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Mums4Mums

Structured Telephone Peer-Support for Women Experiencing Postnatal Depression: A Pilot RCT to Test its Clinical Effectiveness

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

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INCLUSION OF PUBLISHED MATERIAL

Mums 4 Mums: structured telephone peer-support for women experiencing postnatal depression. A pilot and exploratory RCT of its clinical and cost effectiveness (See Appendix One).

ABSTRACT

Background

Postnatal Depression (PND) is experienced by around 13% of women, who suffer a range of disabling symptoms that can have a negative effect on the mother and infant relationship, with significant consequences in terms of the child's later mental health. Research has shown that providing support to mothers experiencing PND can help reduce their depressive symptoms and improve their coping strategies. This study aimed to evaluate the impact of telephone peer-support for women experiencing PND.

Methods/Design

A pilot RCT was conducted in which women who screened positive for postnatal depression using the Edinburgh Postnatal Depression Scale (EPDS>=10) were randomised to receive telephone-based support from peers who had recovered from PND, or standard care. Primary outcome measures included depressive symptomatology measured post-intervention and at six-months using the EPDS, and parent-infant interaction using the CARE-Index. Secondary outcome measures included anxiety and depression, dyadic adjustment, parenting stress, and self-efficacy. Maternal perceptions of the telephone peer-support were being assessed using semi-structured interviews. Quantitative and qualitative data was also collected from the peer-supporters to assess the impact on them of delivering the intervention.

Results

Participants: twenty-eight participants were recruited to the study, and there was a fifty-percent dropout rate (intervention group n=6, control group n=8). While there were no differences in EPDS scores between the two groups at post-intervention, the intervention group continued to improve at six-month follow-up, whereas the control group showed signs of relapse. The intervention had no impact on mother-infant interaction. In-depth interview data show that women valued the support that was provided.

Peer-Supporters: nineteen peer-supporters were recruited, of whom five left before supporting a participant, and eight left after supporting only one participant. The quantitative results showed a significant non-clinical increase in anxiety at post-intervention. The qualitative results indicated that the peer-supporters found the majority of calls challenging, and that delivering the intervention had had a deleterious impact on some peer-supporters.

Conclusion

While these findings suggest a positive impact of telephone-based peer-support, further research into ways of improving mother-infant interaction are urgently required. Research is also required into providing effective support for the peer-supporters.

ABBREVIATIONS

CF – Consent Form

DAS – Dyadic Adjustment Scale

EPDS – Edinburgh Postnatal Depression Scale

ESQ – Emotional Support Questionnaire

GSE – Generalised Self-Efficacy

HADS – Hospital Anxiety and Depression Scale

HSQ – Health Status Questionnaire

ITS – Infant Temperament Scale

MRC – Medical Research Council

PIS – Participant Information Sheet

PND – Postnatal Depression / PPD – Postpartum Depression

PS – Peer-Supporter

PSEI – Peer-Support Evaluation Inventory

PSOC – Parenting Sense of Competence Scale

RCT – Randomised Control Trial

RPM – Research Participant Mum

TBPS – Telephone-Based Peer-Support

1.   Introduction

This introductory chapter presents information on the two key components that are being evaluated in this research: postnatal depression and peer-support interventions.

The first section explores Postnatal Depression (PND) in terms of its physiological impact, aetiology, symptomatology, and effect on the mother-infant relationship, and concludes with an overview of current UK government policy.

The second section explores the role of social support provided via peers who have shared a similar experience. This section defines peer-support and describes its attributes in terms of the way in which it encompasses elements of emotional, informational and appraisal support. It also explores the underlying mechanisms that enable this type of support to be helpful.

The final section introduces the aims and objectives of the current research and provides an outline of the structure of the thesis.

Section A

1.1. What is Postnatal Depression?

One of the many societal expectations with regard to becoming a mother is that it is a happy and exciting experience, but many women experience periods of sadness and depression after giving birth (Knudson-Martin and Silverstein, 2009), defined as Postnatal Depression, which can be a bleak experience:

"A feeling of energy gone underground, flatness and greyness above ground, devastation, silence, withdrawal from life…. How the baby perceives this withdrawal as the cloud moves over the sun, we can only guess" (Welburn, 1980).

"The nurse gave me a booklet, ornamented with sketches of flowers and baby birds. There were poems inside about little strangers and violets and pink and blue and above all, about love. They bore no relation to what I was feeling because I was feeling nothing. A vacuum of immense proportions had replaced my foetus, my bruised womb was distended with it. Numb, anaesthetised, I stared over vast distances at this small creature lying on my pillow and I could not think that it belonged to me" (Tweedy, 1980 as cited in Hanley, 2009).

1.1.1. Definition

In 1968, the original description of affective disorders during pregnancy and after birth involved a mixture of anxiety and depression, which then became described as 'atypical depression' (PITT, 1968).

Low mood, or 'baby blues,' is a common experience after the birth, and symptoms can include tearfulness, irritability, anxiety, poor appetite, and sleep disturbance. In most cases, 'baby blues' is self-limiting, and can resolve within a few months without treatment (PITT, 1973, Kumar and Robson, 1984, Kennerley and Gath, 1989). However, in approximately a third of these cases, mothers experience symptoms that are more prolonged and severe, which include confusion, emotional lability, anxiety, insomnia, guilt, and suicidal ideation (APA, 2014a).

Postnatal Depression (PND), also known as Postpartum Depression (PPD), is defined as "*a serious mental health problem characterized by a prolonged period of*

emotional disturbance, occurring at a time of major life change and increased responsibilities in the care of a new-born infant. PPD can have significant consequences for both the new mother and her family" (APA, 2014a).

1.1.2. Diagnosis

Two main classification systems provide guidelines for diagnosing mental disorders: The Diagnostic & Statistical Manual of Mental Disorders (DSM-V) (APA, 2014b); and the International Classification of Diseases 10 (WHO, 2010). However, postnatal depression is not classified as a separate illness in its own right. At present, it is categorised as an affective disorder, and is part of a 'major depressive disorder' with the specifier of "postpartum onset," indicating that PND usually occurs within the first four-weeks after delivery (APA, 2014a).

1.1.3. Screening

Screening for PND can prove difficult due to the number of somatic symptoms that are attributed to having a new baby that are also associated with major depression (Nonacs and Cohen, 1998). For example, it may be difficult to assess sleep disturbances because many new mothers may be anxious, which in turn may make it difficult for them to rest fully when their babies are sleeping. Similarly, alterations in body weight and energy levels can further complicate the clinical picture (Hostetter and Stowe, 2002).

Identification of PND should involve an assessment of how long the symptoms have been experienced by the mother, and to what extent these symptoms interfere with her ability to function and care for her baby. The Edinburgh Postnatal Depression Scale (EPDS) is a specifically designed ten-item self-report measure that has been

established and validated in more than a dozen languages to screen women for PND, and is also used widely in research (Cox et al., 1987). However, it is not a diagnostic tool, and PND can only be confirmed through the use of other assessments of the mother's mood, such as a clinical interview (Holden, 1994).

At the time that this research was conducted, the UK National Institute for Health and Clinical Excellence guidelines (NICE, 2007) recommended that health professionals screen using the 'three Whooley questions' during their eight-week postnatal visit. The first two of these questions screen for depression: 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 doing things? If the mother answers yes to either question, the third question asks: Is this something you feel you need or want help with? Women experiencing such problems should be offered support from professionals, voluntary organisations, or other services. The recently updated NICE guidelines (2014) recommend that any woman who screens positively to questions identifying depression or being at risk of developing mental health symptoms should be immediately referred to her GP or a mental health professional.

1.1.4. Aetiology

The aetiology of PND is unclear, and evidence to support a biological cause is scarce (Beck, 2001, O'Hara, 1997). The National Health and Medical Research Council (MRC, 2000) identified the factors predisposing risks for PND as biological (low IQ / family or personal history of depression), psychological (low self-esteem / anxiety / being a worrier), and social (depressed parents during childhood / loss or prolonged

separation from parents or spouse / chronic work or marital difficulties / poor social support).

These findings were further evidenced in a meta-analysis that identified the following thirteen risk factors for PND: "*prenatal depression, self-esteem, childcare stress, prenatal anxiety, life stress, social support, marital relationship, history of previous depression, infant temperament, maternity blues, marital status, socioeconomic status and unplanned/unwanted pregnancy*" (Beck, 2001, Beck, 2002b, Josefsson et al., 2002).

1.1.5. Prevalence

Depression after birth is common. A meta-analysis of 59 studies conducted in 1996 found an overall prevalence rate of 13% (O'hara and Swain, 1996), and this rate remained between 10% - 15% in 2005 (Mallikarjun and Oyebode, 2005). The prevalence in teenage mothers is higher at around 26% (Troutman and Cutrona, 1990). The rates of Postnatal Depression in developing countries is also higher, ranging from 16% - 35% (Rahman and Creed, 2007), with rates among refugee and asylum-seeking women being in the region of 42% (Collins et al., 2011).

Gavin et al., (2005) estimated the prevalence of PND in terms of minor or major episodes at three-months postpartum. This research found the prevalence of minor episodes to be 19.2%, and major episodes to be 7.1%. Women who have experienced PND are at risk of suffering further episodes, which may or may not be related to childbirth (Kumar and Robson, 1984, Warner et al., 1996). After one postpartum depressive episode, the risk of recurrence as defined in DSM–IV (APA, 2011) is as high as 25% (Wisner et al., 2002).

1.1.6. Comorbidity and Morbidity

While the research on Postnatal Depression has grown, there is little empirical evidence exploring postnatal anxiety disorders or comorbidity of these disorders (Reck et al., 2008), Matthey et al., 2003) investigated comorbidity of depression and anxiety disorders such as panic, acute adjustment disorder, generalised anxiety disorder and phobias in first-time parents at six-weeks postpartum using DSM-1V criteria. This research found comorbidity rates for depression were 4.2%, and 2.1% for anxiety. Similarly, Wenzel et al., (2005) used the DSM-IV criteria to assess eight different anxiety disorders (generalised anxiety disorder / obsessive compulsive disorder / panic disorder / social phobia / agoraphobia / post-traumatic stress disorder / major depressive disorder / dysthymic disorder) in mothers at eight-weeks postpartum. This study found that postpartum anxiety in the community occurred at higher rates than postpartum depression, and that comorbidity of generalised anxiety disorder was higher (1.4%) than that for depression (0.7%).

Postnatal Depression that co-occurs with other affective disorders can have a range of negative effects compared with maternal depression alone (Rutter and Quinton, 1984). The Centre for Maternal and Child Enquiries (Wilkinson, 2011) investigated women who had died from causes 'directly' or 'indirectly' related to their pregnancy. They found that 264 mothers died during the period of 2006-2008; 110 of these deaths were directly related to their pregnancy. However, 154 of these mothers were suffering from other underlying medical or psychiatric symptoms such as heart disease, obesity, asthma, epilepsy, diabetes, or suicidal ideation associated with puerperal psychosis aggravated by their pregnancy. Any changes in medication that are required during pregnancy and the postnatal period need to be closely monitored

and health professionals need to help pregnant women with regard to the consequences of continuing or discontinuing prescribed medication, and the impact of their decision on their mental health and their baby.

1.1.7. Impact of PND

1.1.7.1. Mortality

The Confidential Enquiry into Maternal Deaths conducted by Dr Margaret Oates found that perinatal psychiatric disorders were a leading cause of maternal mortality (Oates, 2003, Oates and Cantwell, 2011). They estimated that around eleven percent of reported maternal deaths were due to psychiatric causes, and that many of these deaths could be avoided if adequate support was provided (Oates and Cantwell, 2011).

1.1.7.2. Impact on Maternal Behaviour

Postnatal Depression can have a negative influence on maternal behaviour, which in turn can impact on all of their close relationships. For example, PND can have a negative impact on her partners' mood, causing relationship difficulties and marital disharmony (Briscoe and Smith, 1973, Weissman et al., 1974). However, having established that the quality of marital relationship can be a potential risk factor for PND (Beck, 2001, Beck, 2002a) it is difficult to identify the direction of causality, in terms of whether the depression preceded the disharmony or vice versa (Burke, 2003).

In a study conducted in Australia (Henderson et al., 2003) breastfeeding rates were measured in 1,745 mothers recruited from maternity wards, of whom eighteen percent were diagnosed with PND. The results found that the average length of

breastfeeding in women with early onset of PND was twenty-six weeks. This length was increased by two-weeks in the case of late onset of PND symptoms. In non-depressed mothers, the average duration of breastfeeding was greater at approximately forty-weeks. The authors concluded that PND had a significant negative impact on breastfeeding activity, and more breastfeeding support should be provided to new mothers, especially if they are showing signs of low mood.

Other studies have found similar negative outcomes of PND on breastfeeding activity, with mothers more likely to stop breastfeeding or bottle-feeding before sixteen-weeks, introducing water, juice, or cereal too early (McLearn et al., 2006, Paulson et al., 2006). This early introduction of juice can lead to dental problems and insufficient nutrition (Paediatrics, 2007); water is linked with electrolyte imbalance and intoxication (Keating et al., 1991). Mothers also reported problems with breastfeeding, which led to feeling dissatisfied as a mother, and lower levels of self-efficacy in terms of being able to adequately feed their babies (Paulson et al., 2006).

Postnatal Depression can also lead to undesirable sleep practices and problems in infants (McLearn et al., 2006). Problems with sleep patterns include infants taking longer to fall asleep, co-sleeping with parents, and waking more often or for longer periods of time (Hiscock and Wake, 2001). Poor infant sleep patterns do not allow mothers to get sufficient sleep themselves, which then increases the level of tiredness experienced by mothers suffering from PND, perpetuating this negative cycle.

Most importantly, mothers suffering from PND were more likely to have thoughts of harming their infants. One study found that forty-one percent of depressed mothers admitted to having thoughts of harming their infant, compared to seven percent of

non-depressed mothers. They also found that mothers suffering from PND were afraid of being left alone with their infants, and feared that they were unable to adequately care for them (Jennings et al., 1999).

While the majority of this research has been conducted in disadvantaged populations, research in low-risk populations has also shown that depressed mothers were less sensitively tuned to their infants, provided less positive affirmations, and were more negating of their infant's experiences than non-depressed mothers (Murray et al., 1996, Field et al., 1990).

1.1.7.3.   Impact on Infant Regulation

After birth, infants of depressed mothers were more distressed, cried more often, and were difficult to console than infants of non-depressed mothers (Zuckerman et al., 1990). One of the reasons for this behaviour could be the negative impact of maternal stress on the developing foetus. Maternal stress can stimulate stress hormones and excessive activity in the foetus (Gerhart, 2004), which can contribute to undesirable neonatal outcomes such as prematurity, low birth weight, and impaired motor and mental development (Field et al., 2004).

Maternal responsiveness is linked to different patterns of disturbance in infants. For example, maternal unresponsiveness is associated with infant disengagement, while maternal aggressiveness / intrusiveness is linked with avoidant behaviours in infants (Field et al., 1990, Cohn et al., 1986). Other behaviours adopted by infants include communicating with adults in a more demanding and aggressive manner, or becoming more independently self-sufficient and not depending on any adults, especially their mother, for comfort (Emanuel, 2006).

Murray et al., (1996) found that infant behaviour can perpetuate impairments in mother-infant interactions due to the infants having internalised adverse early experiences. The mother and infant both regulate the interaction with their interactive behaviour through affective displays (Brazelton et al., 1975, Tronick, 2007), and infants as young as three-months old "*generalise their depressed style of interaction with their mother, compared to those of non-depressed mothers*" (Field et al., 1996). A study by Field et al., (1988) found that unresponsive and avoidant behaviour by infants of depressed mothers caused non-depressed adults to respond in a depressed manner. Murray et al., (1996) found similar results in that infant variables such as irritable behaviour or poor motor control increased the risk of maternal depressive symptomatology. Results from a longitudinal study show that over a third of children whose mothers suffered from PND had experienced an episode of an affective disorder by the age of thirteen years, compared to 10% in non-depressed mothers (Murray et al., 2010).

1.1.7.4. Mother-Infant Interaction

There is a body of empirical evidence showing the negative impact of PND on mother-infant interaction, with the mother's engagement with their infant characterised as either being hostile and intrusive, or withdrawn and disengaged (Cohn et al., 1986, Cohn and Tronick, 1987, Field et al., 1990, Beebe et al., 2012).

Research indicates that depressed mothers interpret their infant's facial expressions as more negative than anxious, or non-depressed mothers suggesting that an 'appraisal bias' might be underlying some of the difficulties these mothers have in responding appropriately to their infant's signals (Stein et al., 2010). Depressed mothers also showed more sadness in face-to-face interactions, which was reflected

in the facial interactions and behaviour of their infants. This sadness can also be observed in mother's 'baby-talk' (Hanley, 2009).

Murray et al., (1996) suggested that it was the ongoing 'impaired patterns' of mother-infant interaction, and not the infant's exposure to maternal depression, that led to poor infant outcomes. They reviewed studies that identified a link between maternal levels of depressive symptomatology and infant behaviour. Results found that infants of depressed mothers showed signs of being less content, producing more negative facial expressions and protesting behaviour from the age of two or three-months (Whiffen and Gotlib, 1989, Field, 1984), and were more difficult to manage at three months (Cutrona and Troutman, 1986).

In order to explore if there was a sensitive period during infant development, when maternal depression had a major impact, a number of studies measured the impact of maternal depression at two-months, four-months, and six-months, and compared the infant behaviour with babies of non-depressed mothers. They found no behavioural differences at two-months. However, by six-months, infants were less positive and showed signs of disruptive behaviour (Campbell and Gray, 1993, Murray et al., 1996), indicating a mother-infant relational association (Cramer, 1993).

1.1.7.5.   Impact on Emotional, Behavioural and Cognitive Development

Puckering (1989) concluded that "*The parenting style of a depressed mother is inevitably influenced by her difficulties and preoccupations, which make her less available to the child and probably irritable in addition*." She elegantly describes "*the depressed mother who is 'physically present but psychologically absent,' unable to catch the finer cues from the child and build on these*."

Studies that have examined the impact of PND on infants under two-years-old have found an association between maternal depression, and adverse cognitive and emotional development in these infants. For example, Murray et al., (1992, 1996) found that at eighteen-month follow-up, the infants of a mother who had PND were more likely to fail on cognitive tasks than the infants of non-depressed mothers.

Further studies have found an association of maternal depression and insecure attachments in infants aged twelve-months (Lyons-Ruth et al., 1986) and eighteen-months (Murray et al., 1996, Murray, 1992). Qualitative data found that women who had suffered from PND were more likely to report difficulties in their child's behaviour, such as eating, sleeping, temper tantrums or anxieties with separation (Murray, 1992). These studies highlight the negative impact of PND on maternal-infant interactions, which can lead to impairments in infant development.

1.1.8. What Works to Treat PND

Whilst antidepressants are effective for treating PND depression, it is not clear which class of antidepressants work best for whom, and how much of an impact they have on an exposed infant via breast milk (Wisner et al., 2002). As a result of these uncertainties, many women prefer not to take such medication, and there is a low level of compliance (Whitton et al., 1996). Furthermore, GPs can be hesitant in prescribing a therapeutic dose, delaying treatment until after breastfeeding, or suggesting that the mother does not breastfeed her baby (Hoffbrand et al., 2001). A panel of experts in America came to the conclusion that antidepressants should only be used in cases of severe PND, with non-biological interventions such as psychotherapy being offered to those mothers with mild-to-moderate symptomatology (Altshuler et al., 2001).

A review of non-biological interventions for the treatment of PND (Dennis, 2004), identified twenty-one studies evaluating the effectiveness of a range of psychological interventions, such as interpersonal or cognitive behavioural therapy, psychosocial interventions such as peer-support or partner support, and other interventions such as massage therapy, sleep intervention, and mother-infant relationship therapy. However, the overall results provided inconclusive evidence of effectiveness due to the lack of well-designed studies.

Within the psychosocial intervention strategies, four studies evaluated the use of peer-support (Dennis, 2004). The first three studies evaluated the impact of weekly group-based post-partum support: targeting both depressed and non-depressed Canadian women (Fleming et al., 1992), depressed Chinese women only (Chen et al., 2000), and distressed Australian women and their partners (Morgan et al., 1997). These studies suffered from serious theoretical limitations (such as the inclusion of both depressed and non-depressed women) and methodological weaknesses, rendering the results equivocal. However, the fourth study comprised of a Canadian telephone-based peer-support (TBPS) pilot randomised control trial (RCT) with women identified as being at high-risk of depression. The findings showed significant group differences in depressive symptomatology at the twelve-week assessment and supported the provision of peer-support to women experiencing PND (Dennis, 2003a).

NICE (2014) do not currently recommend use of TBPS for PND due to a lack of evidence of effectiveness.

1.1.9. Policy and Constrained Resources

The UK Government recently updated the 'Giving all Children a Healthy Start in Life' policy (Government, 2014). These guidelines were aimed at providing support to children growing up in families that were identified as being at risk. The following recommendations were made: 1) to allocate a named midwife to support a woman throughout her pregnancy and birth, 2) to enable women to have a choice about how and where their baby was born, and 3) to provide enhanced support from the NHS for women suffering from PND, or having suffered a miscarriage, stillbirth or death of a baby. The policy was also aimed at improving health-visiting services by recruiting and training an extra 4,200 health visitors by the year 2015.

Local authorities have been given financial responsibly to plan public health services for babies and infants up to the age of five-years-old in their community, enabling local knowledge to enhance services. The Government has agreed to work in partnership with key stakeholders such as 'Community Practitioners,' 'Health Visitors Association,' and 'Royal College of Midwives,' as well as charitable organisations such as Netmums, Mumsnet and 4Children to improve antenatal and postnatal services (Government, 2014).

'Public Health England' has developed a cross party manifesto: 'The 1001 critical days – the importance of the conception to age two period.' This manifesto has also been aimed at ensuring "*that every baby receives sensitive and responsive care from their main caregivers in the first two years of their life*" (Goverment, 2013).

The treatment of PND has become a public health priority with the recent NICE (2014) guidelines recommending that all women be screened for any possible mental health symptoms such as 'depression, anxiety disorders, eating disorders, drug and /

or alcohol disorders, and severe mental illness (such as psychosis, bipolar disorder, schizophrenia, and severe depression) at their first contact with healthcare professionals (including midwives, obstetricians, health visitors, and GPs). Any women indicating signs of mental health problems should be immediately referred to specialist services (such as perinatal services) with communication being shared amongst all key health professionals. These guidelines were published in December 2014, and received considerable media coverage following the death of Charlotte Bevan in Bristol (News, 2014) who was suffering from mental health problems and had allegedly stopped taking her medication during her pregnancy.

Over the last decade, prioritising the safety, care, and support needs for babies, infants, and young children have developed into a government priority. In 2003, the Department for Education published a Green Paper ,'Every Child Matters', with proposals to improve the care provided to children and ensure that every child had the opportunity to reach their full potential (DoE, 2003). The 'Healthy Child Programme,' in 2009, was aimed at protecting children from serious diseases by increasing screening and immunisations, promoting breastfeeding, and improving support for children experiencing difficulties in the early years that may negatively affect their development (DoH, 2009).

Rapidly expanding technology, medical specialisation and quality process implementation has raised standards in the quality of NHS healthcare. However, this has increased costs, shortened hospital stays, and reduced communication between healthcare professionals, who are struggling to meet all the needs of their patients (Eng and Young, 1992). Alongside this, the burden on healthcare professionals is increasing due to changing population demographics, longer life expectancy, and the consequent need for management of long-term conditions (Stewart and Tilden,

1995). Telephone-based peer-support may therefore be a means of meeting this unmet need of supporting new mothers experiencing depressive symptoms without putting further strains on healthcare professionals.

Section B

1.2. What is Peer-Support

The concept of peer-support was first developed in the 1930s, with Alcoholics Anonymous (AA) being the original peer-facilitated recovery group. The sharing of personal stories and life experiences has been identified as a powerful public education tool, and is seen to be an effective way of reducing stigma (Clay, 2005) and isolation (Verhaeghe et al., 2008).

1.2.1. Definition

Peer-support interventions, based on shared experiences and mutual identification, have the potential to address the issues of limited resources, and can promote a sense of belonging, which can positively affect psychological and physical health outcomes (Cohen et al., 2001).

Peer-support has been defined as *"the giving of assistance and encouragement by an individual considered equal"* (Dennis, 2003b), based on the premise *"that people who have like experiences can better relate and can consequently offer more authentic empathy and validation"* (Mead and MacNeil, 2006). Individuals who have similar lived experiences can often offer practical advice and coping strategies, and it is suggested that this non-professional approach is vital in helping people to reconnect with their community (Mead and MacNeil, 2006). Possibly one of the

most comprehensive definitions of peer-support within a healthcare context is "*the provision of emotional, appraisal and informational assistance by a created social network member who possesses experiential knowledge of a specific behaviour or stressor and similar characteristics as the target population*" (Dennis, 2003b).

1.3. Theoretical framework

Research on peer-support interventions provides little or no information regarding a theoretical basis for the development of the intervention, as evidenced in the literature reviews (See Chapter 2 and Chapter 3). It has been suggested that peer-education can be characterised as "*a method in search of theory rather than the application of a theory to practice*" (Turner and Shepherd, 1999). Although Dennis (2003b) explored the conceptual basis of delivering peer-support interventions within healthcare, further work is still required.

Simoni et al., (2011a) proposed a two-step process to conceptualise peer-support interventions within healthcare. The first step involves the researcher identifying a theoretical basis for promoting the desired health outcome within a target population. This theoretical approach will then impact on step two, where the researcher justifies the use of peer-supporters to achieve the health outcome based on formulated rationale processes. For example, the rationale for using peer-supporters could be that they are cheaper, more accessible, within the community, and therefore, more sustainable. However, this rationale does not explain why peers are more successful at achieving improved health outcomes over non-peers.

Simoni and her colleagues (2011) identified five areas of behaviour change that were susceptible to change using peer-support interventions: social-support, social-norms,

self-efficacy, education, and patient-advocacy. Their paper goes on to describe of these five areas in detail. They have been summarised as follows:

- Education-based interventions – these interventions provide some exchange of health information between the dyad, with the information becoming a catalyst for change because it responds to the needs of its target population. One of the theoretical perspectives that support this approach in Social Comparison Theory (Festinger, 1954), as referred to in the section 1.3.1

- Social Support interventions – many peer-support interventions promote an increase in support which can improve health outcomes. This approach encompasses emotional, instrumental, and informational support (Solomon, 2004), which enables the individual to find different coping strategies to manage daily stresses and strains (Lazarus et al., 1985). While this approach also encompasses Social Comparison Theory, it is also supported by the vast self-help literature based on shared experiences

- Targeting Social Norms – on the whole, these interventions are based on theories such as 'the Theory of Reasoned Action' (Ajzen and Fishbein, 1980), and supported by social network theories. This approach suggests that behaviour change within the individual can be influenced by the social norms or beliefs of those individuals whom are deemed important to them

- Self-Efficacy based interventions – these interventions are grounded in the belief that peer-supporters can increase the individual's ability to be able to achieve a desired outcome by improving their confidence in themselves (Social Cognitive Theory) (Bandura, 1986)

- Advocacy-based interventions – these interventions focus on changes in a larger group structures by targeting socially stigmatised, marginalised, and

oppressed populations. This approach implies that the peer-supporters engage

with other individuals in 'participatory learning processes,' and empower

them to promote their collective interests. This approach is supported by

Empowerment Theories (Sherman et al., 1998) suggesting that a group of

individuals have more power to effect change.

The Mums4Mums intervention has attributes that match three of the five areas of

behaviour change listed above. These are education-based support, social support,

and self-efficacy. This provides further support in the use of peer-supporters in the

delivery of the TBPS intervention.

1.3.1. The Rationale for Peer-Support

Thoits (1986) argues that seeking or accepting 'coping assistance' from another

individual is influential as a result of the sharing of an affective experience. Support

based on an empathic understanding is thought to be particularly effective when it

comes from 'a socially similar other' who has personal experience of the condition

(Thoits, 1986) and who is more likely to meet the emotional and practical needs of

the distressed individual (Veith et al., 2006a). The 'similar other relationship'

concept originates in Social Comparison Theory, which suggests that people in

stressful situations prefer to be supported by others who have faced a similar crisis so

that they can compare their experiences and learn effective coping strategies (Thoits

et al., 2000).

From the perspective of the supporter, according to the 'helper-therapy' principle,

providing support to others in a similar situation increases the supporter's feelings of

social worth, competence, and self-efficacy, as well as the knowledge of having an

impact on another individual's life (Riessman, 1965, Skovholt, 1974). Similarly, the

'mattering-principle' suggests that the experience of being important to another individual can be deemed beneficial to the supporter (Taylor and Turner, 2001). However, providing support can also have its limitations. The supporter can experience emotions such as caregiver burden (England and Folbre, 1999), cost of caring (Pearlin et al., 1990), and carer distress (Hunt, 2003), which can lead to negative emotions such as frustration, and becoming overwhelmed. This can be particularly problematic when providing support for a mental illness, because the supporters will be in need of an opportunity to discuss the issues with which they are being presented (Bracke et al., 2008), as well as overcoming interpersonal conflicts (Goering et al., 1992).

Peer-support is a growing phenomenon in the healthcare arena and includes providing psychological support for cancer patients (Hoey et al., 2008, Reid Rudy et al., 2001), patients with heart-disease (Parry and Watt-Watson, 2010), patients diagnosed with HIV (Harris and Alderson, 2007, Simoni et al., 2009), women diagnosed with postnatal depression (Dennis et al., 2009), and providing behavioural support such as breastfeeding (Dennis, 2002, Raine, 2003), weight-loss support (Keyserling et al., 2008), and smoking-cessation (Stead et al., 2006), as well as encouraging self-management of chronic conditions such as diabetes (Dale et al., 2009).

1.3.2. Attributes of Peer-Support

Dennis (2003b) explored the concept of peer-support intervention within the context of healthcare, and identified three crucial attributes of peer-support: emotional support, informational support, and appraisal support. These attributes can be used at different times and to varying degrees to improve health outcomes. For example,

programmes for individuals with a new diagnosis of a medical condition such as cancer would initially provide emotional support followed by an informational component. Dennis (2003b) concluded that all peer-support interventions, despite differing combinations, provide emotional, informational, and appraisal support to some degree.

1.3.2.1.   Emotional Support

Emotional support can be beneficial when individuals experience transitional stressors. For example, childbirth, a breakdown in relationships, or bereavement can impact on an individual's self-esteem, which in turn can raise doubts about their abilities to cope and manage certain situations (Wills, 1985, as cited in Dennis, 2003b). While it is unclear how emotional support enhances or restores self-esteem, researchers suggest that signs of caring, encouraging, active listening, reassurance, and helping the process of reflection in a non-critical way are some of the main characteristics of such support (Helgeson and Gottlieb, 2000). This can enable the individual to feel accepted, empathised with, valued, and cared for despite struggling with personal stressors (Cobb, 1976).

1.3.2.2.   Informational Support

Informational support is aimed at enabling individuals to gather knowledge that will help them solve their problems through the provision of advice, suggestions, and feedback. Gathering information from a reliable source who has personally experienced a similar situation is seen to be more relevant, more resourceful, and probably more effective (Stewart, 1989, Wills and Shinar, 2000).

1.3.2.3.   Appraisal Support

Appraisal support involves communicating information related to self-evaluation by affirming the appropriateness of thoughts, feelings, and behaviours (Kahn and Antonucci, 1980, as cited in Dennis, 2003b). The mechanisms of providing appraisal support include: encouragement, reassurance, assistance to overcome frustrations, and communicating hopefulness (Wills, 1985, as cited in Dennis, 2003b).

1.3.3. Underpinning Mechanisms

Research suggests that the more homogenous the peer relationship, the more probable that the support will lend itself to greater understanding, empathy, and a mutually helpful relationship. This mutual sharing of experiences promotes a sense of belonging, enabling peer-support interventions to improve psychological and physical health (Helgeson and Gottlieb, 2000) both directly, as explained by the 'direct effect model,' and indirectly, via the 'buffering model' and the 'mediating model.'

1.3.3.1.   The Direct Effect

The 'direct effect' model suggests that peer-support is effective due to a variety of 'direct' mechanisms. First, peer-support improves health outcomes as a result of social integration, such as improving functioning and longevity in medical conditions, for example post-myocardial infarction prognosis (Seeman, 1996). Second, peer relationships are known to reduce feelings of isolation, which in turn reduces negative affect and increases feelings of self-esteem and control (Cohen et al., 2001). There is also an element of increased access to information, which can prevent extreme reactions in certain situations and influence more appropriate health behaviours (Rook et al., 1990). Finally, peer-support interventions can encourage

self-help seeking behaviours, such as improving adherence to medication, and enhance personal care (i.e. healthy eating and exercise), which in turn could prevent minor ailments from developing into more serious health problems (Cohen et al., 2001).

1.3.3.2. The Buffering Effect

The 'buffering effect' model is influenced by Lazarus and Folkman's Theory (Lazarus et al., 1985), which suggests that stress occurs when our internal resources and coping mechanisms cannot meet external demands, causing the individual to feel unable to cope (Cohen et al., 2001). Peer-support can protect individuals from the harmful effects of stress by helping them to feel listened to and heard, to identify coping strategies by inhibiting ineffective behaviours, and by reducing self-recriminations such as self-blame (Cohen and Syme, 1985, Thoits, 1985).

1.3.3.3. The Mediating Effect

The 'mediating effect' model suggests that peer-support indirectly influences health through cognitions, emotions, and behaviours (Stewart and Tilden, 1995) demonstrating clear links with Self-Efficacy Theory (Bandura, 1986). Self-Efficacy is a dynamic cognitive process where individuals make a judgement about their perceived ability to carry out certain tasks or behaviours. The more confident the individual, the more likely that they will be able to persevere and achieve the desired outcome (Bandura, 1997). "*Performance appraisal can have a colossal effect on the self-efficacy perceptions*" (Dennis 2003b).

1.3.4. Telephone-Based Peer-Support Interventions

Recent technological advances, such as email and the internet, have enabled peer-support interventions to be more accessible and spontaneous (Beatty and Lambert, 2013). Telephone-Based Peer-Support (TBPS) interventions are flexible and private. They can reduce the stigmatisation related to differences in socio-economic status (Dennis and Kingston, 2008), as well as overcoming traditional barriers, such as travelling and transport (Galinsky et al., 1997).

Telephone-based peer-support (TBPS) has been found to be both accessible (Horton et al., 1997) and acceptable to individuals (Currell et al., 2000). The modality of the telephone, rather than face-to-face or internet peer-support, was deemed particularly appropriate in the context of PND, as the participants were busy mothers with babies and young children to care for. Existing research does not identify any adverse effects in utilising the telephone to enable peers to support one another, and the only known concerns relate to overcoming language barriers and the fact that some individuals still prefer to communicate on a face-to-face basis (Galinsky et al., 1997).

Section C

1.3.5. Research Design

This study design adopted the Medical Research Council (MRC) framework for the development and evaluation of complex interventions (Campbell et al., 2000, Campbell et al., 2007).

1.3.6. Aim

This study aimed to develop, pilot, and conduct an exploratory randomised control trial (RCT) to evaluate the effectiveness of a TBPS intervention for women experiencing Postnatal Depression (PND). The 'Mums4Mums' intervention involved women who had recently recovered from PND, providing TBPS to women experiencing depressive symptomatology.

1.3.7. Objectives

The objectives of the study were to:

- Pilot the Mums4Mums Intervention:

  - Explore the feasibility of recruitment to the RCT

  - Conduct a power calculation

  - Test the appropriateness of the quantitative measures

  - Build a working alliance with healthcare professionals for the larger clinical trial.

- Evaluate the Effectiveness of the Mums4Mums Intervention using a Mixed-Methods Design:

  - Evaluate the impact of TBPS on the participant's depressive symptomatology

  - Explore the participant's and peer-supporter's views about the intervention.

1.3.8. Research Questions

The two research questions posed by this study were as follows:

1) How effective is TBPS in reducing depressive symptomatology in new mothers currently experiencing low mood?

2) What are the perspectives of the participants and peer-supporters about the value of receiving and delivering the TBPS intervention?

1.3.9. Structure of Thesis

Chapters 2 and 3 present quantitative and qualitative reviews of the literature respectively. Chapter 2 provides a review of the quantitative literature that evaluates peer-support interventions within healthcare, and chapter 3 presents a synthesis of the qualitative literature exploring the experiences of both participants receiving peer-support, and the peer-supporters who deliver the interventions.

Chapter 4 sets out the philosophical paradigm and research framework that has been employed to guide the research study. Chapter 5 describes the development of the intervention, the processes involved in recruiting peer-supporters and participants, and the delivery of the intervention. Data collection, maintenance, and analysis is also described.

Chapter 6 provides the results from a small pilot study. It describes recruitment, data collection, and analysis, and concludes with reiterations that were made to the study protocol to improve recruitment strategies and delivery of the intervention.

Chapters 7, 8, and 9 provide the detailed findings of the RCT presenting the results of the mixed-methods approach using an embedded design. Chapter 7 provides the main quantitative results for the primary and secondary outcome measures, highlighting the clinical and cost-effectiveness of the Mums4Mums intervention. Chapter 8 describes the quantitative evaluation of the participants' experience of the

peer-support intervention. Chapter 9 then presents an analysis of the qualitative interviews that were conducted with the participants post-intervention, and that was aimed at enhancing the quantitative findings and providing a deeper understanding about why these results were obtained. Chapter 10 presents the results from both quantitative outcome measures and qualitative analysis from the semi-structured interviews that were conducted with the peer-supporters. Chapter 11 presents the cost-effectiveness of the Mums4Mums Intervention. Chapter 12 brings together the quantitative and qualitative results from the study. It outlines the strengths and limitations of the study and the implications for future practice, policy, and research.

1.4.   Author's role in the research

The author was appointed to this research role in October 2009, six months after the start of the study. Upon appointment, the researcher took the lead in the research and was responsible for all of the decisions regarding the research and documentation relating to the research.

Prior to the researcher being appointed, the research questions had been agreed with the funding body and the first cohort of peer supporters had been recruited and trained. However, the pilot study had not yet been conducted and no participants had been recruited. The researcher concentrated on building positive relationships with health visitors, staff at the children centres and the peer-supporters who had been recruited to deliver the intervention. The study protocol and previous documentation were reviewed by the researcher, and amendments were made to the existing processes based on the knowledge and experience of the researcher to enable her to conduct the study effectively.

As the lead researcher, the first key task was to conduct the small pilot study: Explore the feasibility of recruitment to the RCT; test the appropriateness of the quantitative measures; and build a working alliance with healthcare professionals for the larger clinical trial. It became apparent that some changes would be needed to the study design and methods before proceeding with the RCT. A summary of these changes is listed in Table 19 – Summary of Changes (at the end of Chapter 6).

Following this, the researcher focused on developing the interview schedule:

Peer-supporters: The interview schedule explored the peer-supporter's experiences of delivering the intervention, and covered issues such as training, support from the research team, how it felt to initiate the first contact, how acceptable / intrusive the support role had been for them, and any impact it had had on their lives.

Participants: The aim of the interview was to enable participants to focus on their experience of receiving the intervention, and participants were encouraged to discuss both positive and negative aspects of the intervention.

Once the data was collected, the focus shifted to data analysis, ensuring that the correct tests were being conducted and the key findings were fully and adequately presented.

1.5. Summary

This chapter has described PND and the negative impact it can have on a mother and her infant. The chapter has also described effective methods of supporting women with PND. A TBPS intervention developed in Canada was identified as being a potentially effective method of supporting new mothers and significantly improving their low mood. The chapter proceeded to explore the emerging role of peer-support

interventions within the healthcare system, and how this approach could be effective.

The structure of this thesis is described in detail towards the end of this chapter,

followed by an explanation of the authors role in the research study.

The next chapter will present the results of systematic review of TBPS interventions

within healthcare.

2. A Quantitative Review of the Literature Systematic Review: Is Telephone Peer-Support Effective?

2.1. Overview

This chapter reviews the current literature evaluating the effectiveness of telephone-based peer-support (TBPS) interventions. It starts by explaining the rationale for developing peer-support interventions, followed by the role that the telephone can play in delivering such interventions, and then goes on to examine the effects of peer-support interventions within healthcare.

The aim of this literature review was to identify recent high-quality studies that have evaluated the impact of TBPS in improving the health and wellbeing of individuals, using a range of validated quantitative measures.

2.1.1. The Rationale for Peer-support Interventions

The rationale for developing interventions based on peer-support is that peers can relate better to the target population's situation whereas other naturally embedded social support networks, such as family, work colleagues, and friends, may struggle to understand how to do this (Dennis, 2003c). It is also suggested that assimilating new knowledge occurs more effectively when it is provided by a peer who has a shared common experience and can identify with the recipient's symptoms (Verhaeghe et al., 2008).

It is suggested that individuals who have lived similar experiences can often offer practical advice and coping strategies, of which the health professionals may be unaware. The availability of this non-professional support from within the community can thereby reduce feelings of isolation and being disconnected after having experienced a stressful event (Mead and MacNeil, 2006).

Government initiatives that have led to an increase of peer-support interventions, such as the Expert Patient Programme, have highlighted the benefits of increasing care within the community. This 'self-management' approach is underpinned by the belief that lay-led peer-support increases the individual's social support network, and enhances the care provided by the health professionals (Barlow et al., 2002).

There is a growing recognition that health services are stretched, and professionals struggle to meet all the needs of their patients (DoH, 2001). Peer-support interventions can help to bridge this gap, and also contain the costs of healthcare (Fries et al., 1993). From the patient's' perspective, it can enable them to have more influence, control, and responsibility for managing their own healthcare needs (Barlow et al., 2005). Peer-support can be very flexible in that it can be provided individually or in groups, in a communal or home environment, and can be delivered face-to-face via the computer or the telephone. It can also be unidirectional or bidirectional depending on the condition, symptoms, and type of support that is required.

2.1.2. Evaluating the Effectiveness of TBPS Interventions

A number of studies have shown that peer-support interventions can have a positive impact in terms of improving health and health-related behaviours (Dale et al., 2008, Dennis and Kingston, 2008, Dennis et al., 2009, Pfeiffer et al., 2011, Simoni et al.,

2011b). However, empirical evidence of their 'clinical effectiveness' is scarce (Mishara et al., 2007, Sood et al., 2008).

Dale et al., (2008) reviewed research to evaluate the effectiveness of peer-support telephone calls for improving health. They identified seven studies that measured the impact of peer-support on mammography screening (Calle et al., 1994, Duan et al., 2000), myocardial infarction (Carroll and Rankin, 2006, Heller et al., 1995), breastfeeding (Dennis, 2002), diabetes (Dale et al., 2009), and postnatal depression (Dennis, 2003c). The authors reported that although there was some evidence to support the effectiveness of TBPS interventions for certain health-related concerns, the results from these studies had to be interpreted with caution due to methodological issues. They concluded that further research into the clinical effectiveness of TBPS interventions was required.

Dennis & Kingston (2008) carried out a systematic review examining the effectiveness of telephone-support for women during pregnancy and the early postpartum period. They found that proactive telephone-support can be beneficial in increasing breastfeeding, decreasing postnatal depression, preventing smoking relapse, and preventing low birth weight. However, the intervention had no impact on smoking cessation or improving pre-term birth rates.

A more recent meta-analysis by Pfeiffer et al., (2011) investigated the efficacy of peer-support interventions (this included groups, pairs, or telephone-based peer-support) for depression compared with control conditions comprising of psychotherapy or usual care. They found fourteen randomised control trials (RCT's), seven of which compared peer-support with standard care, and found peer-support to be superior to standard care. The remaining seven RCT's compared peer-support to

group-based cognitive behavioural therapy in primary care and found no statistical differences between the two groups.

Although there is some emerging evidence from RCT's that high-risk groups, such as individuals suffering from depression, can benefit from peer-support interventions, further research is required (Potter, 2011). Overall, these findings were inconclusive and cannot be generalisable to all peer-support interventions due to flaws and inconsistencies in terms of the methodologies used.

Other reviews evaluating peer-support interventions, including studies with TBPS, have found similar limitations. For example, patients suffering from cancer were satisfied with the peer-support intervention, but benefits in terms of their psychosocial functioning were inconclusive (Hoey et al., 2008). Patients suffering from heart-disease and post Coronary Artery Bypass Graft (CABG) surgery found peer-support interventions had a positive impact on their confidence levels and self-efficacy, but methodological issues made it difficult to provide generalisable results (Parry and Watt-Watson, 2010).

2.2. Aims

The aim of this review was to evaluate the effectiveness of telephone calls made by a peer that were aimed at providing psychosocial and psychological support in improving health and health-related behaviours, by updating an existing review (Dale et al., 2008).

The review questions were:

- How effective is TBPS in improving physical health and functioning, psychological, and psychosocial wellbeing?

- How cost-effective is telephone-based peer-support?

2.3. Methods

2.3.1. Search Strategies

Databases searched included ASSIA, MEDLINE, CINHAL, EMBASE, WEB OF KNOWLEDGE, SCIENCE DIRECT, and PSYCINFO. The search terms used were identical to those used in the Cochrane review (see Appendix Two for the list of search terms).

2.3.2. Inclusion Criteria

This review involved systematically searching for articles published from January 2007 to December 2013 (i.e. published after Dale et al., 2008). Using the same criteria outlined in the original review, studies were included where participants were suffering from long-term, health-related conditions and / or experiencing some form of psychological distress, or requiring support to change their maladaptive behaviour, and where the support was provided by a peer via the telephone. We only included randomised control trials that investigated the impact of TBPS compared to a standard care group, and that reported outcomes using validated quantitative outcome measures. No grey literature, and only peer-reviewed papers that were published in English, were included.

2.3.3. Exclusion Criteria

Studies were excluded if they were not randomised control trials, the participants were children, if the intervention was not telephone-based (i.e. text messaging based,

internet based, or group based), was not delivered by a peer (i.e. nurse led, therapist led), or the effect of the telephone component could not be extracted.

2.3.4. Data Abstraction

Published articles were identified and the titles were examined by the lead researcher (SS). Any relevant abstracts that met the predetermined inclusion criteria were imported into Endnote for further examination. Twenty-seven articles that evaluated the impact of TBPS in a healthcare context were identified for further review (see Figure 1). Full papers were examined by two independent reviewers (JB and IC). Any indecision was resolved through discussion.

2.3.5. Data Management

Included studies were appraised using the Critical Appraisal Skills Programme, a tool for the appraisal of RCT's (2013). This enabled an assessment of the differences in the methodology, sample population, intervention, or outcome measures.

2.3.6. Data Synthesis

A meta-analysis was not viable due to the heterogeneity of the target population, their health-related conditions, and the variation in the outcome measures used.

A narrative synthesis was carried out involving a presentation of the results from individual studies.

Data presented is in the format of means and standard deviations, 95% confidence intervals, or *p* values.

2.4. Results

2.4.1. Consort flow chart

See Figure 1 for the breakdown of the results of the literature search.
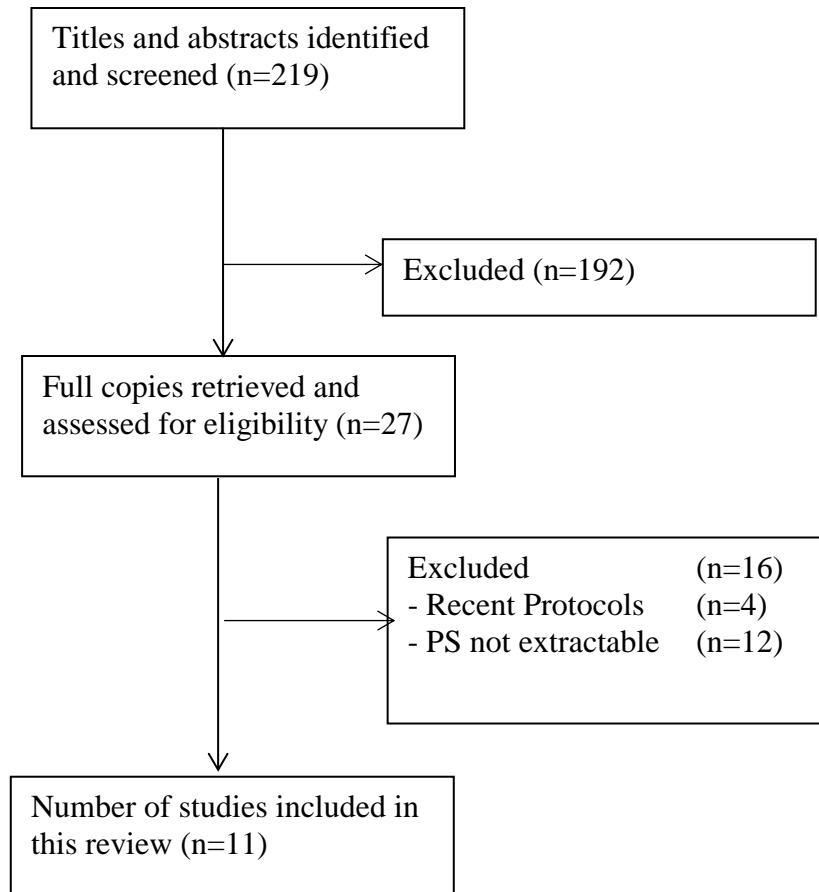
Figure 1- Quantitative Search Results

2.4.2. Results from Search

The search yielded two-hundred and nineteen articles to be reviewed at abstract

level. One hundred and ninety-two of these articles were excluded at this level due

to the support not being peer-led, not telephone-based or including elements of group

support. Twenty-seven studies were identified as potentially eligible for inclusion,

and a further sixteen were excluded after assessing the full text of the studies against

the exclusion criteria for this review. The main reason for exclusion at this stage was

that the telephone-support was provided alongside other support, and was therefore not extractable from the overall findings. The sixteen excluded studies have been listed in Appendix Three.

2.4.3. Included Studies

Eleven studies have been included in this review (see Table 1 for characteristics of included studies).

Table 1 - Characteristics of Included Studies

Study	Participants	Intervention	Peer-support	Primary Outcome Measure
Gotay et al 2007 USA	305 women experiencing a first recurrence of breast cancer	The intervention consisted of 4 to 8 telephone calls over a period of one month, approx. two calls a week. Participants were randomly allocated to receive the intervention (n=152) or standard care (n=153). Post data collection was at three-months and follow-up was at six-months.	Twenty peer-supporters were trained as peer counsellors at a breast cancer advocacy organisation. The length of the training was not specified.	•Emotional wellbeing – Cancer Rehabilitation Evaluation System– Short Form (CARES-SF) •Depressive symptomatology – Centre for Epidemiological Studies-Depression (CES-D)
Colella T.J.F 2009 (PhD Thesis)	185 males recovering from Coronary Artery Bypass Graft (CABG) Surgery	A six-week intervention where peer-supporters contacted men recovering from CABG via the telephone on a weekly basis. Participants were randomly allocated to receive the intervention (n=61) or usual care (n=124). Follow-up data was collected at twelve-weeks.	Fifteen peer volunteers were recruited from the in-hospital peer-support 'Mended Hearts' and the Community-based rehabilitation programme at the Toronto Cardiac Rehabilitation Institute. They attended a training workshop lasting 2.5 hours.	•Beck Depression Inventory-II, • Shortened Social Support Scale • Peer-support Evaluation Inventory
Dale et al 2009 UK	213 patients with diabetes	A six-month telephone-based support intervention delivered 1) by a specialist diabetes nurse (n=44), 2) by a peer-supporter (n=90) compared to 3) standard care (n=97). Follow-up data was collected at six-months.	Nine peer-supporters were recruited via the Warwick Diabetes Care User Group. They attended a two-day training programme.	•Diabetes Management Self-Efficacy Scale DMSES •Glycated Haemoglobin • Problem Areas in Diabetes Scale

Study	Participants	Intervention	Peer-support	Primary Outcome Measure
Dennis et al 2009 Canada	701 women who were identified as high risk for postnatal depression using the EPDS in their first two-weeks postpartum.	A twelve-week intervention delivered by peer-supporters in which they contacted women via the telephone on a weekly basis. Participants were randomly allocated to receive the intervention (N=349) or standard community postpartum care (n=352). Follow-up was at twenty-four weeks.	Two-hundred-and-four peer-supporters were recruited through flyers, local newspapers and word of mouth, they all attended four hours of training.	•EPDS •Structured interview for Depression (SCID) •State-trait inventory •UCLA loneliness scale •Utilisation and cost of care Scale.
Jerant et al 2009 USA	415 >40year old patients with one or more of the following chronic illnesses – arthritis, asthma, chronic obstructive pulmonary disease, congestive heart failure, depression and / or diabetes mellitus.	Chronic Disease Self-Management Programme "Homing In On Health" provided weekly for six-weeks. Participants were randomly assigned to intervention via home visits (n=138), via telephone (n=139) or standard care (n=138). Follow-up data was collected at six-months and twelve-months.	Four participant peers attended a week-long training session before delivering the intervention.	•Illness management self-efficacy – SF-36 •Mental component score was measured by the MCS – 36 •Physical component score was measured by the PCS – 36

Study	Participants	Intervention	Peer-support	Primary Outcome Measure
Parry et al 2009 Canada.	95 participants who had experienced non-emergency coronary artery bypass graft surgery (CABF) and were being discharged from hospital.	A pilot study comprises of an eight-week intervention for patients who were being discharged after coronary artery bypass graft surgery. Participants were randomly allocated to telephone-support (n=45) or standard care (n=50). No follow-up data was collected.	Twenty-two peer-supporters attended a four-hour training session before delivering the intervention. They had undergone CABG surgery within the last five years, and had attended a cardiac rehabilitation programme.	•Health-related quality of Life (HRQL) •SF-36v2 – particularly the physical component score
Di Meglio 2010 New York	78 adolescent mothers < 20 years old were approached between 12 to 36 hours after vaginal delivery or 24 to 48 hours after caesarean section.	The telephone intervention was delivered at 2, 4, and 7 days post discharge and then at 2, 3, 4, 5 weeks post discharge. Participants were randomly allocated to receive the intervention (n=38) or standard care (n=40). No follow-up data was collected.	Five adolescent mothers attended a breastfeeding peer counsellor training programme consisting of ten 2-hour sessions. They had breastfed their babies for more than four weeks.	•Any breastfeeding duration •Exclusive breastfeeding duration

Study	Participants	Intervention	Peer-support	Primary Outcome Measure
Castro et al 2011	181 inactive adults who were aged 50 years and over.	A twelve-month RCT where participants were randomised to one of three arms: telephone-support via professional staff (n=61), telephone-support via a peer (n=61), attention-control arm with staff delivering nutritional advice (n=59). No follow-up data was collected.	Twelve peer-supporters were recruited through flyers and from the local community. They attended eight hours of Active Choices training.	•Moderate-intensity or more vigorous physical activity (MVPA) •Accelerometer validation (Acitgraph)
Crane-Okada et al 2012 USA	142 women newly diagnosed and scheduled from surgery for stage 0-111 breast cancer.	A five-week telephone-based peer-support intervention delivered weekly: 1) for five-weeks beginning within seventy-two hours post-surgery (n=58), 2) for five-weeks beginning six-weeks post-surgery (n=48) or 3) by request (control group as participants requested no contact (n=33)). Follow-up data was collected at six-months.	Six senior peers were recruited to provide counselling support (using the person-centred approach) via the telephone. They were recruited from the Wise & Healthy Ageing agency – an agency training senior peer counsellors as a means of addressing the mental health needs of older adults and underwent twenty hours of training.	•Hospital Anxiety and Depression Scale •Interpersonal Relationship inventory •Brief COPE

Study	Participants	Intervention	Peer-support	Primary Outcome Measure
Long et al 2012 Philadelphia	118 African American Veterans with poor diabetes control.	A six-month intervention where participants were randomised to 1) telephone-based peer-support (n=39), 2) financial incentive group (n=40) or 3) standard care (n=39). No follow-up data was collected.	Thirty-seven peer mentors were recruited who were currently in control of their diabetes. They attended one hour of training.	•Glycated Haemoglobin
Gjerdingen et al 2013 Minneapolis	39 mothers at risk of low mood as measured by the PhQ9.	A pilot study where participants were randomly allocated to 1) postpartum doula services for a period of six-weeks (n=12), 2) telephone-based peer-support for three-months (n=13) or 3) standard care (n=14). No follow-up data was collected.	Six peer-supporters were recruited from the local community who had previously experienced postpartum depression and had recovered. They attended half-day training session.	•Centre of Epidemiological Studies – Depression Scale •Available support

2.4.3.1. Condition

Seven studies evaluated the impact of TBPS on behaviour: self-management of chronic conditions (Jerant et al., 2009, Parry et al., 2009, Colella, 2009); diabetes control (Dale et al., 2009, Long et al., 2012); breastfeeding (Di Meglio et al., 2010) and physical activity (Castro et al., 2011).

