

Postpartum depression in mothers in a United Kingdom pediatric chiropractic setting: A survey using Edinburgh Postnatal Depression Scale

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ABSTRACT

Background: Mothers commonly present their newborn infants to chiropractors for examination and treatment. As it is known that postpartum depression is common in new mothers, we chose this population to conduct a survey. The goal of this survey was to determine the prevalence of post-partum depression in mothers who presented their child for care in a United Kingdom (UK) university teaching chiropractic clinic. **Methods:** The Edinburgh Postnatal Depression Scale (EPDS) was handed to each mother as they entered the clinic between December 2006 and December 2007. Participation was voluntary and all English-speaking mothers chose to participate. **Results:** A total of 344 mothers completed the survey. Of these, 17.2% (N=50) scored 13 or above indicating probable presence of postnatal depression and 32% (N=110) scored 10 or above indicating possible presence of postnatal depression. **Conclusion:** Possible and probable postnatal depression were more commonly reported in new mothers presenting their baby for chiropractic care than the reported global pooled prevalence. Implementing these surveys into all chiropractic offices may help to uncover under-reporting and under-diagnosis in this population. Appropriate education and referral pathways for this common problem are encouraged.

Key Words: postpartum depression, perinatal depression, Edinburgh Postnatal Depression Scale, chiropractic, pediatric.

Introduction

Postpartum depression (PPD) (also called Postnatal depression/Perinatal depression) is described by the International Classification of Diseases (ICD-11) as a syndrome associated with pregnancy or the puerperium period that involves significant mental and behavioural features.¹ Symptoms may include depressed mood, excessive crying, difficulty bonding with the baby, withdrawal from family and friends, loss of appetite, fears of not being a good mother, feelings of worthlessness, shame, guilt or inadequacy.

Maternal functioning is maintained only through significant additional effort.² Postpartum Depression has been described as the most underdiagnosed obstetric complication in America.³ Further, it is likely to be found in chiropractic practices because it is a common complication in back pain⁴ as well as mothers presenting their infant for chiropractic care.⁵

Emotional health is an important health metric in all demographics. The distinction of depression in the postpartum period is that the mother is the major caregiver to a newborn infant. Ongoing depression can interfere with parenting and is associated with a variety of negative outcomes in the mother, the family, and the child in both the

short- and long-term.⁶ During these time frames effective management is important to the health of both the mother and the infant.

Children with depressed mothers have significantly higher rates of mood and emotional development disorders relative to children whose mothers are not depressed.⁷ Long reaching effects of maternal PPD on the child have been studied by the Avon Longitudinal Study of Parents and Children in the United Kingdom.⁸ PPD was found to double the risk of child behaviour disturbances for mothers with all categories of moderate, marked and severe PPD.⁸ Severe PPD was particularly important in this category, increasing the risk for behaviour problems including hyperactivity, emotional and conduct problems, at 3.5 years of age with an odds ratio of 4.84.⁸ Cognitive and academic achievement has also been shown to be affected. Grades achieved in mathematics at 16 years of age were examined in this cohort and lower mathematics grades were achieved with an odds ratio of 2.65. With an increasing worldwide awareness of youth depression and suicide, perhaps the most disturbing is the increased incidence of depression in these children at 18 years of age with a staggering odds ratio of 7.44.⁸

Mothers and families do not go unscathed. The Confidential

Enquiries into Maternal Deaths (CEMD) identified suicide as the leading cause of maternal death in the United Kingdom up to 12 months postpartum.⁹ Fathers suffer from PPD with a prevalence rate that increases to 50 percent when the mother also experiences PPD. These fathers are less likely to present with sadness and more likely to present with symptoms of substance abuse, domestic violence, and undermining breastfeeding.¹⁰ However, a father who is not depressed is a protective factor for children of mothers with depression.¹⁰

