Hornyk, R., & Mc Murray, J. (2000). Validity and utility of the PRIME-MD patient health questionnaire in assessment of 3000 obstetric-gynecologic patients: the PRIME-MD Patient Health Questionnaire Obstetrics-Gynecology Study. *American Journal of Obstetrics and Gynecology, 183*(3), 759-769
Whooley, M. A., Avins, A. L., Miranda, J., & Browner, W. S. (1997). Case-finding instruments for depression. Two questions are as good as many. *Journal of General Internal Medicine, 12*(7), 439-445

Xie, R.-H., He, G., Koszycki, D., Walker, M., & Wen, S. W. (2009). Prenatal social support, postnatal social support, and postpartum depression. *Annals of Epidemiology, 19*(9), 637-643. doi: 10.1016/j.annepidem.2009.03.008

Yağmur, Y., & Ulukoca, N. (2010). Social support and postpartum depression in low-socioeconomic level postpartum women in Eastern Turkey. *International Journal Of Public Health, 55*(6), 543-549. doi: 10.1007/s00038-010-0182-z

Yehia, D. B. M. d., Callister, L. C., & Hamdan-Mansour, A. (2013). Prevalence and predictors of postpartum depression among Arabic Muslim Jordanian women serving in the military. *The Journal Of Perinatal & Neonatal Nursing, 27*(1), 25-33. doi: 10.1097/JPN.0b013e31827ed6db

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica, 67*(6), 361-370
Table 1. Themes considered to influence self-identity as mother