Four studies evaluated the impact of TBPS on the psychological wellbeing of the participants, focusing on breast cancer recurrence (Gotay et al., 2007), post breast cancer surgery (Crane-Okada et al., 2012), and postnatal depression (Dennis et al., 2009, Gjerdingen et al., 2013).

2.4.3.2. Study Design

Five of the eleven studies explored the impact of the TBPS intervention against a control group receiving standard care (Parry et al., 2009, Di Meglio et al., 2010, Gotay et al., 2007, Dennis et al., 2009, Colella, 2009).

The remaining six studies had two intervention arms, as well as a control group: home visits or telephone peer-support (Jerant et al., 2009, Gjerdingen et al., 2013), professional or peer-support via the telephone (Castro et al., 2011, Dale et al., 2009), immediate telephone-support compared to delayed telephone-support (Crane-Okada et al., 2012), and financial incentives or TBPS (Long et al., 2012).

2.4.3.3. Study Type

All eleven studies were RCT's, but two were described as pilot studies (Parry et al., 2009, Gjerdingen et al., 2013)

2.4.3.4.   Sample Sizes

Sample sizes ranged from 39 to 701 participants. The eleven studies included in this review recruited a total of 2,472 participants.

2.4.3.5.   Setting

The majority of the studies were conducted in North America, four in Canada (Dennis et al., 2009, Di Meglio et al., 2010, Parry et al., 2009, Colella, 2009); three in California (Jerant et al., 2009, Castro et al., 2011, Crane-Okada et al., 2012); one in Seattle (Gotay et al., 2007); one in Minneapolis (Gjerdingen et al., 2013); one in Philadelphia (Long et al., 2012). One study was conducted in the UK (Dale et al., 2009).

2.4.3.6.   Participants

The participants who took part in the studies were as follows:

- Women who were informed of recurrence of breast cancer in the last fifty-six days, and had undergone definitive surgical treatment for stage I, II, or IIIa breast cancer (Gotay et al., 2007)

- Patients who were aged forty or over, and suffered from one or more of the following conditions - arthritis, asthma, chronic obstructive pulmonary disease, congestive heart failure, depression and / or diabetes mellitus (Anthony Jerant et al., 2009)

- Patients who had undergone non-emergency coronary artery bypass graft for the first time and were to be discharged (Parry et al., 2009)

- Women who had been discharged from hospital after giving birth, and being identified at high risk of postnatal depression (i.e. they scored >9 on the Edinburgh Postnatal Depression Scale) (Dennis et al., 2009)

- Patients with raised HbA1c (>7.4% threshold) (Dale et al., 2009)

- Male patients over thirty-five years old who were recruited on post-operative day three or four after undergoing first-time traditional urgent or elective Coronary Artery Bypass Graft surgery (CABG) (Colella, 2009)

- Young adolescent mothers aged twenty or below breastfeeding a singleton infant (Di Meglio et al., 2010)

- Older adults aged fifty or above who were classed as being under-active, on stable medication, and fit to partake in a physical activity intervention (Castro et al., 2011)

- Women newly diagnosed and scheduled for surgery for stage 0-3 breast cancer (Crane-Okada et al., 2012)

- African-American veterans aged between fifty-seven to seventy years old who had persistently poor diabetes control (Long et al., 2012)

- Participants aged sixteen and over, with a baby under the age of six-months, living in the area and at risk of low mood (scoring 10 or more on the Patient Health Questionnaire) (PHQ-9) (Gjerdingen et al., 2013).

2.4.4. Peer-Supporters

The characteristics of the peer-supporters were specific to the individual studies. These were as follows:

- Breast cancer recurrence survivors who were at least one-year post recurrence (except one who was a bone marrow transplant recipient) (Gotay et al., 2007)

- Volunteers with personal experience of living with chronic conditions (Jerant et al., 2009)

- Men or women who had undergone coronary artery bypass graft within the previous five years and had attended a cardiac rehabilitation programme (Parry et al., 2009)

- Women who had a self-reported history and recovery from postnatal depression (Dennis et al., 2009)

- Volunteers from a Diabetes Care User Group and an internet support group hosted by Trefoil Solutions (Dale et al., 2009)

- Male volunteers who had undergone successful CABG surgery and were post-recovery at least six-months to one year (Colella, 2009)

- Adolescent mothers who had breastfed for more than four-weeks (Di Meglio et al., 2010)

- Volunteers from the local aging community groups who were physically active (Castro et al., 2011)

- Senior females from the Reach to Recovery (R and R) with the American Cancer Society (Crane-Okada et al., 2012, Crane-Okada et al., 2010)

- African American patients with sufficient control of their glucose levels (Long et al., 2012)

- Women with a self-reported history of postpartum depression (Gjerdingen et al., 2013).

2.4.4.1.   Peer Recruitment

Five of the studies recruited peer-supporters from various health establishments, such as medical centres, hospitals, local GP practices, and mothering websites (Colella, 2009, Dale et al., 2009, Long et al., 2012, Gjerdingen et al., 2013, Crane-Okada et al., 2012).

Four of the studies recruited peers through advertisements and flyers (Jones et al., 2013, Castro et al., 2011, Parry et al., 2009, Dennis et al., 2009). In the remaining three studies, it is not clear how the peer-supporters were recruited (Jerant et al., 2009, Gotay et al., 2007, Di Meglio et al., 2010).

2.4.4.2.   Peer-Supporter Training

The training sessions varied across the studies as follows:

- An hour long one-to-one training session (Long et al., 2012)

- A workshop which lasted two-and-a-half hours (Colella, 2009)

- Four hours of training (Parry et al., 2009, Dennis et al., 2009)

- Between four to eight hours of training (Gotay et al., 2007, Castro et al., 2011, Gjerdingen et al., 2013)

- Two-day training programme (Dale et al., 2009)

- Twenty hours of training (Di Meglio et al., 2010, Crane-Okada et al., 2012)

- A week-long training programme (Jerant et al., 2009).

2.4.4.3.   Peer-Supporter Supervision

Two of the studies make no reference to the support provided for peers (Parry et al., 2009, Di Meglio et al., 2010). In four studies, support was provided by healthcare professionals (Gotay et al., 2007, Jerant et al., 2009, Dale et al., 2009, Long et al., 2012). A support group was set up for study personnel in one of the studies (Gjerdingen et al., 2013).

Three of the studies provided on-going weekly (Crane-Okada et al., 2012) or bi-weekly (Castro et al., 2011) supervision until a point at which the peer-supporters became accredited (at approximately three-months) (Colella, 2009).

A peer-support volunteer coordinator was recruited in two of the studies, one in which no other form of supervision is mentioned (Dennis et al., 2009), and the other where bi-weekly supervision meetings were held, but it is unclear whether the volunteer co-ordinator provided the supervision (Castro et al., 2011).

2.4.4.4.   Type of Support Provided

Four studies provided psychological peer-support. Two studies provided support to women experiencing postnatal depression, but the content of the support that was provided is not clear (Dennis et al., 2009, Gjerdingen et al., 2013). In the other studies, emotional support was provided in the form of counselling to women experiencing a recurrence of breast cancer (Gotay et al., 2007, Crane-Okada et al., 2012).

Three of the studies provided informational support, two for enhancing pain and self-management, such as techniques and exercise (Parry et al., 2009, Castro et al., 2011), and the other in terms of supporting the participants with breastfeeding (Di Meglio et al., 2010).

Two of the studies provided support that focused on the use of motivational interviewing such as understanding participants motivations, setting achievable goals, and skills for monitoring progress (Long et al., 2012, Dale et al., 2009)

The study by Jerant et al., (2009) reported providing different types of support: informational support to enable mastery of self-management tasks, such as exercising safely, and emotional support to enable participants to cope with difficult emotions using cognitive symptom management. Gotay et al., (2007) also provided differing types of support in the form of counselling (emotional) and information to women suffering with breast cancer recurrence.

Colella (2009) identified emotional support as the most important type of support provided by the peers in this study, but also identified knowledge of problem solving (informational support), as well as positive feedback and reassurance (appraisal support).

While the majority of studies do not describe providing appraisal support, it may be difficult to rule this out because according to the definition by Dennis et al., (2003), the provision of peer-support by its nature encompasses providing positive feedback, encouragement, reassurance, and self-evaluation.

2.4.4.5.   Number of Calls and Duration

Four of the studies provided support for a relatively short length of time; for one month (Gotay et al., 2007), five-weeks (Crane-Okada et al., 2012) and six-weeks (Jerant et al., 2009, Colella, 2009). Three of the studies provided support for a longer period, eight-weeks (Parry et al., 2009) and twelve-weeks (Dennis et al., 2009, Gjerdingen et al., 2013). Two of the studies provided support over a period of six-months (Long et al., 2012, Dale et al., 2009). The remaining two studies provided support for up to twelve-months; Castro et al., (2011) provided two calls per month for the first two months and then monthly for twelve months whereas Di Meglio et al., (2010) provided calls over a period of seven weeks but the support continued at monthly intervals until breastfeeding was discontinued.

2.4.4.6.   Documentation

Six of the eleven studies reported the documentation of calls: two used activity logs to document specific intervention activities and length of calls (Dennis et al., 2009, Colella, 2009), whilst in the other studies, peers completed a written log indicating whether, and for how long, they covered each scripted teaching point (Jerant et al.,

2009, Crane-Okada et al., 2012, Dale et al., 2009, Castro et al., 2011). In the remaining five studies, no documentation of the delivery of the intervention was mentioned (Di Meglio et al., 2010, Parry et al., 2009, Gotay et al., 2007, Long et al., 2012, Gjerdingen et al., 2013).

2.4.5. Summary of Critical Appraisal

Table 2 provides a summary of the critical appraisal that was undertaken using the CASP (2013).

Each of the items in the CASP is discussed in detail below, beginning with section 2.4.5.1, corresponding to the order presented in Table 2.

Table 2 – Critical Appraisal

	Jerant et al (2009)	Parry et al (2009)	Di Meglio et al (2010)	Gotay et al (2007)	Dennis et al (2009)	Dale et al (2009)	Castro et al (2011)	Long et al (2012)	Crane-Okada et al (2012)	Gjerdingen et al (2013)	Colella (2009)
Did the study address a clearly focused issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the assignment of patients to treatments randomised?	Yes *	Yes *	Yes *	Yes	Yes	Yes	Yes	Yes	Yes	Yes *	Yes
Were the groups similar at the start of the trial?	Yes	Not sure	Yes	No *	Yes *	No *	Yes	Yes	Yes	No *	Yes *
Were patients, health workers and study personnel 'blind' to treatment?	No	No	Yes	Not sure	Yes	No	No	No	No *	Not sure	No
Were all the patients who entered the trial properly accounted for at its conclusion?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Jerant et al (2009)	Parry et al (2009)	Di Meglio et al (2010)	Gotay et al (2007)	Dennis et al (2009)	Dale et al (2009)	Castro et al (2011)	Long et al (2012)	Crane-Okada et al (2012)	Gjerdingen et al (2013)	Colella (2009)
Aside from the experimental intervention, were the groups treated equally?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How large was the treatment effect?	Yes	Not sure	Yes	No	Yes	No	Yes *	Yes *	No	No	Not sure
How precise was the estimate of the treatment effect?	Yes	Not sure	Yes	Yes	Yes	Yes	Yes	Yes	Not sure	Yes	Yes
Can the results be applied in your context?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Were all clinically important outcomes considered?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	Jerant et al (2009)	Parry et al (2009)	Di Meglio et al (2010)	Gotay et al (2007)	Dennis et al (2009)	Dale et al (2009)	Castro et al (2011)	Long et al (2012)	Crane-Okada et al (2012)	Gjerdingen et al (2013)	Colella (2009)
Are the benefits worth the harms and costs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Notes	Not clear how randomisation allocations were generated	It is not clear if there were any differences between groups that might have explained outcomes	The PI was aware of group allocation, sealed envelopes were used, and the PI had no direct contact with participants	TG had rec'd more chemotherapy and CG had rec'd more hormone therapy.	Women scoring >20 on the EPDS at 12-weeks were referred to specialist	The groups were similar but the ratio was different. DSN group had a ratio of 0.5.	Peer mentors' physical activity improved more than professionals from baseline to 12-months.	No significant results. Population was African-American Veterans.	Significant differences between intervention groups @ baseline were noted for partner status and type of surgery.	Randomisation carried out by support coordinator. Doula group had higher% of women with previous history of depression	The control group scored higher than the intervention group on the Beck Depression Scale.

2.4.5.1. Clear Aims and Objectives?

All of the included studies addressed a clearly defined research question. These are listed below:

- To evaluate the efficacy of senior peer counselling by telephone for supplemental psychosocial support of older women after breast-cancer surgery (Crane-Okada, 2012)

- To conduct a one-year RCT trail of 'Homing in on Health' (Jerant et al., 2009)

- To evaluate the effectiveness of telephone-based peer-support on the prevention of PND (Dennis et al., 2009)

- To investigate the effectiveness of a professionally-guided peer-support intervention on early recovery outcomes in post-coronary artery bypass graft surgery patients (Colella, 2009)

- To evaluate the benefit of postpartum doulas support and peer telephone-support for at risk mothers (Gjerdingen, 2013)

- To evaluate the effectiveness of a brief telephone intervention for women experiencing a breast cancer recurrence (Gotay et al., 2007)

- To evaluate the effect of telephone peer-support on breastfeeding duration amongst adolescents (Di Meglio et al., 2010)

- To test the feasibility of a peer-support program and determine indicators of the effects of peer-support on recovery outcomes of individuals following coronary artery bypass graft surgery (Parry et al., 2009)

- To test trial design issues related to measuring the effectiveness of a peer telephone intervention to enhance self-efficacy in type 2 diabetes; evaluate the impact on self-efficacy and clinical outcome (Dale et al., 2008)

- To test telephone-based physical activity advice delivered by professional staff versus trained volunteer peer mentors (Castro et al., 2011)

- To determine whether peer mentors or financial incentives are superior to usual care in helping African American veterans decrease their haemoglobin A1c (HbA1c) levels (Long et al., 2012).

2.4.5.2.   Randomisation

All of the included studies adequately randomised participants and described their method of allocation. Four of the studies used specific web-based randomisation services: www.randomize.net with stratification based on self-reported measures of postnatal depression (Dennis et al., 2009); and on gender, using variable block sizes of four and eight (Parry et al., 2009). Castro et al., (2011) used a computerised Efron procedure (Efron, 1971) with gender stratification used to randomise to one of three study arms, and Gotay et al., (2007) used a web-based programme, which is described as being developed by the Southwest Oncology Group (SWOG).

Three of the studies used the computer to generate random number allocations, which were then sealed in opaque sequentially numbered envelopes (Colella, 2009, Long et al., 2012, Di Meglio et al., 2010).

Three studies claim to have randomised participants using sealed opaque envelopes, but it is not clear how the allocation assignment was generated (Jerant et al., 2009, Dale et al., 2009, Crane-Okada et al., 2012). In the final study, the support co-

ordinator used random number tables to carry out unblinded random assignment (Gjerdingen et al., 2013).

2.4.5.3. Baseline Data

The use of randomisation aims to ensure that any possible co-founders are equally distributed within the groups, but small sample sizes may result in unequal distribution of co-founding variables. It is therefore important to conduct a statistical analysis of the demographic variables at baseline.

All of the included studies provide baseline data on both group allocations and in six of the eleven studies, it is clear that there were no differences between groups at the time of entry into the trials (Dale et al., 2009, Castro et al., 2011, Jerant et al., 2009, Dennis et al., 2009, Di Meglio et al., 2010, Parry et al., 2009).

Five of the studies noted some differences in baseline scores:

- Gotay et al., (2007) reported that the two groups were generally well balanced. More patients in the telephone intervention group received chemotherapy, whereas more patients in the control group received hormone therapy. The progression of the cancer (including death) was statistically more significant in the control group which may have impacted on the outcomes

- Crane-Okada et al., (2012) reported significant differences between the groups for partner status and type of surgery. Also, at baseline, women aged between 50-64 reported more social support, a greater use of seeking instrumental support as a coping strategy, and additional household members than women aged 65 and over

- Long et al., (2012) found a statistically significant difference between the groups at baseline in the number of participants with complications from diabetes

- Gjerdingen et al., (2013) reported that a higher percentage of participants in the postpartum doula group had a previous history of depression. They also reported trends for current depression and lower health state in the postpartum doula group, and a higher level of education in the control group

- Colella (2009) reported that the control group scored higher than the intervention group on the Beck Depression Scale.

2.4.5.4.   Blinding

The included studies all involved participants receiving peer-support, and it is therefore impossible to blind participants (i.e. they either know they will be receiving support over the telephone or not). However, in the study on breastfeeding, the participants were blinded to the hypothesis of the study (double-blinded study) (Di Meglio et al., 2010).

The outcome assessors were blinded to group status in six out of the eleven studies (Parry et al., 2009, Di Meglio et al., 2010, Dennis et al., 2009, Colella, 2009, Castro et al., 2011, Dale et al., 2009). In the remaining five studies blinding status is not clear (Jerant et al., 2009, Gotay et al., 2007, Crane-Okada et al., 2012, Gjerdingen et al., 2013, Long et al., 2012).

2.4.5.5.   Accounting of Peer-Supporters

Five of the eleven studies provided information on how many peer-supporters dropped out of the study, where *n* illustrates the number of peer-supporters initially recruited to the study:

- In two studies, two peer-supporters dropped out (n=22) (Parry et al., 2009) and (n=9) (Dale et al., 2009)

- Three peer-supporters (n=9) (Gjerdingen et al., 2013)

- Eight peer-supporters (n=20) (Gotay et al., 2007)

- Four peer-supporters (n=5) (Di Meglio et al., 2010)

- In the other six studies, it is not clear how many peer-supporters, if any, dropped out of the study.

2.4.5.6.   Accounting for Participants

All of the studies provided adequate information about the participants who took part, including those participants who did not complete the intervention (drop-outs, or loss to follow-up). Table 3 provides information on the number of participants recruited in each trial, with drop-out numbers and loss to follow-up.

Table 3 – Accounting for Participants

	Recruited	Drop-outs before post-intervention	Loss to follow-up	Completed study
Gotay et al., 2007	305	30*		
Colella, 2009	209	15	5	185
Dale et al., 2009	231		20	211

	Recruited	Drop-outs before post-intervention	Loss to follow-up	Completed study
Dennis et al., 2009	701	88	13	600
Jerant et al., 2009	415	45	7	363
Parry et al., 2009	101		6	95
Di Meglio et al., 2010	78	13	16	46
Castro et al., 2011	181	1	33	147
Crane-Okada et al., 2012	142	3		139
Long et al., 2012)	118	1	4	117*
Gjerdingen et al., 2013	39	3		36

* One study provided only drop-out numbers for the intervention group only (Gotay et al., 2007) and in another study previous scores were used for missing data (Long et al., 2012).

All participant's outcomes appear to have been analysed by the groups to which they were originally allocated. Four of the eleven studies described using an intent-to-treat approach in their analysis (Gjerdingen et al., 2013, Castro et al., 2011, Dennis et al., 2009, Parry et al., 2009) whilst in the other six studies it is not clear (Long et al., 2012, Dale et al., 2009, Colella, 2009, Gotay et al., 2007, Jerant et al., 2009, Di Meglio et al., 2010). One study design included support by request; forty-four participants were allocated to this arm, of which eleven requested telephone support. The results are reported for both intent-to-treat and 'as treated' (Crane-Okada et al., 2012).

2.4.5.7.   Data Collection

The participants in all the included studies were contacted by the researcher, either via the telephone or by mail-out at the same time intervals, and they received the same amount of attention from researchers and health workers. There were no differences that may have introduced performance bias.

2.4.5.8.   Power Calculations

Seven of the eleven included studies carried out a power calculation. One study had a power calculation of 90% (Gotay et al., 2007), while the other six studies had a power of 80% (Dennis et al., 2009, Jerant et al., 2009, Colella, 2009, Castro et al., 2011, Dale et al., 2009, Long et al., 2012). Two of the studies did not conduct power calculations due to the lack of information available to estimate the likely effect of the intervention (Crane-Okada et al., 2012, Gjerdingen et al., 2013). Parry et al., (2009) was a pilot study, and a pragmatic sample size of one hundred participants was used. In the breastfeeding study, it is not clear if a power calculation was conducted (Di Meglio et al., 2010).

2.4.5.9.   Presentation of Results

Seven of the included studies presented mean scores of the two groups (Parry et al., 2009, Dennis et al., 2009, Long et al., 2012, Dale et al., 2009, Gjerdingen et al., 2013, Castro et al., 2011, Crane-Okada et al., 2012). Gotay et al., (2007) presented the results using odds ratios, and Di Meglio (2010) used Kaplan Maier curves.

Seven of the eleven included studies presented p values and confidence intervals, but the remaining four studies presented the p value only (Parry et al., 2009, Gjerdingen et al., 2013, Crane-Okada et al., 2012, Colella, 2009).

2.4.6. Effects of Intervention

It was not possible to conduct a meta-analysis due to the heterogeneity of the

population and outcomes. Table 4 summaries the findings from the included studies.

Table 4 - Summary of Results

(Gotay et al., 2007)	- Psychosocial Distress (Cancer Rehabilitation Evaluation System -SF) p=0.50 - Depression symptomatology (Centre of Epidemiology Studies – Depression Scale) (CED-S) p=0.24
(Dennis et al., 2009)	- Edinburgh Postnatal Depression Scale (EPDS) @ twelve-weeks p=0.001 - State-Trait Anxiety Inventory @ twelve-weeks p=0.08 - UCLA Loneliness Scale p=0.28 - Health service use p=0.37
(Jerant et al., 2009)	- Illness management via home visits self-efficacy at six-weeks p=0.001 versus telephone peer-support p=0.01 - Physical Component Summary-36 @ six-weeks p=0.03 @ one-year p=0.04 compared to control group - Mental Component Summary -36 (not reported) - EuroQol-5D – Not Significant - EuroQol Visual Analogue Scale @ six-weeks p=0.01 @ 1-year p=0.02
(Parry et al., 2009)	- Health-Related Quality of Life (HRQL) Physical function p=0.12 Role function p=0.06 Less pain p=0.20

	- Improved enrolment in cardiac rehabilitation programmes p=0.11
(Dale et al., 2009)	- Diabetes Management Self-Efficacy Scale p=0.28 - Problem Areas in Diabetes Scale p=0.27, HbA1c p=0.33
(Colella, 2009)	- Beck Depression Inventory @ discharge p=0.05, six-week p=0.08 @ twelve-weeks p=0.48 - Perceived social support at discharge p=0.36, at six-weeks p=0.50 @ twelve-weeks p=0.86 - Health service use showed significant different in family GP p=0.02 and emergency treatment p = 0.04
(Di Meglio et al., 2010)	- Breastfeeding duration p=0.26 - Exclusive breastfeeding p=0.004
(Castro et al., 2011)	- Physical activity study arm *time p=0.005 - Peer mentor versus control @ twelve-months translate to an effect size of 0.51 - Actigraphy validation found that MVPA versus control arm p = .007
(Long et al., 2012)	- Peer-support group compared to control group HbA1c p=0.006
(Crane-Okada et al., 2012)	- Anxious mood – not significant (Age*Group p>0.05) - Social support (Age*Group p < 0.05) - Coping by seeking support (Age*Group p<0.05)
(Gjerdingen et al., 2013)	- General health p=0.82 - Depression symptomatology CES-D scores p = 0.96 - Available social support p = 0.86

In the eleven included studies, there were a total of thirty-six outcome measures. Six of these studies that included twenty-one of the outcome measure scores reported non-significant results (Gotay et al., 2007, Gjerdingen et al., 2013, Crane-Okada et al., 2012, Dale et al., 2009, Parry et al., 2009, Colella, 2009). The results from one study found a significant impact on health service use (Colella, 2009).

Three of the studies compared peer-support with another intervention arm as well as a control group. They analysed nine outcome measures, and found no significant differences between the two intervention arms, but both intervention arms provided a significant difference when compared to the control group. Therefore, it is difficult to conclude whether the peer-support intervention would be more effective than a home visiting programme (Jerant et al., 2009); professional support (Castro et al., 2011) or providing financial incentives (Long et al., 2012).

Of the remaining two studies, Dennis et al., (2009) found a significant difference on the EPDS between the two groups at post-intervention (twelve-weeks) (p=0.02), but due to ethical reasons those participants who were identified as severely depressed (scored above 20 on the EPDS) were referred to a specialist for treatment. The three other outcome measures analysed as part of this study were not significant. The other study by Di Meglio et al., (2010) found a significant difference in 'exclusive breastfeeding' in young adolescent mothers in the intervention group, and a non-significant finding was reported for breastfeeding duration.

2.4.7. Key Findings by Type of Outcome

2.4.7.1. Self-Management

Four out of the eleven studies primarily investigated the impact of TBPS on the self-management of conditions: Glucose Control (Long et al., 2012); diabetes motivation and support (Dale et al., 2009); chronic illness (Jerant et al., 2009); and recovery after surgery (Parry et al., 2009)

One of the studies evaluated the impact of TBPS against a control group (Parry et al., 2009) whilst the other three studies had another intervention arm: home visits (Jerant et al., 2009); calls from a diabetes specialist nurse (Dale et al., 2009); and financial incentives (Long et al., 2012).

Self-management of diabetes care was the focus of two of the studies. Dale et al., (2009) used the Diabetes Management Self-Efficacy Scale (DMSES) as a primary measure, and found no significant differences between the groups ($p=0.68$). These findings were supported by the results from the secondary outcome measure HbA1c scores ($p=0.87$). Long et al. (2012) measured HbA1c at post-intervention, and found that HbA1c had reduced from 9.9% to 9.8% in the control group, 9.8% to 8.7% in the peer-support arm, and 9.5% to 9.1% in the financial incentive arm. Although the reduction in the peer-support arm was the largest, the difference was not significant.

Jerant et al., (2009) found that peer-led chronic self-management training delivered in the home led to significantly higher illness management self-efficacy at six-weeks ($p=0.001$) and at six-months ($p=0.04$), as measured by the Medical Outcomes Study 36-Short Form. However, this was not sustained at the one-year follow-up.

Parry et al., (2009) found that the intervention group reported non-significant trends post-intervention towards improved physical functioning (p=0.12), role functioning (p=0.06), and less pain (p=0.20) in patients recovering from surgery using the Health-Related Quality of Life Scale (HRQL).

While these studies indicate a positive trend towards increased self-management of personal healthcare, only one study reported significant results that were not sustained at long-term follow-up.

2.4.7.2.   Psychological Outcomes

Five out of the eleven studies investigated the impact of TBPS on psychological health outcomes.

Crane-Okada et al., (2012) measured anxious mood using the Hospital Anxiety and Depression Scale, Social support using the Interpersonal Relationship Inventory (IPRI short form), and Coping Strategies in stressful situations using the Brief COPE. They found mean anxious mood scores declined over time (baseline mean scores 8.8 (SD 5.1), at six-months mean 6.1 (SD 4.7)). Results from the Brief COPE found a significant main effect of age and social support, but no interaction effects were found.

Dennis et al., (2009) used the Edinburgh Postnatal Depression Scale (EPDS), as well as the Structured Interview for Depression and UCLA Loneliness scale, at twelve-week post-intervention. They found that the intervention group were significantly less likely to have symptoms of postnatal depression at twelve-weeks (p=0.02) but no differences between groups at twenty-four weeks (p=0.10). There was no difference between the two groups on loneliness scores at twelve-weeks (p=0.28) or twenty-four weeks (p=0.17).

Colella (2009) measured the impact of TBPS on psychosocial recovery outcomes after surgery using the Beck Depression Scale. The results showed no significant differences at six-weeks (p=0.08) or twelve-weeks (p=0.49). The Shortened Support Scale found no significant differences over time (p=0.94). The Postoperative Self-Report of Recovery Questionnaire measuring healthcare resource utilization found the control group had significantly greater usage than the intervention group (GP visits p=0.02, emergency p=0.04).

Gjerdingen et al., (2013) used the PHQ-9 and the CES-D to measure psychological health as well as an available support measure. At post-intervention, the postpartum doula group showed greater improvements in health state, but the difference was not significant (change scores doula 15.0, telephone-support 3.6, and control group 8.1, p=0.19). The CES-D scores also showed no significant differences (change scores doula 16.3, telephone-support -14.5, and control group -10.1, p=0.38).

Gotay et al., (2007) measured psychosocial outcomes using the Cancer Rehabilitation Evaluation System – Short Form, and depressive symptoms using the Centre for Epidemiological Studies Depression Scale at baseline, three-months (end of intervention), and at six-months (follow-up). They found no difference between the two groups at three-months in distress (p=0.50) or depressive scores (p=0.24). The data for six-months is not provided because considerable numbers of patient illnesses had progressed, and they had become too ill to respond.

While psychological outcomes also indicate a positive trend towards improvement, only two of the studies show a significant improvement (Crane-Okada 2012, Dennis et al 2009). Although Colella (2009) showed no improvement in psychological

wellbeing, the study found a significant improvement in healthcare resource utilisation.

In the study conducted by Dennis (2009), while the EPDS score showed a significant improvement at twelve-weeks, these women were identified as being at high risk of developing PND seventy-two hours after being discharged from hospital, rather than having a diagnosed problem. It is important to note that some of these participants may have been experiencing transient low mood / baby blues, which would have dissipated over time without any intervention (Kumar and Robson, 1984).

2.4.7.3.   Behavioural Health Outcome

Six of the eleven studies measured some form of behaviour change. However, only two of these studies focused directly on influencing behaviour exclusively.

Di Meglio et al., (2010) evaluated the impact of TBPS on breastfeeding duration in adolescent mothers. There was no significant difference between the two groups in relation to 'any breastfeeding' (a mixture of bottle and breast milk) (p=0.26). However, exclusive breastfeeding duration appeared to be significantly longer in the intervention group (p=0.004).

Castro et al., (2011) evaluated the impact of a Physical Activity programme delivered by professionals or peers versus a nutrition advice delivered control arm. At post-intervention, both intervention arms showed a significant increase in physical activity (MVPA) relative to the control arm (p=0.005), with the peer-supporters demonstrating more versatility and comprehensiveness in quality of intervention delivery.

Four studies measured behaviour change as a secondary outcome. Parry et al., (2009) evaluated the impact of peer-support by the number of participants who enrolled into cardiac rehabilitation programmes. The study found that although this number improved in the intervention group, it was not significant (p=0.11). Dennis et al., (2009) evaluated the impact of TBPS in relation to the use of health services and found that there was no significant difference between the two groups (p=0.37) at twelve-weeks. Colella (2009) used the Postoperative Self-Report of Recovery Questionnaire measuring healthcare resource utilization and found the control group had significantly greater usage than the intervention group (GP visits p0.02, emergency p=0.04). Crane-Okada (2012) measured behaviour change by evaluating coping by seeking instrumental support. After controlling for age, the results showed a significant effect of the intervention over time.

2.4.7.4.   Satisfaction with Peer-Support Intervention

Three out of the eleven studies used the 'Peer-Support Evaluation Inventory' to collect data from participants with regard to their satisfaction with the TBPS intervention (Parry et al., 2009, Dennis et al., 2009, Colella, 2009). Results found that the majority of participants were satisfied with peer-support with satisfaction as high as 80% (Dennis et al., 2009), 95% (Colella, 2009) and 98% (Parry et al., 2009).

Four of the studies used in-house measures to collect data on how satisfied they were with the peer-support intervention. Gotay et al. (2007) used a telephone counselling evaluation form in which participants were able to rate their satisfaction with the intervention and make suggestions for future improvements. The results indicated that 78% were satisfied with their support (support was satisfactory, good, or excellent), with 17% of women wanting more sessions (Gotay et al., 2007).

Jerant et al., (2009) collected mean ratings of the overall usefulness of the 'Health in the Home' intervention, which were found to be similarly acceptable in both the home visits and via the telephone. Crane-Okada (2010) requested that the participants rated their satisfaction with the peer-support intervention using a Likert scale from 1 – 5, with 5 being rated as the highest level of satisfaction. Immediately after the five scheduled phone calls, the overall mean ratings were: peer counsellor (4.3 (SD 1.0)), another breast cancer survivor (4.4 SD 1.0), or Reach to Recovery volunteer (3.7 (SD 1.1)). Castro et al., (2011) adapted a 39-item scale used in a previous study (King et al., 1991), and found no group differences in the peer-supporter skill and competencies (p=0.06).

Long et al., (2012) reported that 20 / 28 participants reported liking the fact that their supporter had diabetes, and felt it was an important part of the programme along with other positive themes.

Di Meglio et al., (2010) conducted interviews at the end of the study to provide further lines of evidence because the peer-supporters were inconsistent in completing the telephone logs. No outcome data was provided.

In two of the studies, it is not clear how data on the satisfaction from peer-support was collected. However, Gjerdingen et al., (2013) found satisfaction with study-sponsored support as being greater in the postpartum doula group (4.5 (SD 0.7)) than in the telephone-support group (3.2 (SD 1.7)) (p=0.026). Dale et al., (2009) used a non-validated questionnaire, and reported that 53 / 69 (77%) peer-support group respondents compared to 29 / 31 (94%) designated nurse support group (DSN) would recommend the peer-support intervention to other patients (p=0.04).

2.5. Cost-Effectiveness

While some of studies referred to the cost implications of TBPS interventions, only two studies provided detailed information on cost-effectiveness. Jerant et al., (2009) examined hospitalisations and total healthcare expenditure to facilitate cost-effectiveness analysis and found no significant differences between the three groups. Dennis et al., (2009) used the Health Service Utilisation and Cost of Care Questionnaire. There was no cost difference between the groups at post-intervention (p=0.37) or at follow-up (p=0.83).

Six studies did not provide any data on cost-effectiveness (Gotay et al., 2007, Parry et al., 2009, Crane-Okada et al., 2012, Gjerdingen et al., 2013, Dale et al., 2009, Long et al., 2012). Two studies suggested that changes in behaviour could have a financial impact on the provision of healthcare, such as the lower utilization of health services (Colella, 2009), and an increased number of participants enrolled into cardiac rehabilitation programmes (Parry et al., 2009). The study evaluating the impact of peer-support on breastfeeding duration suggests that the difficulties in retaining adolescent peer-supporters would have implications of the cost effectiveness of the intervention (Di Meglio et al., 2010).

Two studies concluded that cost-effectiveness analysis should be conducted in future studies (Colella, 2009, Castro et al., 2011).

2.6. Discussion

2.6.1. Studies Included in this Review

This update of the Dale et al., (2008) review identified eleven further RCT's that evaluated the impact of TBPS on health and health-related behaviours. The studies were conducted in America, Canada, and the UK, and related to different target populations and a variety of health conditions. The studies recruited a variety of peer-supporters who underwent training, initiated the calls, and in some cases provided written evidence of the topics that were discussed. The TBPS was provided over a variable length of time ranging from a minimum of four-weeks to a maximum of twelve-months, with some of the studies conducting a follow-up review at three, six and / or twelve-months, making it difficult to carry out direct comparisons of the interventions.

There were a total of thirty-six outcome measures, of which approximately 25% reported significant findings. However, only a quarter of these significant results were from primary outcome measures, and half of these studies had two intervention arms, which makes it difficult to draw any generalizable conclusions in favour of the effectiveness of peer-support interventions.

Overall, the results from the studies are inconclusive in establishing if TBPS is effective in improving physical and emotional wellbeing, although none of the studies reported any adverse effects.

2.6.2. Limitations of the Included Studies

There were a number of methodological problems with the included studies. None of the studies described their theoretical underpinning, which was consistent with the findings of previous reviews (Dale et al., 2008, van Dam et al., 2005).

It is often difficult in RCT's of complex community-based interventions to blind participants to group allocation, especially in trials that employ peer-support interventions. This can influence the likelihood of there being a placebo effect across the studies, whereby individuals initiate behaviour changes as a result of just taking part in the study and completing outcome measures at viable time-points.

There was little attempt to identify the cost-effectiveness using validated cost-effectiveness outcome measures. In addition, the studies that explored the long-term effects of TBPS interventions showed limited sustained impact, which again raises questions with regard to the cost-effectiveness of such interventions.

In addition to these methodological problems, there were problems with the reporting of the delivery of the intervention. Inconsistencies with how peer-supporters were recruited, trained, and supported in the included studies make it difficult draw conclusions across the studies. It is also not possible to accurately compare the interventions across the studies due to differences in the provision of peer-support, training, the number of calls, and the content of support provided.

2.7. Authors Conclusions

2.7.1. Implications for Practice

This review looked to address the following review questions:

a) How effective is TBPS in improving physical health and functioning, psychological, and psychosocial wellbeing?

b) How cost-effective is telephone-based peer-support?

There has been an increase in the evaluation of peer-support interventions within healthcare to enhance self-management of long term conditions, and to support the emotional, psychological, and psychosocial needs of patients (Dale et al.,2008, n=7, this review, n=11). This review found slightly more positive outcomes for peer-support interventions and psychological outcomes than changes in improvement of self-management or behavioural outcomes. However, the findings from this review provide inconclusive results in terms of addressing the review questions regarding the clinical and cost-effectiveness of TBPS interventions.

The findings of this review support the conclusions provided by Dale et al., (2008), in that although there was some evidence to support the effectiveness of TBPS interventions for certain health-related concerns, further research into the clinical and cost-effectiveness of TBPS interventions is required.

2.7.2. Implications for Research

A recent paper by Shepperd et al., (2009) highlighted the difficulties of conducting systematic reviews involving studies that evaluate complex interventions, and some of these issues were evident in the current review. They discussed difficulties such as identifying agreed definitions of similar interventions, and different or inadequate reporting processes that can pose inherent problems for systematic reviewers. This can be further complicated if the intervention aims to promote an abstract concept that varies according to the characteristics of the participants (i.e. in this review the dynamics of a peer-support relationship) (Shepperd et al., 2009).

The methodological issues that were identified in this review need to be addressed in future studies that evaluate peer-support interventions. Telephone-based peer-support has been identified as being beneficial to the healthcare profession and has a potential to impact on the financial resources within the healthcare system (Dennis, 2003c), but there is a need for high quality assessment of the clinical and cost-effectiveness of TBPS interventions. This involves developing theory-based interventions, exploring different recruitment strategies, training and supervision support for peer-supporters, as well as reporting detailed information about the delivery of the intervention to make improvements that can be implemented in the future.

In peer-support relationships, the interaction between two people is a key component of the intervention. While the training provided to peer-supporters includes an element of listening and being empathic, there is very little research on the characteristics of this relationship (Pfeiffer et al., 2011, Porter et al., 2011). More research looking at the characteristics and dynamics of the relationship between the dyads may yield more in-depth knowledge about the unique benefits of peer-support, and how researchers can measure this accurately.

The need to improve the reporting of complex interventions is becoming urgent as the use of such interventions is expanding in response to the complex health issues faced by the health service.

The next chapter looks at whether a literature search exploring qualitative studies can provide a deeper understanding about the role played by peer-support interventions.

3.   A Qualitative Review of the Literature

Exploring Common Characteristics that Enhance Telephone-Based Peer-Support Interventions: A Systematic Review and Meta-Ethnography

3.1. Overview

The last chapter presented the findings of a quantitative review evaluating the effectiveness of Telephone-Based Peer-Support intervention (TBPS), the results of which were inconclusive. While some peer-support interventions showed signs of effectiveness in certain settings and conditions, the findings could not be generalised across the breadth of peer-support interventions. This raised another important question: what characteristic within peer-support interventions makes them effective? The answer to this question could help in the development of future peer-support interventions.

The aim of this chapter is to carry out a review of the qualitative literature that focuses on TBPS interventions. The chapter identifies studies that explore the experiences from both the participants and peer-supporter's perspectives in relation to receiving and / or delivering TBPS. The aim is to investigate if there are any unique characteristics that could be identified as being crucial to the effectiveness of such interventions. A meta-ethnography was conducted to synthesise the findings from the relevant qualitative studies.

3.1.1. The Use of Qualitative Research

The results from the previous quantitative literature search suggest that TBPS interventions may be beneficial in some cases. However, it is unclear whether they are more effective in a particular context or in relation to a particular health condition. It is also unclear as to whether peer-support is most effective in supporting individuals emotionally, psychologically, practically, or in helping them to change their behaviour. An examination of qualitative studies and individual case narratives that explore the experiences of TBPS interventions from both the perspectives of the peer-supporters and the participants may be able to provide a better understanding of how the support is perceived by both providers and recipients (Cresswell, 1998). This deeper understanding could not only enhance our knowledge about TBPS interventions, but also help to identify the characteristics that may contribute to their effectiveness.

Recognition of the importance of synthesising data from qualitative studies is increasing (Kane et al., 2007, Dixon-Woods and Fitzpatrick, 2001, Toye et al., 2013) in terms of its value in providing a deeper understanding of the 'how, why, and what' characteristics of the intervention make it acceptable and effective for the target population. This approach enables researchers to incorporate the views of the individuals involved, to take different outcomes into account (Dixon-Woods et al., 2004) and also to explain differential findings using different types of information. There are a number of emerging methods of synthesising qualitative studies, such as meta-narrative synthesis, meta-study, grounded formal theory, thematic synthesis, and textual narrative synthesis (Barnett-Page and Thomas, 2009). However, meta-ethnography is the most extensively employed method (Noblit and Hare, 1988).

3.1.2. Meta-Ethnography

Meta-analysis (quantitative) and meta-ethnography (qualitative) are similar in that they both bring together findings from primary research. However, there are also fundamental differences between the two. A meta-analysis is concerned with aggregating data from randomised control trials to obtain sufficient statistical power in order to detect a cause and effect relationship between a specific intervention and outcome (Egger et al., 1997), which can provide evidence of the effectiveness of the intervention (France et al., 2014). The purpose of a meta-ethnography is, firstly, to identify the concepts within studies, secondly, to compare them with concepts in other studies, and finally, to translate these other studies into each other as a means of developing new conceptual categories. The concept of second-order constructs is used to distinguish the main 'raw data' of meta-ethnography, i.e. the clearly articulated interpretations of researchers regarding their own studies (Britten et al.,2002). This data (second-order constructs) is then further abstracted and interpreted to develop new conceptual categories (third-order constructs). Once the second-order constructs are identified, the next stage in meta-ethnography is to explore how the second-order constructs are related to each other. The process of constant comparison enables us to see similarities and differences between second-order constructs, and to organise them into new conceptual categories with shared meanings. These new conceptual categories are then described by illustrations and quotations of the second-order constructs. A meta-ethnography helps re-interpret meaning across many relevant qualitative studies and develop new meanings whereas thematic analysis generates themes from within the original qualitative data (France et al., 2014).

A meta-ethnography is most suitable for synthesising a limited number of conceptually rich studies, while the synthesis of a large number of studies may be more suited to a thematic synthesis (Campbell et al., 2011). Furthermore, while many of the approaches to qualitative synthesis report the aggregated themes / concepts that were identified in the primary studies, a meta-ethnography aims to create new interpretations of these original themes. Finally, a meta-ethnography uses a systematic approach which is designed to "*preserve the context and meaning of the primary studies*" (France et al., 2014).

Recent publications have provided a clear description of the process of each of the stages involved (France 2014) from the original process described by Noblit and Hare (1988). Table 5 provides an outline of the various stages involved in carrying out a meta-ethnography.

Table 5 - Stages involved in Conducting a Meta-Ethnography

Phase	Noblit and Hare's description
1: Getting started	'*Identifying an intellectual interest that qualitative research might inform.*' The focus of the synthesis may be revised through reading interpretive qualitative studies.
2: Deciding what is relevant to the initial interest	Study selection should be '*driven by some substantive interest derived from comparison of any given set of studies.*' Searches for studies need not be exhaustive: '*unless there is a substantive reason for an exhaustive search, generalizing from all studies of a particular setting yields trite conclusions.*'

Phase	Noblit and Hare's description
3: Reading the studies	The repeated reading of studies and noting of metaphors with close attention to details in the studies and what they tell you about your area of interest.
4: Determining how the studies are related	Noblit and Hare recommended that reviewers create '*a list of key metaphors, phrases, ideas and / or concepts (and their relations) used in each account, and [to] juxtapose them*' in order to make an initial assumption about how the studies relate to one another. This informs the type of synthesis that will be carried out – a reciprocal or refutational translation or line of argument synthesis.
5: Translating the studies into one another	The metaphors and / or concepts in each account and their interactions are compared or '*translated*' within and across accounts while retaining the structure of relationships between central metaphors / concepts within accounts. The translations taken together are '*one level of meta-ethnographic synthesis*. These are systematic comparisons and reciprocal translation is key to a meta-ethnography.
6: Synthesising translations	If there are many translations from phase 5, these can be compared with one another to see if there are common types of translations or if some translations or concepts can encompass those from other studies. '*In these cases, a second level of synthesis is possible, analysing types of competing*

Phase	Noblit and Hare's description
	interpretations and translating them into each other' to reach new interpretations / conceptual understandings.
7: Expressing the synthesis	Tailoring the communication of the synthesis to the intended audience's culture and language so that it is intelligible and meaningful to them - '*the written synthesis is only one possible form.*'

Table taken from France et al., (2014), original quotes in italics (Noblit and Hare 1988).

3.1.3. Aims

The aim of this review is to explore the experiences of participants and peer-supporters in order to identify provider and user perceptions about what makes TBPS an effective intervention. This will be achieved by synthesising qualitative research using a meta-ethnographic approach by using the phases illustrated in Table 5.

3.1.4. Objectives

The objectives of this review are to:

- Review qualitative studies that explore the experiences of providing and / or receiving telephone-based peer-support

- List the key themes and concepts identified by the authors in the original studies included in this review (first-order constructs)

- Bring together the themes that are common across all the included studies as second-order constructs

- Use lines of argument to illustrate how each second-order construct was abstracted and interpreted to develop new conceptual categories (third-order constructs)

- Identify, from synthesised data, participants and peer-supporters' perspectives about the benefits and / or challenges in relation to TBPS, with an aim to identify the characteristics that make such interventions effective.

3.2. Methods

A search strategy was developed from other reviews of qualitative studies (Britten et al., 2002, Britten et al., 2011, Campbell et al., 2004, Kane et al., 2007), which is described below.

3.2.1. Databases Searched

Databases searched for this review included MEDLINE, CINHAL, EMBASE, WEB OF SCIENCE, SCIENCE DIRECT, ISI and PSYCINFO.

3.2.2. Search Terms

The search included combinations of the following terms: peer-support, telephone, adults, experiences, perceptions, qualitative interviews, discourse, narrative, and research, to ensure that all potential studies relating to a TBPS intervention were considered.

3.2.3. Inclusion Criteria

The meta-ethnography included studies that had evaluated participants and peer-supporter perspectives about telephone-based peer-support, where qualitative data had been collected via focus groups or individual interviews. The included studies were required to have employed qualitative data collection techniques that generated themes with regard to their experiences of receiving and / or providing the intervention. The search was limited to papers published since 2000, due to the extensive advances in technology.

3.2.4. Exclusion Criteria

Research conducted prior to 2000 was excluded due to the extensive advances in technology and mobile phone applications in the recent decade. Studies were also excluded if the participants were children, the intervention was not telephone-based (internet-based or group-based) or was not delivered by a peer (nurse led), the effect of telephone support could not be extracted, or the study did not employ qualitative methods of data collection.

3.2.5. Data Abstraction

The researcher independently analysed the included studies. There was no particular order in which the studies were read, due to their homogeneity.

All of the included studies met the inclusion criteria for the review. The authors of the included studies had clearly identified key themes that were relevant to the 'experiences or perceptions of receiving and / or delivering telephone-based peer-support.' The themes and the original quotations supporting them were read and examined. Key themes identified by the original authors that were relevant to the aim

of the meta-ethnography were listed (known as first-order constructs) (See Table Five - Phase 3).

3.2.5.1.   Translating the studies into one another

Following this process, a table was created using flip chart paper to group together similar themes to create second-order constructs that were common across all the included studies. For example, reciprocal support, mutual sharing, and positive reinforcement were grouped together under the second-order construct of 'mutual support.' The labels for these second-order constructs were a close paraphrase depicting the original author's own words with little re-interpretation. An original quotation of each second-order construct was listed alongside each second-order construct, again preserving the original terminology and context used in the original papers.

Following this, the second-order constructs were explored to see how they related to each other in order to identify whether "*a reciprocal rather than a refutation translation synthesis was required*" (See Table Five - Phase 4 / 5). There was a general consensus across the included studies, and none of the papers contradicted the findings from the other studies. This process of constantly comparing the second-order constructs enabled similarities and differences to be identified and facilitated the development of new conceptual categories (known as the third-order constructs).

A line of argument approach ''*recognises that often people study different aspects of phenomena and that it might be possible to offer a fuller account of phenomena by arranging the studies' metaphors in some order that allows us to construct an argument about what the set of ethnographies say*'' (Thorne et al., 2004). In this

study, a 'line of argument' was used to illustrate how the each second-order construct contributed to the generation of new interpretations of the data, providing new conceptual categories (third-order constructs) (See Table Five - Phase 6 and 7) (Noblit and Hare, 1988).

3.2.6. Consort Flow Chart

See Figure 2 for the breakdown of the results of the literature search.

```
┌──────────────────────┐
│ Titles and abstracts │
│ identified and       │
│ screened             │
│ (n = 117)            │
└──────────┬───────────┘
           │            ┌─────────────────┐
           ├───────────▶│ Excluded (n=92) │
           │            └─────────────────┘
           ▼
┌──────────────────────┐
│ Full copies retrieved│
│ and assessed for     │
│ eligibility          │
│ (n=25)               │
└──────────┬───────────┘
           │            ┌─────────────────┐
           ├───────────▶│ Excluded (n=19) │
           │            └─────────────────┘
           ▼
┌──────────────────────┐
│ Number of studies    │
│ included in this     │
│ review               │
│ (n=6)                │
└──────────────────────┘
```
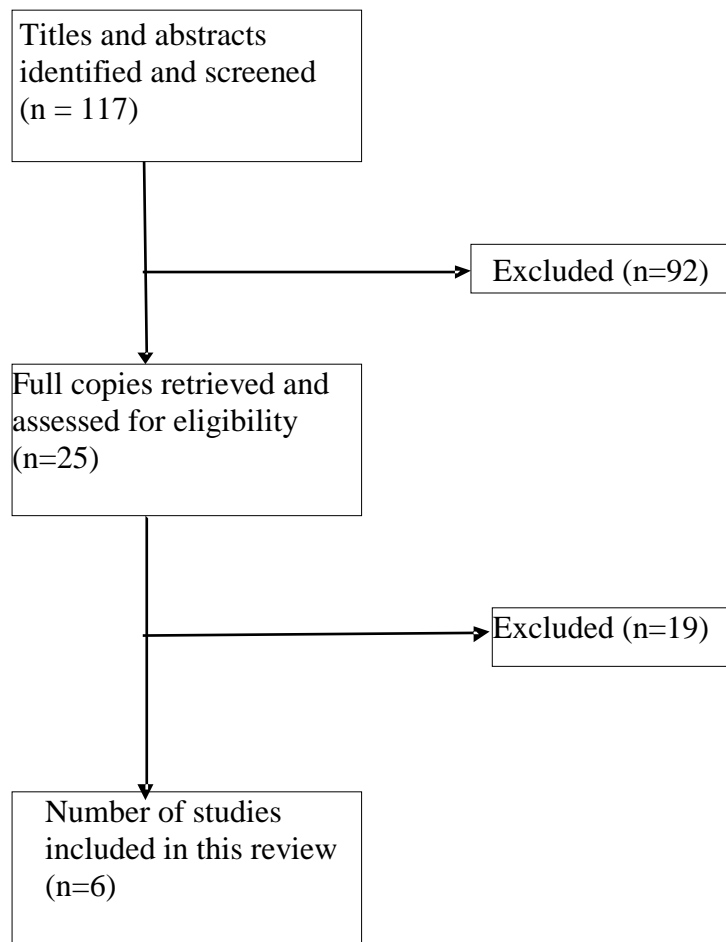
Figure 2 – Qualitative Search Results

3.3. Results from the Search

A total of one-hundred and seventeen studies were identified and the titles and abstracts of each of these were examined by the researcher (see Figure 2 - Consort

Flow Chart). Ninety-two studies were excluded because they did not meet the inclusion criteria. The full articles for twenty-five papers were obtained and reviewed: thirteen explored the experiences of the peer-supporters, and twelve explored the participant's experiences. The most common reason for rejecting studies at this stage was that quantitative methods were used to collect data, or no qualitative data was reported in the journal article (Dasch and Kendall, 2007, Mohr et al., 2005, Preyde and Ardal, 2003, Dennis et al., 2009, Travis et al., 2010, Sandhu et al., 2013, Barg et al., 2011). Six studies met the inclusion criteria, one of which provided two separate findings (Pistrang at al., 2012, 2013). The nineteen excluded studies are listed in Appendix Four.

3.3.1. Critical Appraisal

Assessing qualitative research is complex, and this has led to the development of a range of checklists being employed. Qualitative studies exploring the experiences of TBPS from the perspective of the participant and the peer-supporters were appraised using the Critical Appraisal Skills Programme (CASP) for qualitative studies (2013). Each of the items in the CASP is discussed in detail below, beginning with section 3.3.2, corresponding to the order presented in Table 6.

Table 6 – Critical Appraisal

	Heisler et al (2005)	Hughes et al (2009)	Pistrang et al 2012	Whittemore et al (2000)	Marino et al (2007)	Jalovcic & Pentland (2009)	Pistrang et al 2013
Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Not sure [1]	Yes	Yes	Yes
Was the recruitment strategy appropriate to the aims of the research?	Yes	Not sure[1]	Yes	Yes	Yes	Not sure [1]	Yes
Were the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Has the relationship between researcher and participants been adequately considered?	Not sure	Not sure [2]	Yes	Yes	Not sure [1]	Yes	Yes

	Heisler et al (2005)	Hughes et al (2009)	Pistrang et al 2012	Whittemore et al (2000)	Marino et al (2007)	Jalovcic & Pentland (2009)	Pistrang et al 2013
Have ethical issues been taken into consideration?	Not sure	Not sure [3]	Yes	Yes	Yes	Yes	Yes
Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How valuable is the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Notes	not mentioned	[1]link nurse recruited – no one refused [2] not mentioned [3] 2 participants were distressed – not clear how this was handled		[1]does not mention participants who did not take part or why	[1] researcher bias not mentioned	[1] no mention about peer-supporters who did not take part	

3.3.2. Aims and Objectives of the Included Studies

Six studies were included and synthesised as part of this meta-ethnography. All of the included studies provided a clear statement regarding the aim of the research: one study explored the experiences of patients receiving peer-support (Hughes et al., 2009), two studies examined bi-directional support in which the patients supported each other (Heisler and Piette, 2005, Jalovcic and Pentland, 2009), and two of the studies explored the peer-supporter experiences of providing peer-support (Whittemore et al., 2000, Marino et al., 2007). The final study provided data for both participants of TBPS (Pistrang et al., 2012) and providers (Pistrang et al., 2013) (see Table 7 below).

Table 7 - Characteristics of Included Studies

Authors	Aims of the study	Sample Population	Peer-supporter	Data Collection	Data Analysis
Heisler et al (2005) Michigan	To evaluate the use of Interactive Voice Response among patients with diabetes. The study measured patient and peer-supporter satisfaction.	Diabetic patients with poor glycaemic control (n=38).	The patients also provided peer-support.	Brief telephone interviews and follow-up surveys.	Unclear.
Hughes et al (2009) South London	The study explored the experiences of the kidney patients receiving both group	Kidney patients on the pre-dialysis care	A pool of peer-supporters was trained*.	Semi-structured telephone interviews.	The framework method was used, a matrix with rows for each respondent

Authors	Aims of the study	Sample Population	Peer-supporter	Data Collection	Data Analysis
	and / or telephone-support.	pathway (n=20).			and columns for themes describing experiences.
Whittemore et al (2000) Massachusetts	Part of a larger RCT that compared peer-support with nurse led support to unpartnered elders recovering from myocardial infarction (MI). This study explored the peer-supporter experiences.	Patients who received peer-support (n=45).	Peer advisors who had experienced a MI within the previous three years (n=10).	Multifaceted peer-logs, focus group and individual telephone interviews.	The process identified by Miles and Huberman (1994) was used consisting of data reduction, display, conclusion drawing and verification.
Marino et al (2007) The Bronx, New York	Part of a larger RCT that aimed to increase antiretroviral medication that involved fortnightly group sessions as well as weekly telephone calls initiated by the peers. This study	HIV positive men and women (n=136)	Peer-supporters who were diagnosed with HIV up to 17 years ago (n=9).	In-depth individual interviews and a focus group.	Grounded Theory (Auerbach and Silverstein, 2003).