Prevalence of PPD has been widely cited as 13 percent of all new mothers.¹¹ However it is acknowledged that in certain populations the rate may be much higher particularly in marginalized communities and developing countries.¹¹ A more recent meta-analysis and meta-regression of 296,284 women from 56 countries found the global pooled prevalence to be 21 percent using the Edinburgh Postnatal Depression Scale (EPDS) with a cut-off of 9 (possible PPD) and 16.7 percent using a cut-off of 12 (probable PPD).¹² Prevalence of positive screening for mothers of infants in Neonatal Intensive Care Unit (NICU) for at least 14 days increases to 36 percent.¹³

The importance of further education in specialized care of the pediatric population in chiropractic practice is becoming spotlighted and recognized by registration boards and professional associations worldwide.^{14,15,16}

It is important for chiropractic practices to recognize the importance of the mother/baby dyad as a dynamic unit of health, including the emotional health of the mother. This research explored the rate of PPD found in a chiropractic clinic of mothers presenting their babies for chiropractic care using the EPDS as the screening tool for need for referral as consistent with global research and emerging good practice through health professions.

Methods

A convenience sample of mothers presenting their infant less than 12 months of age to AECC University chiropractic clinic for chiropractic care between December 2006 and December 2007 were asked to complete the Edinburgh Postnatal Depression Scale questionnaire (EPDS) to screen for presence of postnatal depression symptoms. Mothers who could not speak English well enough to complete the questionnaire were excluded. A total of 344 questionnaires were collected and used for analysis. Completed questionnaires were presented and scored by the final year chiropractic intern and checked and collected by the primary researcher. Data were imported into Statistical Package for Social Sciences (SPSS) version 14 for statistical analysis. A score of 13 or above was considered probable PPD. Scores between 10 and 12 were considered possible PPD. This method of scoring and vernacular is consistent

with similar literature using the EPDS and validation.¹⁷ This also allowed for easy comparison of positive EPDS between studies and demographics. This study was evaluated and approved by the AECC-Bournemouth University Ethics Committee prior to its commencement.

Results

A total of 344 questionnaires were analysed. Of these 344 questionnaires, 17.2 percent (N=59) scored 13 or above indicating probable presence of postnatal depression and 32 percent (N=110) scored 10-12 indicating possible presence of postnatal depression. Table 1 shows the breakdown of prevalence in this clinical sample.

EPDS Score	Number	Percent
234	234	68
≥ 10 (Possible PND/Minor Depression)	110	32
≥ 13 (Probable PND/Major Depression)	59	17.2

Table 1. Edinburgh postnatal depression scale²⁷ score frequency of presentation.

Discussion

The purpose of this study was to learn how many mothers of infants presented to the clinic for chiropractic care were afflicted with potential PPD. The results of this survey showed that the prevalence of possible postpartum depression of mothers of infants in a chiropractic clinic was 32 percent. The global pooled prevalence of possible PPD using the same screening parameters was 21 percent.

These results beg questions. Why is there such a high prevalence of PPD in mothers presenting their babies to a pediatric chiropractic centre? In the recent highlighting of chiropractors treating children and babies, have we as a profession prepared for the knowledge and ability to screen, detect, and refer mothers with possible and probable PPD? Further, are our tertiary institutions and professional bodies preparing future and current chiropractors with these skills? If our patients are the infant, does our duty of care extend to the mothers of these infants? What about the fathers with possible PPD?

Is it the case that the nature of ailments treated by pediatric chiropractors may attract a higher rate of postpartum depression subjects? This is best considered in conjunction with looking at who is bringing their infants to a pediatric chiropractic clinic and it should be noted that this is a clinical population screen which differs from a general population screen. Miller¹⁸ found that 29.6 percent of

pediatric presentations to this clinic were for excess crying. An association between maternal depression and colic and/or inconsolable infant crying has been consistently reported.¹⁹

Of further interest, an analysis of mothers bringing their babies to the hospital emergency department found the most prevalent category of presenting problem with a positive screen for PPD was "crying baby." These mothers had a probable PPD rate of 16 percent (EPDS Score ≥ 13). This means that mothers who presented with a crying baby were 2.9 times more likely to screen positive for PPD than mothers not presenting with a crying baby.²⁰ However it is important to note that if PPD screening were limited to only mothers with crying or irritable babies, many cases would be missed.