| Theme          | Theme content                                               |
|----------------|-------------------------------------------------------------|
| Theme 1        | Marital dissatisfaction                                     |
| Theme 2        | Inadequate partner support                                 |
| Theme 3        | Lack of family support                                     |
| Theme 4        | Socio-economic status and associated poverty               |
| Theme 5        | Concern about infant                                       |
| Theme 6        | Antenatal/postnatal complications                          |
| Theme 7        | Acceptance of infant gender                                |
| Theme 8        | History of mental health problems                          |
| Theme 9        | Unplanned pregnancy                                        |
| Authors                      | Date   | Method            | Participant                             | Data                                      | Theme 1 | Theme 2 | Theme 3 | Theme 4 | Theme 5 | Theme 6 | Theme 7 | Theme 8 | Theme 9 |
|------------------------------|--------|-------------------|-----------------------------------------|-------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Abbott & Williams            | 2006   | Interview & survey| NZ Pacific women (n=1376)               | EPDS found 16.4% depressed                | ✓       |         | ✓       |         |         |         |         |         |         |
| Abrams & Curran             | 2009   | Grounded theory   | Postnatal women (n=19)                  | Symptoms of PND                          |         |         |         | ✓       |         |         |         |         |         |
| Al Dallal & Grant           | 2012   | Survey            | Arabic women                            | EPDS identified PND                      | ✓       | ✓       | ✓       | ✓       | ✓       |         |         |         |         |
| Akincigil et al.            | 2010   | Second-dry data   | USA women (n=4365)                      |                                           |         |         |         |         |         | ✓       |         |         |         |
| Bener                       | 2012   | Survey            | Arab women (n=1669)                     | EPDS identified PND                      | ✓       | ✓       | ✓       | ✓       | ✓       |         |         |         |         |
| Beydoun, et al.             | 2012   | Review            | 37 studies                              | Meta-analysis                            | ✓       |         |         |         |         |         |         |         |         |
| Bielinski-Blattmann         | 2009   | Survey            | Women (n=293)                           | EPDS identified PND                      | ✓       |         |         |         |         |         |         |         |         |
| Bilszta et al.              | 2008   | Survey            | Australian women (n=1578)               | EPDS found in 15.2% (240/1578)           |         |         |         |         |         | ✓       |         |         |         |
| Britton                     | 2008   | Survey            | US women (n=296)                        | 31.7% experience moderate to severe anxiety at 1 month | ✓       | ✓       |         |         |         | ✓       | ✓       |         |         |
| Burgut et al.               | 2013   | Survey            | Qatar women (n=1329)                    | Prevalence of PND was 17.6%              |         |         |         |         |         | ✓       |         |         |         |
| Cerulli et al.              | 2011   | Survey            | Women (n=188)                           | Diagnostic interview                     |         |         |         |         |         |         |         | ✓       |         |
| Chojenta et al.             | 2012   | Survey            | Australian women (n=2451)               | 9.8% reported having PND                 | ✓       |         |         |         |         | ✓       |         |         |         |
| Clarke et al.               | 2014   | Survey            | Nepalese women (n=9078)                 | GHQ-12 assessed depression               |         |         |         |         |         | ✓       | ✓       | ✓       |         |
| Cline & Decker              | 2012   | Survey            | Women (n=238)                           | 10-15% of women develop PND              |         |         |         |         |         |         |         |         | ✓       |
| No. | Authors         | Year | Methodology        | Population                          | Identified PND | Additional Findings                                      |
|-----|-----------------|------|--------------------|-------------------------------------|----------------|----------------------------------------------------------|
| 15  | Coelho et al.   | 2011 | Survey             | Women (n=246)                       | EPDS identified PND | √                                                        |
| 16  | Cooklin et al.  | 2011 | Survey             | Australian women (n=1300)           | PND is linked with risk factors | √ √ √ √                                                  |
| 17  | D'Amelio et al. | 2006 | Survey             | Women (n=222)                       | EPDS 28.4% scored > 12 | √                                                        |
| 18  | Dagher & Shenassa | 2012 | Survey & interview | Women (n=662)                       | EPDS identified PND | √                                                        |
| 19  | Davey et al.    | 2011 | RCT & survey       | Canadian women (n=1,403)            | EPDS identified PND | √ √ √ √                                                  |
| 20  | Dennis & Letourneau | 2007 | Survey             | Women (n=594)                       | EPDS and measures of support. | √                                                        |
| 21  | Dennis & Vigod  | 2013 | Survey             | Women (n=497)                       | ALPHA & EPDS    | √                                                        |
| 22  | Dennis & Ross   | 2006 | Survey             | Women (n=585)                       | EPDS identified PND | √ √                                                        |
| 23  | de Tychey et al. | 2008 | Survey/interview   | French women (n=181)               | SF36 identified PND and life quality | √                                                        |
| 24  | Dubey et al.    | 2012 | Interview          | New Delhi women (n=506)            | 6% scored ≥ 10 on the EPDS | √ √ √                                                      |
| 25  | Eastwood et al. | 2011 | Survey             | Australian women (n=25455)          | EPDS >9 = 12% and >12 = 6.2% | √ √ √ √ √                                                  |
| 26  | Escribá-Agüir et al. | 2013 | Survey             | Spanish women (n=1,400)             | Inventory of instruments used | √ √ √ √ √ √ √                                              |
| 27  | Gaillard et al. | 2014 | Survey             | French women (n=312)                | EPDS identified PND | √                                                        |
| 28  | Gold et al.     | 2013 | Survey & interview | African women (n=153)               | PHQ-9.          | √                                                        |
| 29  | Green et al.    | 2006 | Survey             | Arab women (n=125)                  | EPDS identified (n=56) | √ √ √ √                                                   |
| 30  | Hassanein et al.| 2014 | Survey             | Egyptian women (n=290)              | EPDS & Beck’s identified PND | √                                                        |
|   | Study/Author          | Year | Study Type | Sample | Identification   | EPDS | Battery of questionnaires | Delusions-Symptoms-States-InVENTORY | Survey Instruments | Percentage |
|---|----------------------|------|------------|--------|------------------|------|----------------------------|-------------------------------------|-------------------|------------|
| 31 | Horwitz et al.       | 2007 | Survey     | Women with partners (n=860) | EPDS found 17% depressed | √    | √                          | √                     |                   | √          |
| 32 | Humayan et al.       | 2013 | Survey     | Pakistani women (n= 506)   | EPDS identified 327 (64.6%) scored>12. | √    |                           |                       |                   |            |
| 33 | Iles et al.          | 2011 | Survey     | Women (n=373)              | Battery of questionnaires | √    | √                          |                       |                   |            |
| 34 | Iranfar et al.       | 2006 | Survey     | Iranian women (n=163)      | Beck’s identified PND | √    |                           |                       |                   |            |
| 35 | Kheirabadi et al.    | 2009 | Survey     | Iranian women (n=6627)     | Battery of questionnaires | √    | √                          | √                     |                   | √          |
| 36 | Kim et al.           | 2014 | Survey     | Canadian women (n=6421)    | EPDS identified PND | √    |                           |                       |                   |            |
| 37 | Kingsbury et al.     | 2015 | Survey     | Australian women (n=2,991) | Delusions-Symptoms-States-InVENTORY | √    |                           |                       |                   | √          |
| 38 | Leahy-Warren et al.  | 2011 | Survey     | Women (n=512)              | EPDS identified PND | √    | √                          |                       |                   |            |
| 39 | Luoma et al.         | 2015 | Survey     | Women (n=329)              | EPDS identified PND | √    | √                          |                       |                   |            |
| 40 | Liu & Tronick        | 2013 | Survey     | USA women (n=3566)         | Pregnancy Risk System identified PND | √    | √                          |                       |                   | √          |
| 41 | Mercier et al.       | 2013 | Interview & survey | US women (n=688) | PND 7.3% at 3 months & 6% at 12 months | √    | √                          |                       |                   | √          |
| 42 | Milgrom et al.       | 2008 | Survey     | Australian women (n=35,374)| EPDS identified 3144 scored >12 | √    | √                          |                       |                   |            |
| 43 | Mohamad              | 2015 | Survey     | Malaysian women (n=2072)   | EPDS identified PND | √    | √                          | √                     |                   |            |
| 44 | Mohammed et al.      | 2014 | Survey     | Egyptian women (n=200)     | EPDS identified 99 (49.5%) depressed | √    | √                          | √                     | √                 |            |
| 45 | Mori et al.          | 2011 | Survey     | Japanese women (n=675)     | EPDS identified early 11% and late 4% PND | √    | √                          |                       |                   |            |
| No. | Authors          | Year | Methodology | Participants | Tool/Classification | Depression Rate | Notes          |
|-----|------------------|------|-------------|--------------|---------------------|-----------------|---------------|
| 46  | Ngai & Ngu       | 2015 | Survey      | Hong Kong women (n=200) | PND symptoms assessed. | √               |               |
| 47  | Nongrump et al.  | 2014 | Survey      | Indian women, (n=150) | EPDS identified PND | √               |               |
| 48  | Northrup et al.  | 2013 | Interview & survey | US women (n=114) | 20% depressed | √               |               |
| 49  | Nunes & Phipps   | 2013 | Survey      | USA Women (n=6959) | Pregnancy Risk Assessment System | √               |               |
| 50  | Nylén            | 2013 | Survey      | Women (n=235) | Series of instruments | √               |               |
| 51  | O’Hara & Wisner  | 2014 | Definition & aetiology | Review | 20% depressed | √               |               |
| 52  | Ozbaşaran et al. | 2011 | Survey      | Turkish women (n=293) | EPDS found PPD in 28.3% | √   |               |
| 53  | Owoeye et al.    | 2006 | Survey      | Nigerian women (n=252) | EPDS found 23% depressed | √   |               |
| 54  | Poçan et al.     | 2013 | Survey      | Women (n=187) | EPDS identified PND | √   |               |
| 55  | Pollock et al.   | 2009 | Survey      | Mongolian women (n=1044) | WHO questionnaire screened PND | √   |               |
| 56  | Pooler et al.    | 2013 | Survey      | US women (n=75,234) | PHQ-2 identified PND | √   |               |
| 57  | Räisänen et al. | 2014 | Survey      | Finnish women (n=511,938) | 0.8% depressed | √   |               |
| 58  | Ramchandani et al.| 2009 | Survey/interview | South African women (n=1035) | Pitt questionnaire identified depression | √   |               |
| 59  | Rich-Edwards et al.| 2006 | Survey | US women (n=1662) | EPDS found 8% had PND | √   |               |
| 60  | Ségoumè et al.  | 2012 | Survey      | Couples (n=119) | EPDS identified PND | √   |               |
| 61  | Silva et al.     | 2012 | Interview & survey | Brazilian women (n=1,109) | EPDS found 16.5% had PND | √   |               |
| #  | Authors            | Year | Methodology | Sample Characteristics | Interview Method | PND Detection | Other Notes |
|----|--------------------|------|-------------|-------------------------|------------------|--------------|------------|
| 62 | Siu, et al.        | 2012 | Interview   | Chinese women (n=805)   | Interview for DSM-IV Axis I Disorders diagnosed PND | √            | √          |
| 63 | Smith & Howard     | 2008 | Survey      | Women (n=582)           | 8% @ 6 months 5% @ 12 months 8% @ 24 months | √            | √          |
| 64 | Yağmur & Ulukoca   | 2010 | Survey      | Turkish women           | EPDS identified PND | √            |            |
| 65 | Xie et al.         | 2009 | Survey      | Chinese women (n=534)   | (n=103) developed PND | √            | √          |
| 66 | Yehia et al.       | 2013 | Survey      | Arabic women (n=300)    | EPDS identified PND | √            |            |
Table 3. Self-Image as Mother Scale (SIMS)