Authors	Aims of the study	Sample Population	Peer-supporter	Data Collection	Data Analysis
	examined the experiences of the peers.				
Jalovcic & Pentland (2009) Canada	The TBPS programme for women with spinal cord injury living in rural and remote areas. This study explores their experiences of supporting each other.	Women with Spinal Cord Injury (SCI) (n=7)	The patients also provided peer-support.	Focus groups and individual interviews.	Phenomenological analysis (Moustakas, 1994).
Pistrang et al 2012, 2013	To examine the impact of TBPS for women suffering from gynaecological cancer. The study explores participants and peer-supporter experiences.	Women who had been recently treated for gynaecological cancer (n=24).	Peer volunteers who had been treatment free for over a year (n=16).	Semi-structured interviews.	Framework approach (JoannaSmith and JillFirth, 2011)

*see link for further information http://www.gsttcharity.org.uk/pdfs/whitecoat.pdf

3.3.2.1. Methodological Approach

The methodology employed for qualitative data collection was appropriate and the design of the included studies met the aims of this study. Three of the studies used established qualitative analysis methods such as the Framework Method (Hughes et al., 2009, Pistrang et al., 2012, Pistrang et al., 2013) and Phenomenological Analysis (Jalovcic and Pentland, 2009). Two studies used some form of Thematic Analysis (Marino et al., 2007, Whittemore et al., 2000). In one study, the theoretical orientation of the data collection was unclear (Heisler and Piette, 2005).

3.3.2.2. Setting

One study was conducted in Canada (Jalovcic and Pentland, 2009, Dennis, 2002), three were conducted in America: Michigan (Heisler and Piette, 2005), Massachusetts (Whittemore et al., 2000), and New York (Marino et al., 2007). Two of the studies were conducted in the UK (Hughes et al., 2009), one of which produced two sets of findings, one on the participants perspectives (Pistrang et al., 2012), and the other on the benefits and challenges experienced by the peer-supporters (Hughes et al., 2009, Pistrang et al., 2012, Pistrang et al., 2013).

3.3.2.3. Sample Sizes

The sample sizes of the included studies ranged from seven to thirty participants. The six studies included patients (n=44), bidirectional support (n=11), and peer-supporters (n=42).

3.3.2.4. Recruitment

The recruitment strategy was clearly stated and appropriate for the aims of the research study. The characteristics of the individuals who took part in the studies were:

- Patients with diabetes who were experiencing poor glycaemic control (Heisler and Piette, 2005)

- Patients from two large renal units in South London on the pre-dialysis care pathway (Hughes et al., 2009)

- Peer advisors who had experienced myocardial infarction (MI) in the previous three years (Whittemore et al., 2000)

- Patients who were HIV-positive and on highly active antiretroviral therapy (HAART) (Marino et al., 2007)

- Women with spinal cord injuries living in rural or small communities of Ontario (Jalovcic and Pentland, 2009)

- Women with a diagnosis of gynaecological cancer who were either currently in treatment or had recently completed treatment at the hospital (Pistrang et al., 2012)

- Peer-supporters who had recovered from gynaecological cancer and had been treatment free for over a year (Pistrang et al., 2013)

In two of the included studies, there was no mention of the number of participants who refused to take part in the study (Hughes et al., 2009, Jalovcic and Pentland, 2009).

3.3.2.5.　　　The Researcher Relationship

In three of the included studies, the impact of the relationship between the researcher and the participants was not mentioned (Heisler et al., 2005, Hughes et al., 2009, Marino et al., 2007). It is unclear whether the role of the researcher was critically examined, and whether any preconceptions they had prior to data collection may have influenced how the data was collected, and whether there was a possibility that this could have resulted in a bias in the overall findings.

3.3.2.6.　　　Original Themes

The collected data generated clear themes that explored the experiences of the participants and / or peer-supporters. The original studies provided a clear process of analysis showing how these themes were generated, illustrating that a sufficiently rigorous approach to the analysis was conducted. Table 8 presents the original themes from the included studies, known as the first-order constructs within this meta-ethnography.

Table 8 – First-Order Constructs from Included Studies

Author	Main themes identified by the original authors (First-Order Constructs)	
	Positive Experiences	Challenging Experiences
(Hughes et al., 2009)	➢ Interaction with peer-supporter ➢ Perceived benefits of peer-support ➢ Contrasts between peer-support ➢ Other sources of information ➢ The peer-supporter as a role model	➢ *Criticisms of interactions with peer-supporter*
(Jalovcic and Pentland, 2009)	➢ Space ➢ Relation to self ➢ Relation to others ➢ Causality	➢ *Difficulties in connecting*
(Heisler and Piette, 2005)	➢ Meaning ➢ Positive reinforcement ➢ Own self-care	➢ *Poor matching* ➢ *Commitment levels*
(Marino, Simoni et al.,2007)	➢ Social acceptance ➢ Reciprocal support ➢ Personal growth ➢ Empowerment	➢ Resistance and other challenges (death)

Author	Main themes identified by the original authors (First-Order Constructs)	
	Positive Experiences	Challenging Experiences
(Whittemore et al., 2000)	➢ Helping ➢ Mutual sharing ➢ Committing ➢ Benefiting	➢ Absence of helping role ➢ Problems with mutual sharing ➢ Lack of commitment
(Pistrang et al., 2012)	➢ An emotional bond ➢ Empathy ➢ Talking openly ➢ Reciprocity ➢ Information and Guidance ➢ Humour	➢ *Difficulties bonding* ➢ *Matching* ➢ *Difficulties in talking openly* ➢ *Absence of reciprocity*
(Pistrang et al., 2013)	• Enhancing self-esteem and wellbeing • Gaining a new perspective • Closure	• Involvement versus detachment • Saying something wrong • Negative affect • Poor prognosis • Support needs unclear or cannot be met

The use of italics indicates where the negative experiences are embedded within the analysis and they have not been identified as individual themes emerging from the data.

3.3.2.7.   Ethical Issues

The ethical approval to conduct the study is not clearly stated in one of the included studies (Heisler et al., 2005). In another study, two of the participants were identified as being distressed, and is it not clear what process was in place to help them manage this (Hughes et al., 2009).

3.3.3. Summary of CASP

As with the quantitative literature review, the Critical Appraisal Skills Programme tool was found to be a useful in the assessment of the rigour of the included studies. All of the included studies provided a clear description in terms of describing how the data was analysed and thereby have added valuable information to the field of exploring the experiences of delivering and / or receiving telephone-based peer-support.

3.4. Results of the Meta-Ethnography

3.4.1. Development of New Conceptual Categories

The synthesis of these qualitative studies using a meta-ethnography approach allowed the development of new conceptual categories (third-order constructs), new interpretations that were common across the included studies. These were the Distinctive Relationships, Facilitating Change and Building Self-Esteem, as well as the Difficulties. These common constructs emerged across studies that explored the experiences of providing and / or receiving TBPS. Table 9 below illustrate how each of the included studies contributed to the third-order constructs above and the overall synthesis.

Following on from the table, there is an exploration of how the second-order constructs were related to each other and supported by quotations from the original studies (participant and original author comments). These quotations illustrate that the synthesis is grounded in the original respondents' experiences and perspectives, as well as adding strength to the results of the meta-ethnography.

Table 9 – Generation of Third-Order Constructs

Third-order constructs	Distinctive Relationships				Facilitating Change		Building Self-Esteem			Difficulties	
Second-order constructs	Shared a Connection	Mutual Sharing	Shared Experience	Meeting Emotional needs	Knowledge	Safe Space	Reduced Isolation	Confidence	Acceptance	Difficulties connecting	Negative affect
Heisler et al (2005)	X	X	X				X			X	
Hughes et al (2009)		X	X	X	X		X	X	X	X	
Whittemore et al (2000)		X	X		X					X	
Marino et al (2007)	X	X	X	X	X	X	X	X	X	X	X
Jalovcic & Pentland (2009)	X		X	X	X	X	X	X	X	X	
Pistrang et al (2012)	X	X	X	X	X	X	X			X	X
Pistrang et al (2013)								X	X	X	X

3.4.2. Distinctive relationships

One of the common threads through all of the included studies was the 'distinctive' nature of the relationship between participants and peer-supporters. For example, it was evident that the better the sense of connection that was experienced between the two parties, the more effective the intervention became. This relationship was described as '*a sense of feeling connected*,' which promoted a process of '*mutual sharing*' due to the '*shared experiences*,' enabling the '*emotional needs*' of the dyad to be met effectively. The conceptual category of a '*distinctive relationship*' emerged from the following second-order constructs.

3.4.2.1.   Feeling Connected

The majority of studies included experiences of feeling connected by the peer relationship. The participants receiving the support said they had experienced "*a sense of connection they came to feel with their peer partner*" (Heisler and Piette, 2005). The recognition of their experiences of pain with other individuals *."..allowed them to connect with other members of the group*" (Jalovcic and Pentland, 2009) and they felt "*connected to others in their struggle against the disease: We developed together*" (Marino et al., 2007).

This sense of feeling connected was an important aspect of the effectiveness of the therapeutic alliance. Participants described how they felt they were "*working on a very intimate, emotional level,*" and described their supporter as "*like an old friend,*" "*like a sister,*" or *"a soul mate"* (Pistrang et al., 2012). The authors of the one study conducted on the basis of this details that most of the participants experienced an immediate connection, they *"'clicked' or 'gelled' from the outset, although for some the relationship took some time to develop*" (Pistrang et al., 2012).

3.4.2.2.   Mutual Sharing

This sense of connecting with another individual seemed to promote mutual sharing of their experiences for both the participants and the peer-supporters across all studies. Participants described feeling motivated to change their behaviour, and found themselves supporting their peers with their efforts to manage their medical condition (e.g. diabetes). One participant describes this as follows: "*I am a little surprised how much we both got out of the calls. I liked the fact that he was facing some of the same things I was. He didn't have it all figured out either, I felt motivated that I was also helping him out too*" (Heisler and Piette, 2005).

Participants stated that mutual sharing of their peer-supporters' recovery appeared to be an important component and a central aspect of their relationships. They felt that over time: "*sharing moved beyond health issues, the relationship changed and subsequently evolved into a more reciprocal one*" (Hughes et al., 2009). Similarly, as another participant shared: "*I get as much out of it as some of these people have said they get from me . . . in just talking about it. I find that I can talk with these people and they'll say, "Oh, this happened to me today" or "I'm so fatigued," and I'll say, "You know I was like that too, and this goes away, but now I've got a swollen leg." So, I think that they get something out of it, and I get something out of it*" (Whittemore et al., 2000).

In the studies that examined the effectiveness of reciprocal support, peers provided each other with support: "*helping someone else who needs the help" and "doing something for other people.*" The support was mutual: *"I found that they (their peer) were there to listen to me. ...He cared enough about me to keep calling", "we helped each other*" (Marino et al., 2007).

This reciprocity was also perceived as important in providing a valued sense of equality, which participants compared to their relationship with their counsellor or therapist: "… *because [supporter] was so open and honest about her experience, and about her feelings… that obviously made me want to do the same*" (Pistrang et al., 2012).

3.4.2.3.   Shared Experiences

A central theme through all the included studies was the benefits the participants experienced of talking to someone who 'shared their experience.' Examples of this included participants who stated that: "*I think it is good to have somebody, if you don't want to talk to your family or anybody, to have somebody who shares what you are going through*" (Heisler and Piette, 2005), a "*sympathetic listener who has gone through what you're going through was enough*" (Hughes et al., 2009).

Participants felt that sharing an illness experience quickly developed into a bond, helping to forge a deep connection with their peer-supporter. One participant eloquently summed up her experience of the development of a genuine understanding as "*based on shared experiences, shared abilities, shared challenges, and shared solutions. You don't know exactly what I'm talking about. These people do. You don't even have to finish the whole line, they'll finish it for you. And that's huge. That makes you feel good that you can actually get it off your chest once in a while and somebody really understood and cared*" (Jalovcic and Pentland, 2009). Similarly, participants emphasised the ability of their supporter to "*understand what you're talking about*: *It boils down to someone who's been through the same as yourself – who understands what it's like*" (Pistrang et al., 2012); "*I heard everyone

was going through what I was going through and people felt the same way I did"
(Marino et al., 2007).

These findings suggest that a shared experience can lead to the development of a shared knowledge and unique understanding of another individual's experiences. This understanding may then develop into a deeper awareness of how another individual is thinking, feeling, and coping with symptoms or a diagnosis that promotes an empathic response. The peer-supporters acknowledged that their personal experiences enabled them to empathise at a deeper level. They felt "*Because of their own experiences of recovery, they recognized their unique ability to be supportive*" (Whittemore et al., 2000).

3.4.2.4. Meeting the Emotional Needs

All of the characteristics listed above enabled the peer-support interventions to meet the 'emotional' needs of the participants. Some participants said that the peer-support had reached their hearts: "*The strength of this program right there is actually getting into the minds and helping the hearts of [condition]….Emotionally this has been the biggest thing for me….The strength is that there has been no other program out there or will be or has been, all the way along that has done so much for me … heart wise*" (Jalovcic and Pentland, 2009).

3.4.3. Facilitating change

The second conceptual category to be identified was '*facilitating change*.' This new construct is in relation to the elements of the intervention deemed beneficial and to have helped them to overcome their anxieties, stresses, and frustrations, and to improve their mental wellbeing. This new interpretation of the data highlighted that

'informational / practical support,' provided in a 'protective space,' facilitated a change in the participant's perspectives of their illness.

3.4.3.1.   Knowledge

The power of knowledge helped the participants to be more aware of their conditions, their symptoms, their concerns regarding side effects, and how to become more active in their own healthcare. Participants reflected that they appreciated their peer-supporters' skill in providing helpful information: "*We talked mainly about the transplant. …. She told me all the little things that doctors might not think to tell you, like the swelling after the operation*" (Hughes et al., 2009). They also benefited from being able to ask practical questions that they would not feel able to ask their health professionals: '*things the doctors wouldn't know the answer to, I asked her everything, mainly about relationships, sexual issues, family support, how does she manage with work and stuff, and mainly about how she adapted her life to deal with illness. It was brilliant*" (Hughes et al., 2009).

Participants described becoming more aware having spoken to their peers: "*I learned a lot of things I didn't really know about [condition] in itself. I learnt how to ask questions and how to talk to doctors. I learnt about side effects*" (Marino et al., 2007).

The information provided was deemed to be up-to-date and easy to digest: "*in a manner that was really clear and understandable for me on a day-to-day level*" (Marino et al., 2007). Participants were empowered to be more proactive when it came to their own health: *"Now I have some participation in my own health"* (Jalovcic and Pentland, 2009).

The peer-supporters shared information that was based on their own personal experiences, followed by a narrative that alleviated the participant's fears and helped to normalise their concerns. Participants valued information on how they could manage the challenges of getting back to a 'normal life' after treatment. "*I mean the main thing was my memory has just disappeared…I was really worried, you know, I was thinking something's wrong… But it was good to know that it was a 'normal' reaction… the fact that what I'd experienced, she'd experienced, then I thought, well, it's going to all right itself*" (Pistrang et al., 2012). Participants also experienced that the peer-support helped to manage their health-related fears: "*Once you've realized that angina is . . . a warning sign to slow down, get undressed, and get in bed for a couple hours rest, then you can adjust your life accordingly and do what you want in a moderate way without going at it gung ho as if it's the last thing you will ever do*" (Whittemore et al., 2000).

3.4.3.2. Safe space

Some of the participants described the peer-support intervention as a 'safe space' for them to be open with their feelings and emotions. For example, one participant stated that they could talk openly about painful experiences: "*Everyone was honest and I knew no one would say anything about anything once we left*" (Marino et al., 2007). This process was perceived as beneficial as participants felt that there were some things that they could not share with their family or friends, who they needed to protect. The original authors found that: "*Most women described feeling free to talk about 'everything and anything' with their supporter. In contrast to wishing to 'protect' family and friends from their concerns, women felt they could talk about 'how I'm really feeling' without having to 'keep a brave face.'*" As one participant shared*: "I had a lot of bowel problems so at last somebody you could actually talk to*

about it…who actually understands what it means when you're talking about the texture of your stool…And that it's not abhorrent to them" (Pistrang et al., 2012). In the study providing reciprocal support, participants described the importance of having a safe space: "*a space that was safe for sharing, venting, laughing, connecting, exchanging, and giving and receiving emotional support. It was the space in which participants, who were peers, offered each other real understanding*" (Jalovcic and Pentland, 2009). The notion of a protective space enabled participants to discuss their feelings and emotions in an arena that made them feel heard, providing a time to reflect and develop a self-awareness of their diagnosis, which in turn facilitated a process of change.

3.4.4. Building Self-Esteem

The third conceptual category that emerged related to the notion that both the participants and the peer-supporters received mutual benefits, and both parties experienced personal growth and empowerment, which led to the building of the individual's self-esteem. The peer-supporters and the participants experienced a sense of 'reduced isolation' which helped them to become more 'confident' and allowed them to reach a level of 'acceptance.' This was how it was going to be from now on, and participants were more open to reach out for help and support from their peer-supporters.

3.4.4.1.   Reduced Isolation

The relationship between participants and peer-supporters enabled the participants to increase their support networks and reduced the sense of loneliness that they were experiencing as a result of their condition.   Five of the six studies stated that this support reduced their feelings of isolation as the authors stated in one study: "*Prior*

to joining the programme all the women felt profound isolation and loneliness"
(Jalovcic and Pentland, 2009). In another study, the authors identified that this sense
of reduced isolation also reduced feelings of stigma: *"one of the most important
aspects of being part of the project was that it decreased the sense of isolation. By
meeting others who were experiencing the same things, they felt less alone and less
stigmatised*" (Marino et al., 2007). The participants stated that they were not alone
in their struggle to adapt: "*it made you feel, you weren't the only person going
through it*" (Marino et al., 2007), and "*It made me feel better to know he was dealing
with some of the same issues*" (Heisler and Piette, 2005). Participants came to
realise: "*I wasn't on my own, not the only ones that were scared*" (Hughes et al.,
2009).

3.4.4.2.   Confidence

This process of selflessly helping other individuals, and the mutual sharing of
experiences, helped to improve the participant's confidence. Participants said they
had felt stronger than they had been, and had gained some control over their
symptoms: "*gaining in confidence or 'strength' as key benefits, and referred in
various ways to a greater sense of control and increased personal agency*" (Hughes
et al., 2009). The positive impact of peer-support helped participants: "*I am a
totally different person now, you see that your issues weren't that bad after all*"
(Marino et al., 2007). Participants explained how providing reciprocal support help
them to manage their symptoms: "*Positive examples given by participants motivated
others to have a more positive outlook, to accept health practices, and to adjust their
behaviour accordingly*" (Jalovcic and Pentland, 2009). Helping other individuals
provided the peer-supporters with an increase in confidence: "*I sort of felt quite
proud of myself...I was seeing someone go through what I did quite some time ago,*

and being able to help her sort of made me a bit stronger in myself. Maybe it's a confidence thing—it gave me more confidence back" (Pistrang et al., 2013).

3.4.4.3. Acceptance

Another benefit perceived by the participants was an acceptance of their condition. Gaining this perspective enabled participants to move on and explore options that they could undertake to manage and improve their symptoms. Participants found they were able to identify with their peer-supporters, which changed their outlook on their future: "*hope for the future: you realise there's a lot of life ahead*" (Hughes et al., 2009). There was a sense of release in that they would learn to cope with their diagnosis: "*I gained an understanding that I don't have all the answers that I am still searching*" (Marino et al., 2007). It felt reassuring and liberating to know that they were not alone in their struggles: "*I learned to be more forgiving, less critical of myself. More accepting, more content… thankful*" (Jalovcic and Pentland, 2009).

Peer-supporters said that they had undergone a reflective process, which had helped them to gain a different perspective of their own journey: "*it allowed me to kind of look at my own experience in a more objective way...It does remind you of how difficult it was and how far you've come...you're sort of morphing your own experience into something else, I suppose. It has sort of started to change my perception of my own experience into a more healthy one*" (Pistrang et al., 2013). Both peer-supporters and participants had reached an understanding with regard to their condition, and an acceptance that changed their outlook about their future. They felt stronger and more in control. They felt able to proactively manage their own healthcare.

3.4.5. Difficulties

The evidence suggests that peer-support interventions can be a positive experience for those delivering the support as well as those receiving it. However, the meta-ethnography also revealed the presence of negative experiences across all the included studies. The importance of the relationship was seen to be essential in the effectiveness of the intervention, so inevitably, when there are difficulties in forming that relationship, then the impact of the intervention is flawed.

The results from the synthesis suggest that there were instances when either the participants or the peer-supporters described their experience as being negative. The authors recognised that this had a negative impact in the sense of building a connection, which in turn affected the relationship that developed between the participant and their peer-supporter.

3.4.5.1. Participant's Perspectives

In one study, an elderly participant felt that he had not been heard by their peer-supporter, and the focus was on the difficulties that may lay ahead: "*his peer-supporter had talked too much, not listened, and listed all the different things that could go wrong*" (Hughes et al., 2009).

The participants were reluctant to talk openly because they were concerned that they would be experienced as an emotional burden: "*I felt like I could have talked to [supporter] about anything, if I'd wanted to*", "*It's just that I don't want to sort of bring things up that are going to be depressing and stuff like that, and that not anything to with [peer-supporter] or anything else. It's just me… I have to admit, I suppose I try and run away from it if the truth be told*." Another participant in the

same study experienced similar barriers. She suffered from a history of depression, and she did not want to overburden her peer-supporter. She said "*I think that part of it is that I feel too needy… and because it's another person who has had a similar thing and she's actually got all that still hanging over her… when I was seeing [psychologist] I felt like I could be as needy as I had to be… I didn't have to worry about the other person… [but with the supporter] I didn't feel like I could express myself*" (Pistrang et al., 2012).

In another study, the authors noted that one participant experienced difficulties in engaging. This led them to question the effectiveness of the intervention. They commented that "*She experienced difficulties participating in the telephone programme, which raised the question of the appropriateness of the telephone for the delivery of peer-support for persons with higher levels of need*" (Jalovcic and Pentland, 2009).

3.4.5.2.   Peer-Supporter Perspectives

In two of the studies, the peer-supporters experienced a lack of fulfilment. In one study, the peer-supporter said they felt that the support was not required "*The relationship lacked personal fulfilment: I don't think she needs me. She is so busy, I don't know how she is doing it. The relationship hasn't really become established, and she's just very happy in what's going on in her life*" (Whittemore et al., 2000). In the other study, the peer-supporter was left frustrated because the participant they were supporting did not want to talk openly to them and receive the supportive intervention. They said, "*Who just didn't want help, they were just in denial and nothing you say was going to change that." In addition, "Other people were keeping a secret that she wasn't willing to talk about."* The authors found that the

peer-supporters came to realise that there are certain people you cannot help (Marino et al., 2007).

The peer-supporters also found that they were anxious providing the support: "*Providing support sometimes evoked anxiety about saying the wrong thing, particularly early on in the relationship*" (Pistrang et al., 2013).

3.4.5.3.   Negative Affect

In a few of the studies, it appeared that the process of providing peer-support resulted in the peer-supporters experiencing negative emotions. They were concerned about re-experiencing their own difficult feelings, such as: "*it brings back my own feelings, I was scared, I well up sometimes*" (Whittemore et al., 2000). They were also concerned that they could become emotionally entangled with the overwhelming suffering that they were witness to. "*It was a very painful thing to talk with her, it was very difficult... I felt emotionally entangled... it made me so sad, so I cannot imagine how she must have felt...*" (Whittemore et al., 2000).

The data also suggests that providing peer-support can be a drain on the individual's' personal resources, leaving the volunteers feeling drained. The authors in one study described this as follows: "*Peer-supporters also found the challenge of supporting women who experienced high levels of negative emotions as arduous and exhausting*" (Pistrang et al., 2013).

3.5. Summary

The purpose of this synthesis was to achieve a greater understanding and insight into the 'uniqueness' of TBPS interventions by bringing together the findings from the individual studies. This comprised of an interpretive endeavour with the intention of

informing researchers, health professionals, and policy-makers involved in the decision-making process (Campbell et al., 2007). Peer-support is more effective when a 'Distinctive Relationship' is formed based on shared experiences, which enables participants to feel connected. This 'similar other' relationship enabled participants to access relevant information, empathy, and support, which focused on their practical and emotional needs (Veith et al., 2006b). Research suggests that information and support of this type is accepted and assimilated more effectively because it has been delivered by a peer (Dennis, 2003c), a finding that is also supported across these studies. The peer-support relationship reduced their feelings of isolation and stigmatisation, increased their self-esteem and improved their outlook on life, and they felt empowered by the support.

Peers provided a number of different types of support across the studies. Although informational support is a common theme, the fact that this information is provided by someone who has had a similar experience made that information more trusted and acceptable. Other types of support, such as problem-solving, practical, emotional, and psychological support, are also present in the studies, which leads to the conclusion that support from a 'similar other' is effective because of the unique skill they possess in being able to meet the needs of their participants (Veith et al., 2006b) and informational support may be the *primus inter pares*.

The findings revealed disconfirming evidence of negative experiences, suggesting that it is important to monitor the effect of such interventions, in that they were not adequately meeting the needs of the participants and not becoming too cumbersome on the volunteers delivering the peer-support. There needs to be a thorough selection and recruitment strategy to ensure that the peer-supporters are emotionally available to deliver the supportive intervention, reducing any negative or adverse effects. It

would also ensure that peer-supporters did not succumb to caregiver burden (England and Folbre, 1999) or carer distress (Hunt, 2003). There is a need to monitor and provide some form of support, such as formal supervision in order to help the peer-supporters deal with the challenges that they are presented with.

The findings do not provide evidence of the long-term sustainable improvements of providing peer-support to patients.

3.6. Discussion

3.6.1. Synthesis of Qualitative Research

In response to the aims of this review, this meta-ethnography has yielded some clear third-order constructs, new interpretations from the original data. The synthesis enabled the development of third-order constructs aggregating the original themes to develop a deeper understanding of the common characteristics that make peer-support interventions effective. The line of argument presented in this meta-ethnography was that peer-support is a 'Distinctive Relationship,' which in turn 'Facilitated Change,' and led to the 'Building of Self-Esteem.' This synthesis also provided an insight into the 'Difficulties' of receiving and / or delivering TBPS interventions, which need to be acknowledged and addressed in order to overcome them and improve the effectiveness of such interventions. Although some researchers believe that it is not possible to synthesize qualitative findings, and that any generalisation down-plays important differences with the result that the real findings from the qualitative research can be lost (Noblit and Hare, 1988), this did not appear to be the case in this synthesis.

3.6.2. Methodological Issues

The identification of relevant studies was somewhat problematic to variation in the terminology used (e.g. qualitative studies can be described as narrative studies, discourse analysis, interviews, perception, and / or experiences of participants), and therefore broad terms were used to identify relevant studies. Within the included studies, the poor quality in reporting of the methodology used made the synthesis time-consuming, in addition to inconsistent definitions of peer-support, inadequate descriptions of the intervention, and unclear procedures.

3.7. Limitations

There were some limitations that made the findings of this review less generalisability. These are listed below.

3.7.1. Number of Studies

Most existing syntheses of qualitative research have included small numbers of studies (Campbell et al., 2003: n=7, Britten et al., 2002: n=4, Kane et al., 2007: n=4). Qualitative studies also tend to have smaller sample sizes as it allows a deep and thorough analysis, which increases the interpretative validity of the findings (Sandelowski et al., 1997). However, it is difficult to know whether further constructs would have emerged if there had been more studies exploring the experiences of TBPS.

3.7.2. Theoretical Perspectives

All of the included studies used different theoretical perspectives in terms of analysing the included data. However, while some researchers suggest that

"*combining studies from diverse approaches serves to counterbalance the limitations inherent in a single method*" (Sandelowski, 1995), others feel it would be better to select studies that employ similar methodologies (Morse, 2001). All of the included studies conducted in-depth interviews, which were transcribed before analysis. Further research on this issue could help identify if there are benefits in combining studies that employ different methodologies.

3.8. Conclusion

This meta-ethnography has illustrated that bringing together findings from individual qualitative research can prove advantageous in terms of widening our understanding about TBPS. We were able to bring together the findings from six different studies and build third-order constructs by combining the themes across the individual studies to gain a better understanding of the key characteristics of TBPS. These unique characteristics suggest that peer-support interventions are more effective if a distinctive relationship between the dyad promotes a sense of 'connectedness' (based on a 'similar other' relationship). This relationship enables the participant to feel empowered, more confident and more in control of their diagnosis. It is important that the intervention has some attributes that lend themselves to be beneficial to the participant, with the peer-supporter meeting their needs. It is also important to monitor and supervise the peer-supporters to ensure their mental wellbeing is also being supported.

The next chapter investigates the philosophical paradigms that underpin this research study.

4. Methodology

4.1. Introduction

Methodology refers to how research is conducted and is defined as "*an overall approach to inquiry regularly linked to particular theoretical frameworks*" (Sandelowski, 2003). The first section of this chapter discusses philosophical assumptions that underpin the research process in general, before going on to define the methodology chosen for this study.

4.2. Philosophical Worldviews

Social and behavioural research has expanded in recent years in line with the wider shift to evidence-based practice. This reflects the fact that we are no longer simply interested in expanding knowledge, but also in gaining a deeper understanding about 'what works,' 'for whom,' and 'in what circumstances / context'. These changes have been influenced by the broader philosophical and methodological principles underpinning research that seeks to study behaviours, interventions, and social interactions (Tashakkori and Teddlie, 2003).

Historically, there have been two contrasting philosophical worldviews, or paradigms, that have dominated methodologies within social and behavioural research: positivist and constructivist. The two paradigms have for a long time been treated as incommensurate, as a result of fundamental differences in terms of how they view the world, which is defined by philosophical questions such as: 'What is the nature of reality' (ontology), and 'the nature of knowledge' (epistemology) (Morgan, 2007). In addition, we can add: 'what are the values of the researcher'

(axiology), and 'what is the process of research' (methodology) (Johnson and

Onwuegbuzie, 2004, Tashakkori and Teddlie, 2003). Table 10 provides a

comparison of the two main paradigms.

4.3. A comparison of Positivist and Constructivist

Table 10 - A Comparison of the Two Paradigms: Positivists and
Constructivists

Perspective/ Worldview	Positivist	Constructivist
Ontology (What is the nature of reality?)	Singular reality (e.g. researchers reject or fail to reject hypothesises)	More than one reality (there are differing perspectives)
Epistemology (What is the relationship between the researcher and what is being researched?)	Distance and impartiality (e.g. researchers objectively collect data on instruments)	Relationship (the researcher interacts with the participant to collect data, i.e. visits)
Axiology (What is the role of values?)	Assumptions of no bias (e.g. researchers use checks to attempt to eliminate bias)	Assumptions of bias (researcher discusses their biases and interpretations)
What the process of research is (methodology)	Deductive (researcher is testing a theory)	Inductive (researcher starts with the views of the participants and build theory)

Table 10 Quoted from (Creswell and Clark, 2007)

4.3.1. Ontology

Ontology refers "*to the nature of reality*" (Lincoln and Guba, 1985). Positivists (also known as empiricists) believe that there is one objective reality that is measureable, and that research is carried out to validate that reality. Atkinson and Hammersley (1994) define this approach as follows: "*social research should adopt a scientific method, that this method be exemplified in the work of modern physicists, and that it consists of rigorous testing of hypotheses by means of data that take the form of quantitative measurements*." Its philosophical underpinnings remain true to the belief in an objective viewpoint using deductive scientific quantitative methods (Onwuegbuzie and Leech, 2003).

The constructivist approach believes that reality is a social construction. In other words, there is, as such, more than one reality, and access to this reality is derived from the use of methods aimed at understanding the meaning of a phenomenon through accessing individual participants and their subjective viewpoint. Research conducted within the constructivist paradigm is shaped from the 'bottom up.' Individual perspectives generate broad patterns, which lead to the development of a hypothesis or theory (Creswell and Clark, 2007).

4.3.2. Epistemology

Epistemology questions whether, and how, valid knowledge about reality can be gained (Kelle and Erzberger, 2004). It also focuses on the relationship between the researcher and what is being researched (Lincoln and Guba, 1985, Tashakkori and Teddlie, 2003). Positivists believe that a researcher can investigate a phenomenon without influencing the findings and that they are unbiased in their approach (Labonte and Robertson, 1996). As such, objectivity is very important and it is

believed that this can be achieved by maintaining a dispassionate and distant position (Creswell and Clark, 2007).

Researchers working within the constructivist paradigm believe that it is not possible to obtain an 'objective' interaction because knowledge is subjective, and the relationship between the researcher and the participants shapes the reality that is being researched. As such, the researcher should be aware that their relationship with the participant impacts on the creation of knowledge (Creswell and Clark, 2007, Tashakkori and Teddlie, 2003).

4.3.3. Axiology

Axiology refers to "*the role of values in inquiry* (Lincoln and Guba, 1985). Positivists believe that all 'inquiry' should be value-free, i.e. science should be empirically evidenced to produce knowledge, regardless of politics, morals, and values. In contrast, constructivists believe that 'inquiry is value-bound,' and scientific knowledge is constructed (Teddie and Tashakkori, 2009). Constructivists believe that the researcher's values and beliefs shape their research goals, impacting on what is studied and the methods that are used (Creswell and Clark, 2007).

4.3.4. Methodological Distinctions

There have been attempts to make the methodological distinctions between the two paradigms clearer. Hammersley (1992) identified distinctions such as the use of numbers in quantitative research versus the use of words in qualitative research: the fact that quantitative research often focuses on behaviour, whereas qualitative research often focuses on meanings. The quantitative approach is deductive and

seeks to establish scientific laws and test theory versus the qualitative approach that is inductive and looks to construct theory.

While purists working within each of these research paradigms believe that the two cannot be reconciled, the emergence of a third paradigm has begun to acknowledge ways in which they can be used in tandem (Tashakkori and Teddie, 2003).

4.4. The Pragmatic Paradigm

4.4.1. New Paradigm

The emerging pragmatist approach has been identified as a third paradigm involving abductive reasoning that connects theory and data by moving between the deductive and inductive stances, gathering new insights and making inferences with reference to the best possible explanation (Teddie and Tashakkori, 2009).

4.4.2. Definition

The pragmatic approach is defined as follows: "*Pragmatism… is a philosophy rooted in common sense and is dedicated to the transformation of the culture, to the resolution of the conflicts that divide us*" (Sleeper 1986 as cited in Tashakkori & Teddie, 2003). It is a pluralistic approach, and is driven by 'what works' in practice, and is associated with the use of mixed-methods research (Creswell and Clark, 2007). The pragmatic approach is not limited to one philosophical assumption about reality, and researchers are therefore able to choose from the methods, procedures, and techniques that meet their needs and purposes. Researchers can use both quantitative and qualitative methods to provide the best understanding of the research problem.

4.4.3. Connections Between the Paradigms

Morgan (2007) describes the "*methodological implications of combining qualitative and quantitative methods in terms of a new 'pragmatic approach*" and suggests ways of conceptualizing points of connection, rather than incompatibilities across the three approaches. Key issues have been clarified in terms of the main connections between the three approaches (Wheeldon, 2010), and have been presented in Table (11) below.

Table 11 – Connections between the Three Approaches

Post Positivists	Constructivists	Pragmatists
Deductive	Inductive	Abductive - reiterative process between deductive and inductive approaches
Objective	Subjective	Intersubjectivity – communicating shared meaning and knowing that complete objectivity or subjectivity are abstract notions
Generality	Contextual	Transferable – the findings are not so unique and have implications beyond this research context yet also cannot be generalisable across all settings.

The combining of quantitative and qualitative methods have been adopted in Social Sciences research over the years, such as the in Milgram's' experimental study Obedience to Authority (Milgram, 1974). This study explored how participants responded when they were ordered to inflict pain and possible serious harm on another individual by a figure of authority. Participants believed they were actually

administering electric shocks to a subject who feigned pain and would eventually refuse to cooperate. The researchers collected quantitative data with regard to the levels of shock that was administered as a measure of obedience, but was also concerned with the nature of the process of obedience, and interviewed some of the participants after the intervention to determine their reasons for compliance, or refusal, to the order given. The findings of these interviews were closely integrated with the quantitative data and reported as one experimental situation.

Bryman (2006) however, suggests that the research methods should be determined more by the research question, and this has been demonstrated in recent studies.

Sammons et al., (2005) used a mixed-method approach to evaluate school effectiveness where "*complex and pluralistic social contexts demand analysis that is informed by multiple and diverse perspectives,*" and concluded that inferences made from their research were strengthened by the use of mixed methods. They adapted the methods they used after completion of the study, so that confirmatory and exploratory research questions that emerged could be addressed. Innovative insights may arise later on in the research process irrespective of the original research question, and indeed this may lead to the replacement or addition of new questions (Brannen, 2005).

4.4.4. Combining Quantitative and Qualitative Methods in Evaluation

The emergence of complex interventions has challenged the existing philosophical paradigms. It is argued that employing only a quantitative approach, while being perceived as the most evidence-based, could be flawed where complex interventions are concerned, because it inevitably misses or obscures the findings (Dixon-Woods et al., 2004).

The Medical Research Council recognises complex interventions are widely used in the health service, within public health, and in areas of social policy that can have important implications in healthcare (MRC 2000). The Mums4Mums study met the requirements for a complex intervention as the intervention is made up of several component parts: such as the individuals involved, their relationships with their children, the dynamic interactions involved, situational context, maternal mental health and each pairing has its unique concerns as well.

The Mums4Mums research study involves both quantitative and qualitative data collection in order to address the research questions posed. This approach is now known as Mixed-Methods Research (MMR).

4.5. Mixed-Methods

Mixed-Methods Research (MMR) refers to a research strategy that adopts more than one type of research method, and when a study requires a mixture of both quantitative and qualitative data collection methods (Creswell and Clark, 2007).

4.5.1. Definition

Mixed-Method Research is defined as "*a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analysing and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in*

combination provides a better understanding of the research problems than either approach alone" (Creswell and Clark, 2007).

4.6. Mixed-Method Designs

When designing a MMR study, it is important to be clear about the problem being investigated, how the research will aim to address the problem, how the different data will be analysed, and at what point the data analysis will be combined. There are four different types of Mixed-Methods design: the Triangulation Design, Embedded Design, Explanatory Design, and Exploratory Design (Cresswell & Clark, 2007).

4.6.1. Design Types and Combinations

The timing, weighting and mixing of the different data types, influences implementation of the Mixed-Methods design. Based on the logic of Mixed-Methods design available, the following criteria have been developed that apply in certain combinations as follows:

4.6.1.1.   Triangulation

- The Triangulation Convergence Model applies when a single phase of data collection is carried out, and both data sets have an equal weighting. The two sets of results are merged during the interpretation phase with the intention to draw valid conclusion regarding the research question

- The Triangulation Data Transformation model applies when a single phase of data collection is carried out, and both data sets have an equal weighting. The intention is to interrelate different data types by transforming one data set into another

- The Triangulation Validating Quantitative Data Model applies when a survey is used to collect both data types with the intent to use the qualitative data to validate the quantitative findings

- The Triangulation Multi-Level Model applies when the different data types are collected for different levels of analysis, with the intention to form an overall interpretation of the system.

4.6.1.2. Embedded

- An Embedded Experimental Model applies when quantitative data is collected to answer a primary question, and qualitative data is embedded within the data collection process (pre-, during, or post-), and the intention is to answer a secondary question related to the same study

- An Embedded Correlational Model applies when quantitative data is used to answer the primary research question, and the qualitative data is used to explain the mechanisms that relate to the outcome variables.

4.6.1.3. Explanatory

- The Explanatory Follow-up Explanations Model applies when the data collection has a phased approach, the first data type has more emphasis than the other, and the second phase is connected to the results from the first phase with the intention to provide follow-up data

- The Explanatory Participant Selection Model is when the data collection has a phased approach. The second phase is connected to the results of the first phase with the intention to purposely select participants who provide the best fit for the second phase of the analysis.

4.6.1.4.   Exploratory

- The Exploratory Instrument Development Model applies when the data
  collection has a phased approach with emphasis on the qualitative data to
  develop a quantitative instrumental tool in order to answer the research
  question

- The Exploratory Taxonomy Development Model applies when the data
  collection has a phased approach with emphasis on the qualitative data to
  result in a taxonomy or emergent theory, and the two data collection types are
  connected to quantitatively generalise the qualitative results. The following
  Table (12) summarises mixed-method research designs.

Table 12 - Summaries the Different Types and Designs and Models

Design Type	Variants	Timing	Weighting	Mixing	Notation
Triangulation	Convergence Data Triangulation Validating quantitative data Multilevel	Concurrent: quantitative and qualitative at the same time	Usually equal	Merge the data during interpretation or analysis	QUAN + QUAL
Embedded	Embedded experimental Embedded correlational	Concurrent or sequential	Unequal	Embed one type of data within a larger design	QUAN (qual) + QUAL (quan)

Design Type	Variants	Timing	Weighting	Mixing	Notation
				using the other type of data	
Explanatory	Follow-up explanations Participant selection	Sequential Quantitative followed by qualitative	Usually quantitative	Connect the data between two phases	QUAN – qual
Exploratory	Instrument development Taxonomy development	Sequential Qualitative followed by quantitative	Usually qualitative	Connect the data between two phases	QUAL – quan

(Quoted from Cresswell & Clark 2007 p85)

4.6.2. Factors Influencing the Design of Mixed-Methods Research

The following factors influence the design of MMR:

4.6.2.1. Rationale

The methodological practice is to adopt an approach that is most appropriate to answer the research question (Mason, 2002, Creswell, 2003). Although epistemological assumptions help in framing the research question, the need to find a theory that specifically 'fits' the context also plays a part. It is rare for a research project to only have one research question. It is more likely that there will be a complexity of research questions. For example, while the main research question

may require a positivist assumption, other research questions may require a more interpretive assumption (Brannen, 2005).

The Mums4Mums study is a complex intervention study, the main research question focuses on depressive symptomatology and uses quantitative outcomes to measure this while qualitative data is used to explore the experience of providing and receiving peer-support. The Medical Research Council recognises complex interventions are widely used in the health service, within public health, and in areas of social policy that can have important implications in healthcare (MRC 2000). The key points from their recent guidelines identify that complex interventions are made up of several components parts. The Mums4Mums study involved women who had recently recovered from PND providing TBPS to new mothers experiencing symptoms of PND, involving individuals with different personalities, the dynamic interactions of peer relationships and supporting a new mothers' maternal mental health. This meets another requirement of complex interventions in that it is difficult to develop such interventions, as well as documenting and reproducing such interventions. The final evidence that the Mums4Mums study is a complex intervention is that both qualitative and quantitative evidence is required to answer the research questions.

4.7. The Mixed-Methods Design Adopted

4.7.1. Purposive statement

Quantitative data was collected pre-intervention, during the intervention, and post-intervention from all the participants taking part in the study. Qualitative data was

collected, using individual interviews from the participants at the end of the four-month intervention.

The secondary (qualitative) data type was embedded in the primary (quantitative) data with the aim of enhancing the results by providing a deeper insight into TBPS, and its acceptability and effectiveness in supporting mums suffering from postnatal depression.

4.7.2. The Embedded Experimental Design

The most appropriate mixed-methods design that fits the research questions raised by Mums4Mums study is the Embedded Experimental Design (see figure 3).

The primary outcome measure is quantitative, evaluating the impact of peer-support on the depressive symptomatology of the participants who are feeling in a low mood. The qualitative data collection explores the experiences of the participants receiving the peer-support, while being used to confirm or disconfirm the findings from the quantitative study.

Figure 3 – Embedded Experimental Research Design

The next chapter describes the methods of data collection.

5.   Methods

5.1. Introduction

This chapter describes the methods used to evaluate the Mums4Mums TBPS intervention. The design of the study is explained, together with the specific techniques for data collection and evaluation.

5.2. The Development of the Intervention

5.2.1. Origins of the Study

Professor Cindy-Lee Dennis and her colleagues in Canada (Dennis, 2003a, Dennis et al., 2009) developed a TBPS intervention for new mums who were at high risk of developing postnatal depression (PND). This intervention involved participants who had recovered from PND providing TBPS to women at high risk of developing PND. The study recruited 701 participants and randomised them into two groups: usual care (control group, n=352), and usual care with the additional telephone peer-support (intervention group, n=349). The results showed that women in the intervention group were significantly less likely to have symptoms of postnatal depression at the twelve-week assessment than those in the control group. For ethical reasons, women with high levels of depression at twelve-weeks were referred onto specialist support, and there were therefore no significant differences at twenty-four weeks. The study concluded that TBPS could be effective in preventing postnatal depression among women who were identified as high risk.

5.2.2. Exploratory Research

The proposal for this study builds on exploratory research conducted in the UK that examined a range of stakeholder's views about the need for, and potential acceptability of, a TBPS intervention for PND. The stakeholders were asked about their views with regard to the potential impact of the intervention and how it would fit into current practice. General Practitioners (GPs) (n=6), health visitors (n=7), and mothers who had recovered from PND (n=10) were interviewed, and the results indicated that stakeholders perceived a need for a TBPS intervention for women currently experiencing PND in the UK. It was suggested that this would represent an additional resource for mothers, and that a telephone-based intervention would be acceptable due to its flexibility and use of non-face-to-face contact (Caramlau – not published).

5.2.3. Rationale for Conducting Mums4Mums Intervention

In the late 1990s, the prevalence of PND in the United Kingdom was around 13% (O'Hara and Swain, 1996). Results from a longitudinal study show that over a third of children whose mothers suffered from PND had experienced an episode of an affective disorder by the age of thirteen years, compared to 10% in non-depressed mothers (Murray et al., 2010). In the subsequent period, the government has introduced a number of initiatives have sought to support the mental health of the parents, especially mothers experiencing symptoms of PND, to improve developmental outcomes for children (Government, 2014; DoE, 2003).

A review of non-biological interventions for the treatment of PND (Dennis, 2004), identified studies evaluating the effectiveness of a range of psychological

interventions, such as therapy and psychosocial interventions such as peer-support or partner support.

One of these studies comprised of a Canadian telephone-based peer-support (TBPS) pilot randomised control trial (RCT) with women identified as being at high-risk of depression. This was followed by a larger RCT (Dennis et al 2009) which showed significant group differences in depressive symptomatology at the twelve-week assessment and supported the provision of peer-support to women experiencing PND (Dennis, 2003a). The rationale for repeating the study as a feasibility RCT in the UK was to test whether the findings could be replicated within the same target population. If the results found a significant improvement in participants' depressive symptomology, this would be an innovative approach to supporting mothers with PND.

Exploratory research was conducted, which found that GP's, Health visitors and service users advocated for a TBPS intervention (Section 5.2.2.). The National Institute for Health Research provided funded for the intervention to the trialled here in the UK.

5.2.4. Study Research Questions

Two main research questions were addressed by this study:

- How effective is TBPS in reducing depressive symptomatology in new mothers currently experiencing low mood?

- What are the perspectives of the participants and peer-supporters about the value of receiving and delivering the TBPS intervention?

5.2.5.   Setting for the Study: South Warwickshire

South Warwickshire was chosen as the setting for the Mums4Mums study. This included the following geographical areas: Nuneaton, Bedworth, Coventry, Rugby, Stratford, Leamington Spa, Kenilworth, Warwick, Southam, and Atherstone. The reasons for this were due to the diversity of the population, and the University links with the South Warwickshire NHS Foundation Trust.

Two local Children Centres were chosen as sites to deliver the training and to be an external base for the Mums4Mums study, one situated in North Warwickshire (Nuneaton), and the other in the South (Leamington).

5.3. Peer-Supporters

5.3.1.   Introduction

The Mums4Mums study comprised an evaluation of the impact of TBPS in reducing the depressive symptomatology of new mothers who were experiencing mild / moderate PND. A peer volunteer was defined as a mother from the community who had (1) previously experienced postnatal depression, (2) offered her time to provide telephone-based support to a new mother experiencing PND, and (3) completed eight hours of training.

5.3.2.   Recruitment

The health visitors in the Coventry and Warwickshire Primary Care Trust identified potential participants to be trained as peer-supporters. The peer-supporters were recruited by personal invitation using a specification that set out essential and desirable attributes established from stakeholder consultation (Caramlau – not

published). The specification included that they had a) recently experienced PND (i.e. within the last five years), b) fully recovered from depression, c) had an empathic and non-judgmental disposition, and d) could commit the time to participate in the training and provide the telephone-support. The clinical psychologist on the research team (Dr Kirstie McKenzie-McHarg) made multiple assessments of mental health and social wellbeing, and their GPs were required to confirm the suitability of individuals identified for the proposed peer-support role.

5.3.3. Training

In considering the role of peer supporters within the intervention, it was recognised that they may find it challenging to deal with the very complex domain of maternal mental health, especially as they themselves had recently recovered from PND. It was therefore crucial that they were provided with the training, support, information, tools and strategies necessary to deliver the intervention.

The peer-supporters were asked to attend four training sessions over a period of two weeks. The trainings sessions lasted approximately two hours each and were delivered by Kirstie McKenzie McHarg (Clinical Psychologist) and Liz Castle (the volunteer support coordinator). Each of the sessions covered a specific topic to develop their understanding of the role of the peer-supporter and their confidence to deliver the intervention. These included 1) confidence and self-esteem, 2) empathy and skills, 3) feelings, behaviours, and thoughts, and 4) risk. The training was based on Dennis's (2003) training manual, but was adapted to include other material about active listening skills, promoting successful behaviour change (Anderson et al., 2000, Rollnick et al., 1999), and encouraging goal-setting and decision-making (Egan, 1998). For example, goal setting involved actually helping the participants to

set a time aside for themselves: "*when your husband comes home from work, ask him to have the baby and go for a ten-minute bath*"; or "*have a coffee on the way home from work on Wednesday afternoon*". The training was provided in the local children's centre, and crèche facilities were made available. The peer-supporters were asked to complete an evaluation form with reference to the training they received, how appropriate they perceived this training to be, and how well they felt the sessions prepared them for their role as a peer-supporter. No analysis was carried out with these evaluation forms.

5.3.4. Manuals

The peer-supporters were provided with training manuals after the training sessions. These were developed to provide the peer-supporters with the information they required to effectively deliver telephone-based support to a new mother. This programme is one of the first mother-to-mother telephone-support programmes to address postnatal depression, and part of the peer-supporter's role in this programme was therefore to help the research team to evaluate the effectiveness of this intervention for future research.

5.3.4.1. Operational Manual

The operational manual contained information about the structure of the study, who was involved, their roles and contact details.

5.3.4.2. Skills Manual

The skills manual provided peer-supporters with details about professional and community services available to refer the mother to, if required.

The peer-supporters were also provided with contact numbers for the research team and were encouraged to ask questions if there was anything that they did not understand, or if they had any concerns / questions when they were supporting a new mother. The research team emphasised that the peer-supporters were not alone and would be fully supported in their role.

5.3.5. Delivering the Intervention

It was at this stage in the process that the ethics committee was informed that a new lead researcher had been appointed to conduct the research study. The new researcher concentrated on building positive relationships with health visitors, staff at the children centres and peer-supporters who had been recruited to deliver the intervention. Amendments were made to the existing processes based on the knowledge and experience of the new researcher to enable the study to be conducted effectively.

The peer-supporters were required to make initial contact with the participant whom they were supporting within a specified time-scale (within twenty-four hours after they had been provided with the participant's contact details). If they were not able to reach the participant they were contacting, they were advised to leave three messages, after which they were asked to contact the research team to seek advice.

If they had successfully made contact with the participant whom they were supporting, they were required to introduce themselves, discuss confidentiality, and make the participant aware that this would be breached if there was any indication of self-harm or causing harm to their child. Afterwards, they were required to negotiate an appropriate time to make the supportive calls on a weekly basis.

The peer-supporters were informed that their clinical supervisor would contact them within seventy-two hours of being matched with a participant. The peer-supporters were also informed that they could contact their clinical supervisor at any time if they urgently needed to address any issues that had occurred when providing the intervention. They were also asked to refer to the skills and operational manuals that they were provided with as guidance. The manuals consisted of general information that had been presented to the peer-supporters during their training. Any specific issues that arose during the actual calls were discussed in clinical supervision. Finally, all the peer-supporters were advised that they could contact the research team at any time throughout the intervention should the need arise.

The peer-supporters were asked to provide the calls to the participants they were supporting over a period of four-months - a total of eight telephone calls. However, each dyad was unique, so the timing and frequency of the call were negotiated to meet the needs of the person they were supporting. The peer-supporters were also required to complete an activity log of each call. This was to ensure that the weekly calls were being made and to explore what type of issues were discussed.

5.3.6. Financial support

The peer-supporters were not offered a financial incentive to take part in the study. However, various financial payments were provided for taking part in the study, including:

- The peer-supporters who attended the training were compensated for their time by being offered £100

- The peer-supporters were offered reimbursements for travel expenses

- The research team offered to reimburse peer-supporters for the telephone-support calls they made to the study participant who they were supporting at the end of the four-month intervention.

5.3.7. Supervision

The peer-supporters were provided with clinical supervision from Dr Kirstie McKenzie-McHarg and in her absence (due to three months annual leave) supervision was continued with the Volunteer Coordinator, Liz Castle. This enabled them to offload any information that they found distressing, to manage issues with the study participant whom they were supporting, and to seek advice if they felt unsure about issues that emerged during the four-month intervention.

The first supervision timing was pre-arranged and the peer-supporter had been informed that they would receive their first supervision call seventy-two hours after they had been matched with the study participant. The seventy-two hours allowed for the time required for the peer-supporter to make the initial contact with the study participant, and also to reflect on their call and the issues that had arisen. The following supervision calls were negotiated and the peer-supporters were encouraged to call the research team as and when the need arose.

5.3.8. Informal Support

In addition to clinical supervision, the peer-supporters were invited to attend coffee mornings in their area. Four coffee mornings were held in total, two throughout each year, as well as an annual peer-supporter picnic event in the local park. These informal gatherings enabled peer-supporters to catch-up with each other, discuss

issues that were of concern, receive updates from the research team, and to feel like a valued member of the study.

An online blog was also created on the Warwick University Website. This was aimed at improving communication between the research team and the peer-supporters. No confidential information was disclosed on the blog, which proved useful for arranging meeting times as well as raising concerns about being volunteers. Access to the blog was only available to peer-supporters and the research team, and was password protected.

5.4. Study Participants

5.4.1. Introduction

Recruitment of participants started in May 2010 and ended in July 2011. The aim was to recruit participants who had an infant under the age of two years old, and were experiencing mild-to-moderate depressive symptoms identified using the Edinburgh Postnatal Depression Scale (EPDS).

5.4.2. Inclusion / Exclusion Criteria

All participants with an EPDS score between 13 and 21 were invited to take part in the study. It is important to note that the EPDS is not a diagnostic tool but for use as a screening tool (see Section 1.1.3). We did not invite participants with a score below 13 to take part because this suggests that there are no or very mild depressive symptoms. These participants were offered information about local support groups in their area, and relevant internet sites. Participants who scored 21 or above were also excluded because this indicated the presence of serious depressive symptoms for

which women should be receiving specialist care from their GP and health visitor, and permission was sought to raise concerns with the appropriate health professionals. The self-harm question on the EPDS questionnaire (Question 10) was also used as an indication of the severity of the study participant's depressive symptoms. The higher the score, the more likely that the participant was not suitable for the study and required more specialised help.

Potential participants had to have an infant under the age of two years. They also had to be receptive to receiving support over the telephone. Participants from any social or ethnic group were able to take part in the study provided they could speak English (see Table 13 below).

Table 13 - Inclusion and Exclusion Criteria

Inclusion and Exclusion Criteria for the Mums4Mums study

Inclusion criteria, women who:

1 were > 16 years of age at the time of giving birth

2 had an EPDS score >=13

3 had an infant up to the age of two years old

4 were receptive to receiving telephone support

Exclusion criteria, women who:

1. had an EPDS < 13 and > 21

2. had an infant over the age of two years old

3. posed a suicide risk or were at risk of harming their children

4. were receiving specialist psychiatric care

5. were suffering from any mental illness (other than PND) or learning

    difficulties

6. were not accessible via the phone

7. could not communicate in English.

5.4.3. Power Calculation

The original Dennis (2009) study recruited 701 participants, and aimed to achieve

80% power using a two-tailed Alpha error of 0.05 based on the detection of a 10%

reduction in the rate of postnatal depression by post-intervention. Resources

precluded the possibility of recruiting a sample of this size, and this study aimed to

recruit 70 participants - 35 participants per group. This gave a power of 80% using a

two-tailed Alpha error of 0.05, which was deemed appropriate for a feasibility RCT.

5.4.4. Recruitment Strategy

All health visitors within Coventry and Warwickshire Primary Care Trusts (PCT's) supported recruitment to the study. Potential participants were screened for eligibility by the health visitors at the eight-week postnatal check using either the Edinburgh Postnatal Depression Scale (EPDS>=13 and <21) or the three Whooley question (see Section 1.1.3). Eligible participants were then provided with a brief information leaflet, and a consent form giving permission to pass their details onto the researcher (see Appendix Five). Following referral to the study team, the researcher contacted the potential participant to inform them that they would receive a Mums4Mums Participant Information Sheet (PIS) in the post along with two consent forms (one to be returned to the researcher and the other to be kept by the participant) (See Appendix Six - Mums4Mums study - Participant Information Sheet and Appendix Seven – Mums4Mums study Consent form).