Sleep deprivation and sleep problems in infants can be the most challenging aspect of parenthood for new parents. It is not surprising that maternal postnatal depression and infant sleep problems show a cyclical relationship which has been described as "chicken or egg."²¹ Sleep deprivation can cause depression and depression can cause sleep deprivation. This association may be one of the key issues surrounding PPD and maternal report of an infant's sleep problem remains a significant predictor of an EPDS score of 13 or above which is indicative of probable depression.²² This is another key reason why infants are brought to see chiropractors. In fact, parents of infants and children reporting improved sleep has been found to be the most common side effect of chiropractic care for children.²³

Do we as chiropractors have the necessary knowledge and skills to give these parents best practice care and referral? A good place to start to find answers is to look at other health profession associations and their current recommendations for good practice. In the USA, the American Academy of Pediatrics recommends that birth parents should be screened for depression at the 1-, 2-, 4-, and 6-month well-infant visits, using a validated screening tool, encourage screening the partner and when screening reveals a concern, refer as indicated.²⁴

In England and Wales, the National Institute for Health and Care Excellence (NICE) recommendations suggest at first contact with a pregnant woman and during the early postnatal period a primary care professional should ask the following depression identification questions:

- (1) During the past month, have you often been bothered by feeling down, depressed, or hopeless?
- (2) During the past month, have you often been bothered by having little interest or pleasure?

In Australia, clinical guidance by the Centre of Perinatal Excellence (COPE) recommends screening with EPDS

at least once during pregnancy and at least once postpartum. COPE provides further recommendations for implementation and guidance for referral.²⁵

Within chiropractic professional bodies, The Australian College of Chiropractic Paediatrics recently released a Perinatal Depression Policy making recommendations to the membership in Australia.²⁶ These recommendations are available online and include:

- Chiropractors involved in the care of children under 2 years of age ensure both parents, where possible, have within the preceding 6-week period completed an EPDS.
- Including the EPDS as one of the standard intake forms for the parents of new patients aged 0 to 2 years of age is recommended.

The recommendations go on to advise when further EPDS testing and referral or further action is indicated.²⁶

The scope of chiropractic care worldwide has traditionally encompassed all aspects of health with the adage of the triad of health being physical, emotional and chemical. The importance of duty of care of emotional health has been spotlighted in many professions including health professionals, teachers, and human resource managers amongst others. Mental Health First Aid courses are developing and being recognized for continual professional development and seen as a valuable addition to each workplace.

Likewise, the importance of screening of the perinatal mother and father for signs indicative of perinatal depression, when these parents present their infants for health care, has been recognized by good practice guidelines in major nations worldwide including the American Academy of Pediatrics, the United Kingdom in NICE guidelines and Australia's Centre of Perinatal Excellence (COPE). Each of these organizations recommend regular screening of the mother (and father) for signs of perinatal depression. In light of knowledge of the high prevalence of PPD in a pediatric chiropractic setting, chiropractors need to be armed with an increased knowledge of postnatal depression, and a protocol for screening and referral for appropriate treatment that is profession specific.

A major limitation of this study was that only English-speaking mothers were included leaving a vast number of parents not included. This needs to be addressed in future studies for wider inclusion.

Conclusion

Screening new mothers who presented their infant for chiropractic care using the accepted standard of the EPDS proved significant. Worldwide guidelines suggest that such screening is appropriate and recommended in all clinical

settings. Chiropractors should consider implementation of appropriate screening tools into their practice and follow guidelines for appropriate referral procedures. Such practices help protect the health of both mother and baby.

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