| Q1. I have a good relationship with my husband/partner | SA | A | NA | D | SD |
| Q2. I have a supportive husband/partner | SA | A | NA | D | SD |
| Q3. I have enough money to buy all the possessions I want my baby to have | SA | A | NA | D | SD |
| Q4. My family/friends help me around the house | SA | A | NA | D | SD |
| Q5. I am really happy with the sex of my baby | SA | A | NA | D | SD |
| Q6. In general I cope well with life and the problems it throws at me | SA | A | NA | D | SD |
| Q7. I have little backup from my relatives/friends* | SA | A | NA | D | SD |
| Q8. I am unable to provide my baby with the home and belongings I want* | SA | A | NA | D | SD |
| Q9. I constantly worry about my baby’s health and well-being* | SA | A | NA | D | SD |
| Q10. I was surprised to find myself pregnant* | SA | A | NA | D | SD |
| Q11. My baby is healthy, happy and thriving | SA | A | NA | D | SD |
| Q12. My physical health affects my ability to be a good mother* | SA | A | NA | D | SD |
| Q13. I am dissatisfied in my current relationship with my husband/partner* | SA | A | NA | D | SD |
| Q14. I am fit and able to fully care for my baby | SA | A | NA | D | SD |
| Q15. My husband/partner does not help with the household tasks* | SA | A | NA | D | SD |
| Q16. I would have preferred that my baby was of the opposite sex* | SA | A | NA | D | SD |
| Q17. I have a history of experiencing mental health problems* | SA | A | NA | D | SD |
| Q18. We planned our pregnancy | SA | A | NA | D | SD |

Note: SA = Strongly Agree; A=Agree; NA=Neither Agree or Disagree; D=Disagree; SD=Strongly Disagree. Each item is scored from 4 (SA) through to 0 (SD) with the exception of those items with an asterisk which are reverse-scored.