Once the participant agreed to take part, and returned the signed consent form, they were posted a questionnaire pack (see Appendix Eight). The participants were allocated an identification number at this point to ensure anonymity.

5.4.5. Financial Incentive

The participants were not offered any financial incentives as part of the recruitment process. However, they were given a £10 High Street gift voucher as a gesture of thanks for having returned their completed questionnaires. They received three vouchers throughout their participation, at each data collection point.

5.4.6. Randomisation

Once a participant had agreed to take part, provided their consent, and returned the completed questionnaire, their details were passed onto the Clinical Trials Unit at the University of Warwick for randomisation, which was carried out using a random digit table. The group allocation information was provided to the researcher over the telephone, who then made contact with the participant to inform them of their group allocation.

5.4.7. Blinding

The researcher was not blinded to the group allocation. Reasons for this were that the researcher was the only member of the research team working on the project full-time, and was therefore carrying out all the administrative tasks required as part of the project. The intervention was delivered by the peer-supporters and there was no contact between the participant and the researcher during the four-month intervention, unless any practical administrative tasks necessitated contact. This meant that the researcher was not able to interfere or influence the participant's experiences during the intervention or at data collection.

5.5. The Intervention

5.5.1. Standard Care Group

The participant information sheet (PIS) informed all participants who took part in the study that they could be allocated to either the control group or the intervention group. All participants who consented to take part in the study continued to receive standard care from their GP and health visitor. The participants allocated to the

control group were informed that they would receive standard care only, and that the researcher would contact them in two and four-months' time to ask them to complete the research questionnaire again.

5.5.2. The Intervention Group

In addition to standard care, participants allocated to the intervention group received telephone-support over a period of four-months from peer-supporters who had been specially trained to deliver the intervention. The process that followed allocation into the intervention group is described below.

5.5.3. The Matching Process

All study participants allocated to the intervention group were matched with a peer-supporter. Matching data was collected to facilitate this process, and this was used to systematically match the participants with the peer-supporter who was allocated to them. The following information was collected to assist in matching:

Age of the participant: the dyads were matched as closely to age as possible. It was acceptable if the peer-supporter was older but none of the participants were matched with a younger peer-supporter (i.e. it is unclear whether study participants experiencing symptoms of postnatal depression would find support from a younger peer acceptable).

Number of children: the participant was matched with a peer-supporter who understood the personal demands of being a mother. Therefore, where possible, we matched a participant with three children with a peer-supporter who also had three children. This enabled a greater sharing of experiential knowledge.

Education level: where possible, participants were matched with peer-supporters with similar educational levels. This was felt to be important to enable the participant to communicate with a peer with a similar knowledge base.

Three personality descriptives: the peer-supporters and participants were asked to provide three words that described their personalities. This was seen as an important means of matching study participants and peer-supporters in terms of their personalities.

Hobbies and interests: where possible, matching the dyads in terms of their hobbies and interests was undertaken.

Availability: the number of days that a participant was at home and the best time to call were also taken into consideration when matching with a peer-supporter.

The matching process was carried out by two members of staff - one member of staff who was independent of the study, and the study researcher. The involvement of two members of staff facilitated a systematic matching approach, and discouraged the researcher using prior knowledge of the dyads to influence the process.

Once a match was complete, the peer-supporter was contacted first to see if they were currently ready to be matched. Following consent from a peer-supporter, the participant was contacted. All the participants were initially thanked for returning their questionnaire pack and informed that they had been sent a £10 gift voucher as a gesture of thanks. At this point, if the participant agreed, they were given the name of the peer-supporter who was allocated to them. The peer-supporter was then contacted and provided with the name of the study participant with whom they had been matched, their contact numbers (mobile and landline) and the GP contact details. It was made clear that contacting the GP would only be done with the

consent of the participant, and the participant agreed to this disclosure as part of the consenting process.

No other information was provided to each of the dyads at this point. This was due to the importance attached to the participant and the peer-supporter feeling uncomfortable about not knowing what the other individual knew about them. Peer-supporters were encouraged to 'get to know' the study participants as part of the process of building a relationship. This was accepted by the participants and reassurance was sought that they were happy to proceed.

5.5.4. Peer-supporter Activity Logs

The peer-supporters were provided with activity logs (see Appendix Nine) to maintain and record the specific topics that were discussed during the calls. Information was also collected about the date, time, and length of the call made, whether a mobile or landline was used, and if the peer-supporter would be charged for the call. Further information was sought about the main topics of discussion including any suggestions that they offered and any actions that were agreed. The purpose of the activity logs was to enable the research team to analyse the type of support that was provided.

The participants were informed that they could contact the researcher at any time if they needed to do so, and that the researcher would be in touch at two-months and four-months with the next set of questionnaires.

5.5.5. Phone Contact

The peer-supporters made the initial call to the study participants with whom they had been matched approximately forty-eight hours later. During this call the peer-

supporters negotiated how much support the participant needed (i.e. a call once or twice a week), the best time to make the calls (morning, afternoon or evenings), and passed on their contact details if they were happy for the participant to contact them.

5.5.6. Data Collection Time-points

Data was collected at three time-points – pre-intervention, during intervention (two-months), and post-intervention (four-months). The pre-intervention data was collected at the time of consent, further data collection was collected using postal questionnaires.

At four-months, the researcher contacted the participant again and informed them that they had reached the end of the intervention, and that they would receive the final set of questionnaires. At this point, the participants were asked if the researcher could set a date in approximately two-weeks-time to visit the participant in their own home, collect the final questionnaire, and conduct an interview. Once a date was agreed, this was confirmed in a letter sent out with the final questionnaire pack.

5.6. Data collection

This study comprises MMR, and both quantitative and qualitative data collection was carried out. All questionnaires are included in the Appendices (see Appendix Nine).

5.6.1. Quantitative Measures

5.6.1.1. Primary Outcome Measures

Initially, the primary outcome measure was the Edinburgh Postnatal Depression Scale (Cox et al., 1987). The EPDS is a 10-item self-report scale proven to be

effective as a screening tool, and is used to identify women experiencing symptoms of postnatal depression. The items focus on how the participant has been feeling over the past seven days, such as feelings of guilt, sleep disturbance, low energy, anhedonia, and suicidal ideation. The questionnaire is scored on a scale of 0-3, with 3 being the highest. Questions 3, 5, 6, 7, 8, 9, and 10 are scored in reverse. A maximum score on this scale is 30, a score total >=13 and <21 indicates symptoms of mild-to-moderate depression. The scale has been validated and translated into different languages (i.e. Chilean, Norwegian etc.) (Jadresic et al., 1995, Eberhard-Gran et al., 2001), and has a reliability of 0.87 (Cox et al., 1987).

From the analysis of the results of the pilot study (see Chapter 6), a second primary outcome measure was introduced - The CARE-Index - to observe the impact on parent-infant interaction.

The CARE-Index (Crittenden, 1979) was used to assess the interaction between mother and baby. It is measured by making a three-minute video of the mother and the baby. The instructions given to the mother are: *to be with our baby as you would normally be*. It has been found to be detrimental to use any instructive words, such as play, because the mother can be wrongly encouraged to show how she plays with her child - the focus then being on the toy - and in some cases, the interaction with the baby can be lost. The CARE-Index is a dyadic procedure that assesses adult sensitivity in a dyadic context. Each interaction that is recorded on the video is coded and scored by trained coders, who are regularly assessed in terms of their reliability (Crittenden, 1979). The scores on these scales range from 0-14, with 0 sensitivity being dangerously insensitive, 7 being normally sensitive, and 14 being outstandingly sensitive. On the adult sensitivity scale, scores of 5-6 suggest the need for parental education, 3-4 suggests the need for parenting intervention, and 0-2

suggests the need for psychotherapy for the parent. These scales are highly correlated with the infant Strange Situation assessment pattern of attachment, and also differentiate abusing from neglecting, abusing and neglecting, marginally maltreating, and adequate dyads (Crittenden, 1979). The inter-rater reliability for the infant CARE-Index was 0.75 or above for 4 of the 7 variables: maternal unresponsiveness 0.87, maternal sensitivity 0.81, maternal control 0.85, infant cooperative 0.57, infant compulsive 0.96, infant difficult 0.99, and infant passive 0.98 (Crittenden, 1981)

5.6.1.2.   Secondary Outcome Measures

The secondary outcome measures used in this study are presented in Table 14 below:

Table 14 – Secondary Outcome Measures

Outcome Measure	Description
Emotional Support Questionnaire - Social Adjustment Scale (Weissman and Bothwell, 1976)	The Emotional Support Questionnaire was based on three items from the Social Adjustment Scale (Weissman and Bothwell, 1976) and was used to measure the effects of breast cancer and mastectomy on the emotional support and adjustment required by the patient (Zemore and Shepel, 1989). This questionnaire comprised of three questions focusing on whether the participant can talk to a friend, a relative or a spouse / partner, and it measures how much emotional support is accessible to the participant while also evaluating their support network. Although these questions only measure one type of social support, it was proposed that specifically this type of support would be helpful for cancer

Outcome Measure	Description
	patients, as well as being the type of support that would be difficult for them to access (Wortman and Dunkel-Schetter, 1979). This was also deemed the case with women experiencing low mood by the research team. There are five options to choose from (scoring 1-5) and the questionnaire is scored by taking an average of the three scores. The higher the score indicates better adjustment. There was a high correlation between the Social Adjustment Scale Self-Report and Social Adaptation Self-Evaluation Scale for social functioning. ($r=0.62$) (Weissman et al., 2001) and the test, re-test reliability for this subscale is good ($r = .89$) (Zakowski et al., 2003) but only a subscale of the measure was used in this study.
Hospital Anxiety and Depression Scale (HADS) (Zigmond and Snaith, 1983)	This is a self-report measure where patients self-rate their experience of anxiety and depression over the past week. The fourteen statements can be divided into two subscales, half of which focus on generalised anxiety and half on depression (such as the inability to enjoy oneself or take pleasure in everyday things enjoyed normally). The items are scored on a scale of 0-3. The maximum score is 42, a score of 11+ indicates high levels of anxiety and / or depression. This is a validated measure used by researchers and other healthcare

Outcome Measure	Description
	specialists within a hospital setting (Razavi et al., 1990). The sensitivity and specificity for both anxiety and depression is highly correlated with the General Health Questionnaire at .80 and the measure performs effectively assessing the symptoms of anxiety and depression in psychiatric, primary care patients and also within the general population (Bjelland et al., 2002).
The Parenting Sense of Competence Scale (Rogers and Matthews, 2004)	This measure is a self-report designed to measure parents' satisfaction and efficacy in their parenting role. The sixteen items can be divided into two subscales, one half examining satisfaction and the other half-examining self-efficacy. The items are scored on a 6-point Likert scale. The lower the score indicating low levels of satisfaction and / or self-efficacy. The satisfaction scale examines parenting frustration, anxiety and motivation while the efficacy items look at capability, competence and problem-solving abilities. This is a validated measure and also used to score mothers and fathers separately (Gilmore and Cuskelly, 2009). There was a significant negative correlation between the Parenting Sense of Competence scores and the Depression, Anxiety and Stress Scale for mothers (and were quite low <.20). Reliability estimates for mothers on the satisfaction subscale were .77 and for self-efficacy they were .78. The scores for

Outcome Measure	Description
	fathers were .80 for the satisfaction subscale, .82 for the efficacy Subscale (Rogers and Matthews, 2004).
Generalised Self-Efficacy Questionnaire (Schwarzer and Jerusalem, 1995)	This measure comprises a 10-item scale designed to assess optimistic self-beliefs to cope with different difficult life demands. It is scored using a 4-point Likert scale and explores how an individual copes with life on a daily basis (i.e. 'I am confident that I deal efficiently with unexpected events'). The lower the score indicating low levels of self-efficacy. It has been used in many studies and translated into thirty different languages (Schwarzer et al., 1997). Validity and reliability of the measure ranges from .76 to .90 (Jerusalem et al., 1992).
The Infant Temperament Questionnaire (Carey and McDevitt, 1978)	This measure comprises a 10-item questionnaire measuring the temperament of the infant, each item being rated on a 3-point scale ranging from desirable temperaments to not so desirable temperaments. A lower score indicates a better parental perception of temperamental disposition. The scoring ranging from 10-30. The use of this measure in this study enabled the research team to be aware of the child's temperament. The test-retest reliability ranges from .74 to .81 (Sanson et al., 1987).

Outcome Measure	Description
Health Status Questionnaire (Ware Jr et al., 1996)	The original Health Status Questionnaire comprises of 36-items. For this study, the Short-form version comprising of 12 items was used. The questions focus on the participant's views of their own mental health (MCS) and how they are able to carry out their usual activities (PCS). The different sections have different scoring mechanisms and higher scores indicate an improvement. It is used widely to access the health of an individual in various settings (i.e. elderly, those managing a chronic illness). The median scores for the coefficients is .67 (PCS) and 0.93 (MCS). The test-test reliability for the short-form was .89 (PCS) and .77 (MCS) in the UK (Ware et al., 1996). The internal reliability of this measure ranges from .77 to .91 (Bousquet et al., 1994).
Dyadic Adjustment Scale (Spanier, 1988)	This measure is also known as the Couples Questionnaire. The Dyadic Adjustment Scale (DAS) scale is a self-report measure of relationship adjustment, it is used in determining the degree of dissatisfaction couples could be experiencing in their relationship by scoring the extent of agreement or disagreement between the couple. The DAS comprises thirty-six questions with some dichotomous questions, some questions scored on a 5-point Likert scale and one multiple-choice question (scoring range 0-5). The lower the scoring the fewer disagreements within the relationship. The use of

Outcome Measure	Description
	this measure in this study highlighted the participant's perceptions about their relationship with their partner / spouse, by exploring how these perceptions impact on their parenting abilities, it is possible to gain a clearer picture of where the problems are rooted. Construct validity was highly correlated with the Marital Adjustment Scale at .86 amongst married couples and .88 amongst divorced couples (Spanier, 1988). Internal reliability of the DAS for each of the subscales is as follows: "*affectional expression (4 items, .70), cohesion (5 items, .83), consensus (13 items, .91), Satisfaction (10 items, .87)*", and total DAS score is .95 (Carey et al., 1993). Cronbachs Alpha indicates a total reliability score of .96 (Spanier, 1988)
Peer-support Evaluation Inventory (Dennis 2003a)	The Peer-Support Evaluation Inventory (PSEI) was developed by Dennis et al., (2002) to measure the participant's experience of receiving peer-support. The PSEI comprises of four subscales: 1) Supportive Interactions, 2) Relationship Qualities: 3) Perceived Benefits of Peer-Support and 4) Maternal Satisfaction. The subscales are all rated on a 5-point Likert scale, from 1=strongly disagree to 5=strongly agree. Higher scores indicate higher levels of supportive interactions, perceived benefits and satisfaction. The Cronbach's alpha coefficients for the subscales in the

Outcome Measure	Description
	original study were: supportive interactions = 0.91, relationship qualities = 0.93, perceived benefits of peer-support = 0.97 and maternal satisfaction = 0.94.
A 'Service Use' Questionnaire	This measure was developed to collect data on public service utilisation by study participants. The unit costs for the public services were obtained from national databases by the economists within the team. The types of public services included in this measure are GP surgery visits, GP practice nurse, Social Worker contacts, psychologist, hospital in-patient stay etc. This measure was developed in-house at the University of Warwick.

5.6.2. Qualitative Interviews

5.6.2.1.   Interview schedules

The interview schedules were:

5.6.2.2.   Participant Interviews

All the participants who took part in the study were contacted by the researcher via the telephone at the end of the four-month intervention. The participants who had consented to take part in the interview were invited to take part in a semi-structured interview designed to explore their experiences of receiving the Mums4Mums Intervention (See Appendix Ten- Interview Schedule for Participants). They were informed that the interview would be conducted at their home, and would last

approximately an hour. The interview would be recorded and transcribed at a later date for the purpose of analysis. An interview schedule was used to prompt discussion, but this was flexible in that the participant was able to talk about issues that were important to them. The interview schedule explored the participant's experiences of taking part in the study, and their views about the peer-supporter who was allocated to them. The participants were asked about their views of TBPS, how they felt the peer-supporter had related to them, what support they felt had been useful, and how helpful they perceived the TBPS had been for them.

5.6.2.3.   Peer-supporter Interviews

All the peer-supporters consented to take part in a semi-structured interview after having provided support to a participant (See Appendix Eleven – Interview Schedule for Peer-Supporters). They were contacted by the researcher by telephone after delivering the four-month intervention. They were informed that the interview would be conducted at their home, and would last approximately an hour. The interview would be recorded and transcribed at a later date for the purpose of analysis. An interview schedule was used to prompt discussion, but this was flexible in that the peer-supporters was able to talk about issues that were important to them. The interview schedule explored the peer-supporter's experiences of delivering the intervention, and covered issues such as training, support from the research team, how it felt to initiate the first contact, how acceptable / intrusive the support role had been for them, and any impact it had had on their lives.

5.7. Governance and Ethics

The study was registered with the ISRCTN (International Standardised Randomised Control Trial Register). The study number is ISRCTN91450073.

Ethical approval for the pilot and pilot RCT was obtained from Coventry and Warwickshire Research Ethics Committee (ID number 08/H1211/94).

The study protocol has been published in the 'Trials Journal,' reference number 12/1/88.

The study has received a major funding grant from National Institute for Health Research (NIHR) (UK) - Research for Patient Benefit (RfPB) programme (ref: PB-PG-0407-13232).

5.8. Data Maintenance

Each participant who provided informed consent to take part in the study was allocated a participant identification number. This number remained assigned to that participant throughout the study. All the data collected as part of the study was used only for the purposes of this study, and was not shared with anyone outside the research team.

5.8.1. The Questionnaires

The questionnaires that were completed at three points in time were assigned a participant identification number, so that they could be collated. They were kept at Warwick Medical School, in a locked cabinet, in a locked room, and will be destroyed after a period of seven years.

5.8.2. The Audiotapes

The audiotapes of the interviews were stored together with the questionnaire and were only identifiable via the participant identification number.

5.8.3. The Video Recording

If the participant provided consent for the short video recording (3 Minutes) of them with their baby, this was stored as above. The participants were offered the opportunity to have a copy of the video.

5.9. Data Analyses

5.9.1. Quantitative Data

Descriptive methods were used to present participant characteristics, and to report levels of participation and dropout rates. Comparison of intervention and control group outcome data was undertaken using paired t-tests for continuous data, and chi-squared for categorical data. A repeated-measures mixed-factorial ANOVA was conducted to test the within-group and between-group differences. A Pearson Correlation analysis was also conducted to explore if any baseline independent variables predicted the outcome variable (EPDS). The results of the statistical analyses were used to reach some preliminary conclusions regarding the viability and acceptability of the intervention, the usefulness of the outcome measures being used, and the sample size required in a full randomised control trial.

5.9.2. Qualitative Data

Before the interview was conducted, participants and peer-supporters were reminded about the aims of the study, the reasons for recording the interview, and that if at any time they wished to stop the recording, they could do so. Confidentiality and anonymity were also explained again before conducting the interview. All of the in-

depth semi-structured interviews were audio-recorded, with the permission of the participant, and then transcribed verbatim by professional transcribers.

The transcripts from the all of the interviews were analysed using a 'thematic analysis' (Braun and Clarke, 2006, Fereday and Muir-Cochrane, 2008). Each transcript was read before being manually coded. Similar sections of relevant quotes were grouped together under different headings to generate themes (Ziebland and McPherson, 2006).

5.9.3. Mixed-Methods Analysis

The exploratory-embedded mixed-methods design of the study enabled the quantitative and qualitative data to be analysed iteratively.

The focus of the quantitative data was the impact on depressive symptomatology, while the qualitative data was used to explore the participant's experiences of the TBPS. The secondary (qualitative) data is embedded in the primary (quantitative) data with the aim of enhancing the results by providing a deeper insight into TBPS and its acceptability and effectiveness in supporting women suffering from postnatal depression.

5.10. Pilot of the Intervention

The methods detailed above were piloted to see if any modifications / changes were required to the study design before conducting the pilot RCT. These iterations are part of the process of developing and evaluating complex interventions as outlined in the guidance by the MRC (2000).

Chapter 6 presents the results of the pilot study.

6.   A Pilot Study

6.1. Introduction

The study design was underpinned by the Medical Research Council (MRC) framework for the development and evaluation of complex interventions.

As part of the process of developing complex interventions, a pilot study of the Mums4Mums Intervention was undertaken. Conducting a small pilot study of the Mums4Mums Intervention enabled the research team to further refine the training and the delivery of the intervention, as well as the study methodology. The results of this pilot study contributed to a greater understanding of the acceptability and feasibility of the intervention, and also helped shape the recruitment strategy for the randomised control trial (RCT).

It was intended that the pilot study would be conducted over a period of five months, during which time the aim was to recruit ten participants and deliver the intervention.

6.2. Objectives

The objectives of the pilot study were to:

- Explore the feasibility of recruitment to the RCT

- Conduct a power calculation based on the results from the primary outcome measure

- Test the appropriateness of the quantitative measures

- Build a working alliance with healthcare professionals for the larger clinical trial.

6.3. Methods

Full details of the methods used in this study are provided in Chapter Five. In brief, health visitors in Warwickshire and Coventry Primary Care Trust screened potential participants at their eight-week postnatal check using either the Edinburgh Postnatal Depression Scale (EPDS>=13) or the three Whooley questions recommended by NICE (2007). The Mums4Mums telephone-support intervention was delivered by trained peer-supporters over a period of four months. The primary outcome was depressive symptomatology as measured by the Edinburgh Postnatal Depression Scale. Secondary outcome measures included Dyadic Adjustment, Parenting Stress, and Self-Efficacy. Quantitative data was collected pre-, during, and post-intervention, and all the participants were interviewed at the end of the intervention to explore their experiences of receiving the peer-support.

6.3.1. Delivery of the Intervention

All of the participants were systematically matched to the peer-supporter who was allocated to them. The researcher initially made contact with the peer-supporter to ensure they were ready to be matched with a participant, followed by a telephone conversation with the participant to confirm that their questionnaire had been received, and that they had been matched with a peer. The participant was provided with only the name of the peer-supporter allocated to them, and informed that the peer-supporter who had been allocated to support her would make contact within forty-eight hours.

The peer-supporter was provided with the participant's name, telephone numbers (both landline and mobile number, if possible), and GP details. The peer-supporters were informed that they would receive a supervision call within seventy-two hours.

The peer-support intervention was delivered over a period of four months.

6.4. Results from the Pilot Study

6.4.1. Recruitment

6.4.1.1.   Peer-supporters

Sixteen peer-supporters were trained to deliver the Mums4Mums Intervention. They were all recruited by personal invitation using the specification set out by the stakeholder interviews, in that they a) had recent PND (i.e. within the last five years), b) were fully recovered from depression, c) had an empathic and non-judgemental disposition, and d) they could commit the time to participate in the training and provide the telephone-support. The sixteen peer-supporters all attended and completed their training and returned all the relevant forms (see Chapter Five, section 5.3.3 which highlights the training that was provided to peer-supporters). The characteristics of the peer-supporters are presented in Table 15 below.

Table 15 - Characteristics of Peer-Supporters

Age (average)		35.75
Relationship Status	Single parent	n=1
	Married	n=15
Number of children	One child	n=5

	Two children	n=9
	Three children	n =0
	4 children	n=2
Education Levels	Primary School	n=1
	GCSE	n=2
	Certificate/Diploma	n=6
	Undergraduate	n=4
	Postgraduate	n=1
	Professional Qualification	n=2
Working	Part-time	n=13
	Full-time	n=3
Number of participants studying	Studying	n=1
	Not studying	n=15
Number of days at home*	Average	5 days

- Note – this is the average number of days the mother is at home per week

6.4.1.2.   Participants

Sixteen potential participants were referred into the pilot study by health visitors;

nine participants agreed to take part and provided full consent. This recruitment

process took significantly longer than was anticipated. It took nine months to recruit the participants, which increased the pilot study phase by an additional four months (the last recruited participant took four months to complete the intervention).

6.4.1.3. Refused to Participate

Of the seven participants who did not take part, four could not be contacted by the researcher. Contact was made with one participant who was re-sent the forms and questionnaire pack, following which further contact could not be made. One of the participants did not want to take part because she was going away, and another participant did not want to take part because she was already receiving counselling.

6.4.1.4. Consented to Take Part but Dropped Out

Of the nine participants who took part, one participant left after returning the first set of questionnaires (Research Participant Mum (RPM01)). Research Participant Mum 01 began the study in August 2009, but due to the changeover in staffing on the research project, she no longer wanted to continue in October 2009. Another participant left the study after completing a second questionnaire (RPM08). She was concerned that the peer-supporter with whom she had been matched lived in the same geographical area. The characteristics of the consenting participants are presented in Table 16 below:

Table 16 - Characteristics of all Consenting Participants

Age	Average age was 31 years old
Single parent	None of the participants were single parents
Number of children	1(n=4), 2(n=4), 3(n=1)

Education Levels	Certificate diploma level (n=5)
	Undergraduate degree (n=3)
	GCSE level (n=1)
Working Full/Part time	Not working (n = 2)
	Part-time (n = 2)
	Maternity leave (n = 3)
	Full time (n = 2)
Number of participants studying	Only one participant was studying
Number of days at home	One day = weekend (n = 1)
	Six days (n = 1)
	Seven days (n = 7) (1 participant on sick leave)

6.4.2. Data collected

The data collected from the participants is presented in Table 17 below:

Table 17 – Data Collected

Participant ID	Baseline	During	Post- intervention	Interviewed
RPM01	Yes	No	No	No
RPM02	Yes	Yes	Yes	Yes
RPM03	Yes	Yes	Yes	Yes

Participant ID	Baseline	During	Post- intervention	Interviewed
RPM04	Yes	Yes	Yes	Yes
RPM05	Yes	No	Yes	No
RPM06	Yes	Yes	Yes	Yes
RPM07	Yes	Yes	Yes	Yes
RPM08	Yes	Yes	No	Yes
RPM09	Yes	Yes	Yes	No

6.4.3. Quantitative Results

The quantitative data from the pilot study was analysed following the process outlined in Chapter Five, section 5.9.1. The results from the outcome measures are presented in Table 18 below:

Table 18 – Results from Outcome Measures

Outcome Measure	Baseline Mean (SD)	Post Mean (SD)	T Value	P Value
EPDS (n=8)	15.37 (5.01)	12.50 (5.83)	2.76	0.028
Emotional Support (n=9)	5.33 (2.12)	7.5556 (1.42)	-4.06	0.004
HADS – Anxiety (n=9)	12.44 (4.18)	10.00 (5.43)	2.29	0.051
HADS – Depression (n=8)	12.37 (1.76)	9.87 (4.32)	2.07	0.078
PSOC – Efficacy (n=8)	26.00 (9.82)	28.12 (8.35)	-1.03	0.340

Outcome Measure	Baseline Mean (SD)	Post Mean (SD)	T Value	P Value
PSOC – Satisfaction (n=7)	26.71 (8.65)	28.57 (6.65)	-1.54	0.174
Generalised Self-Efficacy (n=8)	22.62 (7.48)	24.75 (6.88)	-2.86	0.024
Infant Temperamental Scale (n=8)	15.00 (2.32)	15.25(2.05)	-0.61	0.563
Health Status Questionnaire (n=9)	32.11 (2.42)	32.77 (2.77)	-1.03	0.332
Dyadic Adjustment Scale (n=4)	122.00 (14.02)	123.75 (6.23)	-0.24	0.824

6.4.3.1.   Primary Outcome Measure

The mean score at baseline was 15.38 (SD=5.01), and post-intervention decreased to 12.50 (SD=5.83), which is a significant reduction in the participants' depressive symptomatology (p=0.028). This produced a medium effect size of 0.52.

6.4.3.2. Secondary Outcome Measures

We also used this pilot to examine the potential impact of the intervention in terms of the secondary outcome measures.

6.4.4. Qualitative Data

Semi-structured interviews were conducted with peer-supporters and participants at the end of the four-month intervention. See Chapter Five (Participant interviews section 5.6.2.2, Peer-supporter interviews section 5.6.2.3).

Six participants consented to be interviewed at the end of the intervention. The qualitative analysis was not carried out at this point due to the small number of participants who participated in the interviews and to avoid repetition. No changes to the study protocol were implemented at this stage from the qualitative data collection findings.

6.5. Discussion

6.5.1. Summary of Results

The results from the pilot study show a significant reduction in the EPDS scores pre- and post-intervention, as well as other promising results. This small pilot study highlights that the TBPS intervention could be effective in reducing the depressive symptoms experienced by new mothers, helping them to feel more confident and satisfied with their role as a parent. The majority of the qualitative feedback was also positive.

6.5.2. Amendments

The pilot study enabled the research team to carry out the TBPS intervention in a small sample to test how it would work, and to make necessary amendments to the study protocol. It became apparent that some changes would be needed to the study design and methods before proceeding with the RCT. Major changes were made to the following: quantitative outcome measures, inclusion criteria, recruitment strategy, and referral routes. The changes that were made are detailed below:

6.5.2.1.   Appropriateness of Quantitative Measures

The pilot study showed that all existing measures were acceptable to the participants. However, it also identified some gaps in the data being collected. The original questionnaire pack included eight validated measures, with only one of these forms focusing on data in relation to the child (the Infant Temperament Scale, a self-report measure completed by the parent). The CARE-Index was therefore included to observe the mother-and-child interaction more effectively. This required a major substantial amendment as the CARE-Index involves a three-minute video of the parent with their child. Ethical approval was sought from the Warwickshire Research Ethics committee.

After the pilot study, it was evident that other forms of intervention, such as medication, group-support, or professional support, could be offered to the participant alongside the Mums4Mums Intervention. The research team had emphasised to the potential participants who were taking part in the study that their participation would not interrupt any other forms of support that was being made available to them. It was agreed that participants would be requested to provide

information on any other additional support they were receiving, and this was then accounted for in the final analysis.

It was also decided to collect data with regard to the baby's feeding, sleeping, and crying patterns. This was suggested because these specific behaviour patterns have been found to affect the mother-and-child relationship. If the baby is having problems feeding, this could have an effect on their sleeping patterns, which in turn affects how unsettled they are (crying patterns). An unsettled baby can negatively impact on the parents' mental state, and sleep deprivation can exacerbate these negative emotions. A minor research amendment was required to collect this additional data.

The CARE-Index and the additional Baby Feeding, Sleeping and Crying questionnaire were aimed at obtaining more data on the infant, and the interaction between the parent and their infant. Ethics approval was sought from the North Warwickshire Committee before changes were made to the participant information sheet and consent form.

6.5.2.2.   Feasibility of Recruitment Strategy

a)   Inclusion Criteria

One of the key findings from the pilot study was the slow recruitment of women to the study. The time to recruit the small number of participants took much longer than initially anticipated. Sixteen potential participants had been referred into the study and nine participants took part over a period of six-months.

Discussions with health visitors suggested that the inclusion criteria on the EPDS should be reduced from 13 to 10, with 10 being the clinical cut-off point for mild

depression. This EPDS range was also increased from 21 to 22, the higher end being subject to the approval of the health visitor. This was intended to allow more participants to be eligible to take part in the study. Again, due to the vulnerability of the participants, a substantial amendment was required, and ethical approval was sought before putting these changes into practice.

b)   Recruitment Strategy

Changes to the recruitment strategy were made alongside the changes to the inclusion criteria above and were part of the same substantial amendment to the ethics committee. These were as follows:

Referrals via Health Visitors and GPs

The health visitor or GP were provided with a brief expression of interest study leaflet, which could be given to any participant who they were treating / visiting for postnatal depression (see Appendix Five). The leaflet asked the participant for their permission for their GP / health visitor to give their name and address to the research team, in order for them to be provided with a full PIS. This initial permission request did not provide confirmation that the potential participant had agreed to take part in the study, and at this point the participant had not been screened for eligibility. When the researcher received the study leaflet, telephone contact was made with the participant to inform them that they would be receiving further information regarding the study through the post. The participant was then sent a copy of the PIS (see Appendix Six).

After one-week the participant was contacted by telephone to answer any questions and ask if they wanted to take part.

If they were interested in taking part, and before proceeding any further, the researcher asked them the ten questions from the EPDS to assess their eligibility. The questionnaire was scored on the same day, and the participant was informed of whether they are eligible (only women with an EPDS score above 10 and below 22 were eligible). If the participant declined, no further contact was required. If the participant was not eligible, the researcher explained that they did not meet the study entry criteria (i.e. as was explained in the PIS). They were reassured that they would continue to receive all existing support.

If the participant was eligible and wanted to take part, they were sent a questionnaire pack together with the consent forms to complete and return in an enclosed prepaid envelope. The participant would then be contacted by telephone to inform them which group they had been randomised to. The statement that was read out to participants informing them of their group allocation was prepared and given ethical approval (see Appendix Twelve). A letter was sent notifying the GP and health visitor of their participation in the study (see Appendix Thirteen). The procedure was then continued as per the original study protocol.

GP Practices

GP Practices were more robustly targeted with the support of the Central England Primary Care Research Network (PCRN) research facilitator from the University of Warwick. Twenty-six local surgeries were sent information about the study in the post, and this was followed up by a telephone call offering to visit the medical practice and present the study information to the team. They were also provided with posters and leaflets. While the majority of practice managers from these targeted

surgeries agreed to display posters and leaflets, none of them agreed for the

researcher to go and visit them.

Self-Referral

Posters (see Appendix Fourteen) were displayed in local Children's Centres, with the

contact details of the researcher.

All participants who self-referred were then recruited following the above procedure

(i.e. the research team would arrange to provide them with further information etc.)

Webpage

A Mums4Mums study web page was developed that linked to the Warwick Infant

and Family Wellbeing Unit (WIFWU) website on the Warwick Medical School

website.

This web page consisted of the following:

- Introductory page with links to the next page

- Full information sheet with a link to a screening questionnaire

- A final link that thanks the mother and explains what will happen next.

Online self-Referral

We also developed an online self-referral route via the University Webpages. We

provided information on the study, developed a 'frequently asked questions' page for

women wanting more information, and the EPDS scale was provided online for

potential participants to complete.

An online consent form was not required because it was assumed that the decision to submit the questionnaire and their contact details were a sufficient indication of consent. Participants could not access the screening questionnaire until they had accessed the information sheet.

Netmums

'Netmums' is the UK's fastest-growing online parenting organisation with over 756,000 members, mostly new mothers. The study information on their local web pages was updated to inform new mothers that the Mums4Mums study was now recruiting for the RCT.

Netmums also agreed to place the 'Mums4Mums' weblink on their home page within the Warwickshire area. This enabled potential participants to learn about the study, access information, and contact the research team if they wished to do so.

Local NHS Health Online Forum

We provided information about the study on the Local NHS Forum under the heading of 'Warwick study investigates support for postnatal depression'. See the following link http://www.nhslocal.nhs.uk/story/warwick-study-investigates-support-postnatal-depression

Local Mother and Toddler Groups

A list of local mother-and-toddler groups was extracted from the 'Netmums' site and telephone contact was made with approximately fifty groups. The aim was to identify if the mothers attending these groups had multiple births, and if the toddlers had siblings who were infants. We offered to leave posters and leaflets at these

groups. This approach proved difficult as the group organisers were difficult to contact and group workers were not in a position to offer their support.

Local Magazines

We contacted the editor of 'Raring2go!' in Nuneaton and Hinckley. They agreed to place an A5 advertisement in their magazine for a small charge (see Appendix Fifteen).

Midwifery Departments

Midwifery departments at the George Elliot Hospital in Nuneaton, and Warwick Hospital, agreed to provide the Mums4Mums brief expression of interest leaflets. They agreed to place these leaflets in the maternity discharge wards, and also to promote the study where possible.

Improved Access to Psychological Therapies

The Improved Access to Psychological Therapies (IAPT) team in Coventry and Warwickshire were approached as another avenue for recruitment[1].

As part of the IAPT programme, patients are asked at the initial assessment process to consent if they would like to take part in current research. Patients who ticked a box consenting to be contacted to take part in research, and who met the inclusion criteria for the study, could then be telephoned by the researcher and provided with

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[1] *The Improving Access to Psychological Therapies (IAPT) programme supports the frontline NHS in implementing National Institute for Health and Clinical Excellence (NICE) guidelines for people suffering from depression and anxiety disorders.@@It was created to offer patients a realistic and routine first-line treatment, combined where appropriate with medication which traditionally had been the only treatment available. The programme was first targeted at people of working age but in 2010 was opened to adults of all ages* (http://www.iapt.nhs.uk/about-iapt/).

the Mums4Mums PIS (See Appendix Sixteen for the strategy adopted as part of recruitment for Mums4Mums).

6.5.2.3. Power Calculation

The pilot study showed that recruitment of participants was a slow and challenging process, and that a recruitment target of seventy participants was not going to be achievable within the time constraints of the study. The target recruitment for the Mums4Mums was reduced to thirty participants in total (fifteen in each group). The results of the analysis of the primary outcome measure suggested that TBPS did have the potential to be effective in reducing depressive symptomatology in new mothers experiencing low mood. We were able to recruit twenty-eight participants to the study. We then conducted a post hoc power calculation to estimate to what extent the study was now underpowered.

6.5.2.4. Follow-up

Finally, an agreement was made to collect follow-up data six-month post-intervention. Participants would be asked if it would be possible for the researcher to contact them six months later, and complete the final set of forms. This was to enable the researcher to assess whether any changes were sustainable after a period of six months.

6.6. Summary

The study followed the MRC guidelines for developing complex interventions, and the pilot study enabled re-iterations to be made to the study protocol before carrying out the RCT which followed next (see Table 19).

Table 19 – Summary of Changes

Summary of Changes made to the study protocol as after conducting the pilot study:

1) Outcome Measures

- The CARE-Index was introduced to assess the interaction between the parent and the infant,

- The Baby Feeding, Sleeping and Crying questionnaire was also introduced,

- Information on external support that the participant was receiving with regard to supporting PND was requested from the participant.

2) Inclusion Criteria

The inclusion criteria was widened to include participants scoring >10 and <22

3) Recruitment Strategy

Numerous changes were made to the recruitment strategy

- Referrals via health visitors and GPs

- Self-referral

- Expression of Interest leaflets for new mums

- Webpage

- Link with Netmums

- Local NHS Health Online Forum

- Local Midwifery Departments

- Improved Access to Psychological Therapies

4) Sample Size

The sample size was reduced to thirty participants, fifteen in each arm

7. The Feasibility Study

7.1. Introduction

This chapter reports the findings of the Mums4Mums RCT. The chapter begins by providing information about recruitment: referral rates, who made these referrals, and the reasons why a significant number of women decided not to take part in the study.

The chapter then goes on to provide information about the participants who consented to take part in the study, and an analysis of the baseline data. Following this, a report of the findings of a comparison of those participants who left the study with those participants who completed the study is provided. Finally, the results of the primary and secondary data are presented for participants who completed the study, and who provided pre-intervention, post-intervention, and follow-up data.

7.2. Recruitment

Recruitment to this study took place between May 2010 and September 2011. The aim was to recruit fifteen participants per group to provide sufficient power to enable us to detect an effect size of around 0.6 using a power of 80% and two-sided significant level of 5%.

7.2.1. Consort Statement

This illustrates the referral, recruitment and allocation process for the participants.

Figure 4 – Participant Consort Flow Chart
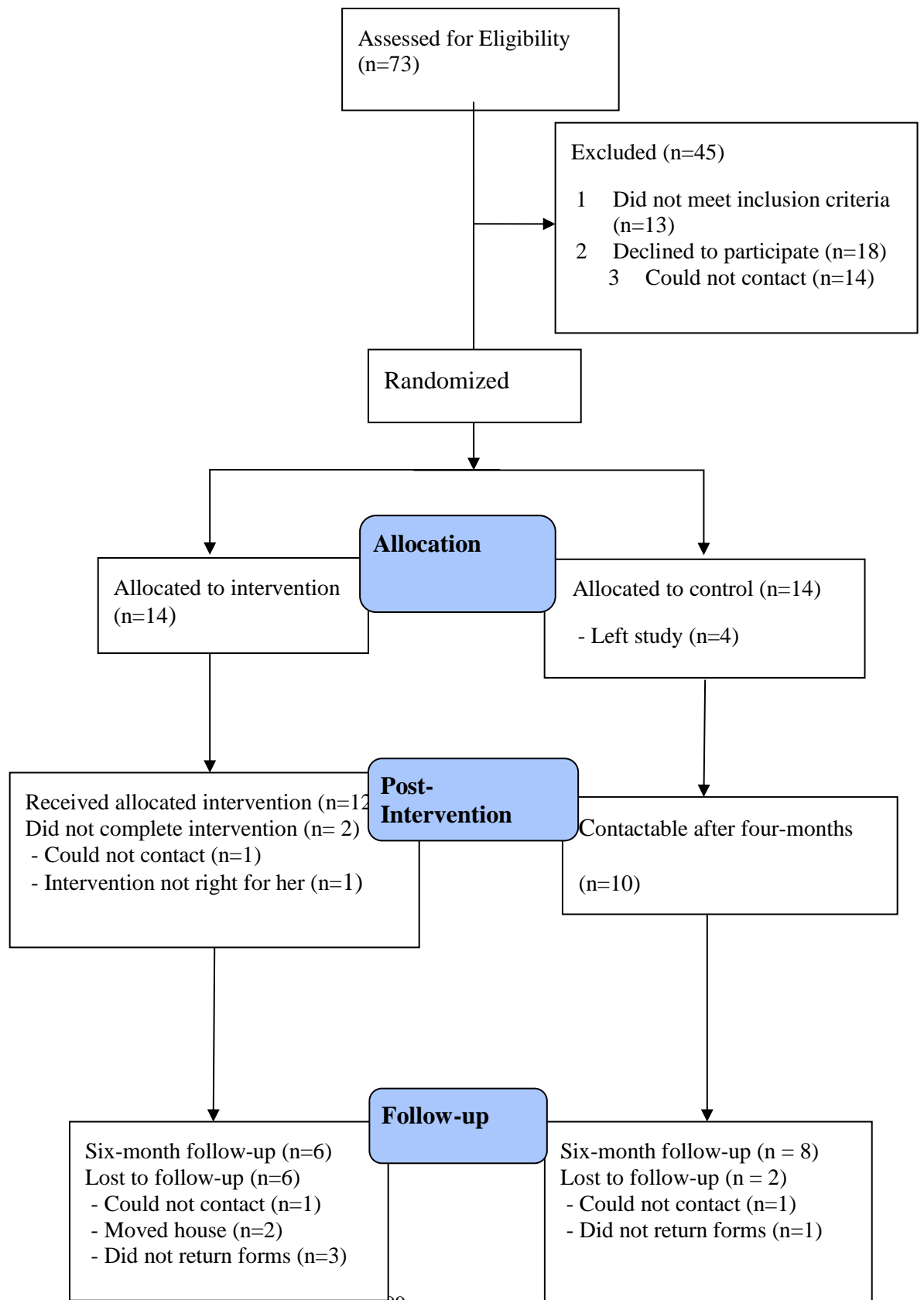
7.2.2. Referrals

Seventy-three women were referred to the RCT in total. These referrals were received from five sources: health visitors (n=39), IAPT (n=17), self-referral (n=11), online referral (n=4), and a clinical psychologist (n=2).

Of the seventy-three referrals, on average only one out of three women decided to take part. In total, twenty-eight women provided informed consent to take part in the study, resulting in a 38% acceptance rate.

7.2.3. Recruitment Rate

Recruitment for this study proved to be very challenging. This section collates the reasons given by the women who decided not to take part.

Forty-five women were referred to the study, and were provided with further information about the study by the researcher, after which they decided not to take part. The reasons why these women decided not to take part were as follows: 1) could not be contacted, 2) declined to take part, and 3) were not eligible.

7.2.3.1. Could not be Contacted

Fourteen women who were referred into the study were difficult to contact. Nine of these referrals (64%) were made by the health visitor, two were from IAPT (14%), and two were self-referrals (14%). One of the self-referrers scored too low on the EPDS, and the second was an online self-referral, who could not be further contacted. It was clear, however, from the participant's name that this woman was from an ethnic minority group. She had three children, and scored twenty-two on the online EPDS. Unfortunately, this woman did not provide us with a contact telephone number and we tried to establish contact with her four times via her email

address without success. There was no other means of contacting her or any related health professionals.

7.2.3.2.   Declined to Take Part

Eighteen women declined to take part in the study. Nine of these were referrals from health visitors (47%). A breakdown of their reasons for declining is provided below:

- Feeling better (n=2)

- Low mood was due to other issues going on in their lives (sleep deprivation, grief) (n=2)

- In receipt of additional services (e.g. counselling), which was perceived to be sufficient (n=1)

- Preference for other sources of support (e.g. family) (n=1)

- Moved abroad to be with her family and access more family support (n=1)

- Denial of diagnosis made by health visitor (n=1)

- No reason (n=1).

IAPT referred five women to the study who declined to take part. The reasons for their decision were as follows:

- Low mood due to bereavement not PND (n=1)

- PND was linked to her previous pregnancy (stillbirth) (n=1)

- Feeling better (n=2)

- Time - too busy focusing on the needs of her three young children all under the age of six (n=1).

Of the four remaining women who declined to take part, three were self-referrals:

- Low mood due to grief (n=1)

- Feeling better (n=1)

- Receiving counselling (n=1).

The final woman who declined to take part was referred by a clinical psychologist, and she decided not to take part in the study because her partner did not approve.

7.2.3.3. Not Eligible

Thirteen women were not eligible to take part in the Mums4Mums study. Seven of these referrals were from health visitors (54%), and six were from IAPT (46%). Ten of these women did not meet the EPDS eligibility criteria; seven women scored too low (<10), and three women scored too high on the EPDS (>23). One woman said that her low mood was due to her current financial worries with no symptoms of PND, and two women had children whose ages were three and above (the infant had to be under two years old).

7.2.3.4. Summary of Refusals

Sixty-two percent of women referred to the study decided not to take part. The reasons provided were a mixture of: time, priorities, children, partners, current support, family support, denial, and also more complex issues than PND alone.

7.3. Baseline Data Analysis

Twenty-eight participants took part in the Mums4Mums study. Following consent and baseline data collection, they were randomised into the standard care group or the intervention group.

7.3.1. Intervention Implementation

Participants allocated to the intervention group received weekly telephone calls over a period of four months from a peer-supporter. Of the fourteen participants who were supported, two of them only communicated mixed calls and rearrangements with the peer-supporter who was allocated to them by text. It is difficult to identify the average number of texts sent by the participants due to reporting issues, but on average twenty-six texts were sent by the peer-supporters. Of the five peer-supporters who completed activity logs and returned them, the average number of calls made was eleven; the minimum six and the maximum sixteen. The length of the call was on average twenty-nine minutes, with a minimum time of five minutes and maximum time of ninety minutes.

7.3.2. Participant EPDS Score and Age (in weeks) of Study Infant.

The inclusion criteria stated that potential participants had to have an EPDS score >10 and <22 and have an infant up to the age of two years old. This information was collected at the time of consent and is presented in Table 20 below.

Table 20 - Participant EPDS score and age (in weeks) of study infant.

Group Allocation	RPM	EPDS baseline	Infant age (weeks)	Group Allocation	RPM	EPDS baseline	Infant age (weeks)
Intervention	10	19	14	Control	11	14	97
Intervention	22	20	18	Control	21	16	35
Intervention	25	12	21	Control	30*	24	167
Intervention	28	11	50	Control	32	26	97

Group Allocation	RPM	EPDS baseline	Infant age (weeks)	Group Allocation	RPM	EPDS baseline	Infant age (weeks)
Intervention	29	21	33	Control	33	20	34
Intervention	43	21	7	Control	37	18	17
Intervention	47	21	85	Control	48	14	6
Intervention	49	11	16	Control	58	20	26
Intervention	57	17	14	Control	60	21	10
Intervention	65	17	12	Control	61	16	49
Intervention	72	20	9	Control	63	17	16
Intervention	74	22	18	Control	68	16	30
Intervention	75	22	84	Control	73	17	13
Intervention	81	19	15	Control	82	20	22

* Participant was 5.5 months pregnant, baby due 7.1.11

7.3.3. Summary of Participant EPDS Score and Age of Study Infant (in weeks)

The study protocol stated that participants would be screened for eligibility by the health visitors at their eight-week postnatal check. However, most of the participants were recruited much later, but still had infants under the age of two.

Two participants were recruited despite falling outside the exclusion criteria. This decision was based on the recommendation of their health visitor and in agreement with the research team, who felt they would benefit from taking part.

7.3.4. Demographic Variables

Table 21 depicts the characteristics of the randomised participants:

Table 21 – Demographic Variables of Randomised Participants (Figures are numbers (percentages))

		Intervention (n=14(%))	Control (n=14(%))	X^2
Age (years)	Under/equal to 25 years old	3(21)	3 (21)	$X^2 (1) = 0.00$, p =1.00
	26 and over	11 (78)	11(78)	
Single parent	Yes	1 (7)	2 (14)	$X^2 (1) = 0.22$, p=0.64
	No	10 (71)	11 (79)	
Number of children	First child	4 (29)	7 (50)	$X^2 (1) = 1.35$, p 0.25
	More than one child	10 (70)	7(50)	
Age of youngest child	Under/equal to 6 months	10 (71%)	7 (50%)	$X^2 (3) = 2.20$, p = 0.53
	Under/equal to 12 months	2 (14%)	4 (29%)	
	Under/equal to 24 months	2 (14%)	2 (14%)	
	Over 30 months*		1 (7%)	
Education Level	Up to A levels	5 (36)	6 (43)	$X^2 (1) = 0.54$, p =0.46
	Certificate/Diploma/ undergraduate/post grad	9 (64)	6 (43)	

		Intervention (n=14(%))	Control (n=14(%))	X^2
In work	Yes	11 (79)	8 (57)	$X^2 (2) = 0.94$, p =0. 33
	Not working /Studying	3 (21)	5 (36)	
Full-time/Part-time work	Full time	1 (7)	0	$X^2 (2) = 2.96$, p =0.23
	Part time	5 (36)	1 (7)	
	Maternity leave	4 (29)	5 (36)	
Days at home	Up to 4 days	3 (21)	0	$X^2 (1) = 3.13$, p=0.77
	7 days	11 (79)	13 (93)	
Breastfeeding	Did not breastfeed	2 (14)	5 (36)	$X^2 (2) = 2.54$, p=0.28
	Still breastfeeding	3 (21)	1 (7)	
	Have stopped breastfeeding	8 (57)	6 (43)	
Baby sleeping arrangements	In cot in own room	4 (29)	4 (29)	$X2 (2) = 0.91$, p=0.64
	In cot in shared room	8 (57)	7 (50)	
	With parents		1 (7)	

NB: the % may not add up to 100, this is due to the data not being supplied by the participants.
* one of the participants youngest child was 39 months, this participant was included in the study as she was five and a half months pregnant at the time of consent.

7.3.5. Summary of Chi-Squared Tests

There were no significant differences at baseline in terms of the characteristics of the

participants allocated to the control and the intervention group.

7.3.6. Group Comparisons of Outcome Measures at Baseline

Independent t-tests were carried out to establish if there were any differences between the scores for the outcome measures at baseline between the two groups. Table 22 shows that there were no significant differences:

Table 22 – Comparison of Baseline Outcome Measures between the Groups

Outcome measure	Intervention (n=14) M (SD)	Control (n=14)	T	P value
Emotional Support Questionnaire	4.43 (2.65)	5.86 (2.45)	T(26) = 1.482	P = 0.15
Hospital Anxiety Scale – Anxiety	13.54 (4.89)*	13.29 (2.76)	T(25) = 1.073	P = 2.94
Hospital Depression Scale - Depression	11.50 (3.88)	13.29 (2.76)	T(26) = 1.404	P = 0.17
Parenting Sense of Competence - Efficacy	32.14 (7.13)	30.79 (7.71)	T(26) = 0.454	P = 6.33
Parenting Sense of Competence - Satisfaction	27.86 (7.56)	27.14 (6.25)	T (26) = 0.807	P = 0.79
Generalised Self-Efficacy	23.71 (3.38)	23.71 (4.23)	T(26) = 0.00	P = 1.00
Edinburgh Postnatal Depression Scale	18.21 (4.15)	18.64 (3.52)	T(26) = 0.294	P = 0.77

Outcome measure	Intervention (n=14) M (SD)	Control (n=14)	T	P value
Infant Temperamental Scale	15.07 (2.64)	16.43 (3.41)	T(26) = 1.18	P = 2.50
Health Status Questionnaire	30.71 (2.13)	29.93 (2.23)	T(26) = -0.953	P = 0.35
Dyadic Adjustment Scale	102.92 (23.65)	108.20 (27.55)	T(21) = 0.492	P = 0.63
*Feeding, sleeping crying questionnaire	4.45 (2.06)	5.71 (2.06)	T(16) = 1.26	P = 0.23

*(N=13), one of the participants did not fully complete the HADS Anxiety Questionnaire.
*Feeding, sleeping & crying questionnaire (intervention group, n=11, control group, n=7).

7.3.7. Dropout

7.3.7.1. Participants who Left the Study

Table 23 below depicts the results of the analyses comparing the demographic characteristics of the participants who dropped out of the study with those of the participants who completed the study, in order to investigate if there were any demographic differences between the two groups that might impact on the generalisability of the findings.

7.3.7.2. Completers Versus Dropouts

Five participants left the study following group allocation (intervention group n=2, control group n=3). An additional nine participants were lost to follow-up (intervention group n=6, control group n=3).

Table 23 - Demographic Variables for those Participants who Completed / Dropped out of the study

		Completed (n=14)	Left (n=14)	X^2
Age (years)	<=25	2 (14)	3 (21)	$X^2 (1) = 0.85$, p=0.36
	>26	12 (86)	11 (79)	
Ethnicity	White British	12 (86)	12 (86)	Na
Single parent	Yes	2 (14)	1 (7)	$X^2(1)=0.38$, p=0.54
	No	4 (29)	11 (79)	
Number of children	First child	4 (29)	7 (50)	$X^2(1)=1.34$, p=0.25
	More than one child	10 (70)	7 (50)	
Education Levels	Up to A levels	5 (36)	6 (43)	
	Certificate/Diploma/ undergrad/post grad	7 (50)	8 (57)	X2(1)=0.04,p=0.95
In work	Yes	8 (57)	11 (79)	X2(1)=0.94, p=0.33
	No/Studying	5 (36)	3 (21)	
Full-time/Part-time work	Full time	1 (7)	6 (43)	
	Part time	5 (36)	3 (21)	X2=(2)=1.78, p=0.41
	Maternity leave	1 (7)	6 (43)	
Days at home	Up to 4 days	1 (7)	2 (14)	X2(1) = 0.30, p=0.59
	7 days	12 (86)	12 (86)	
Breastfeeding	Did not breastfeed	2 (14)	5 (36)	X2(2) =1.53, p=0.46
	Still breastfeeding	2 (14)	2 (14)	
	Have stopped breastfeeding	8 (57)	6 (43)	

		Completed (n=14)	Left (n=14)	X^2
Baby sleeping arrangements	In cot in own room	4 (29)	4 (29)	X2(2) = 0.91, p=0.64
	In cot in shared room	7 (50)	8 (57)	
	With parents	0	1 (1)	
Trial group	Control Group	8 (57)	6 (43)	X2(1) = 0.57, p=0.45
	Intervention Group	6 (43)	8 (57)	

7.3.7.3.   Summary of Completers Versus Drop-Outs

A total of fourteen participants dropped out of the study (control group n=6, intervention group n=8) giving an overall dropout rate of 50%. There were no statistically significant differences between the participants who completed the intervention and those who dropped out.

The 'Trial group' chi-squared test examined the differences in terms of the participants who stayed in / left the study due to group allocation. Although it might have been assumed that more participants would leave the study in the control group because they had been allocated to receive standard care, in fact slightly more participants left the study from the intervention group (n=8) than from the control group (n=6). Although this difference was not statistically significant, it does indicate that group allocation was not a significant factor in the decision to withdraw from the study.

7.3.8. Missing Values

The results so far have established that the Mums4Mums study had a dropout rate of 50%, resulting in high levels of missing data, and the next section describes the process for handling this missing data.

It was originally intended that the quantitative data from the Mums4Mums study would be analysed using an 'intent to treat' (ITT) approach. This approach enables a comparison to be made between the outcome scores from the intervention group and the control group, while avoiding bias associated with the non-random loss of participants. This means that respondent data is analysed in the group to which they were initially allocated, regardless of whether they complete the intervention. This approach ignores non-compliance, deviations from the intervention, drop-outs, and anything else that could impact on the study after randomisation, but it can become problematic when a large number of participants do not complete the intervention.

7.3.8.1. Methods of Handling Missing Data

The problem of missing data, either due to non-compliance or dropout, needs to be addressed because it can introduce bias into the final results. There are various methods of handling missing data, the most utilized method for the ITT approach being the Last-Observation-Carried-Forward (LOCF). This method was deemed inappropriate due to the nature of the primary outcome measure. Using the previous EPDS scores was not a true reflection of how participant's feelings and emotions would unfold in real life, because PND is known to change over time (Kumar and Robson, 1984, Beck, 2002b).

7.3.8.2.   Adopted Method

The method that was therefore used to analyse the data in the current study is known as the 'per-protocol method.' The basic principle of this method is that the analysis is restricted to the participants who completed the intervention and provided a full dataset. It is important to note that this method also restricts the analysis of the benefits of the intervention to the 'ideal' patients. That is, those participants who adhered fully to the process required to take part in the Mums4Mums study. The implications of employing this approach will be addressed when discussing the limitations of this study.

7.4. Data Analysis

The Mums4Mums RCT required the same participant to repeatedly complete the same outcome measures at four time-points (pre-intervention, during the intervention, post-intervention, and six-month follow-up), making this a within-subjects repeated-measures design. A comparison of the differences between the intervention group and the control group was carried out, and this is known as the between-subjects effect. A mixed factorial analysis of variance (ANOVA) test was therefore conducted.

A Bivariate Correlation was conducted on the EPDS to explore whether there was any correlation between the EDPS at baseline and six-month follow-up. A Pearson's Correlation was conducted to investigate if there was a direction of association, using a line of best fit. Finally, a Reliable Change Index analysis was conducted on the EPDS to explore if there were any changes that occurred between the two groups that were clinically significant.

The baseline, post-intervention and six-month follow-up data were included in the analysis. These time-points were included in the analysis to investigate the immediate impact on depressive symptomatology at the end of the intervention, and the sustained change at six-month follow-up.

The mid-point data collection (at two-months) was not analysed because it indicated continuing participation in the study, and it was assumed that the scores would be reflected at post-intervention data collection.

7.4.1. External Support

Some participants were already receiving external support when recruited to the Mums4Mums study. They were reassured that taking part in the RCT would not impact on the other support. Data was collected at post-intervention about the types of external intervention, whether the participants were on any depression-related medication, attended any groups, or were receiving any specialist support that could have impacted on the results of the study.

- Half of the participants who took part the RCT were on antidepressants (n=6). The prescribed medication was varied: Sertraline, Fluoxetine, Citalopram, or Cipralex
- There were three different types of group support reported: PND support group (n=1), breastfeeding support group (n=1), and mother-and-toddler groups (n=3). The remaining participants were not attending any groups (n=6)
- Additional support that the participants were receiving consisted of health visitor (n=5), counselling (n=4), and support from GP (n=1).

This data was analysed alongside the full analysis to ensure that any impact of additional support was taken into account.

7.4.2. Statistical Analysis

A mixed factorial ANOVA test is the most appropriate test for this study design.

This test is used when the dependent variable in each group is the same (the EPDS) and there is a mixture of between-group and within-group variables. The rationale for carrying out a mixed factorial ANOVA is that it improves the chances of detecting differences between-groups by removing the within-group variability. The data being analysed needs to 'pass' 6 assumptions for this test to provide valid results.

If the data is normally distributed, a mixed factorial ANOVA (parametric test) can be conducted. However, if the data does not pass these assumptions, then non-parametric tests are more appropriate as they do not assume that the data follows the normal pattern of distribution.

7.4.2.1. The Assumptions

The six assumptions that needed to be met in order to carry out a mixed factorial ANOVA and provide valid results were as follows:

- The study design
  - One or more independent (between subjects) variables – in the Mums4Mums study this is group allocation (intervention and control)
  - One or more dependent (within subjects) variable – in the Mums4Mums study this is data collection time-points (pre-intervention, post-intervention and follow-up)

- Sample size – there should be *preferably* at least twenty cases in each group

- Distribution – the data for the dependent variables is normally distributed (i.e. the scores from the outcome measures follow the pattern for a normal distribution). The Shapiro-Wilk test of Normality can be carried out in SPSS to test this assumption

- Independence - there should be an independence of outcome measure scores, which means that each participant's response is sampled independently, and there is no relationship between the outcome measures from the different groups. In this study, the data from each participant was analysed in the group to which they were allocated, and none of the participants were in more than one group

- Sphericity – the variances and the correlations between the groups from the repeated measures are similar. This can be tested using the Mauchly Test of Sphericity

- Homogeneity - there needs to be homogeneity of variances for each data collection time-point in the two groups. This can be tested in SPSS using the Levene's Test for Homogeneity of Variances.

7.4.3. Per-Protocol Analysis

Fourteen participants completed the study and provided quantitative data at the three time-points: pre-intervention (baseline), post-intervention (at four-months), and follow-up data (six-months after the end of the intervention).

7.4.3.1.   Demographic Characteristics of Participants who Completed the Study

Table 24 below depicts the demographic characteristics of the participants who were included in the final analysis. There are no observable differences apart from the number of working mothers, which was higher in the intervention group.

Table 24 - Demographic Variables of Participant Included in the Final
Analysis (%)

		Intervention (n=6)	Control (n=8)	Pearson Chi-Squared (X^2)
Age (years)	Under/equal to 25 years	1	1	X^2 (1) = 0.49, p
	26 and over	5	7	=0.83
Ethnicity	White British	6	6	Na*
	Did not specify	0	2	
Single parent	Yes	1	1	X^2 (1) = 0.69, p
	No	4	6	=0.79
	Missing values	1	1	
Number of children	First child	1	3	X^2 (1) = 0.73, p
	More than one child	5	5	0.39
Education Level	Up to A levels	1	4	X^2 (1) = 3.09, p
	Certificate/Diploma/ undergraduate/post grad	5	2	=0.79
	Missing values	0	2	
In work	Yes	5	3	X^2 (2) = 2.24, p
	No/Studying	1	4	=0. 14
	Missing Values	0	1	

		Intervention (n=6)	Control (n=8)	Pearson Chi-Squared (X^2)
Full-time/ Part-time	Full time	1	0	X^2 (2) = 3.73, p =0.16
	Part time	3	0	
	Maternity leave	1	2	
	Missing Values	1	6	
Days at home	Up to 4 days	1	0	X^2 (1) = 1.26, p=0.26
	7 days	5	7	
	Missing Values	0	1.	
Breastfeeding	Did not breastfeed	0	3	X^2 (2) = 3.79, p=0.15
	Still breastfeeding	1	0	
	Have stopped breastfeeding	5	5	
Baby sleeping arrangements	In cot in own room	2	3	X^2 (2) = 0.89, p=0.64
	In cot in shared room	3	3	
	With parents	0	1	

*X^2 test could not be performed because there was no data collected in the non-British category.

7.4.4. Primary Outcome Measure: Edinburgh Postnatal Depression Scale (EPDS)

Two primary outcome measures were used - the Edinburgh Postnatal Depression Scale, and the CARE-Index. Both are quantifiable measures involving continuous scales, the first comprising a self-report measure, and the second an independent observational measure.

7.4.4.1.   Exploratory Data Analysis

Further exploratory data analysis was conducted to identify whether this data was normally distributed. There were no visible discrepancies or outliers within this data set.

Descriptive Statistics

Table 25 below shows the minimum, maximum, mean, and standard deviations for the EPDS for the intervention and control groups at each time-point, for the data from the fourteen participants included in the analysis.

Table 25 – Descriptive Statistics for the EPDS Scores

Group	Time	Minimum	Maximum	Mean (SD)
Intervention (n=6)	Baseline	11	21	15.50 (4.64)
	Post-intervention	7	17	10.50 (3.94)
	Follow-up	5	11	7.67 (2.66)
Control (n=8)	Baseline	16	24	18.88 (2.90)
	Post-intervention	7	19	13(4.38)
	Follow-up	6	21	14.25 (5.65)

Intervention group - the variability in the range of the scores was evident in the table above. The range in the intervention group at baseline had a difference of 10 points (minimum 11, maximum 21). This range reduced to only 6 points at six-month follow-up (minimum 5, maximum 11). The mean scores and SD reduce continually over the three time-points from 15.50 (4.64) to 7.67 (2.66).

Control group – at baseline the range of scores in the control group was slightly less at 8 points, but the lowest score was considerably higher (minimum score 6, maximum score 24). The range at six-month follow-up in this group was larger at 15 points, indicating high variability in participant's scores. The mean scores showed a reduction at post-intervention (from 18.88 (2.90) to 13.00 (4.38)), but this score increased at six-month follow-up (14.25 (5.65)), indicating a relapse of depressive symptomatology.

Boxplots

Boxplot 7.1: EPDS scores at each time-point

Another well used method to explore the data is by using a boxplot. A boxplot presents data graphically.
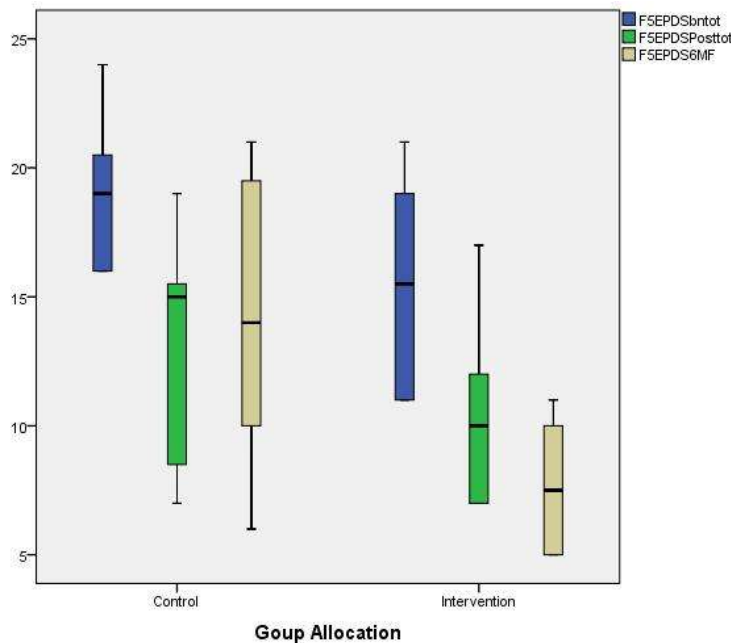
The boxplot above illustrates some important information about the EPDS scores. It highlights the within-group effects for intervention and control group at each time-

point. At a glance, the data does not show a normal distribution pattern. Due to the method used to enter the data into SPSS, the control group scores are presented first.

Control group – at baseline (blue line), the control group's lowest score indicates the participants have symptoms of moderately high PND (EPDS lowest score 16). Three of the participants scored 16 on the EPDS scale, one participant scored the highest at 24. The other four participant's scores fell within that range (18, 20, 20, 21). There is no whisker at the lower end of the scores, indicating no variability in the low scores due to a small sample size. The T-bar (whisker at the higher end of the scores) represents the participant that scored 24. The range is small as explained in Table 25, hence the length of the bar is fairly short.

At post-intervention, the control group scores reduce, the lowest score is now 7 and the highest score was 19. However, the variance of the scores was slightly wider, and this variance increases further at six-month follow-up. This is reflected in the mean scores. At baseline the mean scores were 18.88 (SD 2.90). At post-intervention the scores reduced to 13.0 (SD 4.38), but then increased at six-month follow-up to 14.25 with a SD range of 5.65.

Intervention group – the pattern for the intervention group is slightly different. The lowest EPDS score in this group is 11, and the highest is 21. The range of the scores reduces at post-intervention (the lowest being 7 and the highest being 17), and continued to reduce at six-month follow-up (the lowest score is 5, and the highest is 11). The pattern is also reflected in the mean EPDS scores, where there was a reduction from 15.50 (SD 4.64) to 10.50 (SD 3.94) at post-intervention that continued on through to six-month follow-up (7.67, SD 2.66).

The Shapiro-Wilk test of Normality

The Shapiro-Wilk test of Normality is most appropriate for this study, due to the small sample size. This test is conducted to meet assumption three in order to perform an ANOVA. A normal distribution is present when the results of this test are non-significant (See Table 26 below).

Table 26 - Shapiro-Wilk Test of Normality

Time	Group allocation	Shapiro-Wilk		
		statistic	Df	Sig.
EPDS Baseline	Intervention	0.80	6	0.06
	Control	0.89	8	0.23
EPDS Post-intervention	Intervention	0.87	6	0.21
	Control	0.88	8	0.18
EPDS follow-up	Intervention	0.86	6	0.20
	Control	0.91	8	0.33

The results from Table 26 show that for the intervention and control group, the primary dependent variable 'EPDS' is normally distributed. This is demonstrated by the significant values for these tests all being greater than 0.05 (smallest value p=0.06), and the data was therefore normally distributed. The Q-Q plots also showed a normal distribution. .

Sphericity Test

A Mixed Factorial ANOVA is particularly susceptible to the violation of the assumption of sphericity. This test is conducted to meet assumption five in order to perform an ANOVA. Sphericity is defined as the condition where the variances of the differences between all combinations of related groups (levels) are equal. When

sphericity is violated (variances are significantly different), it can cause the mixed factorial ANOVA to become biased, which in turn causes the test to become too liberal (i.e., an increase in the Type I error rate).

Types of Errors

A Type I error occurs when a true null hypothesis is incorrectly rejected. The results show a false positive, which can lead to the conclusion that a relationship exists when it does not. For example, in this study a Type I error would show the intervention had a significantly positive impact on depressive symptomatology, when in reality, it did not.

A Type II error occurs when there is a failure to reject a false null hypothesis providing a false negative result. In this study a Type II error would occur when the results fail to show that the intervention had a significant positive impact on depressive symptomatology, when in reality, it was effective.

In summary, when analysing two means, concluding that the means are significantly different, when in reality they are not different, is a Type I error, and concluding the means are not different when in reality they are different would be a Type II error.

Table 27 - Mauchly's Test of Sphericity

Within subjects effect	Mauchly's W	Approx. Chi-Sq.	Degrees of freedom	Significance	Greenhouse-Geisser	Huynh-Feldt	Lower bound
EPDS	0.892	1.260	2	0.532	0.902	1.000	0.500

Table 27 shows that the results of the Mauchly's test of Sphericity for the EPDS outcome measure is 0.89, and provides a *p* value of 0.532, so we can reject the null hypothesis that the variances of the differences between the three levels were significantly different. The assumption of sphericity has been met, and we can therefore go on to examine the error variances using the Levene's test.

Levene's Test of Equality of Error Variances

The final test of assumptions that the data has to pass before we can conduct an ANOVA is the 'Levene's Test of Equality of Error Variances.' If the results show that the differences are not significant, and that the variances in the data from the two groups are homogeneous (similar across the three time-points), this reduces the chances of a Type 1 error.

Table 28 - Levene's Test of Equality of Error Variances

	F	Df1	Df2	Sig.
EPDS Baseline	7.73	1	12	0.02
EPDS Post-Intervention	0.36	1	12	0.56
EPDS 6-month follow-up	2.08	1	12	0.18

Tests the null hypothesis that the error variance of the dependent variable is equal across groups'
a. Design:intercept+GroupAllocation. Within subjects design: EDPS.

Table 28 shows the results of the Levene's test. This test indicates the chances of an error occurring in the data, and the results should indicate a level of homogeneity within the three time-points between the two groups (i.e. the results should not be significant). The results of this test show that there is a significant difference in the EPDS baseline outcome scores between the intervention group and the control group ($p=0.02$), which compromises the accuracy of the F-test for 'Group Allocation,' and

suggests that the data needs to be transformed in order to stabilise the variances

between the two groups.

Transforming the Data

The data from the outcome measures at the three time-points (baseline, post-

intervention, and follow-up) was transformed using the 'Cosine' (Cos) method. This

test provided the following results.

Table 29 - Levene's Test of Equality of Error Variances

Transformed time-point	F	Df1	Df2	Sig.
EPDS Baseline	1.17	1	12	0.30
EPDS Post-Intervention	1.30	1	12	0.28
EPDS 6-month follow-up	0.51	1	12	0.49

Tests the null hypothesis that the error variance of the dependent variable is equal across groups'
a. Design:intercept+GroupAllocation. Within subjects design: EDPS.

Table 29 describes the transformed results of the EPDS outcome scores at baseline

using the Cos arithmetic method, and shows a non-significant result for all the EPDS

outcome measure scores. This will enable a mixed factorial ANOVA to be

performed that will provide valid results (using the transformed Cosine scores).

7.4.4.2.   Mixed Factorial ANOVA

Apart from preferable sample size, all the conditions were met and it was concluded

that a Mixed Factorial ANOVA would be performed.

Table 30 – ANOVA: Between Subject Effects

Source	Type lll SS	Df	Mean sq.	F	Sig.
Intercept	0.67	1	0.67	1.15	0.31

Group Allocation	0.82	1	0.82	1.40	0.26
Error	253.21	12	21.10		

Table 30 shows the results for the between-group effects. The main effect of Group

Allocation is not significant F (1) =0.82, p=0.26). This tells us that the differences in

the EPDS outcome measure are not significant between the intervention group and

control group.

Table 31 – ANOVA: Tests of within subjects effects

Source		Type lll SS	Df	Mean	F	Sig.
EPDS	Sphericity Assumed	0.16	2	0.08	0.22	0.81
EPDS*Group Allocation	Sphericity Assumed	3.26	2	1.63	4.32	0.03
Error (EPDS)	Sphericity Assumed	235.97	24	9.83		

Table 31 depicts the within-subjects effects results for the EPDS 'Sphericity

Assumed,' and shows that the EPDS scores over the three time-points is not

significantly different $F(2, 24) =0.22$, $p>0.05$. This suggests that if we ignore

whether the scores come from the intervention group or the control group, the

outcome scores of the EPDS are not significantly different over time. However, there

is a significant EPDS (over time)*Group Allocation interaction ($F (2, 24) = 4.32$, $p = 0.03$), which tells us there is a significant interaction between that the pre-, post-, and

follow-up outcome scores and group allocation.

7.4.4.3.   Paired Sample T-Tests

Paired sample t-tests of the primary outcome measure were conducted to investigate the above findings, and further explore the within-group differences. The between-group differences cannot be explored using paired sample t-tests. This is a separate test, not part of the ANOVA test, therefore the original data scores were used (not the transformed data scores).

Pre-intervention Compared to Post-Intervention

Table 32 - Comparison of the Pre to Post Mean Group Differences in the EPDS Scores

	Baseline	Post	Paired Differences	
Intervention group (n=6)	15.50 (4.64)	10.50 (3.94)	5.00 (2.29)	T (5) =2.86, p=0.04
Control group (n=8)	18.88 (2.90)	13.00 (4.38)	5.88 (4.49)	T (7)=3.70, p=0.01

The results from the paired sample t-tests shown in Table 32 illustrate that the scores from both the intervention and control groups reduce, indicating a significant within-group effect in both groups.

Post-intervention and Six-Month follow-up

Table 33 – Comparison of the Post to Follow-up Group Mean EPDS Scores

	Post	Follow-up	Paired differences	
Intervention group (n=6)	10.50 (3.94)	7.67 (2.66)	2.83 (1.72)	T (5) =4.03, p=0.01
Control group (n=8)	13.00 (4.38)	14.25 (5.65)	-1.25 (4.71)	T (7)=-0.75, p=0.48

The results from the paired sample t-tests presented in Table 33 above show a significant difference from post-intervention to follow-up for the intervention group, whereas the scores from the control group were not significantly different.

Graph 7.1 – Data Plot of EPDS

Edinburgh Postnatal Depression Scale	Baseline	Post-intervention	Follow-up
Intervention(n=6)	15.5	10.5	7.67
Control (n=8)	18.88	13	14.25
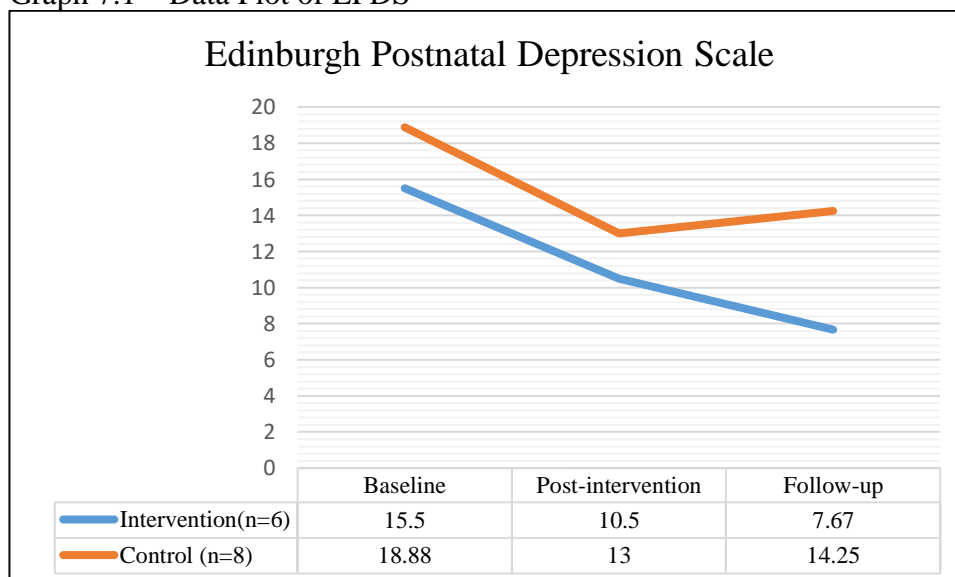
7.4.4.4. Bivariate Correlations

A bivariate analysis was conducted to see if there a relationship between the EPDS score at baseline and the EPDS score at six-month follow-up (see Table 34 below). A Pearson's Correlation tries to draw a line of best fit to see if the two variables are

correlated. In order to conduct a bivariate analysis, the data must meet the following requirements

- The data being analysed must consist of continuous variables (i.e. interval or ratio level)

- There must be values on both variables

- Using a scatterplot, there must be an indication of a linear relationship between the variables

- The cases must be independent cases (i.e. independence of observations)

- There is no relationship between the values of variables between cases. The bivariate Pearson correlation coefficient and corresponding significance test are not robust when independence is violated.

Table 34 - Bivariate Correlations

	Baseline (n = 28)	Six-month Follow-up (n=15)	Pearson Correlation	P value
EPDS Mean (SD)	18.43 (3.79)	11.87 (5.66)	0.494	0.061

7.4.4.5.   Summary of Bivariate Correlations

The results suggest that there is no correlation between the EPDS scores at six-month follow-up with the EPDS scores at baseline.

7.4.4.6.   Reliable Change Index

Having identified the statistical significant outcomes for the primary outcome measure (EPDS) for this study, a Reliable Change Index was carried out to explore the clinical significance of these outcomes (Jacobson and Truax, 1991).

7.4.4.7. Calculation of the Reliable Change Index (RCI) for the EPDS

The original calculation developed by Jacobson & Trux (1991) is illustrated below (Figure 5).

$RCI = (X_2 - X_1)/S_{diff}$ where $S_{diff} = \sqrt{[2(S_{em})2]}$

$S_{em} = S1 \sqrt{[1 - r_{XX}]}$ where $r_{xx} = 0.87$ and $S_1 = 5.7$

Thus: $S_{em} = 5.7\sqrt{[1-0.87]}$

Thus the standard error of difference is:

$S_{diff} = \sqrt{[2(S_{em})2]}$

$S_{diff} = \sqrt{[2(2.04)2]}$

$S_{diff} = \sqrt{2.89}$

$RCI - (x_2 - x_1)/S_{diff}$

$RCI = (X_2 - X_1)/2.89$

Figure 5 – Calculation of Reliable Change Index

Table 35 - Reliable Change Index for the EPDS Score

Group Allocation	RPM	EPDS baseline	EPDS Post-int	EPDS Follow-up	baseline-follow-up	clinical cut off (EPDS=10)	RCI	RCI index determination	RCI index + cut-off
Control	21	16	7	6	10	changed improved	3.47	Reliable change	Recovered
Control	30	24	19	19	5	no change	1.73	No change	No change
Control	68	16	16	20	-4	no change	-1.39	No change	No change
Control	61	16	15	14	2	no change	0.69	No change	No change
Control	33	20	9	21	-1	no change	-0.35	No change	No change
Control	60	21	15	14	7	no change	2.43	Reliable change	Improved but not recovered
Control	58	20	8	7	13	changed improved	4.50	Reliable change	Recovered
Control	37	18	15	13	5	no change	1.73	No change	No change
Intervention	25	12	8	5	7	changed improved	2.43	Reliable change	Recovered
Intervention	29	21	17	11	10	no change	3.47	Reliable change	Improved but not recovered
Intervention	81	19	12	10	9	changed improved	3.12	Reliable change	Recovered
Intervention	49	11	7	6	5	changed improved	1.73	No change	No change
Intervention	10	19	7	5	14	changed improved	4.85	Reliable change	Recovered
Intervention	28	11	12	9	2	changed improved	0.69	No change	No change

7.4.4.8.   Summary of Reliable Change Index

Table 35 above highlights that two of the participants recovered from the control group, whereas three of the participants recovered in the intervention group. One participant in each group improved in their scores but did not reach the clinical cut-off point (EPDS <10) to be identified as recovered. The remainder showed some improvement within their EPDS scores over time but this was not clinically significant (Intervention Group n=2, Control Group n=5).

7.4.4.9.   External Support

The majority of participants were receiving additional external support in the form of depression-related medication, group support, health professional support, or specialist support. Table 36 below presents the support that each individual participant was receiving alongside the pre- and six-month follow-up EPDS scores. The final column provides the difference in the EPDS over time.

Table 36 – External Support

ID	Group	Medication	Group Support	HP support	EPDS Baseline	EPDS Six-Month Follow-up	Difference in EPDS
RPM21	Control	Yes	Yes	Yes	16	6	10
RPM30	Control	Yes	Yes	Yes	24	19	5
RPM33	Control	Yes	Yes	Yes	20	21	-1
RPM37	Control	No	Yes	Yes	18	13	5
RPM58	Control	Yes	Yes	Yes	20	7	13

ID	Group	Medication	Group Support	HP support	EPDS Baseline	EPDS Six-Month Follow-up	Difference in EPDS
RPM60	Control	Yes	Yes	Yes	21	14	7
RPM61	Control	Yes	Yes	Yes	16	14	2
RPM68	Control	No	Yes	Yes	16	20	-4
RPM10	Intervention	Yes	No	Yes	19	5	12
RPM25	Intervention	Yes	No	No	12	5	7
RPM28	Intervention	Yes	No	Yes	11	9	2
RPM29	Intervention	No	Yes	Yes	21	11	10
RPM49	Intervention	Yes	Yes	Yes	11	6	5
RPM81	Intervention	No	Yes	Yes	19	10	9

7.4.4.10.   Results of External Support

There were only four of the fourteen participants who were not taking depression-related medication (Intervention Group n=2, Control Group n=2). The majority of participants were also receiving some form of additional support, which could have impacted on the EPDS scores at six-month follow-up.

7.4.4.11.   Summary of EPDS Analysis

The Mauchly's Test of Sphericity is not significant (MW (2) =0.93, p = 0.70). The Analysis of Variance test for between subjects effects is not significant (F (1) =3.92,

p=0.07). The test for within-subjects effects is significant for the EPDS scores over time ($F_{(2)}$ =62.62, p=0.00) and for EPDS*Group allocation ($F_{(2)}$ =4.75, p=0.02).

The paired sample t-tests show significant differences within the groups for both the intervention (p = 0.04) and control group (p = 0.01) from pre-intervention to post-intervention, but this significant difference in only present in the intervention group at six-month follow-up (p = 0.01).

The graphical representation of the data shows that there is a significant difference between the control group and the intervention group from post-intervention to follow-up. This supports the results from the paired sample t-tests for post-intervention to six-month follow-up, while illustrating the between-group differences.

The Bivariate Correlations found no significant differences between the EPDS score at baseline with the EPDS score at six-month follow-up.

The Reliable Change Index provides information on those participants whose EPDS improved from the clinical range to the non-clinical range. The sample size is too small to provide any conclusive data, but slightly higher numbers of participants showed clinically improved outcomes in the intervention group.

However, when analysing these results alongside the information on those participants who received external support, the impact of the intervention cannot be extracted. Therefore, it is not possible to conclude if any improvements in the EPDS scores were solely due to the intervention. The results above highlight that in the majority of cases, the improvement in the participants pre- and six-month follow-up EPDS scores cannot be concluded as being solely an intervention effect.

7.4.5. Second Primary Outcome Measure: CARE-Index

The CARE-Index data was collected at post-intervention only, and the scores were analysed using independent t-tests. There were sixteen videos that were coded by an independent external coder, as recommended by the author of the measure.

The CARE-Index analysis is sub-divided into eight different categories of the parent-child interaction: Global Sensitivity, Sensitivity, Control, Unresponsive, Co-operation, Difficult, Compulsive, and Passive. Each of the videos were coded, and the results for each sub-category was provided. Table 37 below provides the results for the analysis conducted:

Table 37 - CARE-Index Independent T-Tests

Tested	Group	Post mean (SD)	T value
Global Sensitivity	Intervention (n=10)	7.50 (2.17)	T (14)= -0.27, p=0.79
	Control (n=6)	7.17 (2.79)	
Sensitivity	Intervention (n=10)	7.30 (2.21)	T (14)= -0.37, p=0.72
	Control (n=6)	6.83 (2.79)	
Control	Intervention (n=9)	4.11 (2.21)	T (11)= -0.77, p=0.46
	Control (n=4)	3.00 (2.82)	
Unresponsive	Intervention (n=9)	3.44 (1.81)	T (13)= 1.51, p=0.15
	Control (n=6)	5.17 (2.64)	
Co-operation	Intervention (n=10)	7.10 (2.03)	T (14)= -0.53, p=0.61

Tested	Group	Post mean (SD)	T value
	Control (n=6)	6.50 (2.51)	
Difficult	Intervention (n=8)	3.88 (1.81)	T (11)= -1.08, p=0.30
	Control (n=5)	2.80 (1.64)	
Compulsive	Intervention (n=4)	5.25 (3.20	T (4)= -1.35, p=0.25
	Control (n=2)	2.00 (0.00)	
Passive	Intervention (n=5)	3.60 (1.95)	T (8)= 1.04, p=0.33
	Control (n=5)	5.40 (3.36)	

7.4.5.1.   Summary of CARE-Index Analysis

On the maternal sensitivity scale at post-intervention, scores of 5-6 suggest the need

for parental education, 3-4 suggests the need for parenting intervention, and 0-2

suggests the need for psychotherapy for the parent and child protection concerns.

The results indicate that global and parental sensitivity is within the normal range.

However, the scores for maternal control in both groups show the need for a

parenting intervention (intervention group 4.1, control group 3.0) as does the

maternal unresponsiveness in the intervention group (3.4). The scores for maternal

unresponsiveness in the control group are slightly better (5.2), and indicate a need

for parental education.

The results of the coding for infant behaviour indicate that infant co-operation is

around the normal range. The scores for infant difficultness are low, which

complement the maternal sensitivity scores, the infant's behaviour is not difficult

(intervention group 3.9, control group 2.8). Infant compulsiveness scores are in the concerned range for the intervention group (5.3), but are lower and not problematic in the control group (2.0), while the scores for infant passiveness are a cause for concern in the control group (5.4), and not in the intervention group (3.6).

There were a small number of videos coded (n=16), suggesting the need for caution in interpreting these findings. There was no significant difference in the CARE-Index scores between the two groups at post-intervention, suggesting that the intervention did not improve the mother-infant interaction. There are indications of problems with maternal control in both groups, which may have a negative impact on the infant compulsiveness in the control group (maternal control 3, compulsiveness 2), and passiveness of their infant's behaviour in the intervention group (maternal control 4, passiveness 3.6). These results indicate the relationship between the mother and the infant could become difficult (i.e. possible early signs of the negative effects of PND).

7.4.6. Results from the Secondary Outcome Measures

Eight secondary outcome measures were utilised in the Mums4Mums study. They are all self-report measures, six of which focus on the mother's' mental health, and two of which focus on the behaviour of the infant.

These measures have been analysed using the same processes described above for the primary outcome measure. Five out of the eight outcome measures met all the assumptions required to conduct an ANOVA. The results of the ANOVA tests for these five measures are provided below in Table 38:

Table 38 – Results for Secondary Outcome Measures

Measure	Study group	n	T1	T2	T3	Study Group	Time	Time by group
Emotional Support	Intervention	5	5.40 (1.95)	7.80 (2.86)	9.20 (2.95)	0.83	0.00	0.56
	Control	7	6.14 (1.95)	8.57 (2.22)	8.57 (3.55)			
Hospital Anxiety Scale	Intervention	5	14.60 (3.44)	8.80 (4.55)	7.00 (3.67)	0.17	0.00	0.08
	Control	8	15.50 (2.45)	11.50 (4.41)	12.13 (4.39)			
Hospital Depression Scale	Intervention	6	11.17 (3.87)	7.33 (3.50)	3.33 (1.51)	0.01	0.00	0.03
	Control	8	13.88 (2.59)	9.50 (3.02)	10.50 (3.21)			
Generalised Self-efficacy Scale	Intervention	6	23.00 (3.41)	27.17 (2.40)	30.00 (3.69)	0.44	0.02	0.03
	Control	8	25.25 (3.62)	26.38 (4.07)	25.25 (4.10)			

Measure	Study group	n	T1	T2	T3	Study Group	Time	Time by group
Health Status Questionnaire	Intervention	6	30.50 (2.43)	31.33 (1.86)	32.50 (2.17)	0.21	0.40	0.59
	Control	8	29.88 (2.36)	30.63 (1.51)	30.25 (3.85)			
Dyadic Adjustment Scale	Intervention	5	106.40 (19.91)	125.80 (17.34)	121.60 (19.26)	0.91	0.08	0.37
	Control	6	113.83 (26.04)	118.83 (27.33)	117.67 (16.34)			

7.4.6.1.   Emotional Support

Emotional support was measured using three questions from the Social Adjustment Scale, and an increase in score indicates increased social support.

The Shapiro-Wilks test of normality is not significant at all three time-points, confirming that the dataset was normally distributed. The Mauchly's test of Sphericity is not significant indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is also not significant, indicating that the variances in the data are homogeneous between the groups. Having passed all the assumptions, a Mixed Factorial ANOVA was conducted.

The results for between-groups effects is not significant (F (1) = 0.051, p=0.83). The test for within-subjects effects is significant for the ESQ scores over time (F (2)

=10.12, p=0.00), but not for time*group allocation interaction (F (2) =0.61, p=0.56).

These results showed that while there is a significant improvement in emotional support scores for both groups over time (from pre-intervention to six month follow-up (intervention group from 5.4 to 9.2, control group 6.1 to 8.6), this improvement is not significantly different between the intervention and control group.

The graphical plot below depicts the results of the ESQ for the intervention and control group at all three time-points. While it shows an improvement in the outcome scores over time, the scores in the groups remain very close.

Graph 7.2 – Data plot for Emotional Support Questionnaire (ESQ)

	Baseline	Post-Intervenion	Follow-up
Intervention Group	5.4	7.8	9.2
Control Group	6.14	8.57	8.57
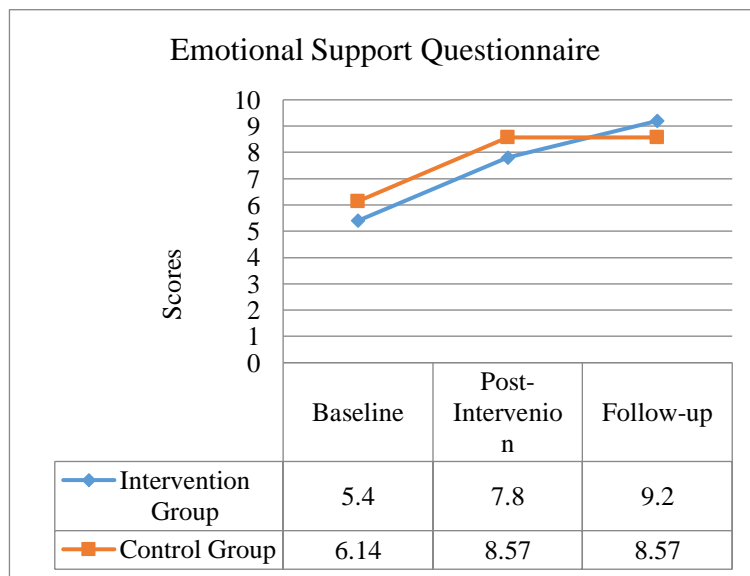
7.4.6.2.   Anxiety and Depression

Anxiety and depression was measured using the Hospital Anxiety and Depression Scale (HADS), which has dual functionality. These scores have been reported separately in this analysis, and a reduction in the scores show an improvement.

Anxiety scale – The Shapiro-Wilks test of Normality is not significant at all three time-points, confirming that the dataset for HADS anxiety was normally distributed. The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is also not significant, indicating that the variances in the data are homogeneous between the groups. Having passed all the assumptions, a Mixed Factorial ANOVA was conducted.

The test for between-subject effects is not significant ($F_{(1)}$ = 2.20, p=0.17). The test for within-subjects effects is significant for the HADS anxiety scores over time ($F_{(2)}$ =23.15, p=0.00), but not for time*group allocation interaction ($F_{(2)}$ =2.87, p=0.08).

Depression scale – The Shapiro-Wilks test of Normality is significant at post-intervention for the control group only, which suggests that the dataset for the depression subscale at that time-point is not normally distributed (p=0.05). The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is also not significant, indicating that the variances in the data are homogeneous between the groups. Having passed the main tests of the assumptions, a Mixed Factorial ANOVA was conducted.

The test for between-subject effects is significant ($F_{(1)}$ = 11.14, p=0.01). The test for within-subjects effects is significant for the HADS depression subscale over time ($F_{(2)}$ =18.25, p=0.00), and also for time*group allocation interaction ($F_{(2)}$ =4.08, p=0.03).

The graphs below illustrate an improvement in scores from pre-intervention to post-intervention for both anxiety (left graph) and depression (right graph). The intervention group scores continue to reduce slightly at six-month follow-up, while the control group remains static (intervention group 8.8 to 7.0, control group 11.5 to 12.1). The scores showed a significant difference for the HADS Depression subscale scores.

Graph 7.3 – Data plots for HADS Anxiety and Depression

Hospital Anxiety Subscale

	Baseline	Post-Intervenion	Follow-up
Intervention Group	14.6	8.8	7
Control Group	15.5	11.5	12.13

Hospital Depression Subscale

	Baseline	Post-Intervenion	Follow-up
Intervention Group	11.17	7.33	3.33
Control Group	13.88	9.5	10.5
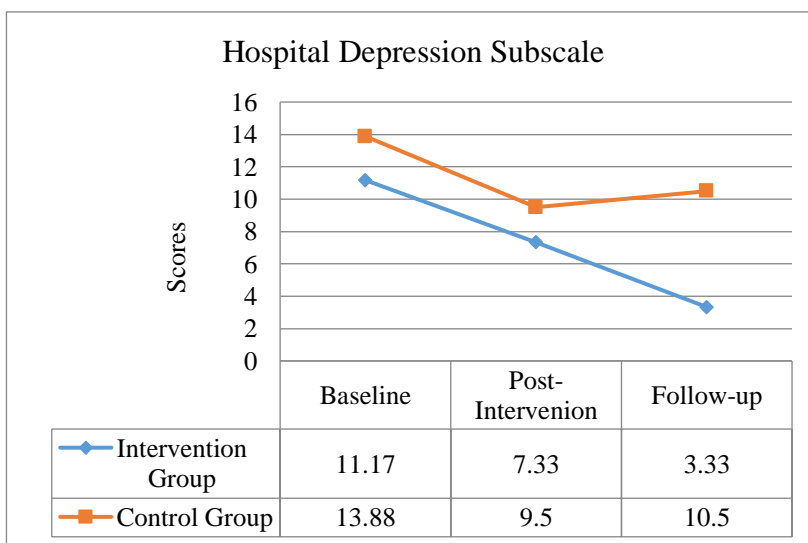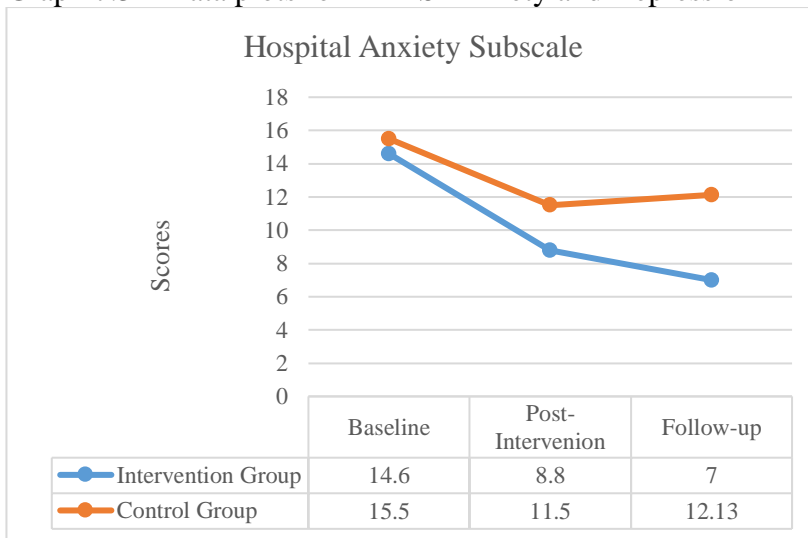
7.4.6.3.   Generalised Self-Efficacy

Self-efficacy was measured using the Generalised Self-Efficacy questionnaire, and an increase in scores indicates improvement.

The Shapiro-Wilks test of normality is not significant at all three time-points, confirming that the dataset is normally distributed. The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is also not significant, indicating that the variances in the data are homogeneous between the groups. Having passed all the assumptions, a Mixed Factorial ANOVA was conducted.

The test for between-subject effects is not significant ($F(1) = 0.63$, p=0.44). The test for within-subjects effects is significant for the GES scores over time ($F(2) = 4.51$, p=0.02), and also for time*group allocation interaction ($F(2) = 4.17$, p=0.03).

The plot below depicts an increase in self-efficacy in the intervention group at all three time-points (pre- 23, post- 27, follow-up 30), compared with the fairly static results for the control group (pre- 25, post- 26, follow-up 25). The differences in the outcome scores between the groups is not significant, but it is significant over time and for the time*group interaction, suggesting the intervention group scores increased significantly and the group interaction widened due to this increase.

Graph 7.4 – Data plot for Generalised Self-Efficacy Scale

Generalised Self-Efficacy Scale

	Baseline	Post-Intervenion	Follow-up
Intervention Group	23	27.17	30
Control Group	25.25	26.38	25.25
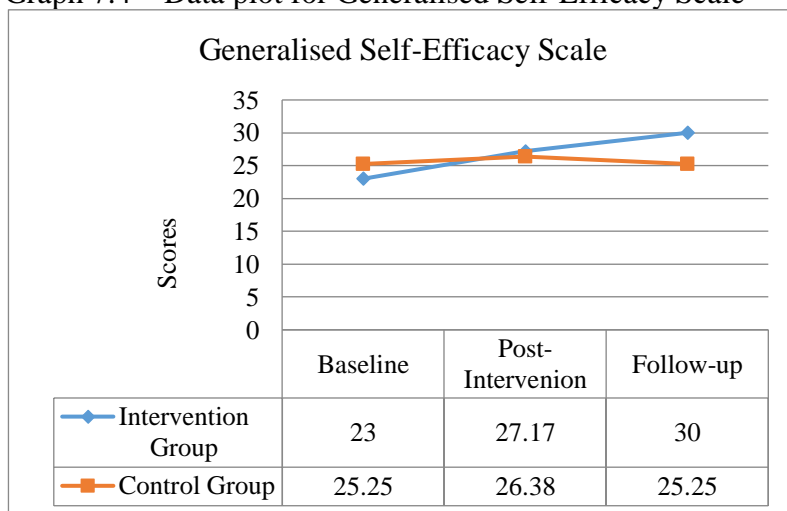
7.4.6.4.   Health Status

Health status was measured using the Health Status Questionnaire, and an increase in scores indicates an improvement.

The Shapiro-Wilks test of Normality is not significant at all three time-points, confirming that the dataset is normally distributed. The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is also not significant, indicating that the variances in the data are homogeneous between the groups. Having passed all the assumptions, a Mixed Factorial ANOVA was conducted.

The test for between-subject effects is not significant ($F_{(1)} = 1.72$, p=0.21). The test for within-subjects effects is not significant over time ($F_{(2)} = 0.95$, p=0.40) or for time*group allocation ($F_{(2)} = 0.546$, p=0.59).

These results are illustrated in the graphical plots below. The intervention group shows an improvement at the three time-points, but this is not significant (pre 30.5,

post 31.3, follow-up 32.5). The control group shows an initial improvement that relapses at follow-up (pre- 29.9, post- 30.6, follow-up 30.2). The changes are so small that there are no between-group or within-group significant differences.

Graph 7.5 – Data plot of Health Status Questionnaire

Health Status Questionnaire

	Baseline	Post-Intervenion	Follow-up
Intervention Group	30.5	31.33	32.5
Control Group	29.88	30.63	30.25
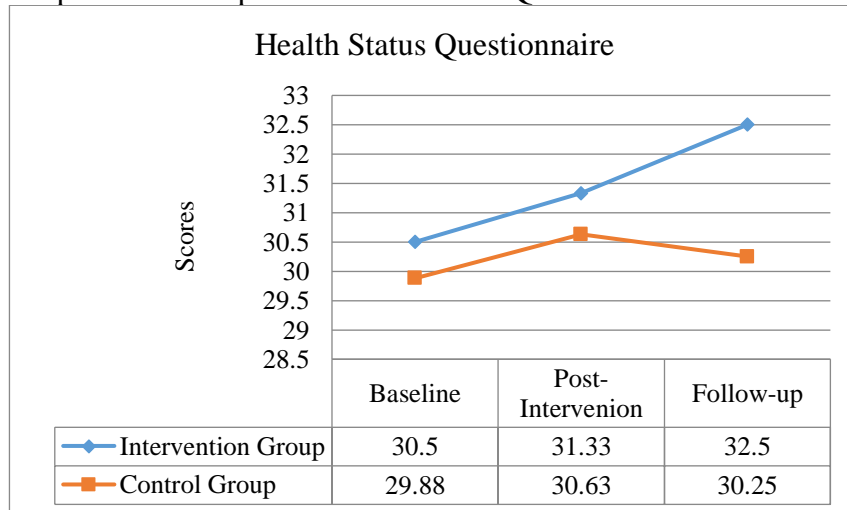
7.4.6.5. Dyadic Adjustment Scale

Dyadic adjustment was measured using the Dyadic Adjustment Scale, and an increase indicates improvement.

The Shapiro-Wilks test of Normality is not significant at all three time-points, confirming that the dataset is normally distributed. The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is also not significant, indicating that the variances in the data are homogeneous between the groups. Having passed all the assumptions, a Mixed Factorial ANOVA was conducted.

The test for between-subject effects is not significant ($F_{(1)} = 0.01$, p=0.91). The test for within-subjects effects is not significant for the DAS scores over time ($F_{(2)} = 2.92$, p=0.08) and also for time*group allocation ($F_{(2)} = 1.07$, p=0.37).

These results are illustrated in the graphical plots below. The intervention group shows a non-significant improvement between pre-intervention and post-intervention scores, but a relapse at follow-up (pre 106.4, post 125.8, follow-up 121.6). The control group scores are fairly static (pre- 113.8, post- 118.8, follow-up 117.2). As with the results for the Health Status Questionnaire, the changes are so small that there are no between-groups or within-group significant findings.

Graph 7.6 – Data Plot of Dyadic Adjustment Scale

Dyadic Adjustment Scale

	Baseline	Post-Intervenion	Follow-up
Intervention Group	106.4	125.8	121.6
Control Group	113.83	118.83	117.67
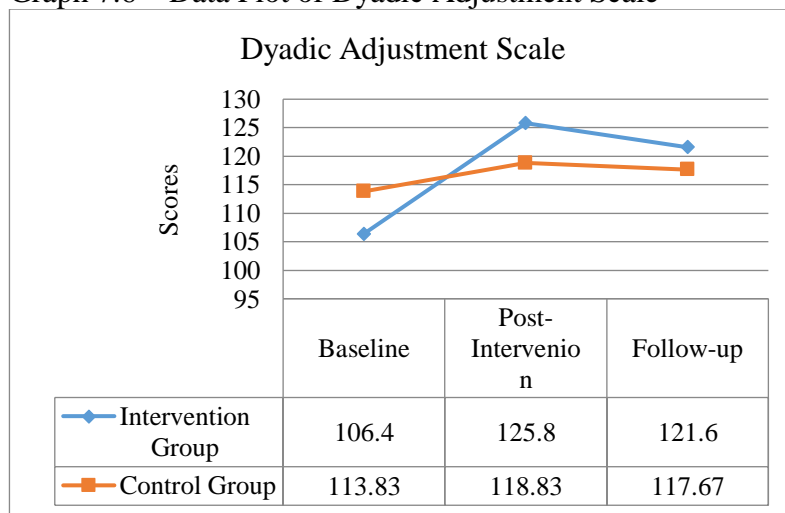
7.4.7. Mann-Whitney U Test Results

Three of the secondary outcome measures did not pass the six assumptions necessary to carry out a mixed factorial ANOVA. The implication of violating these assumptions is that non-parametric tests should be used because they do not assume that the data follows a normal pattern of distribution.

7.4.8. Parametric and its Equivalent Non-Parametric Test

A parametric test focuses on the mean difference, and the equivalent non-parametric test focuses on the difference between medians, with the results provided on a ranking basis. Table 39 below provides information about which test is required

based on the number of dependent and independent variables, and whether the data

has a normal distribution.

Table 39 – Parametric Versus Non-parametric Tests

Variables	Distribution of data	Test
One independent variable (group) with one dependent variable (outcome measure)	Parametric	Independent t-tests
	Non-parametric	One Sample KS test
One independent variable (group) with two related dependent variables (repeated outcome measures)	Parametric	Paired sample t-test
	Non-parametric	Wilcoxon
Two or more independent variables (groups) with one dependent variable (outcome measure)	Parametric	ANOVA
	Non-parametric	Friedman's Test
Two or more independent variable (groups) with two or more related dependent variables (repeated outcome measures)	Parametric	Repeated measures ANOVA
	Non-parametric	Mann-Whitney U Test

It was concluded from Table 39 that Mann-Whitney U Tests would be the most

appropriate non-parametric test for this outcome data.

7.4.8.1.   Parenting Sense of Competence Scale (PSOC)

Parenting competence was measured using the Parenting Sense of Competence Scale, which assesses 'self-efficacy' and 'satisfaction' experienced by the participant in their role as a parent. An increase in score indicates improvement.

Self-Efficacy - The Shapiro-Wilks test of Normality is significantly different at baseline (p = 0.02) and six-month follow-up (p = 0.00) in the control group only, which suggests that the dataset for those time-points is not normally distributed. The Mauchly's test of Sphericity is also significant, indicating that sphericity has been violated, increasing the chances of a Type 1 error. Results from the Levene's test of Equality of Error Variance are not significant, indicating that the variances in the data are homogeneous between the groups.

Satisfaction – The Shapiro-Wilks test of Normality is not significantly different at the three time-points, confirming that the dataset is normally distributed. The Mauchly's test of Sphericity is significant, indicating that sphericity has been violated, increasing the chances of a Type 1 error. Results from the Levene's test of Equality of Error Variance are only significant at six-month follow-up, indicating that the variances in the data at that time-point are not homogeneous between the groups (the scores were not similar).

Table 40 – Results for Parenting Sense of Competence Scale

Measure		Study group	n	Mean Rank	P value
Parenting Sense of Competence Self-efficacy	Baseline	Intervention	6	7.83	0.85
		Control	8	7.25	
	Post-intervention	Intervention	6	7.42	0.87
		Control	8	7.56	
	Six month follow-up	Intervention	6	8.58	0.43
		Control	8	6.69	
Parenting Sense of Competence Satisfaction	Baseline	Intervention	6	5.08	0.07
		Control	8	9.31	
	Post-intervention	Intervention	6	7.75	0.87
		Control	8	7.31	
	Six-month follow-up	Intervention	6	7.58	0.97
		Control	8	7.44	

Table 40 shows the Mann-Whitney U Test results for the PSOC scale for self-efficacy and satisfaction.

PSOC Self-efficacy - the mean rank for baseline data between the two groups is similar, with the intervention group ranking at 7.83, and the control group ranking at 7.25. This remains stable post-intervention. There is a difference in the mean ranks at

six-month follow-up, with the intervention group ranking 8.58, and the control group ranking at 6.69. The difference is not significant (p = 0.43).

PSOC Satisfaction - at baseline, the intervention group ranking is 5.08, which is lower than the control group ranking of 9.31. At post-intervention, the differences between the two groups are close, and continued to grow closer at six-month follow-up (intervention group mean rank = 7.58, control group mean rank = 7.44).

The results from both the PSOC self-efficacy and satisfaction are not significant.

7.4.8.2.   The Infant Temperament Scale (ITS)

Infant temperament was measured using the Infant Temperament Scale. A lower score indicates a better parental perception of temperamental disposition.

The Shapiro-Wilks test of normality is significantly different at baseline in the control group (p=0.01), and at six-month follow-up in the intervention group (p=0.00), indicating that the data is not normally distributed. The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The Levene's test of Equality of Error Variance is significant for six-month follow-up scores, indicating that the variances in the data are not homogeneous between the groups at that time-point.

Table 41 – Results for the Infant Temperament Scale

Measure		Study group	n	Mean Rank	P value
Infant Temperament Scale	Baseline	Intervention	6	8.42	0.50
		Control	8	6.81	
	Post-intervention	Intervention	6	8.25	0.59
		Control	8	6.94	
	Six-month follow-up	Intervention	6	7.17	0.82
		Control	8	7.75	

The results provided in Table 41 show the mean ranking for the intervention group is slightly higher (8.42) than the control group (6.81). This difference remains stable at post-intervention, but is reduced at six-month follow-up (intervention group mean rank = 7.17, control group mean rank = 7.75). The results are not significant.

7.4.8.3.   Feeding, Sleeping & Crying Questionnaire

The feeding, sleeping and crying questionnaire is an additional infant measure developed for this study with the support of Professor Dieter Wolke. A decrease in the scores indicates improvement.

The Shapiro-Wilks test of normality is significant at six-month follow-up for both the intervention group and the control group, which confirms that the dataset is not normally distributed. The Mauchly's test of Sphericity is not significant, indicating that sphericity has not been violated, reducing the chances of a Type 1 error. The

Levene's test of Equality of Error Variance is also not significant, indicating that the

variances in the data are homogeneous between the groups.

Table 42 – Results for the Feeding, Sleeping and Crying Questionnaire

Measure		Study group	n	Mean Rank	P value
Crying, sleeping & feeding questionnaire	Baseline	Intervention	5	4.30	0.44
		Control	4	5.88	
	Post-intervention	Intervention	5	5.60	0.33
		Control	8	7.88	
	Six-month follow-up	Intervention	6	5.92	0.23
		Control	8	8.69	

The results from Table 42 shows a similar mean rank between the two groups at

baseline (intervention group mean rank = 4.30, control group mean rank = 5.88).

However, the number of participants is smaller. The mean ranking increases by the

six-month follow-up (intervention group mean rank = 5.92, control group mean rank

= 8.69), but it was important to note that the number of participants had doubled in

the control group. The results are not significant.

7.4.9. Summary of Secondary Outcome Measures

7.4.9.1.   Parametric Test Results (ANOVA)

The results of the RCT shows a significant difference between the intervention and control group over time for depression using the Edinburgh Postnatal Depression Scale (EPDS).

The improvement in depression over time is supported by the results from Hospital Anxiety and Depression Scale (Depression subscale), which also shows a significant improvement in the intervention group.

There is no significant difference in the CARE-Index scores between the two groups at post-intervention.

Some of the other secondary outcome measures showed an improvement over time (pre-, post- and follow-up), but not between the two groups: the Emotional Support Questionnaire, the Hospital Anxiety, and Depression-anxiety subscale, and the Generalised Self-Efficacy Scale.

There are no significant changes in outcomes for the following outcome measures over time (pre-, post- and follow-up), or by group allocation: the Health Questionnaire, and the Dyadic Adjustment Scale.

7.4.10. Non-Parametric Results

The Mann-Whitey U Test is conducted on the secondary outcome measures that violated the assumptions required to conduct a parametric test. The results for the following secondary outcome measures were not significant: The Parenting Sense of

Competence Scale, the Infant Temperament Scale, and the Feeding, Sleeping and Crying Questionnaire.

7.4.11. Study Limitations

These findings have to be interpreted with caution. Initially, the study was powered to detect an effect size of around 0.6 in the primary outcome measure using a power of 80% and two-sided significant level of 5%, which meant that fifteen participants were required in each arm. The study recruited fourteen participants in each group, and also had a fifty percent dropout rate. This study is therefore underpowered, and may not have had sufficient power to detect changes that were present. There was also a high degree of variability in terms of individual differences in participants (e.g. the variance between the scores indicated by the standard deviations, the complexity of other confounding variables, the number of actual supportive calls made versus number of texts sent, etc.). These limitations render the findings of this study inconclusive and not generalizable to the target population.

The use of a per-protocol analysis means that although there were no differences between completers and drop-outs in terms of demographic data, the results are not generalizable to all women experiencing PND.

The impact of the additional external support provided to participants alongside the Mums4Mums intervention was not extractable from the overall results, as the study did not include research questions to explicitly measure variables. It cannot be concluded if any improvements these participants experienced were solely due to intervention effects. Therefore, the results from this study provide inconclusive evidence of the effectiveness of a TBPS intervention in reducing depressive symptomatology.

8.   Participants Evaluation of the Telephone-Based Peer-Support

8.1. Introduction

This chapter provides the results of the Peer-support Evaluation Inventory (PSEI). The PSEI was developed and validated as part of the original Canadian study (Dennis, 2003, Dennis, 2009). This inventory is a self-report measure evaluating the maternal perceptions of the telephone-based peer-support they received at post-intervention data collection (See Appendix Seventeen – PSEI Questionnaire).

8.2. The Peer-Support Evaluation Inventory

The PSEI comprises of four subscales: 1) Supportive Interactions, 2) Relationship Qualities, 3) Perceived Benefits of Peer-Support, and 4) Maternal Satisfaction. The subscales are all rated on a 5-point Likert scale, from 1 = strongly disagree, to 5 = strongly agree. Higher scores indicate higher levels of supportive interactions, perceived benefits, and satisfaction. The final question is an open-ended item, which provides the participants with the opportunity to feedback qualitatively about their experiences.

The Cronbach's alpha coefficients for the subscales in the original study were: supportive interactions = 0.91, relationship qualities = 0.93, perceived benefits of peer-support = 0.97 and maternal satisfaction = 0.94.

8.3. Data Collection

The researcher was not blinded to group allocation. All the participants were contacted post-intervention via telephone to arrange a time and date for the researcher to visit to collect the final set of questionnaires and carry out the qualitative interview. It was agreed that the PSEI would be posted to the participants who were allocated to the intervention group prior to this visit and would be collected at the pre-arranged visit.

Fourteen participants were allocated to the intervention group, of which two did not complete the intervention. One of these two participants was not contactable. The second participant left the intervention early. She was asked to take part in post-intervention data collection. She returned a blank PSEI but in the open-ended section she wrote:

"*I feel I cannot answer these questions honestly due to not having many conversations with my telephone-support – this was my decision as I didn't feel I could talk over the phone to someone I didn't know well – I am better at writing things down. My telephone-support was / seemed a good listener and I am sorry I felt I couldn't use this service properly*" (RPM57).

8.4. Statistical Analysis

At post-intervention, twelve participants returned the completed PSEI. The analysis is presented using descriptive statistics, the means were calculated for each subscale as in the original paper (Dennis et al., 2010).

Five participants responded to the open-ended item. These have been analysed as part of the qualitative analysis to put the text into context, and to avoid repetition.

8.5. Results from the Peer-Supporter Evaluation Inventory

8.5.1. Subscale One – Supportive Interactions

The supportive interactions subscales consisted of fifteen items that evaluated the participant's perception of how much emotional, informational and appraisal support they had received from their peer-supporter.

The majority of participants evaluated their interactions with the peer-supporter who was allocated to them as positive. Out of a total score of 75, the overall mean score for supportive interactions was 65.42 (SD 6.26).

Table 43 below presents the results categorised by the three types of peer-supporter interactions: Emotional Support, Informational Support, and Appraisal Support.

Table 43 – Numbers (%) of Supportive Interactions (N=12)

Theoretical perspective	Subscale item	Disagree or strongly disagree	Neither	Agree or strongly agree
Emotional support	listened to me talk about my feelings or concerns		1 (8.3)	11 (91.7)
	helped me feel that I was not alone in my situation			12 (100)
	expressed interest and concern about how I was doing			12 (100)
	told me that help was available when I needed it		1 (8.3)	11 (91.7)
	accepted me for who I was			12 (100)
Informational support	told me what was usual for my current situation		4 (33.3)	8 (66.7)
	suggests other ways of doing things	2 (16.7)		10 (83.3)
	told me what to expect in a certain situation		8 (66.7)	4 (33.3)
	assisted me to solve my problems or concern		4 (33.3)	8 (66.7)
	provided me with practical information	1 (8.3)	3 (25.0)	8 (66.7)
	gave trustworthy advice			12 (100)
Appraisal support	told me that I did something well			12 (100)
	helped me feel what I was going through was ''normal''			12 (100)
	expressed admiration for a personal quality of mine		1 (8.3)	11 (91.7)
	gave me feedback on how I was doing			12 (100)

8.5.2. Summary of Supportive Interactions

Emotional Interactions – 97% of the responses endorsed highly positive Emotional Interaction statements about the peer-supporter who was allocated to them. For example, 100% felt that the peer-supporter who had been allocated to support them had "helped me feel that I was not alone in my situation."

Informational Interactions – 69% of the participant's responses endorsed positive Informational Interactions. For example, 83% felt that the peer-supporter who was allocated to them "suggests other ways of doing things." Also, 40% of the participants neither agreed nor disagreed with this perspective.

Appraisal – all of the participants highly endorsed Appraisal Interactions from the peer-supporters who were supporting them. For example, 100% of the participants felt the peer-supporter who was allocated to them "helped me feel what I was going through was normal."

The summary of supportive interactions provides evidence to support Dennis's claim that these three attributes are crucial to any peer-support intervention, and despite differing combinations, all peer-support interventions provide a degree of emotional, informational and appraisal support.

8.5.3. Subscale Two – Relationship Qualities

The majority of participants provided positive feedback relating to the quality of their relationship with the peer-supporter who was allocated to them. Out of a total score of 155, the overall mean score for Relationship Qualities was 111.45 (SD 10.08). The table below (Table 44) presents the results categorised by the four types of theoretical perspective: Perceived Peer Responsiveness, Nature & Extent of

Interdependence, Peer Qualities and Sentiment. These theoretical perspectives are

sub-divided into ten items: Intimacy, Trust, Perceived Acceptance, Empathy,

Attachment, Close, Commitment, Social Competence, Social Skills, and Conflict.

Table 44 - Numbers (%) Relationship Qualities (n=12)

Theoretical pers	Items	Subscale item	disagree	Neither	agree
Perceived peer responsiveness	Intimacy	If something important happened to me I could share the experience with my peer	1 (8.3)	1 (8.3)	10 (83.3)
		I knew that whatever I said was just between us		1 (8.3)	11 (91.7)
		My peer could tell when I was worried about something		3 (25.0)	9 (75.0)
	Trust	My peer was trustworthy			12 (100)
		My peer was dependable		1 (8.3)	11 (91.7)
		I knew my peer would respond to me in a supportive way		1 (8.3)	11 (91.7)
	Perceived Acceptance	I felt accepted by my peer *			11 (91.7)
		I felt comfortable 'just being myself' with my peer	2 (16.7)	1 (8.3)	9 (75.0)
		With my peer I could confide my most inner feelings	2 (16.7)	3 (25.0)	7 (58.3)
	Empathy	My peer understood my point of view		1 (8.3)	11 (91.7)
		My peer felt bad if things didn't go well for me	1 (8.3)	3(25.0)	8 (66.7)
	Attachment	I felt comfortable getting close to my peer	1 (8.3)	1 (8.3)	10 (83.3)
		I depended on my peer*	3(25.0)	4 (33.3)	4 (33.3)
Nature & Extent of Interdependence	Close	I felt close to my peer*	2 (16.7)	3(25.0)	6 (50.0)
		My peer influenced how I felt or acted*	3(25.0)	3(25.0)	5 (41.7)
	Commitment	My peer was an important source of support for me*		3(25.0)	8 66.7)

Theoretical pers	Items	Subscale item	disagree	Neither	agree
		My peer worked at maintaining a relationship with me*		2 (16.7)	9 (66.4)
		I looked forward to talking with my peer		3(25.0)	8 (66.7)
		My peer invested time to help me*		1 (8.3)	10 (83.3)
Peer Qualities	Social Competence	My peer revealed personal information*		2 (16.7)	9 (75.0)
		My peer was interesting and enjoyable to talk to*			11 (91.7)
		My peer presented a good first impression*			11 (91.7)
	Social Skills	My peer seemed like she would be able to talk to anyone*			11 (91.7)
		My peer was sensitive and understanding*			11 (91.7)
		My peer talked too much*	10 (83.3)		1 (8.3)
Sentiment	Conflict	My peer would get over-involved in my problems*	10 (83.3)		1 (8.3)
		My peer pressured me to change*	11 (91.7)		
		My peer made me feel guilty*	11 (91.7)		
		My peer made me feel angry*	11 (91.7)		
		My peer was critical of me*	11 (91.7)		
		My peer minimised my problems*	10 (83.3)		1 (8.3)

➢ Missing values

8.5.4. Summary of Relationship Qualities

Perceived Peer Responsiveness – this subscale included items addressing Intimacy, Trust, Perceived Acceptance, Empathy and Attachment. Eighty-three percent of participants agreed, or strongly agreed, that the peer-supporter who was allocated to them had been responsive to their needs. For example, 92% of the participants agreed with the statement "I felt accepted by my peer." Alternatively, 13% of the participants disagreed with these statements in this overall subscale. For example, 17% of the participants disagreed with the statement that "I felt comfortable 'just being myself' with my peer."

Nature & Extent of Interdependence – this subscale included items addressing Closeness and Commitment. Sixty-four percent of the participants felt close to the peer-supporter who was supporting them, and felt they were committed to helping them. For example, 84% agreed with the statement "My peer invested time to help me." Alternatively, 17% of the participants disagreed with the statement in this subscale. For example, 17% of the participants disagreed with the statement that "I felt close to my peer."

Peer Qualities – this subscale included items addressing Social Competence and Social Skills. Eighty-eight percent of the participants felt that the peer-supporter who was allocated to them was socially competent. For example, 92% of the participants agreed with the statement "My peer was sensitive and understanding." Also, 83% of the participants disagreed or strongly disagreed that the peer-supporter who was allocated to them talked too much, but 17% felt that the peer-supporter who

was allocated to them did talk too much. The participants did not disagree with any of the statements in this subscale.

Sentiment – this subscale perspective included items addressing Conflict. Eighty-eight percent of the participants disagreed, or strongly disagreed, that the peer-supporter who was allocated to support them had any conflicting qualities. For example, 92% disagreed with the statement that "My peer pressured me to change." One participant agreed with the statement that she felt "My peer minimised my problems" (8%). Another participant also felt that the peer-supporter who was allocated to her got over-involved in her problems.

8.5.5. Subscale Three – Perceived Benefits of Peer-Support

Participants were asked to evaluate items related to the perceived benefits of peer-support (see table 45). Out of a total score of 135, the overall mean score for the perceived benefits subscale was 101.38 (SD 15.03). Three theoretical perspectives are included (Stress and Coping, Social Integration, and Social Construction), with eleven subscale items: Coping, Perceived Stress, Anxiety, Depression, Loneliness, Social Capital, Help Seeking, Self-Esteem, Self-Efficacy, Social Comparison and Self-Affirmation.

Subscale three is divided into two responses. The first response contains a general statement of benefit perceived by the participants over the preceding months, such as I feel "Less negative thoughts about myself." The second response relates to the participant's perception of how much of the improvement in their mood was due to the support they had received from the peer-supporter who was allocated to them, such as "my peer-supporter helped me feel this way." The proportion of benefit assigned to the peer-supporter is expressed as a percentage of how they rated

themselves on the first response. For example, 67% of the participants felt they experienced less negative thoughts about themselves, and 100% of those respondents agreed, or strongly agreed, that the peer-supporter who was allocated to support them helped them to feel this way.

Table 45 - Numbers (%) Relationship Qualities (n=12)

Theoretical perspective	Items	Subscale item	I feel: agree or strongly agree	My PS helped me: agree or strongly agree	Proportion of benefit for PS
Stress and Coping	Coping	More able to solve problems or concerns	8	4	0.50
		More control of my situation	7	6	0.86
		Better able to cope with all the things I have to do	8	6	0.75
		Better able to respond to stressful situations	5	5	1.00
	Perceived Stress	Things are going my way	4	4	1.00
		More in control of important things in my life	6	5	0.83
		More on top of things	6	4	0.67
	Anxiety	Less worried	7	5	0.71
		More calm	9	6	0.67
		Less tense	6	3	0.50
	Depression	Life is more enjoyable	8	4	0.50
		Less depressed	8	6	0.75
Social Integration	Loneliness	Less alone	6	7	1.17
		There are more people I can turn to	5	4	0.80
		Less isolated from others	6	4	0.67

Theoretical perspective	Items	Subscale item	I feel: agree or strongly agree	My PS helped me: agree or strongly agree	Proportion of benefit for PS
		I have something in common with other mothers	10	7	0.70
	Social Capital	More trust towards my community	1	1	1.00
	Help Seeking	I am more likely to get help if needed	8	5	0.63
		More knowledgeable about my situation	9	6	0.67
Social Construction	Self Esteem	I have much more to be proud of	9	7	0.78
		A more positive attitude toward myself	7	7	1.00
		More satisfied with myself	5	4	0.80
	Self-Efficacy	More confident in my ability to care for my baby	8	5	0.63
		More confident in my abilities	9	6	0.67
		More confident to deal with my situation	8	7	0.88
	Social Comparison	More similar to other mothers	8	6	0.75
	Self-Affirmation	Less negative thoughts about myself	8	8	1.00

8.5.6. Summary of 'Perceived Benefits of Peer-Support'

Stress and Coping – this theoretical perspective included items addressing Coping, Perceived Stress, Anxiety, and Depression. Fifty-seven percent of the participants felt less stressed and that they were coping better, of whom 40% agreed that the peer-supporter who was allocated to them had helped them feel this way. For example, 67% of participants agreed with the statement "less depressed," of whom 75% stated that the peer-supporter who was allocated to them had helped them feel this way.

Social Integration – this theoretical perspective included items addressing Loneliness, Social Capital and Help-Seeking. Fifty-three percent of participants agreed that they felt less isolated, more trusting towards their community, etc. of whom 37% stated that the peer-supporter who was allocated to them helped them feel this way. For example, 83% of the participants agreed with the statement "I have something in common with other mothers," of whom 70% stated that the peer-supporter who was allocated to them had helped them feel this way.

Social Construction – this theoretical perspective included items addressing the following: Self-Esteem, Self-Efficacy, Social Comparison and Self-Affirmation. Sixty-five percent of the participants provided positive affirmations of whom 52% felt it was the peer-supporter who was allocated to them had helped them to feel this way. For example, 67% of the participants agreed with the statement that they felt "More confident to deal with my situation," of whom 88% stated that the peer-supporter who was allocated to them had helped them feel this way.

Overall, 58% of the participants agreed that the peer-support relationship had a positive impact or influence in their lives, of whom 44% attributed those benefits to

the peer-supporter helping them. However, a third of the participants did not fully complete the 'perceived benefits' scale, and half of them did not complete the 'my peer-supporter helped me' scale. This could be an indication of the participants not being satisfied but under pressure not to explicitly say that this was the case. For example, 42% of the participants did not complete all of the statements 'of having experienced a positive relationship,' of whom 66% of participants did not provide feedback on whether they could attribute the benefits they were experiencing as being due to the peer-supporter who was allocated to them.

8.5.7. Subscale Four - Maternal Satisfaction with the Support Received

The participants were asked to evaluate items relating to their satisfaction with their peer-supporter experience. This section included four theoretical perspectives (Perceived Quality, Convenience, Access, and General Satisfaction) with 13 subscale items. See Table 46 for the responses.

Table 46- Numbers (%) Maternal Satisfaction with support received (n=11)

Theoretical perspective	Subscale item	Disagree or strongly disagree	Neither	Agree or strongly agree
Perceived Quality	My peer provided the assistance I needed	1 (9.1)		10 (90.9)
	My peer met my expectations		1 (9.1)	10 (90.9)
	My peer was respectful to me			11 (100)
	I liked my peer			11 (100)
	There is nothing I would have liked done differently	2 (18.2)	1 (9.1)	8 (72.7)
	For my situation one-to-one support was better than group support	1 (9.1)	3 (27.3)	7 (63.6)
Convenience	Receiving support from my peer was convenient for me		1 (9.1)	10 (90.9)

Theoretical perspective	Subscale item	Disagree or strongly disagree	Neither	Agree or strongly agree
	I like the support over the telephone	1 (9.1)	2 (18.2)	8 (72.7)
	I had very few problems with the support I received		2 (18.2)	9 (81.8)
Access	I was able to talk to my peer when I needed it		3 (27.3)	8 (72.7)
	My peer telephoned when planned	3 (27.3)	1 (9.1)	7 (63.6)
	I had enough contact with my peer	3 (27.3)	2 (18.2)	6 (55.6)
General Satisfaction	I would recommend this type of support to a friend			11 (100)
	Overall, I am satisfied with my peer-support experience			11 (100)

8.5.8. Summary of 'Maternal Satisfaction' with the Support they Received

Perceived quality – 86% of the participants were satisfied with the support they received. For example, 100% of the participants agreed with the statement "My peer was respectful to me". Eighteen percent of the participants disagreed with the statement that "There is nothing I would have liked done differently."

Convenience – 81% of the participants felt the support was convenient for them. For example, 73% agreed with the statement "I like the support over the telephone."

Accessible – 63% of the participants felt the support was accessible. For example, 73% agreed that "I was able to talk to my peer when I needed it." Alternatively, 27% of the participants disagreed with the statement that "My peer telephoned when planned," and also 27% of the participants disagreed with the statement that "I had

enough contact with my peer."

General satisfaction – all the participants were generally satisfied with the support they received, and they all agreed that they would recommend this type of support to a friend.

8.5.9. Summary of Peer-Support Evaluation Inventory

The results from the PSEI were mainly positive across all four subscales.

In the first subscale assessing supportive interactions, participants highly endorsed appraisal support and emotional support. While two-thirds of the participants responded that the informational interactions were positive, some of the participants disagreed that their peer-supporter 'suggested other ways of doing things,' or 'provided them with practical information.' In the original study, the majority of responses were positive for emotional support whereas informational support and appraisal support lagged behind (both scoring around 75%). The results from this study indicate a similar outcome.

The second subscale which assessed the participant's perception of the quality of their relationship with their peer-supporter was also mainly positive. The majority of them agreed that they were able to share intimate details and trust their peer-supporter, and appreciated the commitment, social competence and skills that they were offered. However, a third did not feel fully accepted by their peer-supporter. They said they felt they could not 'just be themselves,' or 'confide their inner-most feelings.' Some of the participants provided negative feedback, and said they felt they could not 'depend on their peer-supporter' (25%), they did not feel close to their peer-supporter, and that their peer-supporter had not influenced how they felt or

acted. Yet only one participant implied that there was any conflicting feeling with regard to the support that she received. She agreed her peer-supporter had minimised her problems. In the original study, where almost 10% of the participants said they felt their problems had been minimised, it was suggested that perhaps peer-supporters who do not fully comprehend counselling techniques unconsciously minimised participants concerns in order to normalise the situation for them (Dennis, 2003, 2010). This issue did not seem apparent within the findings from this study.

The third subscale assessed the perceived benefits of the peer-support, and results indicated a positive impact on the participants coping mechanisms. Participants said they felt less alone and more able to ask for help when they needed it. This could have helped by providing a buffer which reduced the potential harm that can be caused by PND (Cohen et al., 2011, Dennis, 2003a, Dennis, 2010). The intervention had also helped to improve the participant's self-esteem, confidence, and their self-affirmations. By highlighting the norms using social comparisons, and reducing the possibility of maladaptive behaviours, the intervention provided a mediating effect by increasing social integration and reducing the tendency to self-blame.

However, having gone back to the analysis and taken a closer look, there were two participants who, in most of the cases, were not so enthusiastic about the peer-support that they had received. It was possible to identify which peer-supporters had been allocated to provide these participants the telephone-support, this enabled a thorough analysis of the participant's whole experience of receiving the intervention. One of these participants had felt guilty, as the peer-supporter allocated to support her was also a busy mother, and the other felt that the peer-supporter allocated to support her had a more terrifying experience of PND than she felt she had experienced. Both of the participants reported that they had benefitted from receiving

the intervention, but some of the feedback from them indicated difficulty in developing a therapeutic connection with the peer-supporter who was allocated to them.

The final subscale highlighted that most of the participants responded that they were satisfied with the support they received. These findings are in line with the concept of peer-support as illustrated by Dennis (2003, 2010).

8.5.10. Discussion

To date, it has been difficult to pinpoint what makes peer-support interventions effective. Dennis (2003) implied that within a healthcare context, there were three crucial attributes of peer-support that contribute to the effectiveness of the intervention, interactions that provide emotional, informational and appraisal support (see Section 1.3.2).

While the overall results from the PSEI were positive, some modifications to the peer-support training could be targeted based on the negative feedback that was received, such as participant's perceived acceptance, and the negative effect this had on the level of connection they experienced with their peer-supporter. In this study, the participants rated emotional and appraisal support higher than informational support. The training could be modified to provide peer-supporters with more focused and up-to-date informational support, to help improve the effectiveness of this attribute of the peer-support.

While using a validated measure to evaluate the interactions within a peer-support intervention is a strength of this study, a major limitation is the small sample size. Future research with a larger sample size would have provided more generalizable

results, and could link the different attributes of the peer-support with specific associated benefits. For example, linking items within appraisal support directly to items with the participant's social construction, such as self-affirmation, could help increase our knowledge and understanding of effective peer-support programmes.

The structure of questions helped the analysis, but some improvements could be made with regard to the practical use of the inventory. The responses in this inventory were all rated from negative to positive, but perhaps some of the items could be reverse scored to ensure the participants considered the question more thoroughly. Also, the inventory did not take the matching criteria into account which could be explored further, in a larger study. The next chapter goes on to explore the participant's perceptions and experiences of receiving TBPS using qualitative interviews.

9. Participant's perceptions and experiences of the Mums4Mums Intervention

9.1. Introduction

This chapter presents the findings of the qualitative aspect of the study that explored participant's perceptions and experiences of the intervention. The chapter begins by discussing the choice of semi-structured interviews as the main method of data collection. It then moves on to discuss the thematic analysis that was used to generate the themes that form the findings from this aspect of the study. The findings from the qualitative study are then presented. The chapter ends with a discussion regarding what the findings of this study add to the existing body of literature.

9.2. Methods

9.2.1. Data Collection

Post-intervention, the participants were invited to take part in a semi-structured interview exploring their perceptions and experiences of the Mums4Mums Intervention (see Chapter 5.4.4 for details of the recruitment strategy). Twelve interviews were conducted. The rationale behind the use of semi-structured interviews as the main method of data collection was explained in the Methods chapter (section 5.6.2.2).

9.2.2. Semi-Structured Interviews

The interview schedule was developed using previous research (Dale et al., 2007), and the research questions of this study. The Schedule addressed six main topic areas, including participant's experiences of the intervention, their views regarding how peer-support compares with support from other health professionals, and also what they perceived they had gained from taking part in the intervention. The aim of the interview was to enable participants to focus on their experience of receiving the intervention, and participants were encouraged to discuss both positive and negative aspects of the intervention.

The interviews were all conducted in the participant's home. All of the interviews lasted approximately an hour in length. The interviews were digitally recorded and transcribed to be analysed at a later date.

9.2.3. Qualitative Analysis

The researcher independently analysed and coded the transcripts, including transcripts from the interviews conducted as part of the Pilot Study (see Chapter Six). The transcripts from all of the interviews were analysed using a 'thematic analysis' (Braun and Clarke, 2006, Fereday and Muir-Cochrane, 2008). After a thorough reading of all the transcripts, each transcript was manually coded. Following this, a further analysis of these codes was carried out, and similar sections of relevant quotations were grouped together under different headings, e.g. key terms such as flexible, accessible, anonymous, and negotiable were collected under the theme of telephone-based support. This process was repeated using flip-chart paper to provide a second tier of coding, which led to the generation of the themes. This process was repeated iteratively, original transcripts and codes were revisited to

ensure that all the data was included, providing a manageable and meaningful analysis of the participant's perceptions and experience of the intervention (Ziebland and McPherson, 2006).

This analysis identified four main areas of shared experience, which form the framework for the presentation of the findings. These were: negotiating the terrain of telephone-based support, fear, stigmatisation and the role of peer-support, the experience of 'connectedness,' and finally, the impact on the participant's relationships. Where appropriate, these findings also include the views and experiences of the peer-supporters as a means of providing a fuller understanding of the issues raised by the participants in this study.

9.2.4. Negotiating the Terrain of Telephone-Based Peer-Support

One clear theme that emerged from the analysis of the qualitative data was the ways in which participant's negotiated the terrain of telephone-based peer-support, i.e. how they made sense of this form of support, which included the perceived benefits as well as the challenges. Telephone-Based Peer-Support (TBPS) was a new concept to these participants, and when asked about how they experienced this medium for receiving support, the majority said that they had found it helpful for a variety of reasons. For example, the fact it was telephone-based appeared to be protective in the sense that they did not have to present as coping, i.e. if this had been a face-to-face meeting within their home then the material home environment may have provided conflicting evidence regarding their assertions that they were coping. As other studies have found, it was clear that these women tended to define the condition of the home environment as their responsibility, which can mean that women feel 'judged' according to the condition of the home (Mauthner, 1999):

276

"The telephone was fine for me because as you can see when you're covered in rusk and the house is a tip, it's not ideal… and particularly when you're feeling as I was feeling at the start, I mean I would have just been mortified having anyone come into my home and I wouldn't have been able to get out to them" (RPM10).

This extract also illustrates the fact that they many women did not always feel able to access services outside of the home, which was also indicative of them not coping. But this could be hidden by them accessing support via the telephone. Receiving support over the telephone also meant that the participants remained anonymous to their source of support, which was also defined as protective in the sense that they did not have to worry about being judged according to their thoughts or behaviour:

"It was great to have someone who has understood your position, but who doesn't know you and you wouldn't know if you walked past them in the street. I found I could just talk about anything and I didn't have to worry about what she might think of me" (RPM29).

This appeared to enable participants to be more 'authentic' in the sense that they could 'open-up' about how they were feeling. Notions of 'disembodied' support were also clearly apparent in participant's responses (Rettie, 2005). In other words, not only did participants have no idea of the identity of their peer-supporter, there was also a sense that there was no-one there – no actual human body – just a sense of something 'ethereal' or 'unworldly' that could potentially help them. As such, peer-supporters provided an empathic and supportive voice when they needed it the most:

"The lady that I got to speak to was really good at putting me at my ease and I just found myself telling her things that I wouldn't tell other people necessarily. I guess because there's no face there, there's no actual person there. It does feel really private" (RPM10).

All participants said that they found receiving support via the telephone to be flexible, which was also defined as helpful because they did not know when they might have needed help to cope with the emotions they were experiencing:

"Having the service ... not twenty-four seven, but better than nine till five. Because your health visitor goes home at five o'clock and your GP's not there all the time. So it was having that open hour's service really so I could phone her at nine o'clock if I felt a bit low" (RPM43).

Participants were also appreciative of support on a regular basis as they were aware that their emotions could alter from day to day, which they could also demonstrate to their peer-supporter:

"It was quite nice that I knew that she was going to phone regularly, so if I was having a bad day then she'd catch me on a bad day or if I was having a good day she'd catch me on a good day" (RPM28).

Alongside the frequent nature of the support, it was also apparent that participants valued the sense that they had some control over the process, which was often in contrast to the lack of control that they experienced in relation to other aspects of their lives:

"My peer-supporter, she very much let me control them. So we set up once a week, but she always said it can be more times, it can be less, it was all dependent on how I was feeling. So that was very good because I felt like I was in control of that" (RPM74).

However, while the majority of participants found the nature of regular support helpful, in some instances they felt under pressure to talk when they had little to say or were simply not in the mood to talk:

"The day itself, I either didn't really have much that I wanted to say or it was a bit of a stressful day because I was on my own, it kind of gets to that time and I really just don't want to talk at the moment. And so that side of it I found quite difficult because I felt like I had to… it felt more pressured because I felt like I just kind of had to talk to [peer-supporter] though I didn't feel like I wanted to" (RPM08).

In certain cases, the participants described how, when they were feeling emotionally stronger, it became more of an obligation to receive the telephone-support. Therefore, the timing of the support, and the fluctuating nature of the participant's depressive symptoms, appeared to play an important role in terms of its perceived effectiveness:

"Sometimes when things were going OK if I can be honest I almost like dreaded it because I had nothing much to say. Because I almost felt like I was wasting her time because I didn't have much to say…. But on a bad week I was sort of like looking forward to it" (RPM06).

Participant's concerns regarding the potential impact on their source of support were also apparent. Many explained that they often felt guilty offloading their negative emotions on to their peer-supporter:

> *"I actually felt really bad that I was coming to her with my problems because I felt that what she had experienced was far worse that what I had experienced, although we had got a lot of similar things regarding our children, I actually felt that for her" (RPM04).*

In the previous example, it is also clear that many of the participants were aware that their supporter had been through their own postnatal depression journey, and were often a busy mother themselves. This was a factor in the ways that some participants reflected on their experiences. For example, some participants perceived themselves as an additional responsibility that their peer-supporter had to manage, which could also determine how often they accessed the service, i.e. it was driven by the perceived needs of the supporter rather than the needs of the participant:

> *"I suppose my main criticism really if that's the right word is that because my supporter was a mum which is the whole point I guess, but because she was a mum she was also working part time... was very, very busy. And sometimes I felt that I was another thing on top of a great many things she had to be juggling.... I just felt like I was an extra burden for her. ...So I kind of felt like I needed to sort of be quick and talk about things and then move onto the next thing and not keep her on the phone too long really" (RPM49).*

It was also clear that the fact both parties were potentially busy with their own families could present certain challenges and negate the usefulness of the intervention:

> *"The communication had died down a bit. I think it's on part of both of us. I've not been available myself and she's been struggling with her family to be able to call when it was appropriate for both of us" (RPM07).*

Thus, it appeared that informal telephone-support could engender concerns that were not apparent with more formal types of support:

> *"It just wouldn't quite work out with [baby] because it was too early in the morning really and so I'd end up missing the call. I was quite conscious that my peer-supporter was then going to have to go off to work or she'd got to take her children places, because she was a peer-supporter... she was busy with her own life. Whereas a counsellor in an official capacity, they have that hour that is entirely for you. But they're not a peer-supporter in that they haven't necessarily been through what you've been through" (RPM49).*

That said, it was also clear that despite their concerns, these participants felt they had no-one else to turn to, i.e. their usual sources of support were not perceived to be helpful in relation to their depression:

> *"You don't want to shock people by revealing some of your feelings and thought processes, it's very difficult. You couldn't perhaps confide in your husband as you would be able to someone on the phone" (RPM25).*

Across their accounts, it was clear that some participants found it difficult to open up to their family members who often appeared unable to fully understand how they were feeling, or the difficulties they faced in trying to overcome their depression:

> *"I could never talk to my family because the response was very much, you kind of need to do this for yourself, you have got to sort it out for yourself, so it was nice to have someone who didn't feel that I had to do it for myself" (RPM04).*

Many of the issues discussed in this section were also apparent in the peer-supporter's (PS) interviews. For example, they too viewed the intervention in generally positive terms, and often reflected on the fact that no such support was available to them when they had similar experiences:

> *"To be honest when I was going through it, I wish I had someone to speak to, but I didn't have anybody to speak to" (PS15).*

The majority said they would have found such support helpful, particularly in relation to knowing that they were not the only woman with postnatal depression:

> *"I think it would've helped knowing there were other people who had had similar experiences" (PS04).*

However, a number of peers-supporters felt that they would not have been able to talk to someone over the telephone about how vulnerable they were feeling:

"Definitely, when I had postnatal depression I took all the help I could get, it would've been great, and anything to stop you feeling isolated would've been fabulous. But I was actually terrified of the phone. I do remember when I was poorly, because you didn't know who it was. So I'd always leave it to answer phone and then ring back. I was frightened of the phone when I was poorly, just in case you don't know who's on it" (PS03).

On a more positive note, these experiences also meant that peer-supporters felt strongly that they should initiate interactions with the participants whom they were supporting. This stemmed from them having insights and understanding about how they felt, and the perception that it was unlikely that they would have been able to reach out for help themselves:

"I think I would use it now if I was in a similar situation but I don't know, I'm a quiet person so I wouldn't necessarily take the first steps, but I think it's good that the peer-supporter makes the contact with the mum, rather than making the mum contact the peer-supporter, that might not happen" (PS14).

As with the participants, the peer-supporters felt that providing support via telephone was protective as well as being flexible. If they were unable to make the call due to their own family commitments, then they were able to text the participant whom they were supporting and rearrange. Within a therapeutic relationship, this can have a positive 'ripple' effect in that it can allow the participant to acknowledge that she also may not be able to do everything, and that it is alright to say 'no' and prioritise her needs and the needs of her infant (Cohen and Syme,1985):

"In your own home if something comes up like your child is sick or something, you can just text and say "can I call you tomorrow? ...It keeps it nice, like a friend, like a peer, as it should be. That is the whole point of it really" (PS07),

Peer-supporters felt that this flexibility had helped to maintain the sense of 'peerness' within the relationship:

"It's supposed to be a homely approach isn't it. A genuine approach from one woman to another" (PS10).

Across their accounts, there were a number of reasons why some peer-supporters reported that they found it difficult to make calls on a regular basis. As the participants in the study had rightly perceived, the peer-supporters were also busy, and so sometimes they found it difficult to make time to provide the supportive calls:

"I struggled a little bit in the evenings to find time to do it and once I found time that was alright, but I had to go away and put myself in a quiet room because I just couldn't have done it amongst all the madness of the two children" (PS19).

In addition to their problems around finding time to make the phone call, it was also clear that peer-supporters felt they should concentrate on the needs of the participant whom they were supporting, which meant them giving it their total concentration. Inevitably, this was not easy when they themselves had children making demands on them:

284

"It was just trying to fit it round making sure the kids were quiet ...that they were in bed so that I could speak because obviously you're not giving the person your full attention if you've got your children around. So yeah, that was a bit difficult" (PS17).

There was also a sense that peer-supporters had their own personal limitations, i.e. they needed time to relax and to live their own lives:

"It's tricky trying to get it round my life, once 8 o'clock comes and the kids are in bed, I have an hour of awake time. It was a struggle to juggle everything" (PS03).

It was also clear that in some cases, simply setting up the intervention proved to be difficult:

"No, we never got to the point where we could negotiate a time properly because things that happened... my son was ill, so it was kind of difficult time for me to try and fit it round his sickness. And then she she'd lost her phone, we didn't get a timescale sorted and she decided that she didn't want to go ahead any more" (PS18).

In other cases, peer-supporters described how the role was much more of a commitment than they had initially expected:

"When you think about taking part a conversation once or twice a week it doesn't sound that much. In reality when you get there and you've got your

toddler, you've been working all day and you've got to eat your tea. To then

sit down for twenty minutes or so, it's harder than you think to fit it in, I

didn't necessarily appreciate what it would entail. ...My first phone call was

an hour and a half and that put me into a panic that I knew I couldn't sustain

that for a long time, but we were both concerned about that that we couldn't

sustain that, we both wanted to make it shorter phone call. I thought the

initial phone call would take five minutes, but once she'd started it was like

wow, the floodgates had opened. I got to know everything" (PS14).

9.2.4.1.   Summary

The majority of participants in this study discussed the intervention in positive terms.

They felt that the nature of a telephone-based intervention was protective in that they

did not have to reveal every aspect of their lives, and could present as coping with

their parenting role. It also maintained their anonymity, and they appreciated the fact

that the calls had been regular and flexible. Although the participants recognised that

this form of support could be inconvenient at times, in general they found

themselves looking forward to receiving the call when they were having a bad day.

The majority of participants said they found the support to be non-judgmental, which

made them feel at ease and enabled them to be more genuine about how they were

feeling. It was also clear, however, that some of the participants felt guilty and

anxious that by offloading their anxieties onto a peer they were overburdening them

(Mauthner, 1999). One of the major challenges identified in this study was that both

parties were busy mothers with young children to look after, which made delivering

and receiving telephone calls challenging at times. This was further reinforced by

some of the peer-supporters who reported that delivering peer-support was more of a commitment then they had originally expected.

9.2.5. Fear, Stigmatisation and the Role of Peer-Support

Another theme that emerged from the qualitative data was related to the stigma that these participants experienced in relation to their mental health problems, and the role that peer-support provided in helping women to make sense of their emotions and experiences. Across their accounts, it was clear that many participants found it difficult to seek help because of their fears relating to mental health problems, particularly being defined as a 'bad' mother who was unable to cope adequately with caring for her baby (McCarthy and McMahon, 2008). For example, many of the participants reported that they did not actively seek help from professionals for their depressive symptomatology, and tended to isolate themselves within their home because of how they were feeling in relation to their baby. Underpinning these thoughts was the notion that they were not 'normal':

> *"I thought I was the only person in the world who must be feeling like this about my baby. Because everyone else was like talking about this instant bond and I felt so guilty and I felt like I didn't dare say anything to anybody about the way I was feeling, because I thought people would think I'm a terrible person" (RPM65).*

The evidence suggests that PND can impact on the mother-infant bonding process, which can lead to the development of relationship disorders (Brockington et al., 2001). Three different categories have been identified as manifestations of bonding disorders: a) mild disorders (delay, ambivalence, or loss in maternal response), b)

rejection (threatened or established), and c) pathological anger (mild, moderate, or severe) (Klier and Muzik, 2004). It was clear that some of the participants in this study indicated mild bonding disorders, such as ambivalence, and / or a delay or loss in maternal responsiveness:

"There's something so sacred about your love for your children and to be able to say to somebody who understands 'I can love them … [but] I really struggle to bond with him. I would have protected him until the end of the world, but I didn't like him. That's why I wouldn't say it to any old body because I wouldn't want them to ever think I didn't love my children. But it went further than that, you can love them but not like them" (RPM06).

A number of the participants reported that they were concerned how health professionals might react if they believed participants were not coping. Therefore, some participants managed their interactions to reduce the chances that they would be assessed as not coping:

"I haven't really seen my health visitor too much, she's lovely but I find that because I hate being judged and feel like I'm not succeeding I don't really go that much. I go when I have to, so [son] gets weighed like once a month, then basically I could run in and run out" (RPM72).

Importantly, a number of participants said that they did not trust their health professional with their vulnerabilities as a parent, fearing that their babies could be deemed at risk and possibly removed from their care. This perception made it very difficult for them to open up about how they were feeling:

"You're not a hundred percent honest with official people. I don't care what anybody says, for fear of what might happen to your family as a result. Because although you would never do anything, you're still experiencing those thoughts and unless you've got somebody that understands what you're going through and understands that they are just thoughts and you are in control of caring for your family, then you can be completely honest. ...You have built up a level of trust first and you haven't got time to do that with a GP, you've got ten minutes and that's it...The doctor will ask you questions like 'have you ever thought about harming your children' and the health visitor will do the same. And at the back of your mind you don't want to admit and be completely honest because of the judgemental side of things" (RPM10).

Alongside their fears with regard to being judged for not being able to cope, participants were also fearful of being defined as 'silly' and / or 'wasting' health professional's time, which was related to the hidden nature of PND. In the main, however, participants also acknowledged that such concerns were generally non-founded:

"It was easier because I think myself like many, many people feel quite ... not intimidated ... that's probably the wrong word by health professionals, but. ...For instance when I initially went to my GP I felt very apologetic that I was wasting time, because it's not a visible illness or anything. And nobody ever told me that I was wasting their time" (RPM47).

However, it was also clear that some participants were made to feel like they were being a nuisance, and that their emotional wellbeing was not being properly considered:

> *"I've struggled with my GP to be brutally honest. Even though they were supportive because they'd heard of the study and they were glad I was doing it, I still struggle with them and I still feel like I'm having a battle with them. Sometimes I think they just think Oh well just because she's got depression, she's over complaining and I don't feel like they're taking me seriously sometimes" (RPM74).*

Participants often felt that health professionals were not in tune with their needs when they (health professionals) suggested strategies to help participants cope, such as attending mother and baby groups. While there is evidence that suggests that increasing social networks can help improve depressive symptoms (Beck, 2001, Beck, 2002a), such suggestions were often perceived by participants to be demonstrative of the critical and dismissive attitudes adopted by health professionals:

> *"Yeah, it's just that knowing that somebody's actually been there. I guess even health professionals if they haven't had it themselves you tend to get something that sounds a bit like a script, but you don't really know if there's any sort of true empathy there. I mean I spoke to my GP just after I came up here but you tend to hear a lot of the same things like 'go to toddler groups, get yourself out, and it's like well toddler groups aren't going to fix all your problems. Especially if you are feeling a bit down and a bit depressed then*

you don't talk to people and you don't put yourself out there. You don't find it easy to meet new people. Yeah it's nice to know that you're talking to someone who has real sort of empathy with you because they've been there rather than someone who is just trotting out all the answers that they've been taught" (RPM29).

One issue that permeated their accounts was the perception that many health professionals did not have any personal experience of PND, and it was this that hindered their ability to be truly empathic. They reported that some professionals simply appeared to be reciting information rather than engaging with them from a position of experience. These types of responses were most apparent when participants compared the support provided by health professionals with the support from their peers, which was based on experiential knowledge:

"I think it's better [peer-support] because I find it difficult to talk to people who haven't been through things themselves. Like I used to have counselling with different issues because I've had depression on and off since I was twelve and that my counsellor's always like ... well have you ever had any problems ... no I was like you're learning this out of a book then. How can you tell me that this is normal what I'm feeling if you've never felt it yourself? And a counsellor who's been through it and come out the other side and is now happy and getting on with their life... I found that really helpful. I thought if she can do it so can I." She went on to say *"She knew what I was talking about. She wasn't getting it from a lot of books and stuff like those things she's read about other people who've had it" (RPM65).*

However, while a number of the participants reported potential difficulties with a variety of healthcare professionals and felt that peer-support was beneficial, they also made it clear that such support could not be deemed as a substitute for contact with the health professionals. In other words, they perceived peer-support to be a different type of support from professional support and, as such, should sit alongside professional support, but not replace it:

"I wouldn't necessarily say it was more helpful. It was just very different and therefore the conversation's kind of different. Where a health professional probably knows everything that's out there to help you, like I said you have to discuss with them exactly what is happening. Where if you discuss with somebody who has experienced it or is experiencing it, sometimes they already know what you're going through without you having to say it which is actually a big comfort" (RPM74).

One clear distinction between peer-supporters and healthcare professionals was that the peer-supporters gave participants hope for the future, i.e. if their supporter had recovered, and had been well enough to have more children, then these participants were hopeful that they could too:

"Talking to my GP was extremely beneficial. But equally talking to somebody that has been ill and recovered and also for me what was quite important for me was that she'd gone on to have another child and hadn't been ill a second time" (RPM49).

It was also evident that some participants felt that peer-supporters should be given more of an advocate role, and should be able to speak on their behalf:

"Trying to think back, no if I needed help it was there. It would be nice and this is obviously in the ideal world, it would be great if the peer-supporters kind of had some authority. So although she helped going through yourselves with the doctors, it would be great if she had the authority almost to ring up and say I am so and so's peer-supporter and she's having problems with X, Y, Z and you need to sort it" (RPM74).

Indeed, there were a few occasions when a participant reported that their peer-supporter had performed an advocate role on their behalf. For example, one participant recounted how she had been upset by the actions of her health visitor who felt she was having her child weighed too often (this was linked to her partner who liked to report on his son's weekly weight gain at his workplace). This participant perceived the intervention of the peer-supporter to be beneficial:

"One of the health visitors actually came over to me and said she didn't think I should come back because I was getting my little boy weighed far too often and it wasn't right. So I actually didn't go back and I spoke to my peer-supporter about it and she said what they did was wrong because it wasn't doing any harm if I wanted to get him weighed every week. She actually phoned my health visitor and spoke to her and asked why and asked if she realised how upset you've made her. My health visitor used to phone me then quite often just to check that everything was OK. If anything she went from leaving me to my own things to regularly phoning and asking if she could

come round. I suppose I felt that she was going above and beyond because

she didn't want people to think she wasn't doing her job well" (RPM04).

Not only did this peer-supporter help this participant to communicate with her health visitor, they also spoke with her GP on her behalf:

"She spoke to the doctors and I know that she had, the doctors were quite

nasty to her when she tried to set up the appointments but she did all that and

I would never have had the confidence to do that myself. When I had the

doctor's appointment originally, I cancelled those because I just felt that I

wasn't getting anywhere. ...Whereas [name] actually stood up and said to

the doctor, well you need to progress this on and she was really, really

helpful with all that" (RPM04).

Alongside the accounts of the participants in this study, the peer-supporters also reported that they understood and could to relate to mother's 'fears' about opening up in front of health professionals, and around feeling judged. Moreover, not only did the peer-supporters say that they could really understand the dilemmas faced by these participants, they recognised the importance associated with the trust that these participants had placed in them. In other words, being trusted by a mother who felt low and vulnerable was deemed as rewarding as it showed signs of their progress:

"I think in a strange way when she disclosed certain things although it was

quite stressful it was also rewarding because I felt she was trusting me

enough to tell me these things and that we were really going to be able to

help her because she was opening up and willing to share things so I think in

a lot of ways they were very rewarding calls, because I thought we were

getting somewhere" (PS04).

The peer-supporters described the importance of hearing positive changes in the participant's mood:

"Sometimes when she was more positive, the second and third call really she

seemed like she was happier and that she was more positive and she was

talking about going out more and things. And I thought that felt nice because

sometimes she started talking about her little boy and he was smiling and

stuff which I could relate to, that I could tell that she was improving" (PS19).

In a similar vein to the participants, the peer-supporters also reflected upon the somewhat 'unique' supportive nature of their role, which they also found to be absent when reflecting on the support provided by health professionals. That said, it was also the case that they recognised the ways in which health professionals were constrained by organisational bureaucracy, and the need to maintain their professional stance:

"It's nice to talk to someone that's been in a similar situation. Health

professionals could have been through it, but they are professionals, they are

academics and they know what it is and they don't necessarily know what it's

like on the ground. I did like the idea of being able to talk to a mum who'd

gone through the same, it was a really good idea" (PS14),

Moreover, the peer-supporters also valued the skills they had developed as a result of their participation in the intervention:

> *"When you are talking to someone as a peer-supporter you open up to them*
> *a lot more than you would do with your friends. About your depression about*
> *your life, about any situation your life is going through. So I kind of know*
> *more about her than most of her friends probably do. So I think in a way,*
> *there is kind of a trust thing. ...You tend to bottle it up a bit more, especially*
> *when you go to these mother and baby groups and you see someone there.*
> *You don't tend to go on about your financial worries or what your partner is*
> *going through. So it is a lot of trust there, it is nice she could trust me to*
> *speak to me that way. Definitely a satisfaction of helping someone else out*
> *and actually learning from their experiences as well"* (PS11).

9.2.5.1.   Summary

Most of the participants in this study felt they were able to communicate openly with their peer-supporters, and could disclose their vulnerable thoughts / feelings about being a parent without fear of being judged. This was made easier by the fact that the support was being provided over the telephone. By talking about their fears, these participants were able to alleviate some of the more irrational thoughts and fears about seeking help from health professionals, and could begin to contemplate the idea of asking for help from other sources. The intervention also appeared to have an impact in facilitating the bonding process between mother and baby and, in turn, was perceived to facilitate improvements in attachment. The feedback from the peer-supporters also focused on the potential benefits of receiving telephone-support,

premised upon the notion that they would have liked to have some help when they themselves were feeling very low. They drew from their own personal experiences regarding the perceived barriers they had encountered.

9.2.6. Connectedness

Another theme that emerged from the qualitative data was the sense of 'connectedness' that participants experienced through this form of support. Within this, three overlapping sub-themes emerged that represented notions of connectedness: 1) shared experience, 2) shared understanding, and 3) shared thinking. For example, many of the participants in this study repeatedly said how they valued the fact that their peer-supporter had experienced similar struggles, which connected participants to their peer-supporter:

> *"You're getting somebody who's been through it, who knows what you're going through, what elements of what you're going through helping you and talking to you. So somebody who can really relate to what's going on" (RPM47).*

In other words, participants felt they connected with their peer-supporter precisely because they too had experienced 'bad days,' which facilitated a far more open dialogue:

> *"At first when the health visitor put me into it I didn't feel that I would benefit from it. But I have benefited from it, just having somebody there that's gone through the same thing that I'm going through helped. Because they know how you're feeling and you can air all your views with them because*

they know, they've been there, they've done that, they've had that bad day.

They've had that bad situation" (RPM43).

A major feature of this connectedness was defined in terms of the non-judgemental approach taken by the peer-supporter, which they felt also stemmed from them having shared a similar experience:

"I found it really helpful. Just being able to talk to another mum who wasn't judgmental and who had been through it themselves" (RPM25).

Sharing their experiences with a peer-supporter who 'understood' them also appeared to facilitate improvements in their mood:

"It was quite nice to sort of have a laugh almost with somebody that's shared the same experiences so you don't feel like you're on your own" (RPM75).

This notion of a shared understanding encouraged participants to be authentic about their feelings, i.e. they felt this was possible because their peer-supporter knew what they were saying and where it was coming from, and could create a normalcy regarding their depressive symptomatology:

"Although I said I could speak to [partner] … there are some things that he wouldn't understand and just having someone on the end of the phone that I could ring up and just speak to and understand [what I'm going through] and just tell me that I'm normal is great" (RPM72).

The participants said there was a real sense of being listened to, and that they were actually being heard and understood. This was not necessarily the case when they talked to others:

> *"A lot of people interrupt when you start or they try and answer a question that you're not even asking. But she was really good. She listened properly I guess because she understood" (RPM10).*

It was clear, therefore, that peer-supporters were able to demonstrate their empathy by drawing on their own experiences where appropriate in order to help the participant whom they were supporting:

> *"I can't speak highly enough of her really. Incredibly understanding, listened, didn't shove her own personal situation down my throat or anything like that. But simply sort of assured me or reassured me that she understood by relating to her personal experience. So yeah she really was excellent" (RPM47).*

Another participant said that this shared understanding had been a critical aspect in enabling her to develop a connected relationship with her peer-supporter:

> *"That was one of the main key things for me because obviously you can have friends who are supportive and even partners, but you just can't explain it. Well they can't understand. You can't make them understand it if they haven't really been through it themselves" (RPM75).*

Participants felt that being able to share their 'thoughts' with a peer-supporter who had experienced similar 'thoughts' was a very important, perhaps essential, aspect of the intervention and its effectiveness:

> *"That is probably very, very important to the whole thing. Because it's only when you've done it and been ill with it that you realise some of the thoughts that you go through and all of the whole process. So yeah I think it's pretty critical to the whole thing really" (RPM49).*

The release of certain internal stresses helped participants to shed what one referred to as her 'falseness,' and to finally admit that they were struggling and to become more accepting of their own feelings and emotions:

> *"I think it was helpful as in it was a release. It was quite nice that I had someone that I'd be able to go and moan to and get everything off my chest, because it's really hard cause I feel like you have to put on a brave face, like with my husband and my family and pretend everything is fine. Then having someone in the evening phone me at about half eight when they are asleep was just actually quite helpful, yeah and comforting in a way" (RPM72).*

Their sense of 'connectedness' also led women to talk in terms of a 'therapeutic relationship' with their peer-supporters. This was particularly useful in helping participants reduce their levels of stress:

> *"I think everybody noticed it as well. My biggest problem is I actually build up and build up and build up until the point where I'd snap. I just can't cope*

and then I'd do something silly like cutting myself. ...I was getting it out by

texting her. If I had my doubts I would just text her say Oh this has happened,

in a calm way rather than snapping. I knew, it's alright I'll talk about it later.

When I talk about something it's gone. I'm over it, it's just getting it out"

(RPM65).

Another participant said that the peer-support had been beneficial in that it had

helped her to process feelings that she had previously shut away, albeit with some

difficulty:

"Like I said the first phone call I found difficult and it kind of brought it all

back and after that I did struggle for the rest of that day, but then to some

degree to be able to deal with it. I think I'd blocked it all out and was just

dealing with every day. ...So I think ... even though I struggled with that to

start with, I think it was beneficial and needed" (RPM28).

There was evidence that the intervention had helped these women to develop some

understanding of the ups and downs of daily life when suffering with PND,

particularly a sense of not having to appear as if you were able to cope all of the

time. When discussing this sense of release and their perceived ability to show their

true emotions, a number of women referred to the sense of them having previously

having been forced to wear a metaphorical 'mask':

"Yeah it's got a lot better. I have more good days than bad days now. I still

have my bad days and when they are bad days they are bad days. But yeah I

can do more. I can interact with [name]. I can do things with the other two. I

could put a smile on my face and it means something. Whereas before it was

false, it was like I was wearing a mask. And yeah I can laugh a little bit

more" (RPM43).

The participant's feelings of 'connectedness' also appeared to be linked to the
'matching process' that took place between them and their peer-supporter. This
matching process consisted of the dyads being of similar age, with a similar number
of children, educated to a similar level and with some common hobbies and interests:

"She sounded very similar to me on the phone if that makes sense, even down

to like sense of humour and things like that. It was very easy. So I feel that

that match there was absolutely brilliant. That's a really good process that

you have by going right who've we got and with matching people" (RPM47)

As is clear in the following quote, the evidence suggests that the more homogenous
the experiences, the better the therapeutic alliance that formed between the dyad
(Helgeson and Gottlieb, 2000):

"Because both of us was fine with the first one which happened to be a boy

and both of us have really struggled with the second which happened to be a

girl. We talked about the different temperaments and the different characters

that they are in personalities" (RPM28).

It was also helpful in creating dyadic relationships based on similar hobbies and
interests:

"Yes I think we had a few things in common. And I think that's also probably quite important in the bond process that you form, that you have a certain number of similarities" (RPM49).

In contrast, some of the participants felt the matching process was not so important, especially relating to age:

"I don't think age matters so much. I think their experiences. Being able to listen is good. Keeping a conversation going is good as well because sometimes you sit there and you just don't know what to say. There's a lot you need to say but you don't know how to get started. ...And that can put you at ease" (RPM10).

This participant focused on those aspects of the matching process that they perceived to be most helpful:

"It was nice that she was local as well because if I referred to a particular place she'd know where I was talking about" (RPM10).

However, in general, matches according to geographical location had a mixed response. While some participants felt this to be a positive feature, it was not the case with all participants:

"[Name] does know my area. Because when we've spoken she actually goes to playgroups at the church just down the road. So she knows the area and things like that and she knows of different places where I could take [name]

to and things. So it's nice because she could tell me where I could go and

what days and things like that" (RPM43).

This was something that other participants missed regarding their relationships with

their peer-supporters:

"So it would have made it better if she lived in [name] or knew [name] she

could have said 'Oh well if you go to this place they're really good, they're

helpful.' But because of that she could only relate to where she lived because

she hadn't been to [name]" (RPM25),

In contrast, other participants did not like the fact that their peer-supporter lived in

their vicinity as it provided an unwelcome level of pressure linked to the possibility

that they might meet:

"I would have found it useful if it wasn't somebody so close to home because

I found that a bit intimidating. ...I would have been able to have opened up a

little bit more because it doesn't feel as if it's so close to home and it was a

bit more anonymous. Whereas trying to talk about things that are going on in

your life and then someone says 'Oh yes I know that school or I know that

common area' and things like that kind of made me feel a bit 'Oh!' They're

going to know things about me for a very long time and that just made me

feel a bit uncomfortable" (RPM08).

It was also the case that some participants considered their peer-supporter to be a

friend, and there was an assumption that these relationships would evolve into longer

term relationships. While the four-month intervention was by telephone, a number of the dyads reported that they hoped to meet up and become mutual friends:

> *"We seem really good friends and like I say we have got very similar circumstances, so I think it is going to carry on" (PS11).*

Due to the small sample size, it was not always possible to adhere to the systematic matching criteria at all times. There were a couple of instances where the pairings had not worked well because of this. It was also the case, as in the following two extracts, that the participant and the peer-supporter could have different perceptions as to the beneficial nature of their interactions, i.e. their age difference was perceived as both irrelevant and problematic:

> *"Not really because my supporter was in her thirties and I'm only eighteen. And I was able to talk to her easily. So I don't think it really mattered. We were completely different. We just got on. We were able to talk to each other" (RPM65),*

> *"I wonder whether we could have been more involved with that [matching] just because I didn't feel that I was that good a match for the person I was supporting. It felt a little bit like we were just kind of... Oh well she's there and she's there, let's put them together. I didn't feel that we were particularly matched other than that we'd both had postnatal depression."*
> *She continued "It was an age thing more for me. I think she was nineteen and I'm thirty-five. And I know we're both young, but there's quite a difference between nineteen and thirty-five" (PS19).*

9.2.6.1. Summary

The participants believed the experiences and / or understandings they shared with their peer-supporters was essential to the effectiveness of this intervention. They experienced the peer-support as being genuinely empathic and non-judgemental, which facilitated authenticity and enabled a sense of them being 'connected' within the relationship. The systematic matching process appeared to be important in terms of facilitating this sense of 'connectedness.' This study suggests that in those cases where the matching criterion was less well adhered to, the relationships did not form such a deep connection. This appears to reinforce the importance of having a systematic matching criterion and suggests that homogenous experiences underpin the strength of the therapeutic alliance that is formed (Helgeson and Gottlieb, 2000).

9.2.7. Impact on relationships

The final theme to be discussed is the impact that receiving TBPS had on the participant's thoughts and emotions regarding themselves and others, and their relationships with themselves, their infants, family and friends. For example, a number of the participants identified an increase in self-awareness and personal-development, which has been found to occur when a therapeutic alliance has been effective (O'Hara et al., 2000). In particular, they revealed how the peer-support enabled them to notice how self-critical and self-blaming they had become, how they allowed other people to dominate them, and also how much their self-worth had diminished:

> *"I realise that I'm quite hard with myself. Because I was just putting myself*
>
> *down all the time. And she's the one that opened it out to me that I'm always*

putting myself down. I blame myself a bit too much if things go wrong. ...I'm not as much a pushover as I used to be, if there was ever a fight I'd be the one who's I'm sorry ... even if I wasn't in the wrong. Now I stand up for myself" (RPM65).

One participant came to the realisation that she was not as emotionally weak as she had feared:

"That I was stronger than what I gave myself credit for. Just before going into the study I was like Oh I'm a useless mum because I've got all these problems. I realised actually no, I'm able to do everything that I've been doing and dealing with depression" (RPM74).

Receiving support from a peer also appeared to give participants greater insight into their capabilities as a parent. Thus, while they continued to recognise that the advice and opinions of family and friends were well-meaning, and often relevant, it was also clear that they should not discount or underestimate their own parenting abilities:

"I guess I learnt to have more faith in myself. My peer-supporter was very supportive of my decisions and that I was doing the right thing and I should perhaps stress an awful lot less about other people's expectations of how [name] should be brought up, because everybody has an opinion. ...People who love us dearly, but in the end you do start to doubt yourself and... So I've learnt that I can be right and I am right" (RPM49).

The majority of participants also felt that this support had helped them to become more confident, and enabled them to venture outside more. This has important implications as it reduces isolation, increases social networks (Beck, 2002c), and enables the parent and infant to benefit from fresh air:

> *"I'm able to go out now. And I've joined the gym, where before I wouldn't have even considered it. So that's been better because I'm going out, I'm seeing people, where before I just stayed indoors and wouldn't go outside. Because I didn't want to. I wouldn't even step foot out the front door. So it has helped me a lot" (RPM25).*

These experiences were in contrast to how many of these participants experienced life prior to the intervention:

> *"I did find it helpful because now I can go food shopping, where before I used to order online and just see the person at the door and that was it. But now I've got the confidence to go food shopping and I'm not worried about what people think" (RPM25).*

It was apparent that women were making conscious attempts to be more sociable, and to interact more with others around them:

> *"I've started to venture out a little bit more. I can sit and talk to people and let people into the house. Whereas before they'd phone and I'd be like no I'm doing something. And so people are starting to come back into the house. And I'm letting people in more than shutting them out" (RPM43),*

The fact that they now reported being able to leave their homes appeared very important for many of these participants. They also identified a potentially positive effect on their children, as it also enabled them to interact with other children:

> *"Yeah little things like going to mums and tots. ...I started to go with my friend who's got a little one to Tumble tots. Just those little steps and staying that extra little bit longer, because once I used to struggle I used to just quickly come out. Or if my friend couldn't go then I wouldn't go. So it was kind of making that little bit more effort to go and to stay for that extra bit longer. And it has worked" (RPM28).*

Taking part in the Mums4Mums intervention also appeared to have increased these participant's reflections on their previously negative perceptions of some of those around them. In particular, the participants reflected on their previously held beliefs that their health professionals were too critical of them. They had begun to realise that their own insecurities, self-judgements, and self-criticisms may have been clouding the support that was being offered by health professionals. Rather than feeling judged by health professionals for not coping, they were able to accept that they were being offered support because parenting can generally become overwhelming and tough at times (Beck, 2001, Miller and Sollie, 1986).

> *"With my health visitor I have had moments when I've had to bite my tongue with her because I've just felt she's said the wrong things at the wrong time. But I've learnt that maybe she wasn't, but it's just me taking it the wrong way. So I kind of started to distance myself from the health visitor because I*

just felt in some ways she could be quite negative sometimes. But I don't know if she was or if it was just me" (RPM43).

The participants said that they felt the peer-supporter had given them both permission and a strategy to take more time for themselves:

"Just little things for myself, she was really good at suggesting I go and do something really nice for myself. Just to remind myself to do little things for me and to actually set a timescale where it wasn't just Oh well remember to do something nice for yourself, but it was actually like well why don't you do it on Wednesday after you've finished your work" (RPM29).

This was often just to be able to find time to be alone and switch off from their daily demands, even if this was for relatively short periods of time:

"I think initially we spoke about trying to make some more time for myself. To be a bit more relaxed and actually be a bit more selfish with my time really, which I did try to do and I do try to do. And I know that when I was talking to her she said that she had found that that was a difficult thing to do and she gave me some tips to sort of just take myself off for even five minutes when my husband comes home. Hand over my daughter and go off and read my book for five minutes or to have time alone. So that was useful" (RPM47).

It was also apparent that some of these participants had become demoralised when they saw or heard about how well other mothers were coping with motherhood (Westall and Liamputtong, 2011). Many described the following feeling '*I am not*

coping as well as them, there is something wrong with me or my baby' (RPM29).
Receiving peer-support had enabled participants to notice the ways in which they were negatively comparing their situations to others, and as a result, they reported how they were able to become more self-accepting of themselves and their children:

> *"I think I've got a lot more positive and definitely being kinder to myself, appreciating what I achieved… what I can get done every day. I've also appreciated that you just have to do things for the kids that you've got, and I think Oh why don't my kids do this and why don't they act like that, and actually realising that all children are different and you can't just make them behave a certain way"* (RPM29).

Such thoughts were particularly relevant when participants discussed their infant's sleeping patterns. They now realised that sleeping patterns varied considerably between babies when previously they had contributed poor sleeping patterns to personal inadequacies, and the notion that they were not doing the right things to encourage their baby to sleep:

> *"I would get upset because I couldn't settle [son] or he was going through illness and colds and there was his sleeping pattern that I was having serious problems with, because he just doesn't like sleeping at night. And I think just having her talk me through and just explain that it was normal, and you do get mums where their kids sleep through, and my two have never slept through, so it was nice to have her feedback on it being normal as such that they are not, it's just reassuring and it made me feel like I wasn't failing"* (RPM72).

311

The newfound insights described by participants were also perceived to have led to significant changes in their relationships with those around them. For example, one participant described how this was the catalyst for her making a significant change that she believed had improved her relationship with her baby:

"Well I stood up to my mother in law which is why I'm in here [hotel]. My boyfriend's mum was causing a lot of issues because she was very controlling. So it was like he was her baby and I found it really difficult, I didn't feel like his mum because she acted like the mum and did everything. If I picked him up when he cried she went Oh you shouldn't do that, you're spoiling him. And then she'd say Oh I'm only trying to help you. It's not helping me telling me everything I do is wrong. ….And I finally stood up to her and I said I was his mum not her, she didn't take kindly to it. But since I'm not living with her any more my relationship with him [baby] has improved so much. I actually feel like his mum. So I thought I'm in control now. I don't feel like I've got somebody watching me and judging me and making comments on every little thing that I do" (RPM65).

As is implicit in this extract, one significant outcome of the peer-support was that participants described having more responsibility for their baby and spending more time with their baby, which had also improved their relationships with their baby. However, this was also often tinged with regret that they had not made such decisions / changes sooner:

"I just try to enjoy more the time I spend with him. Whereas before he'd be sat in here screaming and I'd be in the kitchen screaming and I'd just sit in

the room with him and think I don't really want to be in the same room as him. Now I can enjoy spending time with him. I'm trying to make more of effort to spend time with him and making the most of the childhood. I said to [peer-supporter] my biggest regret through having the phone calls was the realisation of how much I missed out on my little boy's childhood, and that I could never get that back and making sure now that I try and make the most of the time we spend together" (RPM04).

It was clear that receiving what was described as non-judgemental support could help participants to bond and develop attachments with their children. In one case, it enabled a participant to declare her 'love' for her son:

"I've gained my son as such because I didn't want him and now I do. I feel like that's helped. Because without that I don't know where we'd be now with him [participant upset]. …It's helped me to realise that he… well I don't know how to explain it. But I love him and I want him, where before I would have given him up for adoption. So that's helped. Sorry [participant upset] it is because I'm trying to explain that to other people, they're judgemental … where she didn't" (RPM25).

A number of the participants also welcomed the fact that their peer-supporter had encouraged them to talk to family and friends. For example, one of the participants said that she was able to more open with her husband and her mother, which had proved helpful. She had also been able to reassess her relationship with her friends:

"I think my relationship at home has got a bit better because I think if I was honest... myself and my husband admitting that there was something wrong... so that's helped. And then I've spoken to like my mum [upset]. ...My relationship with some of my friends has completely gone downhill, not because of the study, but I think because of me trying to be a bit more selfish and actually probably seeing them for the lack of support ...that's not all of them. I do have some very supportive friends [upset]...So I think that's probably helped in a funny way" (RPM47).

Another participant described how she felt more relaxed and happier around her husband and children. Again there was the sense that receiving support had enabled her to 'open up' more with her husband about how she was feeling:

"The only relationship that it seems to effect was that with [children] and my husband. I think I have become much more relaxed with [children] and that is definitely a positive thing, so that is good- much more relaxed. I'm happier around them and with regard to [husband] I think our relationship is a little bit better because I would get off the phone and at first, I have never been able to talk to him about stuff. We found that we were speaking much more openly about how we are feeling- so that's good" (RPM72).

It was evident, therefore, that speaking to someone who they perceived understood how they were feeling represented a 'release' for many women. It appeared to enable them to free themselves from some of the negative emotions they were experiencing, such as anger and frustration. As such, some participants reported a realisation that people around them were not doing things simply to antagonise them:

"I don't want to kill my husband any more [laugh]. I had a real anger thing

going on with my oldest child and my husband and I felt that they were trying

to irritate me and make me angry and now we're all back to normal again.

So that's good. So that's all much improved. (RPM10)

In some instances, the participants felt that the support had helped them to work out

their marital problems, which they believed had enabled them to stay together as a

family:

"My husband and I are a lot stronger now. We don't argue as much and we

get on a lot better, that's a good thing because to start with we was on the

verge of splitting up and he was willing just to take off. Now we're close and

we're back to where we were" (RPM25).

However, this is not to suggest that all of the participants felt that their problems

were behind them. It was also clear that a number of these women continued to find

aspects of being a parent challenging:

"Me and my husband are a lot more relaxed and a bit more open about my

moods and how I'm feeling. I think my relationship with her [baby] has

improved. I still do struggle with her a lot, but you're a perfect little angel

aren't you. ...But you're very strong willed and determined, which I find

really hard" (RPM28).

Linked to this, it was also clear that a number of the participants appeared to have

gained insights into the time it can take to recover from postnatal depression. As

such, participants were more aware of the 'ups and downs' of postnatal depression and the need to be prepared for potential set-backs:

"I think that I've learnt, particularly with the postnatal depression, that it's not something that's going to go away overnight and that there's going to be dips, some worse than others. But I can sort of pre-empt when they're going to happen now and sort of climb back up the hole if you like. And that I suppose I've just got to take a day at a time and make myself some realistic small targets. I used to tend to beat myself up a lot if things didn't happen or go to plan. So I just don't give myself such a hard time any more" (RPM75).

The notion of taking 'one day at a time' was a recovery strategy that many participants referred to during their interviews:

"Just to take each day as it comes. [Peer-supporter] always said that every day is a goal in itself and just take each day as it comes. So that's what I did. And that's what I still do now" (RPM43).

While participants found receiving the peer-support to be a generally positive experience, some also reported that they were receiving other support as well. As such, they were clear that it may not have been the intervention alone that helped them:

"Now that's difficult to tell whether... I am feeling a good bit better physically and mentally, but I don't know whether or not the study solely

catered for that or was just one part in that. Probably, a part of the jigsaw I
would have thought" (RPM49),

Some women had been taking medication prescribed by their GP, and / or they were
receiving professional counselling, alongside participating in the intervention:

"It's difficult because while all this was going on I was put on
antidepressants as well. So it's sort of a mixture of a lot of things. I'm having
counselling as well. The problem is far from fixed" (RPM81)

Nonetheless, these women were also keen to point out the perceived benefits of the
intervention alongside other forms of support:

"*I felt a little bit better, happier as such. I'm not fully well, because I have*
started medication, so my mood has changed but I think with regards to the
study helping it is just with my confidence" (RPM72).

9.2.7.1. Summary

This section has demonstrated how talking to a peer-supporter appeared to have a
positive impact on the participant's self-esteem. The participants were able to
become less critical of themselves, be more confident about their own parenting
capabilities, and to some degree, were able to increase their social support networks.
The intervention also enabled the participants to be less critical of others around
them, and in particular, they became more understanding that health professionals
could be a resource to help them. Participants also reported a positive impact on their
relationship with their partners, in particular that they were able to open up to their
partners about their feelings and emotions. This encouraged supportive relationships

and enabled couples to work on their problems together, becoming a happier and more contented family unit.

9.2.8. Discussion

The results from this study provide new insights with regard to providing peer-support for women suffering from postnatal depression, and highlights that it may be most effective during a certain time period after the birth of their baby. The qualitative aspect of the study generated four main areas of shared experience: how they negotiated the terrain of telephone-based support, fear, stigmatisation and the role of peer-support, the experience of 'connectedness', and finally the perceived impact on the participant's sense of self and other close relationships. Where appropriate, these findings were strengthened by the inclusion of the views of peer-supporters to provide a fuller more holistic understanding.

Participants reported many positive outcomes, most of which have been evidenced in the wider literature. For example, receiving support over the telephone has been found to be acceptable (Currell et al., 2000), and its anonymity enabled the participants to be open and genuine with their daily struggles (Heisler and Piette, 2005). Support via the telephone has also been identified as being accessible and spontaneous (Beatty and Lambert, 2013), flexible, private, and oblivious to differences in socio-economic status (Dennis and Kingston, 2008), as well as overcoming traditional barriers such as travelling (Jalovcic and Pentland, 2009) and transport (Galinsky et al., 1997). Participants found telephone-based support very helpful in that they did not have to travel with their baby to attend appointments or support, which they disclosed would have become a barrier at times (Robinson and Young, 1982).

This study also identified that the peer-support had a positive impact on the participant's view of themselves. As other studies have shown, participants recognised that they had become less critical of themselves (Jalovcic and Pentland, 2009). The participants became more confident with their role and abilities as a parent, which in turn helped them to build a better attachment with their baby. Participants reported that this increase in self-confidence also improved their interactions with their partners, promoting a relationship built on honesty, shared feelings, and a better understanding. This also extended to their close relationships with their family and friends, where they found themselves being more open about their daily struggles, and able to accept help with caring for their baby when it was offered to them, and felt less judged for needing support. In some cases this 'opening up' also positively impacted on their relationships with their health professionals, and they were more motivated to ask questions and seek appropriate support, (Marino et al., 2007). It appeared that they became less self-critical, which allowed them to be less critical of others who were trying to help and support them. Thus, not only were they able to help the participants whom they were supporting to overcome their fears, they could also encourage participants to open up to others.

The study also identified participant's feelings of guilt when 'offloading' their negative emotions onto a peer. While evidence of the negative experiences associated with TBPS is limited, this finding was also evident in a recent study that explored the provision of TBPS for patients suffering from gynaecological cancer (Pistrang et al., 2012). In this study, it was also clear that some negative experiences stemmed from the fact that both parties were busy mothers.

The participants found this type of support to be protective as it was perceived as not having the potential to expose them as not coping in their parenting role. The stigma

surrounding postnatal depression is still prevalent in society today. These findings show the overwhelming fear experienced by mothers, and the strategies they employ to hide their vulnerabilities from their health professionals, so that in the worst case scenario, they will not have their baby taken away from them. They feared that being seen as 'not coping well' would deem them as unfit to care for their child and / or that they were not 'normal' (Shakespeare et al., 2003). This perceived fear was a barrier to them reaching out for support, which these mothers can be helped to overcome by the support from a peer, someone who understands their vulnerability due to a shared experience. This is an important finding, as reviews exploring the benefits of peer-support interventions for mental health patients, such as depression, are scarce (Pfeiffer et al., 2011).

In the original study, participant's experiences were quantified and reported using the Peer-Support Evaluation Inventory, but themes were not generated from qualitative data collection (Dennis et al., 2009). This study indicates that receiving peer-support over the telephone could overcome the barriers perceived by mothers experiencing symptoms of PND to accessing much needed support. The disembodied notion of the support maintained an important level of anonymity for them and that receiving the support from a peer had felt empathic, non-judgemental and genuine. There was also some evidence to suggest that providing peer-support for women suffering from PND has time-constraints. A few of the participants found that they were feeling better and felt obligated to speak to their peer, experiencing pressure to continue with the intervention. This finding suggests that although these participants were initially experiencing mild to moderate depressive symptomatology, it may be that for some mothers, these were transient feelings, which may have dissipated over time without any intervention (Kumar and Robson,

1984). Another explanation for the improvement in their depressive symptoms may have been due to other interventions, such as medication and / or seeing a specialist (a perinatal psychologist, counsellor), which were found to also be a source of support in this study. Therefore, it is important to target peer-support interventions for PND at a time when the participants will receive the most benefit.

Research indicates that psychosocial interventions such as 'talking therapies' are a highly effective method of supporting individuals who are suffering from depression (Holopainen, 2002, Mauthner, 1999). Research exploring postnatal depression found that eight listening visits from a health professional reduced depressive symptomatology (Holden et al., 1989, Elliott et al., 2001). The Mums4Mums intervention was unique in terms of 'talking therapies' in that it provided support from a peer who had experienced similar anxieties and fears. This unique aspect of the intervention enabled participants to access relevant information, empathy, and support, which focused on their practical and emotional needs, and that they found it was more acceptable to them and easier to understand. Support based on shared experiences appears to have reduced the participant's feelings of isolation and stigmatisation, increased their confidence, and improved their outlook on life.

These qualitative findings are supported by the meta-ethnography carried out in Chapter Three, which showed that peer-support is a distinctive relationship based on the concept of 'a similar other,' facilitating the sense of connectedness. Moreover, while the results show benefits for the participants, the dyadic relationship has reciprocal benefits, which can be empowering for both parties. For example, the participants felt that their peer-supporters acted as role models and provided them with hope for the future, while the peer-supporters felt a sense of increased self-worth as a result of helping and giving something back to their community.

Finally, while the majority of the participants who took part in the study advocated peer-support, and were positive about the intervention and the effectiveness of TBPS, these results need to be interpreted with caution. The qualitative interviews were conducted with participants who completed the four-month intervention (i.e. the data was collected from ideal participants whose willingness to improve influenced the qualitative feedback and overall findings from this study). It was not possible to collect data from those participants / peer-supporters who left the study, which may have impacted these results. The next chapter explores the impact that providing TBPS had on the peer-supporters who had volunteered to deliver the intervention.

10. The Peer-Supporters Experiences

10.1. Introduction

This chapter presents the findings of the study in relation to the peer-supporters. The chapter begins by providing information about the recruitment of the peer-supporters, followed by a description of the demographic characteristics of the peer-supporters. Those who participated in the study are also compared with those who did not continue in the study. The findings from the peer-supports who participated in the study are then presented in two sections. The first section focuses on the findings from the quantitative data: standardised questionnaires (pre- and post-intervention), that investigated whether their participation in delivering the Mums4Mums Intervention had any impact on their mental wellbeing. The chapter then presents the findings from the qualitative data: semi-structured interviews conducted post-intervention to explore peer-supporter's perceptions, and experiences of providing the support.

10.1.1. Peer-Supporters Recruitment

The criterion for recruiting peer-supporters was women who had fully recovered from postnatal depression in the past five years, and who could commit time to participate in training and in providing telephone-support. In January 2009, health visitors in Warwickshire were asked to identify women who they felt would be suitable for this role. Following this process, forty-nine potential participants showed an interest in volunteering for the peer-supporter role. The clinical fitness of potential peer-supporters was assessed by the study psychologist (Kirstie McKenzie-McHarg) prior to the start of training.

Sixteen peer-supporters were recruited and trained to take part in the Mums4Mums study in April 2009. However, five of these peer-supporters withdrew from the study before the peer-support began. A second cohort of peer-supporters were recruited and trained in January 2011 (n=3). Figure 6 shows the process of recruitment.

10.1.1.1.   Recruitment Flowchart

Potential Supporters

| 2009 - Assessed for eligibility (n=36) | 2011 – Assessed for eligibility (n=13) |

Excluded

Excluded 2009 (n=20)

➢ Not eligible (n=3)

➢ Declined to participate (n=14)

➢ Could not be contacted (n=3)

Excluded 2010 (n=10)

➢ Not eligible (n=1)

➢   Declined to participate (n=9)

Recruited

Recruited (n=16)

➢ left study before providing support (n=5)

➢ left study after supporting one participant (n=6)

➢ completed delivering intervention (n=5)

Recruited (n=3)

➢ Left study after supporting one participant (n=2)

➢ Completed delivering intervention (n=1)

Figure 6 – Consort Flowchart

10.1.1.2.   Peer-supporters

A total of nineteen women were recruited across the two cohorts. However, a number of the peer-supporters left before the start of the intervention (n=5), and a number left after supporting only one participant (n=8). Therefore, six peer-supporters took part in the Mum4Mums study from the start of the intervention until its completion (PS03, PS07, PS11, PS12, PS13, and PS17). These six peer-supporters were matched with up to four participants across the course of the intervention. One peer-supporter (PS11) experienced some problems in supporting

the fourth participant allocated to her due to personal issues, and her role as a peer-supporter was terminated at that point. The participant she was supporting was matched with another peer-supporter.

10.1.1.3.   Peer-Supporters who Withdrew

Peer-supporters who left before supporting their first participant

Five peer-supporters left the study after the training but before being matched with a participant. The reasons they provided for their withdrawal included the following:

- Marital problems (PS01)

- Role change within the study (PS02)

- Pregnancy (PS05)

- Could not commit the time (PS09)

- Could not contact participant (PS16).

The training for the peer-supporter's role was carried out in April 2009, but the first participant was not recruited to the study until October 2009, and the rate of recruitment remained slow throughout the study. The delay between having received their training and being matched to a participant, which was approximately six-months, may also have been a factor in why these peer-supporters made a decision to withdraw. However, this was not mentioned by the peer-supporters themselves. All of the peer-supporters in this group were from the first cohort to be trained, and no exit interviews were conducted with them, as they left before they had supported a participant.

Peer-supporters who left after supporting their first participant

Eight peer-supporters left the study after making at least one call to the participant with whom they had been matched; six from the first cohort, and two from the second. The reasons provided for their withdrawal included the following:

- Pregnancy (PS08, PS14)

- Could not commit the time due to personal issues

  - Mother's operation (PS04)

  - New business venture (PS06)

  - Father's illness (PS15)

- Felt they were not suited to the role of peer-supporter (PS10, PS18, and PS19).

10.1.1.4.   Completers Versus Withdrawers

Table 47 compares the socio-demographic characteristics of the peer-supporters who participated fully in the study against those who left after being matched with a participant, and those who left the study without being matched with a participant. A statistical analysis was not carried out due to the small number in each cell (chi-squared analysis should not be conducted n<5). Table 47 shows that there are no obvious differences between peer-supporters who completed the study compared with those peer-supporter who left the study.

Table 47 – Peer-supporter Socio-Demographic Characteristics

		Continued to the end of the study (n=6)	Left study after supporting one participant (n=8)	Left study before supporting a participant (n=5)
Age (years)	26 -30	2	1	1
	31 – 35	2	1	3
	36- 40	2	2	
	>41		4	1
Ethnicity	White British	6	4	3
	Non British	0	1	0
	Did not Specify		3	2
Single parent	Yes		1	1
	No	6	7	4
Number of children	One Child	1	2	2
	Two Children	4	5	1
	Three Children	1	1	
	Four Children			2
	Under 12-months	1	3	2

		Continued to the end of the study (n=6)	Left study after supporting one participant (n=8)	Left study before supporting a participant (n=5)
Age of youngest child	Between 12 to 24-months	2	3	1
	Over 24-months to under five years old	3	1	2*
	Over five years old		1	1
Education Levels	Primary School		1	
	CSE/GCE/GCSE	3		
	Certificate/Diploma	1	1	4
	Undergraduate Degree	2	2	1
	Postgraduate Qualification		3	
	Professional Qualification		1	
In work	Yes	5	7	4
	No			1
	Did not Specify	1	1	

		Continued to the end of the study (n=6)	Left study after supporting one participant (n=8)	Left study before supporting a participant (n=5)
Working	Full-time	1	2	0
	Part-time	4	5	4
	Did not specify	1	1	1

- Twins aged 4years old

10.1.1.5.   Summary of Completers Versus Withdrawers

Forty-nine potential participants showed an interest in taking part as a peer-supporter in this study, of whom nineteen were trained. These peer-supporters took part in the small Pilot study and the feasibility RCT (see Chapter 6 for a detailed discussion). Six peer-supporters remained with the study throughout its duration, five who trained on the first cohort, and one from the second cohort. There were no observable differences in socio-demographic characteristics between the three groups.

10.2. Quantitative Analysis

Two standardised questionnaires were administered to the peer-supporters: the Hospital Anxiety and Depression Scale (HADS), and the Generalised Self-Efficacy Scale (GES). Both of these questionnaires are validated self-report measures (described fully in Chapter Five, Section 5.6.1.2). The peer-supporters were requested to complete these questionnaires at three different time-points: a) at the beginning of the intervention, b) while providing support (two-months), and c) at the

end of the intervention (four-months). Of the nineteen peer-supporters who participated in the study, two did not return baseline questionnaires (n=17).

10.2.1. Hospital Anxiety and Depression Scale

The box-plots indicate the range of the scores for the HADS at baseline, post-intervention, and follow-up. The descriptive statistics presented in the tables below (Table 48) show the minimum, maximum, mean, and standard deviations for the peer-supporters scores on the HADS.

Box plot 9.1 - Hospital Anxiety and Depression Scale
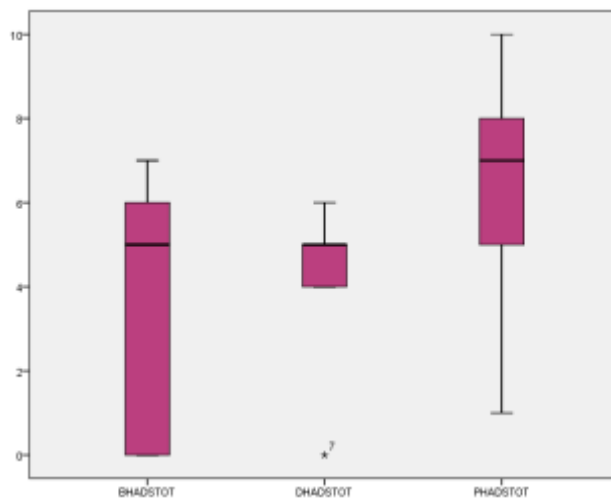
Table 48 - HADS Descriptive Data

Time	N	Minimum	Maximum	Mean	(SD)
Baseline	17	0	13	6.47	3.86
During	6	0	6	3.67	2.25
Post-intervention	9	1	17	7.78	4.38

The exploratory analysis above shows that at baseline, the HADS mean score was marginally lower (6.47 (SD 3.86)) than at post-intervention (7.78 (4.38)).

10.2.2. Paired Sample T-Tests - HADS

Paired sample t-tests were conducted to compare the outcome measures at baseline and post-intervention to identify any significant differences in the scores over the course of the intervention. The data collected during the intervention (i.e. two-months) were not included in the analysis.

10.2.2.1.   Hospital Anxiety and Depression Scale

The table below (49) shows a comparison of the pre- and post-intervention scores for the Hospital Anxiety and Depression Scale.

Table 49 – Paired Sample T-Tests for the HADS Scores

	baseline	Post-intervention	Paired differences	
Peer-supporters (n=8)	5.13 (3.94)	8.13 (4.55)	-3.00 (2.77)	T (7) =-3.06, p=0.02

The results show that peer-supporters scored significantly higher on the HADS after providing the intervention than at baseline (the HADS measures both anxiety and depression). A further t-test was conducted to investigate if the significant difference between baseline and post-intervention scores was due to an increase in anxiety or depression (see table 50).

Table 50 - HADS Anxiety versus Depression

	Baseline	post	Paired differences	
Anxiety (n=9)	3.11 (2.03)	4.89 (2.80)	-1.78 (2.33)	T (8) = -2.29, p = 0.05
Depression (n=8)	2.13 (2.38)	3.00 (2.20)	-0.88 (1.36)	T (7) = -1.83, p = 0.11

Although the above paired sample t-tests show that the peer-supporters were significantly more anxious after providing telephone-support to their first participant (p=0.05), the post average score of 8.13 is considerably lower than the clinical cut-off point (i.e.11+). There was no significant difference in the depression sub-scale of the HADS.

10.2.3. Generalised Self-Efficacy

The box-plots indicate the range of the scores for the GES data at baseline, post-intervention, and follow-up. The descriptive statistics presented in the tables below (Table 51) show the minimum, maximum, mean, and standard deviations for the GES data at each time-point.

Box plot 9.2 – Generalised Self-Efficacy Scale
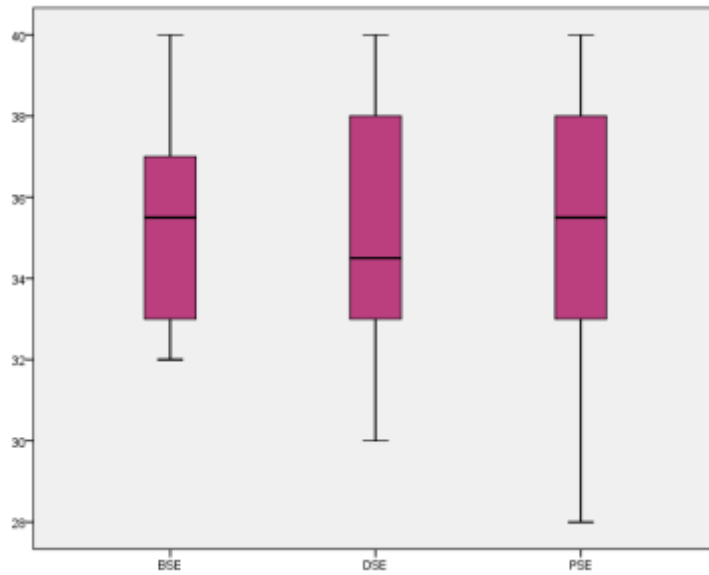
Table 51 - GES Descriptive Data

Time	N	Minimum	Maximum	Mean	(SD)
Baseline	16	23	40	32.88	4.16
During	6	30	40	35.00	3.58
Post-intervention	10	27	40	33.10	4.38

The self-efficacy data shows a slight improvement over the course of the intervention. The mean increases slightly from 32.88 (SD 4.16) to 33.10 (SD 4.38) post-intervention.

10.2.4. Paired Sample T-Tests - GES

Table 52 below provides a comparison of the pre- and post-intervention scores for the Generalised Self-Efficacy Scale.

Table 52 – Paired Sample T-Tests for the GES Scores

	Baseline	Post-intervention	Paired differences	
Peer-supporters (n=9)	33.44 (3.97)	33.11 (4.65)	0.33 (2.12)	T (8) = 0.47, p = 0.65

There was no significant change in the Generalised Self-Efficacy Scores for the peer-supporters over the course of the intervention. The mean scores showed a marginal decrease from 33.44 to 33.11.

10.2.4.1. Summary of Quantitative findings

The findings from the quantitative analysis presented a significant increase in the HADS. The HADS outcome measure was broken down into its subscale to identify where this increase occurred, the increase in anxiety subscale score was significant (p=0.05) but this was not clinically significant or in the clinical range. The depression subscale score was marginally higher, but not significant and was also not in the clinical range. The quantitative results showed a significant, yet non-clinically significant, increase in the HADS score (n=8, p=0.02) was due to an increase in anxiety (p=0.05), rather than depression (p=0.11).

Self-efficacy scores as measured by the Generalised Self-Efficacy Scale did not change over the course of the study.

10.3. Qualitative Results

Semi-structured interviews were carried out with thirteen peer-supporters following their participation in the intervention. Another of the peer-supporters (PS08) agreed to be interviewed, but because she was experiencing complications with her pregnancy this interview did not take place.

10.3.1. Semi-Structured Interviews

The aim of the semi-structured interviews was to explore the peer-supporter's perceptions and experiences of delivering the intervention (See Section 5.6.2.3) (N.B. certain aspects of these findings were presented earlier when discussing the findings from the interviews with the participants – see Chapter Nine). Therefore, this chapter concentrates on the peer-supporter's views regarding the impact that delivering the intervention had on them.

10.3.2. Qualitative Analysis

All of the interviews were transcribed and a 'thematic analysis' was conducted as described in relation to the interviews with the participants (see section 9.2.3).

The analysis identified three main themes, which form the framework of the presentation of the findings. These were: Empowering, Altruistic Role and finally Discontentment.

10.3.3. Empowering

One of the clear themes that emerged from this analysis was how empowering delivering the intervention had been for the peer-supporters. Providing telephone-based peer-support was a new phenomenon to these peer-supporters and when asked how they had experienced delivering the intervention, the majority had said that they found it helpful for a variety of reasons. For example, it was clear that delivering the peer-support was experienced as empowering, which was often presented as symbolic of how far they themselves had progressed since their own depression:

> *"I'd say the first thing is to realise how far I've come from how low I was, that I'm actually helping other people. I never thought I'd ever get to that point. So that's encouraging for me" (PS17)*

Not only did peer-supporters often reflect on their past experiences, they also reported that they felt differently about themselves as mothers and as women:

> *"When I was making phone calls I realised actually I'd left this behind it was a long time ago, I feel so much better I don't feel how she feels now. But I could remember with some of the things that I'd felt that it made me feel very positive because I felt 'well I've come through that,' so from that point of view, it was really worthwhile" (PS04).*

It was also clear that many peer-supporters believed their experiences while participating in the study were responsible for them becoming more resilient:

"Well I'm stronger than I thought I was, or I've become stronger than I was. But I think everybody has noticed, my friends have noticed, in the last year that I'm more confident, I don't let things get me down. It was going to that training" (PS13).

In addition, it appeared that providing telephone-support had enhanced their understanding of postnatal depression and raised their self-awareness regarding the incidence of such mental health problems. This enabled them to confirm that they were, therefore, not unusual:

"I think I've accepted, even though you need to accept things that are happening isn't your fault, it's the depression but listening to other people's stories you accept yourself more, that it's OK to feel like that" (PS17).

10.3.3.1.   Summary

The majority of peer-supporters in this study found delivering the intervention as a positive experience. They were able to reflect on their own journey and see how far they had come. The peer-supporters said that they felt more resilient and stronger after having participated in the delivery of the intervention. They had also developed a knowledge base, which facilitated a greater understanding of PND and had raised their own self-awareness of mental health problems.

10.3.4. Altruistic Role

Another theme that emerged from the qualitative data was related to a sense of 'humaneness' that the peer-supporters felt. This process of selflessly helping other mothers, using experiential knowledge helped to improve the peer-supporters sense of self-worth. Not only was the role experienced as self-affirming, in terms of them feeling more accomplished as mothers, it also provided them with opportunities to assist others. This increased their self-esteem and allowed them to use their insights regarding postnatal depression to benefit other mothers:

> *"I realised I actually wasn't as bad at being a mother as I thought I was. It made me feel more positive about the way I was dealing with things. .... She [the participant] opened up to me that she hadn't opened up to the health visitor about it or other people, so I thought yes I am able to help somebody else and nurture her into feeling better" (PS04)*

The notion of being able to 'help' other mothers who were in a similar position to how they once felt was clearly important to the peer-supporters:

> *"It is nice to feel that you are doing something to help others, obviously. It is nice to feel that something really amazing could come of it, it could help so many women and could be UK wide" (PS07).*

Peer-supporters were able to reassure participants whom they were supporting that although they were presently not feeling well, it was not unusual to feel that way. Moreover, peer-supporters could draw on their own experience as a means of

making this point, which could also have a positive impact on their own sense of well-being:

> *"I think that because it's such a massive traumatic ordeal to have postnatal depression yourself to be able to help someone and see and recognise that everybody says the same thing and you're not different to anybody else, and it's the illness rather than you. So to put something back then makes me feel good, I really enjoy it"* (PS03).

It was clear, therefore, that participating in the intervention had increased their understandings and notions of being 'normal.' While their experiences of PND had been difficult at the time, they were now able to provide a more coherent narrative regarding their experiences:

> *"The study has normalised my own experience which I don't think would have happened if I hadn't have done it. I think I still would have looked back on that period of my life when I had [son] and I felt an absolutely failure. But now I look back on it and think yeah it wasn't great, I didn't do brilliantly, but [sons] turned out fine and it's not uncommon to have those feelings. And yet at the time I was terribly isolated, thinking that I was a freak that couldn't get on with people and that I was being a really rubbish mother, I think well it wasn't my ideal setting. I found it very lonely. I felt it very frustrating going to mum and baby groups. It wasn't ever going to be my cup of tea, so yes I've let myself off the hook"* (PS10).

10.3.4.1.   Summary

The majority of peer-supporters felt a sense of satisfaction and being able to help other mothers, it provided them with a sense of being able to give something important back to their community. They helped to normalise the symptoms of PND for the participants they were supporting, by drawing on experiential knowledge, which helped to increase their own confidence as a person, parent and supporter.

10.3.5. Discontentment

In contrast to the more positive aspects of their participation, there was also evidence that peer-supporters sometimes struggled with certain aspects of the intervention. For example, it was clear that many of the telephone calls were emotionally demanding, particularly in the early stages when they were contacting a total stranger and did not want to make matters worse for that participant whom they were supporting:

> *"It was all quite challenging because you don't know their circumstances, you don't know their past. You don't know what you might say to upset them or whether there is a trigger word, just not wanting to say anything wrong"* (PS03).

A number of peer-supporters described how they found providing support over a period of four-months to present certain difficulties. Interestingly, this was not necessarily about the participants discussing traumatic events, but was often related to participants who were beginning to feel better, which meant that both parties could struggle to find things to talk about:

"Initially it was great because we had lots to talk about, about medication. But after that, I'd say probably after the first three calls, it was quite difficult. Because, she was perfectly fine. She said herself she had no symptoms, she felt absolutely great, so there was nothing to support, nothing really to talk about, apart from kids, job…. It was difficult for me as it felt like a chore and I think it felt like a chore for her as well, because she doesn't need the because she doesn't need the support- she was fine" (PS07).

Another challenge that the peer-supporters reported was the difficulty they experienced in them trying not to dwell on the participant they were supporting, and the problems they were facing:

"Once you've ended the call you do sort of think about it quite a bit. Especially at first when my mum was more depressed than obviously she was at the end hopefully. So it did sort of prey on your mind a little bit and then you'd sort of think of things that maybe you should have said then or you could say next time" (PS06).

As such, they were forced to develop strategies to enable them to – as one said – 'compartmentalise' the role so it did not have such an impact on their own lives:

"At the beginning I found it more difficult to switch off from things that were said so I would really worry about things and wouldn't be able to sleep, within the first five phone calls I would be mithering about everything, going over everything, getting out my notes and having a look and thinking I missed that, she said this and I didn't follow-up, but I think I relaxed more into it as

341

time went by, I suppose compartmentalised is the word, put things away and only think about it when I was going to call her" (PS04),

In some cases, it was also clear that providing support brought back memories of their own struggles, which could impact on their well-being and leave them feeling emotionally exhausted:

"It did bring back memories of my own experiences of depression and listening to my mum talk, it did kind of pop into a few of my feelings and emotions. Sometimes I did feel a bit drained afterwards because you've experienced it, you've had first-hand of it. So you kind of know what that mum's going through. So there were times I actually thought phew that's quite heavy. I've took a turning point within that and like I'm on a road of recovery" (PS17).

It was also evident that some peer-supporters experienced negative emotions as a result of their participation in the delivery of the intervention. For example, one peer-supporter described feeling 'demoralised' and 'deflated' by her experience. She was a health professional, and had felt that she would be able to help others, but in reality she reported herself to be out of her 'depth.'

"I always thought that I'd be quite a good counsellor, but from this I realise that it's not for me. I don't feel we connected, so I don't really feel that she gained a lot from it. So therefore I don't think I gained a lot from it. I'm a nurse as well, so I think I always want to fix things and make everybody feel better, I just didn't feel that I helped her. I just hope she had a fairly positive

experience because I was a bit rubbish. We were alright for about four or five… probably about six times I spoke to her and then I can't really even remember what happened. So it kind of just fizzled out. I didn't end it, I didn't make a phone call to say 'Oh it's all finishing now,' I was awful but I just thought 'well Oh no I can't do it' So although it wasn't a negative experience and I'm glad that I've done it, I don't know whether I'd do it again" (PS19).

In a similar vein, the following extract illustrates how one peer-supporter felt that the time and commitment she dedicated to providing support was not reciprocated by a certain participant, which left her feeling 'resentful' and 'frustrated':

"I really struggled with that because I kept a diary of it and out of the thirteen arranged calls she agreed to these times, she wasn't there for six of them. Even though we'd agreed them the week before, she said that she would be there, she'd gone out. She'd gone out doing something else. So work flooded in for me and I felt resentful and I didn't want to carry on doing it because she was taking up my time and it was almost like the straw that broke the camels back over sort of organising her and chasing up after her. You know if any other time in my life I'd been working less that would have been OK, but I did feel quite frustrated that she wasn't keeping up her end of the bargain. But then also I was away and was I being a bit pompous about that. *….I wanted to do the best that I could, but I have been terribly frustrated by her" (PS10).*

One of the potential tensions when developing peer-support interventions is the often fine line between providing a level of training that gives the peer-supporter enough information to enable them to provide support from a peer's perceptive, while not developing that person into a para-professional (Dennis, 2003). Although this study recruited a relatively small number of peer-supporters, this subject was raised by one of the peer-supporters who felt they were being trained as 'mini-counsellors,' which did not sit well with her understanding of the role:

"The way we were recruited, I didn't appreciate how involved it would be. I was approached in sort of a casual manner and it was explained in quite a casual manner…because of the training that we had, quite a specific way that you wanted us to be do the job. And so I think if that had been better explained at the beginning or explained more fully at the beginning, then that would have been very useful." She continued "To just give you some idea of what the expectation was telling us a good way to communicate with the participants, but it did feel like we were being turned into mini counsellors. Which you know is fine, but that's a lot to do in the four or five weeks that we had. It was like trying to tell you a whole different way of talking and listening and reacting which is quite alien to how you would normally converse with someone and it was very difficult to do that in the telephone conversations and I felt as if I was doing it wrong. Maybe review slightly the way your thoughts about how you want us to do it really because I think it is an unrealistic expectation to expect us to become mini counsellors and to develop that way of talking. So yeah either sort of bring it back down to sort

of a more… not a casual, but less emphasis on talking like a volunteer

counsellor and more emphasis on just talking like a mum really" (PS06).

In comparison, another of the peer-supporters suggested that face-to-face supervision should have been provided as part of the intervention. This suggests that some of the peer-supporters perceived themselves to have taken on the role of a counsellor as part of their supportive activities. As such, they felt they would benefit from some form of supervision that would allow them to 'offload' those aspects of the support role they found most difficult:

"Well initially when you have your first couple of phone calls I think it would

be really helpful if there was somebody you could talk to afterwards just as a

sounding board, I know people who are counsellors as well and they said you

need to actually have meetings face-to-face when you are counselling to be

able to offload some of the things that are actually talked about with the

people you are supporting. I think you end up carrying a lot of it around

because you can't really speak to anyone about it. I think that was said in the

initial training, that we would have face-to-face meetings with someone and

that didn't happen so I think that would be worth it" (PS04).

10.3.5.1.   Summary

Some of the peer-supporters reported a level of discontentment with delivering the intervention. They found it challenging when the participant whom they were supporting was struggling with situations other than PND. The peer-supporters also found it difficult to let go of the conversation and had to learn to compartmentalise

delivering the intervention from their own daily lives. Some of the peer-supporters found delivering the intervention emotionally draining as it made them revisit their own vulnerabilities. One of the peer-supporters reported a sense of feeling deflated and not equipped to deliver the supportive calls. Another peer-supporter shared her feeling of frustration at the lack of commitment displayed by the participant whom she was supporting.

All the peer-supporters communicated the important benefits they experienced from the clinical supervision that was provided to them whilst delivering the intervention. The peer-supporter had been informed that the first supervision was pre-arranged and for seventy-two hours after they had been matched with the study participant. This timeframe allowed time for the peer-supporter to make the initial contact with the study participant, and also to reflect on their call and the issues that had arisen. The following supervision calls were negotiated and the peer-supporters were encouraged to call the research team as and when the need arose. The peer-supporters reported that they could discuss any issues or concerns that they were experiencing, any sensitive disclosures that the participant had shared with them. It is evident from within the data that the peer-supporters valued this process of receiving skilled professional support to enable them to reflect and understand what they were feeling and experiencing, helping them to separate their own emotions from those being projected by the participant.

10.3.5.2. Summary of qualitative findings

The qualitative aspect of this study provides an 'in-depth' understanding of how the peer-supporters made sense of their participation in the intervention (this section summarises the findings relating to perceptions and experiences of the peer-

supporters presented in Chapters Nine and Ten). In general, they found providing TBPS to be a positive experience, although they had to overcome a number of practical issues to be able to make regular calls. The peer-supporters spoke about their sense of personal fulfilment and accomplishment that they had experienced PND and had overcome it, and that they were now in control of their lives to the point that they were able to help other mothers. Participating in the Mums4Mums study also appears to have provided the peer-supporters with the opportunity to reflect on their own experiences and to normalise them. They were able to look back on their experiences and feel positive that they were stronger than they had thought and that they were 'good enough parents.' It was also clear that the peer-supporters reported a number of challenges in relation to making telephone calls. For example, they encountered barriers to providing support over the telephone because the participants whom they were supporting often did not answer their telephone. They also experienced anxiety regarding their negotiation of the balance between making supportive calls and leaving countless messages. Peer-supporters also described increased feelings of anxiety at not being able to switch off, guilt about not being able to provide more support, and concern about maintaining support when some of the telephone calls lasted a great deal longer than they had anticipated. They also found providing the peer-support to be more of a commitment than they initially expected, especially when managing the daily demands of their own young children. A couple of peer-supporters were left feeling annoyed and frustrated about the number of occasions that they had set aside a dedicated time slot, which had been previously negotiated and agreed, but for which the participant whom they were supporting was not available to receive their call.

All of the peer-supporters communicated the importance of and the benefits they experienced from the clinical supervision that was provided to them whilst delivering the intervention. After having completed the training, the peer supporters were informed that the clinical supervisor would call them seventy-two hours after they had been matched with their study participant. This timeframe enabled the peer-supporters to make initial contact with the participant whom they were supporting, to reflect on their conversation, and consider any issues that had arisen. All of the subsequent clinical supervision telephone calls were negotiated.

Peer-supporters reported that they felt able to discuss any sensitive disclosures arising from the calls, and also any issues or concerns that they were experiencing. For example: one of the concerns experienced by the peer-supporters was how many times should they call and leave a message on the participants' answerphone, if they were not answering their phone. The peer-supporters valued this process of receiving skilled professional support to enable them to reflect and understand what they were feeling and experiencing, helping them to separate their own emotions from those being projected (experienced) by the participants.

In one of the cases, the participant disclosed to her peer-supporter that she could not speak to her GP about her depression. She reported that she was scared to attend an appointment and feared her GP would not take her seriously. The participant gave her peer-supporter consent to contact her GP on her behalf and the peer-supporter was supported by clinical supervision during this time. Peer-supporters were provided with details about professional and community services available to refer the mother to, if required (see Section 5.3.4.2).

10.3.5.3. Positionality Statement

At the start of this process, the researcher was aware of her own conscious feelings towards PND. As an Asian mother of three, who personally experienced post-natal depression with her second child, she could recall the isolation, low mood, feelings of inadequacy, stigma, and sadness at the impact on her relationship with her baby.

Given the researchers' personal experiences and professional knowledge regarding maternal and infant mental health, she wanted to explore how mothers with PND could be better supported with their low mood and improve on the interactions with their infant.

Being aware of the feelings and emotions around PND helped the researcher to empathise with the target population and present a shared understanding, which was particularly relevant for the qualitative aspects of the research. At the same time, her academic experiences mandated that proper procedures were followed, to ensure rigour and credibility in the findings.

As an experienced person-centred psychotherapist, she was able to use her counselling skills when collecting the qualitative data, being non-judgemental, empathic, genuine, actively listening and reflective. This aspect of her awareness helped her to engage with both the participants and peer-supporters, putting them at ease, actively listening to their stories and being reflective throughout the process. Being able to hear both what was being said and what was not being said, referred to as 'hearing the music behind the words'.

Adopting a constructivist approach, the researcher was aware of the relationship between herself as a researcher and the phenomenon that was being researched. The researcher conducted the in-depth interviews with both the participants and the peer-

supporters in their homes. On arrival at their homes, she thanked them for agreeing to meet with her and then allowing her into their homes, which was conveyed in a sensitive and genuine manner. This initial statement of gratitude may have helped to give back some control to the interviewees, with the researcher being aware of any imbalance in the power dynamics in the room. The researcher genuinely felt privileged that the interviewees had found time in their busy schedules to be interviewed by her, had allowed her into their personal space and were willing to discuss their PND experiences with her. The importance of their 'voluntary' participation in the research study was clearly communicated to them. Using a warm, friendly and appreciative tone in those very early exchanges helped to develop a respectable, relaxed and acceptable rapport. The interview process was explained to them: confidentiality, anonymity and the fact that they were in control and could stop this process at any time. This helped to put the interviewees at ease and discuss their experiences openly, enabling them to feel in charge, the expert within their situation. Observational skills also helped to facilitate the interview process: an awareness of body language; responding to minute increases in anxiety; not interrupting a passionate flow of dialogue; as well as being mindful of the type of questions being asked, and the manner in which the responses were being sensitively probed.

Some of the interviewees asked the researcher whether she was a mother, which facilitated discussion regarding the challenges of motherhood as well as the rewards. None of the interviewees asked her about any personal experience of PND, which felt totally appropriate as this was a space for them to share their own experiences of the phenomenon, and the researchers' role was to access the subjective responses of interviewees.

As the researcher, she experienced an exchange between different cultures and social classes. The interviews were more than just simply encounters between an interviewer and interviewee, they were also encounters between an Asian woman from a working-class background and mostly Caucasian women, from a mixture of working-class as well as middle-class social backgrounds. Whilst the difference in culture did not seem to influence the data collection, as motherhood presents similar challenges for women from all cultures, its presence cannot be totally discarded from the discourse that took place. Also, the researcher became aware that the impact of PND appeared to be similar across social groups in that the challenges presented themselves in the same way, leaving the women feeling similarly helpless, alone and vulnerable. In addition, dominant discourses about experiences of PND may not only have influenced the participants' experiences of PND, but also how they interpreted and talked about such negative and difficult feeling with another mother. In other words, what these women said and how they said it was not only influenced by their experiences of motherhood, but also by the identification of this role within the researcher.

When analysing the data, the researcher applied an inductive approach, reading and re-reading the interview transcripts, whilst also building on the experience of being in the room during the interview, to allow the key themes to emerge from the data.

The researcher thoroughly enjoyed conducting this research and writing up the thesis. It has enhanced her understanding of maternal mental health, which will inform her future career.

10.3.6. Discussion

This chapter has evaluated the impact on the peer-supporters of delivering the telephone-based intervention using a Mixed-Methods Approach. To date, the majority of studies exploring the experiences of delivering peer-support have mainly been qualitative in nature (see Meta-Ethnography Chapter three). In terms of the quantitative aspect of the study, this innovatively explored the use of standardised outcome measures to evaluate if there was a quantifiable impact on the wellbeing of the peer-supporters. The two measures used were the Hospital Anxiety and Depression Scale (HADS), and the Generalised Self-Efficacy Scale (GES). These measures were employed as part of the data collection with both the peer-supporters and the participants. Interestingly, there was an increase in the peer-supporters' anxiety levels (as indicated by the HADS Anxiety subscale), which has not been identified in the research to date.

The qualitative aspect of the study sought to provide an insight into how the peer-supporters felt about participating in the study. These findings suggest that the peer-supporters experienced many positive outcomes regarding their participation such as feelings of personal satisfaction (Pistrang et al., 2013), an increase their own confidence and self-worth (Hughes et al., 2009, Marino et al., 2007), and the ability to help another individual as a result of a common experience (Cohen et al., 2001, Dennis et al., 2009). Clearly 'the uniqueness of shared experiences' had helped them to connect and empathise with the participants they were supporting. This connection, based on shared experiences, underpinned a sense of empathy, enhancing feelings of altruism, increasing confidence, and developing a feeling of self-worth (Coveney et al., 2012). In this study, due to the peer-supporters having

experiential knowledge of PND they were better able to understand the barriers that these participants were facing, and could help them to overcome these at a pace dictated by the participants themselves. This characteristic of TBPS appeared to be helpful in reducing depressive symptomatology, and improving the development of supportive networks for these participants (Dennis, 2010).

Many of the peer-supporters reported negative experiences and discontentment at times, to varying degrees. For example, peer-supporters were stressed by having to provide support for financial worries, mental health issues, such as self-harm, and symptoms of PTSD in addition to PND. Providing peer-support could also lead to feelings of frustration, especially when the participants they were supporting were perceived to be not as committed to receiving the intervention. These feelings of frustration have been found in other studies, such as providing peer-support for women who had suffered spinal cord injuries (Whittemore et al., 2000), breastfeeding peer-support for young mothers (Dennis, 2002), diabetes care (Smith et al., 2011), and women whose pregnancies ended with a still-birth (Boyle et al., 2015). Peer-supporters could also feel guilty about not doing more, or constantly worried about saying the wrong thing (Pistrang et al., 2013). The results also provided evidence of the peer-supporters becoming emotionally entangled in the complex lives of the participants they are supporting (Pistrang et al., 2013, Whittemore et al., 2000).

Peer-supporters also appeared to experience negative emotions because providing support meant that they had to revisit their own struggles, which for some were relatively recent. For example, the age of the youngest child of one peer-supporter was only five-months. Four of the infants were twelve-months, and five were more than twenty-four months old at the start of the intervention. Thus, while their

suitability to provide the support was assessed by a clinical psychologist, some of the volunteers may not have fully recovered from their own experiences, and were potentially still vulnerable to PND. Some peer-supporters reported sadness that they themselves did not seek help sooner and feelings of being a 'bad' mother. The training also provided them with a greater understanding of their postnatal depression, and how it may have impacted on the development of their infant. Thus, not only were peer-supporters likely to relive the past as a result of taking part in this study and gained new knowledge about the long term implications of PND for their infant's development. These findings are consistent with the findings of other studies that were summarised in the Meta-Ethnography in Chapter Three.

11. Cost-Effectiveness

11.1. Introduction

A cost-effectiveness analysis of the Mums4Mums Intervention was carried out by the health economics team as part of the original study protocol. A summary of this analysis has been included to supplement the findings and aid interpretation. The data collection was carried out by the lead researcher and analysed by the team.

11.2. Questionnaire

A 'Service Use' Questionnaire was developed to collect data on public service utilisation by study participants which they completed at three time-points alongside the research questionnaire.

The unit costs for the public services were obtained from national databases. The costs of delivering the intervention were also estimated. The SF-12 Health Survey Questionnaire (Ware et al., 1996) was administered post-intervention, but it was not possible to conduct a cost-effectiveness analysis due to small numbers.

11.3. Results

In terms of NHS resource use, although the peer-support group used resources more often than the standard care group, the cost to the NHS is lower for the former. Table 53 shows the costs of resources used by participants for themselves and for their babies, alongside the combined costs (i.e. mother and baby). The mean cost of the combined use of NHS resources for the intervention group were almost half that of the standard care group (i.e. £800.67 SD= £761.74 cf £1,537.80 SD= £1,936.37).

Table 53 – Cost Analysis

	NHS resources (participants)		NHS resources (babies)		All NHS resources	
	Peer-support N=12	Standard care N=10	Peer-support N=12	Standard care N=10	Peer-support N=12	Standard care N=10
Mean	£428.50	£982.70	£372.17	£555.10	£800.67	£1,537.80
SD	£364.14	£1,573.52	£569.81	£879.80	£761.74	£1,936.37
Total	£5,142.00	£9,827.00	£4,466.00	£5,551.00	£9,608.00	£15,378.00

11.4. Summary of Results

The costs of delivering the peer-support intervention were around £35,000 (ignoring items that have a minimal impact on the total cost such as coffee mornings, picnics, and travel expenses), the main component of this being the cost of training the peer-supporters, and other related costs, such as supervision and reimbursements of expenses. A total of twelve women received the peer-support programme, and the intervention costs are therefore £2,900 per participant. In this instance, the costs of setting up the Mums4Mums Intervention outweigh the savings in NHS resource use. This cost would of course be driven down as the number of participants increase, and assuming capacity to roll out the intervention without the need for further resources.

12. Discussion

12.1. Introduction

This chapter discusses the findings from the Mums4Mums TBPS intervention. It begins by highlighting the negative impact of PND in terms of the wider context, and explores peer-support interventions as a means of addressing this issue. It then goes onto discuss the findings from the original study conducted by Dennis and her colleagues (2009) in Canada. Following this, the chapter brings together the results from the mixed-methods approach for this study, firstly, in terms of the data collected from the participants, and then from the peer-supporters. The key findings from this study are presented in terms of what they add to the existing knowledge base regarding the effectiveness of peer-support interventions, but for a new diagnostic criterion, i.e. Postnatal Depression.

This chapter also explores the strengths and weaknesses of the methodology used in this study. The chapter concludes by examining implications for future practice and research, and provides a short summary of the conclusions derived from conducting the study.

12.2. Wider Context

The treatment of PND is a public health priority, recent UK National Institute for Health and Clinical Excellence (NICE) guidance recommends that all women be screened for PND during the first eight-weeks after giving birth, and that women experiencing such problems should be offered support from healthcare professionals and voluntary organisations (NICE, 2007, NICE, 2014). The prioritisation of

providing support to new mothers is due to the growing body of empirical evidence showing that the quality of the parent-infant interactions, in terms of maternal sensitivity and attunement to the needs of her child is '*one of the most important remediable determinants of future health, particularly mental health*' (Repetti et al., 2002, Weich et al., 2009).

Recent research provides evidence that children of postnatally depressed mothers have an increased risk of either experiencing depression or becoming violent and aggressive by the age of sixteen (Murray et al., 1996, Murray et al., 2010, Beebe et al., 2012). Sub-optimal parenting in these early developmental years can have a negative impact on the developing brain of the infant (Shore et al., 2004), the development of the infant's attachment (Bowlby, 1973, Ward and Carlson, 1995, Van Ijzendoorn, 1995), and has strong links with poor health outcomes in adult life (Shonkoff et al., 2009, Shonkoff et al., 2012).

Recent studies evaluating the support available for women suffering from PND found peer-support to be an effective intervention to support women at risk of suffering from PND (Dennis, 2003, 2009), although systematic reviews and meta-analyses evaluating the effectiveness of peer-support interventions have provided mixed results (Dennis, 2004, Dale et al., 2008, Dennis and Kingston, 2008, Pfeiffer et al., 2011). However, the recent significant withdrawal of funds from the public sector in the UK (Fries et al., 1993), and the patchy and inadequate support for new mothers experiencing depressive symptoms (Commission, 2008, RCM, 2013), suggests that a Telephone-Based Peer-Support (TBPS) intervention could be a means of helping to support women with PND. Telephone-Based Peer-Support is flexible (Dennis and Kingston, 2008) accessible (Horton et al., 1997), and acceptable to individuals (Currell et al., 2000), as well as being influential due to the fact that

the peer-supporter has shared a similar affective experience (Thoits, 1986, Thoits et al., 2000).

12.3. Summary of the Two Literature Reviews

A brief summary of the literature reviews conducted for this thesis is provided below.

12.3.1. Quantitative Review of the Literature

There has been an increase in the evaluation of peer-support interventions within healthcare to enhance self-management of long-term conditions and to support the emotional, psychological, and psychosocial needs of patients ((Dale et al., 2008 n=7), this review n=11).

The quantitative review of the literature investigated whether TBPS was an effective intervention in improving physical health and functioning, psychological and social wellbeing. It also investigated how cost-effective peer-support interventions were to implement and deliver. The results of this literature review have to be interpreted with caution. For example, while the included studies indicate a positive trend towards increased self-management of personal healthcare, only one study reported significant results that were sustained at twelve-month follow-up (Jerant et al., 2009). The remaining included studies provided mixed results, and differences in reporting and methodological inconsistencies mean that the results from these studies may not generalizable.

The findings of this review are consistent with the conclusions provided by Dale et al., (2008) that although there is some evidence to support the effectiveness of TBPS

interventions for certain health-related concerns, further research into the clinical and cost-effectiveness of TBPS interventions is urgently required.

12.3.2. Qualitative Review of the Literature

The aim of the qualitative review was to explore the experiences of patients and peers, and to identify provider and user perceptions about what makes TBPS an effective intervention. A synthesis of the qualitative research, employing a meta-ethnographic approach, was undertaken with the aim of achieving a greater understanding and insight into the 'uniqueness' of TBPS interventions (Campbell et al., 2007).

The meta-ethnography enabled the development of new interpretations (third-order constructs) by aggregating the themes from the original included studies to understand the common characteristics that enable peer-support interventions to be more effective. The findings suggest that developing a sense of connection based on a 'similar other' relationship was an important factor in the effectiveness of peer-support interventions. Other new interpretations from the data included the facilitation of change and the building of self-esteem. However, this process also found that both participants and peer-supporters reported negative experiences of TBPS across the included studies. This suggests that such interventions need to be monitored closely to ensure that the negative experiences do not outweigh the positive impact of the intervention.

12.4. The Mums4Mums Study

The purpose of the current study was to evaluate the effectiveness of TBPS for new mothers in the UK identified as experiencing mild to moderated PND. A small pilot

study was carried out to trial the intervention (n=9), and further reiterations were made to the study protocol before conducting a small feasibility RCT (n=28). The RCT utilised two primary measures: depression was measured using the Edinburgh Postnatal Depression Scale (EPDS), and the CARE-Index measured parent-infant interaction. Secondary outcomes measures included anxiety and depression (HADS), personal health (SF-12), emotional support (ESQ), and relationship support (DAS).

12.4.1. Summary of Mixed-Methods Results

The use of a Mixed-Methods (exploratory-embedded) Approach to the analysis of the data provided a deeper understanding about the effectiveness of the intervention. A summary of the results follows, first based on data collected from the participants, and then the data collected from the peer-supporters.

12.4.2. Participants Results

The participants were asked to complete both quantitative and qualitative data collection, the key findings of which are summarised below.

12.4.2.1.   Quantitative Results

The findings from the RCT yielded positive results. While there was no significant difference in the EPDS scores between the control group and the intervention group at post-intervention, the intervention group continued to improve at six-month follow-up (p=0.01), while the control group showed a non-significant relapse in depressive symptomatology (p=0.48), indicating what is known as a 'sleeper effect' (Kumkale and Albarracín, 2004).

The results found no significant difference in the CARE-Index scores between the two groups at post-intervention, suggesting that the Mums4Mums Intervention had

no impact in terms of improving the mother-infant interaction. This study is unique in that it is the first that has evaluated the effectiveness of an intervention in improving symptoms of PND in new mothers, in addition to investigating the impact on mother-infant interaction using an objective measure of outcome.

The majority of participants were also receiving external support to help them manage their depressive symptoms, such as antidepressants (n=5), group support (n=5), individual support from health professionals (n=5), and specialist support from their GP (n=3). It was not, however, possible to identify the effects of external support independent of the effects produced by the intervention, and therefore the quantitative results need to be interpreted with caution.

12.4.2.2. Qualitative Results

All participants found the peer-support helpful, and this appears to have been the case even where the delivery of the intervention was not fully adhered to, such as, for example, where the peer-supporter stopped making the calls. This provides further evidence that an empathic understanding is particularly effective when it comes from 'a socially similar other' who has personal experience of the condition (Thoits, 1986), and is more likely to meet the emotional and practical needs of the distressed individual (Veith et al., 2006a). Research also shows that any support provided to new mothers, especially in the form of listening, is significantly better than no support at all (Cope, 2007, Pfeiffer et al., 2011).

12.4.3. Peer-Supporter Results

The Mums4Mums study was innovative in that it was one of the first studies to collect quantitative data to measure the impact that delivering the intervention had on the peer-supporters' wellbeing.

12.4.3.1.   Quantitative Results

The peer-supporters were asked to complete the Hospital Anxiety and Depression Scale, and the Generalised Self-Efficacy Scale (GES), at baseline, and again at post-intervention. The scores for anxiety (but not depression) showed a non-clinical significant increase post-intervention ($p = 0.05$). There was no difference in the GES scores between the two groups.

12.4.3.2.   Qualitative Results

The findings from the qualitative analysis provide a deeper understanding as to why delivering the intervention had a negative impact on the peer-supporters' anxiety levels. Approximately two-thirds of the peer-supporters provided positive feedback, and described a sense of personal satisfaction in delivering the support. However, many peer-supporters had encountered a number of difficulties in providing TBPS, which were experienced on an emotional as well as a practical level. The majority of peer-supporters found the context of the supportive calls challenging, emotionally draining, and somewhat overwhelming, which left some of them feeling frustrated, anxious, panicked and guilty that they should be doing more for the participant they were supporting. This phenomenon has been described as 'care-giver burden' (England and Folbre, 1999) and / or 'carer distress' (Hunt, 2003).

12.5. Limitations

This study has several important limitations. These are discussed below:

12.5.1. Small Sample Size

The main limitation of this study is the small sample size (Hackshaw, 2008). The study was underpowered, which means it has a low probability of detecting an effect of the intervention. Initially we aimed to recruit seventy participants (35 in each group) to achieve a power of 80%. We actually managed to recruit twenty-eight participants (14 in each group) to the RCT, but six dropped out at post-intervention, and a further eight dropped out before the six-month follow-up, rendering the study underpowered and the results inconclusive.

12.5.2. Self-Report Measures

Self-report measures were used to obtain baseline, post-intervention, and follow-up data. Self-report measures rely heavily on the participant's willingness to share personal information, and their ability to accurately respond to questions. There were cases where participants did not fully complete the questionnaires, which led to the data from that questionnaire being inadmissible. It may be that some participants under- or over-reported particular problems, thereby affecting the ability of the study to accurately detect change.

12.5.3. Neo-natal Care Data

The evidence suggests that a premature or complicated birth has the potential to increase the level of stress and anxiety experienced by the mother (Davis et al.,

2003). However, neo-natal data was not collected as part of this study and therefore is identified as another limitation.

12.5.4. Per Protocol Analysis

The findings are based on those participants who fully participated in the Mums4Mums Intervention (i.e. who completed the intervention and provided a full dataset). It is important to note that this method restricts the analysis of the benefits of the intervention to the 'ideal' participants, that is, those participants who adhered fully to the process required to take part in the Mums4Mums study.

12.6. Strengths

This study involved a randomized controlled trial design, which is considered the gold standard in effectiveness research. Efforts were undertaken to ensure the methodological rigor of this study. In order to decrease selection bias, and to control for confounding variables, all participants were randomized using consecutively numbered lists generated by the Clinical Trials Unit at the University of Warwick. Randomization occurred after consent and baseline data were received in the post. The fidelity to the intervention was monitored using the activity logs completed by the peer-supporters.

In addition to the self-report measures, one independent observation of outcome was used. The CARE-Index is a dyadic procedure that assesses adult sensitivity in a dyadic context. Observational measures of this type produce more reliable data (Crittenden, 1979), avoids the problems involved with self-report measures and allows a direct observation of the phenomenon being researched. Although there may be an 'observer effect' such that being videoed may influence the behaviour of

the participant, it is unlikely that infant behaviour could be influenced in this way. The CARE-Index was coded by an independent assessor who was blinded to group allocation to reduce the effect of 'observer bias,' which increased the reliability and validity of this data.

12.7. Implications for Practice

The results of this research have implications in terms of the development and delivery of peer-support interventions in the future, especially for supporting women with PND.

The Mums4Mums TBPS intervention was designed to primarily support new mothers experiencing mild / moderate PND with an aim to reducing their depressive symptomatology, and improving the interaction with the baby. The results from the intervention group showed a significant positive impact on depressive symptomatology at six-month follow-up, but there was no impact on the mother-interaction. Furthermore, the results are limited because the majority of participants were receiving other forms of external support, so it cannot be concluded that any improvement in depressive symptomatology was the solely due to the outcome of the intervention. These findings suggest that while TBPS is a promising method of supporting women with PND, further modification and evaluation of the intervention is necessary first, including the use of techniques aimed at improving the mother-infant interaction (see 12.8.1. below).

12.7.1. Peer-Supporters

The findings from this study indicate that the peer-supporters found delivering the support challenging at times. This raises the question as to whether TBPS is an

appropriate form of support for women experiencing depressive symptomatology, and how peer-supporters can be better supported.

The negative feedback from the peer-supporters confirms the findings of other studies. For example, other studies have found that peer-supporters felt that they had been poorly matched, which had led to a negative experience (Heisler and Piette, 2005), especially where the participant's medical condition impacted the support that was required (Pistrang et al., 2012). As the findings from this study revealed, where peer-supporters were providing support for PND, they experienced difficulties when faced with supporting financial worries and mental health issues, such as self-harm.

The findings of this study suggest that carrying the burden and responsibility for assessing the level of depressive symptomatology that another mother is experiencing could be anxiety provoking. This finding echoes a recent study, in which peer-supporters found the responsibility of supporting someone who may be terminally ill to be arduous and emotionally exhausting (Pistrang et al., 2013). In the current study, being required or even expected to be able distinguish between a mother who is having troubled thoughts and being relatively confident that she would not act on those thoughts, can be anxiety provoking. In order to assist them in making such decisions, peer-supporters were provided with training and on-going supervision. However, this level of responsibility, i.e. to understand and possibly predict other individual's actions, may result in an increased stress among peer-supporters (England & Folbre 1999), as was found in the current study.

Also, during the process of self-reflection, some peer-supporters described a number of negative emotions, including feeling annoyed that there was no help for them when they needed it, sadness that they themselves did not seek help sooner, and

feelings of being a bad mother. They also gained a greater understanding of their postnatal depression and its impact on the development of their infant as a result of the training. Thus, not only were peer-supporters forced to relive the past, they also gained new knowledge that their illness may have had long term implications regarding their infant's development.

12.7.2. Cost-Effectiveness

It was not possible to conduct a cost-effectiveness analysis due to the small numbers, but the service-use data show that women in the intervention group used less expensive resources, such as psychologists and hospital-based services (inpatient and outpatient), and fewer specialist services for their babies (paediatrician, audiologist, ophthalmologist, and speech and language specialist), and that their NHS costs were halved. Although the short-term costs of the intervention exceeded the savings, this would be driven down with a larger number of service users, assuming capacity to roll out the intervention without the need for further resources. However, there were significant problems recruiting peer-supporters to the study, and despite various attempts to enhance the peer-supporter's experience of taking part in research, such as providing coffee mornings and picnics in the local park, there was also difficulty in retaining them.

12.8. Implications for Future Research

There are a number of implications for future research in this area focusing primarily on the need for a shift in the focus of peer-support interventions for PND.

12.8.1. Refocusing the Interaction

While there is no single aetiological pathway identified by which women develop PND, and no single treatment can be effective for all women, TBPS has indicated some promising trends. However, any future intervention needs to incorporate a means of targeting maternal-infant interaction to improve the long-term outcomes for the infant as well as focusing on the mother's depressive symptomatology. This could, for example, involve the use of web-based support such as Getting to Know Your Baby, or newsletters such as Baby Express, or training peer-supporters to talk about the mother's interactions with the baby.

12.8.2. Recruitment of Participants

In the original Canadian study, recruitment was carried out during the routine delivery of postpartum care when a public health nurse made a telephone call to all new mothers within two days of them being discharged from hospital. This non-face-to-face recruitment strategy from a public health nurse may have relieved some of the pressure faced by the potential participants here in the UK. Further work is needed to establish the most optimal referral route for an intervention of this sort.

12.8.3. Ethnic Minority Groups

The prevalence rate of new mothers experiencing PND is around 13%. This figure is higher in ethnic minority groups, refugee, and asylum-seeking women (Rahman &

Creed, 2007, Collins, Zimmerman, & Howard, 2011), but in this study only one participant was identified as being from an ethnic minority group. Further research needs to be conducted to explore the needs of women from minority groups, and assess whether TBPS is suitable for them. Strategies to encourage them to seek support need to be identified, as well as to identify culturally acceptable methods of supporting them and their babies (Greene, 2007).

12.8.4. Impact on Peer-Supporters

Although TBPS may be effective in reducing depressive symptomatology in new mothers, the impact it had on the peer-supporters was less desirable. Further research needs to be conducted to explore the emotional and practical impact that delivering peer-support for PND has on the supporters. Furthermore, it is recommended that more research is required to identify an appropriate level of support and the amount of follow-up training that needs to be provided to the peer-supporters. This study provided clinical supervision over the telephone, and while some found this level of support adequate, others would have preferred more face-to face meetings as required in standard clinical supervision. While the peer-supporters also benefitted from the social events provided by the research team to facilitate more communication, more strategies need to be in place to support the peers and improve retention rates.

12.8.5. Evaluating Complex Interventions

Empirical investigations of peer-support interventions are relatively new, and it is therefore important that future research focuses on the significant measurement challenges that exist in developing and evaluating complex interventions. For example, the standardisation of peer-support interventions remains questionable, and

could benefit from further clarification, and there is a need to ensure that the training remains adequate to deliver the intervention while maintaining the quality of 'peerness' (Dennis, 2003b, Repper and Carter, 2011). This would help in improving the evaluation process required for such complex interventions.

Conducting such a complex intervention required a great deal of attention to detail. The author's role as the lead researcher required her to conduct the literature searches, modify the appropriateness the research questions, ascertain the most appropriate methodology, conduct the data collection and analysis, report the findings from the study and write up the process involved thoroughly and meticulously.

Following the study that informs her PhD, the author progressed to conduct a further research study; 'Evaluating the impact of the Parents under Pressure (PuP)': a multi-site RCT', that was funded by the NSPCC. This later study evaluated a twenty-four-week home-visiting programme delivered by trained PuP Practitioners to parents of young children (under 2.5 years old) who were struggling with substance abuse. The skills that the author acquired conducting her PhD informed her role as lead researcher for the PuP study and will also inform future research roles.

12.9. Conclusions

The results of this pilot and small feasibility RCT suggest that further research to evaluate the effectiveness of TBPS in improving PND is justified. However, prior to this there is a need to identify ways of incorporating techniques that could help to

support the mother-infant interaction, as well as improving the mothers' depressive symptomatology.

Further evidence is required to evaluate whether the benefits of delivering a peer-support intervention for PND outweigh any adverse effects. The results from this study suggest that this may not be the case, the adverse effects experienced by the peer-supporters may have caused more problems than the overall benefits experienced by some of the participants, which did not include improved mother-infant interaction.

The results from this study also indicate the need for more effective methods of identifying volunteers who are suited to this type of work, and for a study with sufficient power to conduct a full cost-effectiveness analysis.

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Appendix One – Study Protocol Paper

Study Protocol

Mums 4 Mums: structured telephone peer-support for women experiencing postnatal depression. Pilot and exploratory RCT of its clinical and cost effectiveness

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Abstract

Background

Postnatal depression (PND) can be experienced by 13% of women who give birth, and such women often exhibit disabling symptoms, which can have a negative effect on the mother and infant relationship, with significant consequences in terms of the child's later capacity for affect regulation. Research has shown that providing support to mothers experiencing PND can help reduce their depressive symptoms and improve their coping strategies. The Mums4Mums study aims to evaluate the impact of telephone peer-support for women experiencing PND.

Methods/Design

The study design adopts the MRC framework for the development and evaluation of complex interventions. Health visitors in Warwickshire and Coventry Primary Care Trusts are screening potential participants at the 8-week postnatal check using either the Edinburgh Postnatal Depression Scale (EPDS>=10) or the three Whooley questions recommended by NICE [13]. The Mums4Mums telephone-support intervention is being delivered by trained peer-supporters over a period of four-months. The primary outcome is depressive symptomatology as measured by the Edinburgh Postnatal Depression Scale. Secondary outcomes include mother-child interaction, dyadic adjustment, parenting sense of competence scale, and self-

efficacy. Maternal perceptions of the telephone peer-support are being assessed using semi-structured interviews following the completion of the intervention.

Discussion

The proposed study will develop current innovative work in peer-led support interventions and telecare by applying existing expertise to a new domain (i.e. PND), testing the feasibility of a peer-led telephone intervention for mothers living with PND, and developing the relationship between the lay and clinical communities. The intervention will potentially benefit a significant number of patients and support a future application for a larger study to undertake a full evaluation of the clinical and cost effectiveness of telephone-based peer-support for PND.

Background

Affective disorders following childbirth range from 'maternity blues' to postpartum psychosis, a serious condition requiring hospitalisation [1]. Along this spectrum postnatal depression (PND) is classified in DSM-IV as 'a depressive condition that often exhibits the disabling symptoms of dysphoria, emotional lability, insomnia, confusion, anxiety, guilt and suicidal ideation' [2]. A meta-analysis of 59 longitudinal and epidemiological studies showed a prevalence of PND in the region of 13%, ranging from 3 to 25% of women in the year following childbirth [3]. PND has been shown to affect both the mother and her baby, leading to mother-infant relationship difficulties [4] and long-term child behavioural [5][6][7][8][9], cognitive [10][11], and intellectual problems [12], particularly for boys from disadvantaged backgrounds [8]. The treatment of PND is a public health priority, and recent UK National Institute for Health and Clinical Excellence guidance recommends that all women be screened for PND during the first eight weeks postnatally using the three Whooley questions to identify women experiencing difficulties [13]. It also suggests that women experiencing such problems should be offered support from healthcare professionals and voluntary organisations.

The aetiology of PND suggests the importance of a multitude of contributing factors such as life stresses, difficult infant behaviour, marital conflict, low maternal self-esteem and lack of social support [14][15]. Research has shown that factors such as the need to talk to someone who has experienced similar problems, lack of an intimate friend or confidante, the need for support without having to ask for it, and social isolation are all significant in the aetiology of PND (ibid). The use of 8 'listening visits' by specially trained health visitors has been identified as effective in supporting women experiencing PND [16]. However, the prevalence of PND is high and there is much unmet need, particularly for women who feel unable to admit to experiencing problems due to fears about being perceived as inadequate or the possibility of their baby being removed from the family. In addition, some women are not perceived to be experiencing sufficiently severe problems to justify additional support. This points to the potential value of developing peer-supporters. The NHS Expert Patient Report [17] recommends the development of lay-led self-management training programmes in order to make use of the knowledge and experience held by patients, and the White Paper "Our Health, Our Care, Our Say"[18] underlined the importance of assistive technology, with a strong emphasis on patient education and empowerment.

The Evidence

A review of non-biological interventions for the treatment of PND identified four evaluations of the effectiveness of peer-support interventions [19]. The first three studies comprised evaluations of a post-partum support group targeting both depressed and non-depressed Canadian women [20], a Chinese evaluation of weekly support group meetings for depressed women only [21], and an Australian study of group-based support for postnatally 'distressed' women and their partners [22]. The studies suffered from serious theoretical limitations (such as the inclusion of both depressed and non-depressed women) and methodological weaknesses, rendering the results equivocal. The fourth study, however, comprised a Canadian telephone-based peer-support pilot RCT with women identified as being at high-risk of depression [14.]. The findings showed significant group differences in depressive symptomatology at the 12-week assessment and support the provision of peer-support to women experiencing PND.

Peer-support

Peer support has been defined as "the giving of assistance and encouragement by an individual considered equal" [23]. Another definition states "that people who have like experiences can better relate and can consequently offer more authentic empathy and validation." Individuals who have similar lived experiences can often offer practical advice and coping strategies of which health professionals may be unaware, and it is suggested that this non- professional approach is vital in helping people to re-connect with their community [24]. The most comprehensive definition of peer support within a healthcare concept is "the provision of emotional, appraisal and informational assistance by a created social network member who possesses experiential knowledge of a specific behaviour or stressor and similar characteristics as the target population" [23].

Research to identify the 'critical ingredients' of peer-support has identified three distinct factors: structure (program structure and environment), values (belief systems) and processes (peer-support, education/advocacy) [25]. The structural category defines how the support is constructed and its basic rules i.e. non-coerced, lay-led, safe, flexible informal setting, non-medical approach with no hierarchies. The value category refers to a set of belief systems, which include "the peer principle" (building an equal relationship with someone who has similar life experiences), "the helper principle" (the idea that helping someone else can be self-healing) and "empowerment" (discovering hope and the belief that recovery is possible, enabling someone to take personal responsibility for achieving their full potential). 'Process' refers to the way in which peer-support is delivered, such that it enables choice, encourages decision-making opportunities, and develops skills through knowledge and education, reciprocity, supportive mutual relationships, developing awareness, and a sense of community [25][26]. The underlying principle in terms of incorporating peer-support into healthcare is that new knowledge may be understood more effectively when it is communicated by a peer who has shared a common experience [27].

Development of Mums4Mums: telephone peer-support for mums experiencing PND

The current proposal has adapted for use in the UK a telephone-based peer-support intervention shown to be effective in Canada [23], to pilot its use, and provide

preliminary data on its effectiveness in reducing depressive symptoms amongst women experiencing PND.

The proposal builds on an exploratory study that examined a range of stakeholder's views about the need for, and potential acceptability of, a telephone-based peer-support intervention, their views about the potential impact of the intervention, and how it would fit into current practice. General Practitioners (GPs) (n=6), health visitors (n=7) and mothers who had recovered from PND (n=10) were interviewed and the results indicated that stakeholders perceived a need for a telephone-based peer-support intervention for women currently experiencing PND in the UK. It was suggested that this would represent an additional resource for mothers, and that a telephone-based intervention would be acceptable due to its flexibility and use of non face-to-face contact.

The Mums4Mums telephone-support intervention was piloted with women currently living with PND (n=8). The pilot study was conducted to explore key elements of the telephone-based peer-support intervention such as training, acceptability, and recruitment. In-depth interviews were again conducted, and the initial findings suggested that the Mums4Mums intervention was acceptable and potentially beneficial in supporting women with PND.

Mums4Mums Feasibility Trial

The current study aims to test the feasibility of conducting a large-scale randomised controlled trial of a telephone-based peer-support intervention to reduce depressive symptomology in women with PND.

Research Objectives

The objectives of the feasibility study are to:

i) ascertain the acceptability of a randomised control trial for women with PND,

ii) explore effective methods of recruitment,

iii) explore the participant's and health professionals' views about the intervention,

iv) ascertain the acceptability of the outcome measures,

v) identify a cost-effectiveness measure,

vi) provide an estimate of the size of change that might be expected with such an intervention to inform the power calculation for the larger RCT,

vii) build a working alliance with healthcare professionals for the larger clinical trial,

viii) make any necessary adaptations to the intervention and develop a full proposal for a main RCT to be submitted to the MRC in 2012.

Methods/Design

The study design adopts the MRC framework for the development and evaluation of complex interventions [28]. Ethical approval for the pilot and feasibility trial was obtained from Coventry and Warwickshire Research Ethics Committee (ID number 08/H1211/94).

Peer-supporters

Health visitors in Coventry and Warwickshire PCTs identified potential participants to be trained as peer-supporters (n=18). They were recruited by personal invitation using a specification that set out essential and desirable attributes established from stakeholder consultation, including that they had a) recently experienced PND (i.e. within the last five years) b) fully recovered from depression, c) an empathic and non-judgmental disposition, and d) could commit the time to participate in the training and provide the telephone-support. Multiple assessments of mental health and social wellbeing were made and their GPs were required to confirm the suitability of individuals identified for the proposed peer-support role. Eligible peer-supporters were invited to attend a training programme lasting approximately eight hours, to develop their understanding of the role of the peer-supporter and their confidence to deliver the intervention. The training was based on Dennis's training manual [14], but was adapted to include other material about active listening skills and promoting successful behaviour change [29][30], encouraging goal-setting and decision-making [31]. The training was provided locally, and crèche facilities were made available.

Inclusion criteria:

Inclusion criteria: women > 16 years of age at the time of giving birth and who are experiencing depressive symptomatology (i.e. EPDS >= 10 and/or clinical judgment) at or after the 8-week check, and who are potentially receptive to receiving telephone-support.

Exclusion criteria: women with a score of 23 or above on the EPDS, women who pose a suicide risk or a risk to their children, women receiving specialist psychiatric care or experiencing any mental illnesses (other than PND) or learning difficulties, or who are not able to speak English, or who are not accessible via the telephone. Participation in the study is only undertaken with the consent of the participant, their health visitor, and their GP.

Recruitment:

All health visitors within Coventry and Warwickshire Care Trusts (PCTs) are recruiting to the study. Potential participants are screened for eligibility by the health visitors at the 8-week postnatal check using either the Edinburgh Postnatal Depression Scale (EPDS>=10) or the three Whooley questions recommended by NICE [13]. Eligible women are then given a brief information leaflet about the study, and women who would like further information are asked for their written consent for the health visitor to give their contact details to the research team.

In addition to the recruitment method outlined above, the study information leaflet is available within GP surgeries and Children's Centres within Coventry and Warwickshire allowing participants to self-refer into the study by contacting the research team directly. Participants can also access information about the study using

the link at 'Netmums' or via the Warwick University webpage. Eligible patients are also being referred to the study from the 'Improved Access to Psychological Therapies (IAPT) waiting-list.

Following referral to the study team, a researcher sends a full information sheet and contact with the mother is arranged two weeks later, to discuss her participation. Once a participant has agreed to take part and provided consent, their details are passed onto the Clinical Trials Unit at the University of Warwick for randomisation. The group allocation information is provided to the researcher who then informs the participant.

Intervention group

All participants receive standard care from their GP and health visitor. Women allocated to the intervention group also receive telephone-support calls over a period of four-months from peer-supporters who have been specially trained to deliver the intervention (i.e. the same peer-supporters who delivered the pilot study intervention). Outcome measures tested in the pilot phase are being collected at baseline, 2- and 4-months.

Sample Size

A total of 30 participants are being recruited to study. This will enable us to detect an effect size of around 0.6sd using a power of 80% and two-sided significant level of 95%. Analysis of the data will be carried out on an intention-to-treat basis.

Outcome Measures

The primary outcome measure is depressive symptomology, which is being measured using the Edinburgh Postnatal Depression Scale [32]. Secondary outcome measures to assess maternal functioning include: Hospital Anxiety and Depression Scale (HADS) [33], Parenting Sense of Competence Scale [34], Dyadic Adjustment Scale [35], Emotional Support Questionnaire [36] and Self-Efficacy [37]. The Care Index [38] is being used to assess the interaction between the mother and baby. Maternal perceptions of the telephone peer-support and are being assessed using the Peer-support Evaluation Inventory.

Process Data

In-depth, semi-structured interviews will be conducted with a random sample of all stakeholders to establish the acceptability and feasibility of the intervention for participants, peer-supporters and health visitors.

Cost-Effectiveness

A prospective economic evaluation is being conducted. The focus is on the additional costs of delivering the training programme for the services involved. The costs of training will be calculated using a record of the resources employed. Unit costs for service delivery will be taken from a national compendium (e.g. costs of training and supervision) and multiplied by the intensity of the service used by each family. A 'Service Use' Questionnaire is being used to collect data on public service utilisation by study participants. Unit costs will be obtained from national databases. Training, delivery and service utilisation costs will be combined to provide an

estimate of the total health and social care cost in each arm. The expected incremental cost-effectiveness ratio for peer-support vs. usual care in the prevention of PND cases will be estimated. A within-trial probabilistic sensitivity analysis will be undertaken using non-parametric bootstrap method. The results will be presented as ICERs and cost- effectiveness acceptability curves. Scenario analyses will be used to examine the impact of differential training and resourcing models on the expected cost-effectiveness. The data collected in the trial will be used to inform pre-trial modelling as part of the design process for a future full scale RCT with economic evaluation.

Data Analyses

i) Quantitative

Descriptive methods will be used to describe participant characteristics, to compare the 'refusers' with the study participants, and to report levels of participation and drop out. Comparison of intervention and control group outcome data will be provided with regard to the outcome measures described above. The results of the statistical analyses will be used to reach some preliminary conclusions regarding the viability and acceptability of the intervention, the usefulness of the outcome measures being used, and the sample size required in a full trial.

ii) Qualitative

Tape-recorded semi-structured interviews will be transcribed verbatim. A thematic framework approach [39] will be used to generate themes from the transcripts.

The embedded mixed-methods design of the study will enable the quantitative and qualitative data to be analysed iteratively.

Discussion

A reduction in a woman's depressive symptomatology could potentially produce an improved mother-infant relationship in affected dyads, with significant consequences in terms of the capacity of the infant for affect regulation. This could also impact on the later emotional and behavioural adjustment of the child, especially in the case of disadvantaged boys. Poor emotional and behavioural adjustment in the early years is associated with a range of poor long-term outcomes including delinquency, drug abuse, and a range of mental health and relationship problems, which are very costly for NHS and other services. This form of provision could therefore have an immediate impact on health service use and in the long-term improve a range of public health outcomes about which there is currently considerable concern, and to which postnatal depression undoubtedly makes a significant contribution.

The proposed study will develop current innovative work in peer-led support interventions and telecare by applying existing expertise to a new domain (i.e. PND), testing the feasibility of a peer-led telephone intervention for mothers living with PND, and developing the relationship between the lay and clinical communities. The outcome of the proposed study will potentially benefit a significant number of patients and support a future application for a larger study to undertake a full evaluation of the clinical and cost effectiveness of the intervention.

Competing interests

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Appendix Two – List of search terms used in the Quantitative Literature Search

1) Self-Help Groups or Self Help Groups or Support Groups or Social Support

2) Helpline or help-line

3) Peer support or Peer Group or Peer

4) Lay led or lay run or layperson or user led

5) Voluntary worker or voluntary or volunteer

6) Expert patient or non professional or non-professional

7) Non-medical or non-medical

8) Psychosocial care/

9) Telephone or phone or Telephone intervention or Phone intervention

10) Randomized controlled trial or randomized controlled trials or controlled clinical trial or clinical trial

11) Placebos or placebo

Variations of these search terms were combined extract relevant articles.

Appendix Three - Quantitative Studies Excluded after Reading Full

Article

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DENNIS, C.-L. 2010. Postpartum depression peer support: Maternal perceptions from a randomized controlled trial. *International Journal of Nursing Studies,* 47**,** 560-568.

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MOHR, D. C., BURKE, H., BECKNER, V. & MERLUZZI, N. 2005. A preliminary report on a skills-based telephone-administered peer support programme for patients with multiple sclerosis. *Multiple sclerosis,* 11**,** 222-226.

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Mums 4 Mums

Brief Information Sheet

Do you think you might have postnatal depression?

Would you like some extra support?

We are looking for women who are currently experiencing postnatal depression and would like to take part in a study looking at whether mums with postnatal depression might find it helpful to receive telephone-support from women who have recovered from postnatal depression.

The study is being run by researchers at Warwick Medical School and supported by health visitors at Warwickshire Primary Care Trust.

If you would like to know more then please sign the attached consent form giving your health visitor permission to pass on your contact details.

Alternatively you get more information from the university webpage: www.warwick.ac.uk/go/mums4mums

or contact Sukhdev Sembi on: Tel: 02476 150508 Mob: 07974 955770 or by email: Sukhdev.sembi@warwick.ac.uk

Consent form for research participants

(Please tick each box)

8. I confirm that I have read the brief information sheet ☐
9. I confirm that the health visitor has my permission to pass on my contact details to the research team ☐
10. I confirm that I would like more information about the study ☐

Name _____ (Please print)

Date _____

Contact details, Address, Telephone Number, Signature.

Mums4Mums

Research Study

Information Sheet

Warwickshire Research Ethics Committee reference: 08/H1211/94

We are inviting you to take part in a research study.

Before you decide whether you want to take part, it is important for you to understand why the research is being done, and what it would involve. We would be grateful if you could take the time to read the following information carefully. Please feel free to discuss it with friends, relatives, health visitor and your family doctor (GP) if you wish. If there is anything that is not clear, or if you would like more information, please contact the study researcher, Sukhdev Sembi, whose contact details you will find at the end of this information sheet.

> Consumers for Ethics in Research (CERES) publish a leaflet entitled "Medical Research and You." This leaflet gives more information about medical research and looks at some questions you may want to ask. We have enclosed a copy with this form.

What is PND?

Postnatal depression (PND) is a condition affecting around 13% of women following childbirth. It produces symptoms such as feeling sad, confused, unable to sleep, anxiety and suicidal thoughts. Research has shown that psychological factors such as feeling isolated, lack of an intimate friend, and low self-esteem are important contributing factors. PND has important health consequences for the mother and the development of the baby.

What is the purpose of the study?

The aim of this study is to pilot a telephone-support service that is being delivered by specially trained peer-supporters who are all mothers who have recovered from postnatal depression. This service was evaluated in Canada and was shown to be effective in reducing symptoms of depression among mothers experiencing postnatal depression. We have adapted this intervention for use in the UK, and are now conducting a study to explore whether it improves outcomes for new mothers and their babies.

Why have I been selected to take part in the study?

We are inviting all women who have a score between 10 and 22 on the Edinburgh Postnatal Depression Scale (EPDS) to take part in this study. We are not inviting women with a score below 10 to take part because this suggests that there is no depression present or just very mild depression. We are also not inviting women with a score of 22 or above to take part because this indicates the presence of serious depression for which women should be receiving specialist care from their GP and health visitor. If you were interested in taking part in the study, we would ask you to complete the Edinburgh Postnatal Depression Scale before you consented to take part, to ensure that your score was within this range.

Do I have to take part?

If you were eligible to take part having completed the Edinburgh Postnatal Depression Scale, it would then be up to you to decide whether or not to go ahead. This information sheet is provided to help you to make that decision. Even if you decided to take part, you would still be free to withdraw at any time and would not have to give a reason. This would not affect the care you received from your health visitor or GP.

What would taking part in the study involve?

If you agreed to take part, you would be allocated randomly to one of 2 groups in the study. We do this by a method that is similar to tossing a coin. If you were allocated to the Intervention Group you would receive a series of phone calls from a trained peer supporter over a 4 month period or until such a time as you both decided to end the calls. The times and frequency of the calls would be arranged between you and the supporter. You would also be asked to complete a questionnaire at three points in time. At the end of the study a researcher would also invite you to take part in a brief interview to ask you some questions about how whether the telephone-support had been helpful, and in what ways the service could be improved. This call/visit would be tape-recorded with your permission. The tape would not have your name on it, only a number. Any information you provided would be treated as confidential and anonymous. Your participation in this study would not affect any other support that you were receiving.

If you were allocated to the Standard Treatment Group you would continue to receive standard care from your GP and health visitor, and would also be contacted by a researcher and asked to complete the study questionnaire at three points in time.

With your permission we would also like to make a short video recording (3 minutes) of you playing with your baby. There would be no identification details attached to any DVD, and you would be provided with a copy of the DVD.

Who would know about me taking part in the study?

The research team would know whether you had agreed to take part in the study. With your permission, we would also like to let your GP and your health visitor know whether you had agreed to take part or not.

All information that you provided would we be treated as confidential and would not be shared with anyone outside the research team unless required by law under the terms of the Children Act (1989). This means that we would only divulge information that you had provided to us if there were concerns about the safety of a child.

When writing up the findings of the study the researchers would take care to ensure that they did not reveal the identity of participants, and any quotations that were used for the purpose of reports or presentations would be anonymous.

What are the benefits of taking part?

We cannot be sure if there will be any benefits to taking part in this study. The aim of the study is to see if the telephone-support service leads to a reduction in symptoms of depression. We are also interested in whether the additional telephone-support has any benefits on the wellbeing of babies, by improving the mental health and wellbeing of the mother.

While your participation might not have a direct benefit for yourself it could help other mothers with postnatal depression in the future by helping to improve and refine services.

What would happen to the information I provided?

1. The Questionnaires that you would be asked to complete for us at three points in time would not have any means of identifying you. Each questionnaire would be given a study number so that we could match them. They would be kept at the Warwick Medical School, in a locked cabinet, in a locked room, and would be destroyed after a period of 3 years.
2. If you were in agreement to taking part in an interview, this would be recorded on an audiotape, which would be stored with your questionnaire, and would only be identifiable via the study number. The audiotapes would only be used for the purposes of this study, and would be destroyed after a period of three years. Should you not agree for the interview to be recorded, the researcher conducting the interview would take notes. **Anonymous** quotations might be used for the purpose of reporting the findings of the study or presentations to professional audiences.

3. If you were in agreement to us making a short video recording (3 Minutes) of you playing with your child, this would be stored as above, it would only be used for the purpose of this study, and would not be shared with any person outside the research team. We would provide you with a copy of the video that we made.

What will happen to the results of the research study?

The results of the study will be written up in a final report and the results may also be submitted for publication in professional journals. If you were interested, we would be happy to provide you with a copy of the report.

What happens now?

1. In one week, a researcher will contact you by telephone to answer any questions you might have, and to ask if you are interested in taking part. If you are not interested we will thank you for your time. Your decision will not affect any services that you are currently receiving. If you are interested in taking part, before we proceed any further, we will ask you ten questions from the Edinburgh Postnatal Depression Scale, to assess your eligibility. We will ring you back on the same day, after the questionnaire has been scored, to tell you whether you are eligible.

2. If you are not eligible to take part, we will tell you and if necessary suggest any further support that might be available. This decision would not affect any of the services that you were currently receiving. We would also request your permission to contact your GP/health visitor to tell them about this outcome,

3. If you were eligible to take part we would ring and tell you, and ask you to complete a consent form and a further questionnaire, which we would send to you by post. When we had received these back from you in the prepaid envelope, we would allocate you (by a procedure that is similar to tossing a coin), into the Intervention Group or the Standard Treatment Control Group. We would then ring you and tell you which group you were in.

Who is organising and funding the research?

Warwick West Midlands Primary Care Research Consortium has provided funding to conduct this study. Researchers from The University of Warwick, together with health visitors from South Warwickshire PCT, are organising and conducting the study. The study is being conducted under the direction of Prof. Jeremy Dale and Prof. Jane Barlow, Warwick Medical School, University of Warwick, Coventry, CV4 7AL. The study researcher is Mrs. Sukhdev Sembi.

Who has reviewed the study?

The study has been reviewed and agreed by Warwickshire Research Ethics Committees (number 08/H1211/94).

What if I want further information about the study?

If you want any further information about the study you can telephone the study researcher **Mrs Sukhdev Sembi** on **02476 150508.**

*　　　　*　　　　*　　　　*　　　　*　　　　*

Mums4Mums Research Study

_____

Warwickshire Research Ethics committee number 08/H1211/94

Consent form for research participants

(Please tick each box)

1. I confirm that I have read and understood the information sheet ☐
2. I confirm that I am willing to take part in this research study ☐
3. I understand that my participation in the study is voluntary ☐

4. I give permission for the interviews to be tape recorded ☐

5. I give permission for telephone conversations to be tape recorded ☐

6. I give permission for the researcher to make a short video (3 minutes) of me

playing with my child at the end of the study

☐7. I give permission to the research ream to inform my GP/Health Visitor

regarding my participation in the study ☐

1. I understand that the information which I provide will be treated in confidence and that it will not be shared with any person outside of the research team.
☐
2. I understand that quotations used in the presentation of findings of the research will be anonymous. ☐

Name _____ (Please print)

Date _____

Signature _____

Mums4Mums Study

Date of receipt……………   Participant

no…………….

Please read the following information before you answer the questions:

A: Instructions

1. This questionnaire is divided into 8 sections, labelled Form 1-8.
2. Please answer all of the questions in each section in the order they appear in the questionnaire.
3. There are no 'right' or 'wrong' answers, so please answer the questions as honestly as you can.
4. Please read the instructions at the beginning of each section and circle the response which you feel is the most relevant to you.
5. Although some statements may seem similar to others, no two are exactly the same.
6. Please take your time to read and understand the questions thoroughly.
7. If there is anything you do not understand, please ask the researcher for help.

B: Confidentiality

1. Your name will not be put on the questionnaire. The researchers have given each questionnaire a code number, known only to them.
2. All information stored on computer is compliant with the Data Protection Act.
3. The information you provide in this questionnaire is confidential and will not be shared with anyone outside the research team unless required by law under the terms of the Children's Act (1989).

If you have any queries please contact:

Sukhdev Sembi on 02476 150508 or email: Sukhdev.sembi@warwick.ac.uk

Form 1 - Please circle the answer that best describes you:

1. Have you been able to talk about your feelings and problems with at least one friend during the last month?
4. I could always talk freely about my feelings
5. I usually could talk about my feelings
6. About half the time I felt able to talk about my feelings
7. I usually was not able to talk about my feelings
8. I was never able to talk about my feelings
2. Have you been able to talk about your feelings and problems with at least one of your relatives in the last month?
1. I could always talk freely about my feelings
2. I usually could talk about my feelings
3. About half the time I felt able to talk about my feeling I usually was not able to talk about my feelings

- I was never able to talk about my feelings
  3. Have you been able to talk about your feelings and problems with your spouse or partner in the last month?
  1. I could always talk freely about my feelings

  2. I usually could talk about my feelings

  3. About half the time I felt able to talk about my feelings

  4. I usually was not able to talk about my feelings

  5. I was never able to talk about my feelings

Form 2 - Please place a tick in the column that describes you best:

	Yes definitely	Yes sometimes	No, not much	No, not at all
1. I wake early and then sleep badly for the rest of the night.	3	2	1	0
2. I get very frightened or have panic feelings for apparently no reason at all.	3	2	1	0
3. I feel miserable and sad.	3	2	1	0
4. I feel anxious when I go out of the house on my own.	3	2	1	0
5. I have lost interest in things.	3	2	1	0
6. I get palpitations, or sensations of 'butterflies' in my stomach or chest.	3	2	1	0

7. I have a good appetite.	0	1	2	3
8. I feel scared or frightened.	3	2	1	0
9. I feel life is not worth living.	3	2	1	0
10. I still enjoy the things I used to.	0	1	2	3
11. I am restless and can't keep still.	3	2	1	0
12. I am more irritable than usual.	3	2	1	0
13. I feel as if I have slowed down.	3	2	1	0
14. Worrying thoughts constantly go through my mind.	3	2	1	0

Form 3 - Please mark the answer that best describes your feelings. Your first reaction to each question should be your answer:

	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree
1. The problems of taking care of a baby are easy to solve once you know how your actions affect your baby, an understanding I have acquired.						
2. I meet my own personal expectations for expertise in caring for my baby.						
3. I would make a fine model for a new mother to follow in order to learn what she would need to know to be a good parent.						
4. Being a parent is manageable and any problems are easily solved.						
5. If anyone can find the answer to what is troubling my baby, I am the one.						
6. A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.						
7. Considering how long I've been a mother, I feel thoroughly familiar with this role.						
8. I honestly believe I have all the skills necessary to be a good mother to my baby.						
9. Even though being a parent could be rewarding, I am frustrated now while my child is only an infant.						
10. I do not know why it is, but sometimes when I am supposed to be in control, I feel more like the one being manipulated.						
11. My mother was better prepared to be a good mother than I am.						
12. Sometimes I feel like I'm not getting anything done.						

	Not at all true	Barely true	Moderately true	Exactly true		
13. I go to bed the same way I wake up in the morning – feeling I have not accomplished a whole lot.						
14. My talents and interests are in other areas, not being a parent.						
15. If being a mother of an infant were only more interesting, I would be motivated to do a better job as a parent.						
16. Being a parent makes me tense and anxious.						
17. Being a good mother is a reward in itself.						

Form 4 - Please place a tick underneath the answer that best describes how you deal with everyday situations.

	Not at all true	Barely true	Moderately true	Exactly true

1. I always manage to solve difficult problems if I try hard enough.

2. If someone opposes me, I can find means and ways to get what I want.

3. It is easy for me to stick to my aims and accomplish my goals.

4. I am confident that I deal efficiently with unexpected events.

5. Thanks to my resourcefulness I know how to handle unforeseen circumstances.

6. I can solve most problems if I invest the necessary effort.

7. I remain calm when facing difficulties because I can rely on my coping abilities.

8. When I am confronted with a problem I can usually think of something to do.

9. If I am in a bind I can usually think of something to do.

10. No matter what comes my way I am usually able to handle it.

1. I have been able to laugh and see the funny side of things.
   □ As much as I always could
   □ Not quite so much now
   □ Definitely not
   □ Not at all

2. I have looked forward with enjoyment to things.
   □ As much as I ever did
   □ Rather less than I used to
   □ Definitely less than I used to
   □ Hardly at all

3. I have felt scared or panicky for no very good reason.
   □ Yes, quite a lot
   □ Yes, sometimes
   □ No, not much
   □ No, not at all

4. Things have been getting on top of me.
   □ Yes, most of the time I haven't been able to cope at all
   □ Yes, sometimes I haven't been coping as well as usual
   □ No, most of the time I have coped quite well
   □ No, I have been coping as well as ever

5. I have been so unhappy that I have had difficulty sleeping.
   □ Yes, most of the time
   □ Yes, sometimes
   □ Not very often
   □ No, not at all

6. I have blamed myself unnecessarily when things went wrong.
   □ Yes, most of the time
   □ Yes, some of the time
   □ Not very often
   □ No, never

7. I have been anxious or worried for no good reason.
   □ No, not at all
   □ Hardly ever
   □ Yes, sometimes
   □ Yes, very often

8. I have felt sad or miserable.
   □ Yes, most of the time
   □ Yes, quite often
   □ Not very often
   □ No, not at all

9. I have been so unhappy that I have been crying.
   □ Yes, most of the time
   □ Yes, quite often
   □ Only occasionally
   □ No, never

10. The thought of harming myself has occurred to me.
   □ Yes, quite often
   □ Sometimes
   □ Hardly ever
   □ Never

Form 6 - All babies have different temperaments. In comparison with what you expected or what you know about other babies, how would you rate this baby's temperament? Instructions: Please read each statement carefully and circle the response that most applies to your baby			

1. How physically active is your baby during feeding, play etc?	Very active	Fairly active	Not very active
2. How regular is your baby in feeding, sleeping, bowel movements etc?	Fairly regular	Variable	Fairly irregular
3. How adaptable is your baby to changes in routine?	Very adaptable	Fairly adaptable	Not very adaptable
4. How does your baby respond to new situations such as food, places, people or toys?	Mostly approaches new situations	Sometimes approaches new situations	Withdraws from new situations
5. How quickly does your baby respond to sounds or changes in food and people?	Very quickly	Fairly quickly	Not very quickly
6. How intensely does your baby respond to things?	Very intensely	Fairly intensely	Not very intensely
7. How would you describe your baby's mood?	Generally positive	variable	Generally negative
8. How easily is your baby distracted from what he/she is doing by sounds or people etc?	Very easily distracted	Fairly easily distracted	Not distracted

9. How persistent is your baby with specific activities such as eating, playing etc?	Very persistent	Fairly persistent	Not very persistent
10. How, in general, would you describe your baby's temperament?	More difficult than average	About average difficulty	Less difficult than average

Form 7 - Please tick the answer that best describes you:

1. In general, would you say your health is excellent, very good, good, fair, or poor?

Excellent ...   ○

Very Good ...   ○

Good ...   ○

Fair ...   ○

Poor ...   ○

2. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

First, moderate activities such as moving a table, pushing a vacuum cleaner, bowling or playing golf. Does your health now limit you a lot, limit you a little, or not limit you at all?

Limited a lot ...   ○

Limited a little ...   ○

Not limited at all   ○

3. Climbing several flights of stairs. Does your health now limit you a lot, limit you a little, or not limit you at all?

Limited a lot ...   ○

Limited a little ...   ○

Not limited at all ...   ○

4. During the past four weeks, have you accomplished less than you would like as a result of your physical health?

No ...   ○

Yes ...   ○

5. During the past four weeks, were you limited in the kind of work or other regular activities you do as a result of your physical health?

No ... ○

Yes ... ◉

6. During the past four weeks, have you accomplished less than you would like to as a result of any emotional problems, such as feeling depressed or anxious?

No ... ○

Yes ... ○

7. During the past four weeks, did you not do work or other regular activities as carefully as usual as a result of any emotional problems such as feeling depressed or anxious?

No ... ○

Yes ... ○

8. During the past four weeks, how much did pain interfere with your normal work, including both work outside the home and housework? Did it interfere not at all, slightly, moderately, quite a bit, or extremely?

Not at all ... ◉

Slightly ... ○

Moderately ... ○

Quite a bit ... ○

Extremely ... ○

9. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much time during the past 4 weeks have you felt calm and peaceful? All of the time, most of the time, a good bit of the time, some of the time, a little of the time, or none of the time?

All of the time ... ○

Most of the time ○

A good bit of the time ... ○

Some of the time ○

A little of the time ... ○

None of the time ○

10. How much of the time during the past 4 weeks did you have a lot of energy? All of the time, most of the

All of the time ... ○

Most of the time ○

time, a good bit of the time, some of the time, a little of the time, or none of the time?

A good bit of the time ...	○
Some of the time	○
A little of the time ...	○
None of the time	○

11. How much time during the past 4 weeks have you felt down? All of the time, most of the time, a good bit of the time, some of the time, a little of the time, or none of the time?

All of the time ...	○
Most of the time	○
A good bit of the time ...	○
Some of the time	○
A little of the time ...	○
None of the time	○

12. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities like visiting with friends, relatives etc? All of the time, most of the time, some of the time, a little of the time, or none of the time?

All of the time ...	○
Most of the time	○
Some of the time	○
A little of the time ...	○
None of the time	○

Form 8 - Most people have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list. (Place a tick √ to indicate your answer).

	Always Agree	Almost Always Agree	Occasionally Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
1.Handling family finances						
2. Matters of recreation						
ious Matters						
4. Demonstrations of affection						
5. Friends						
6. Sex relations						
7. Conventionality (correct or proper behaviour)						
8. Philosophy of life						
9. Ways of dealing with parents or in-laws						
10. Aims, goals and things believed important						
11. Making major decisions						
12. Amount of time spent together						
13. Household tasks						
14. Leisure time, interests and activities						
15. Career decisions						

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
16. How often do you discuss or have you considered divorce, separation, or						

terminating your relationship?						
17. How often do you or your mate leave the house after a fight?						
18. In general, how often do you think that things between you and your partner are going well?						
19. Do you confide in your mate?						
20. Do you ever regret that you married (or lived together)?						
21. How often do you and your partner quarrel?						
22. How often do you and your mate "get on each others' nerves?"						

	Every day	Almost every day	Occasionally	Rarely	Never
23. Do you kiss your mate?					

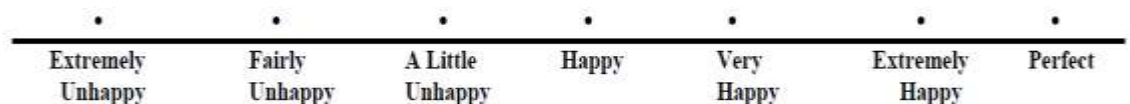|	All of them	Most of them	Some of them	Very few of them	None of them
24. Do you and your mate engage in outside interests together?					

How often would you say the following events occur between you and

your mate?

	Never	Less than once a month	Once or twice a month	Once or twice a week	Once a day	More often
25. Have a stimulating exchange of ideas?						
26. Laugh together?						
27. Calmly discuss something?						
28. Work on a project together?						

There are some things about which couples sometimes agree and sometimes disagree. Indicate if either item below caused differences of opinions or were problems in your relationship during the past few weeks (tick yes or no).

	Yes	No
29. Being too tired for sex	☐	☐
30. Not showing love	☐	☐

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.

| Extremely Unhappy | Fairly Unhappy | A Little Unhappy | Happy | Very Happy | Extremely Happy | Perfect |

32. Which of the following statements best describes how you feel about the future of your relationship? Please tick the ones that apply to you.

	I want desperately for my relationship to succeed, and would go to almost any length to see that it does.

	I want very much for my relationship to succeed, and will do all I can to see that it does.
	I want very much for my relationship to succeed, and will do my fair share to see that it does.
	It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.
	It would be nice if it succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
	My relationship can never succeed, and there is no more that I can do to keep the relationship going.

33. When disagreements arise, they usually result in (**circle one**):

Husband giving in   Wife giving in   Agreement by mutual give & take

34a. In leisure time, do you generally prefer (**circle one**):

To be "on the go"   To stay at home

34b. Does your mate generally prefer: (**circle one**):

To be "on the go"   To stay at home

35. Do you ever wish you had not married? (**circle one**)

Frequently   Occasionally   Rarely   Never

36. If you had your life to live over, do you think you would (**circle one**):

Marry the same person   Marry a different person   Not marry at all

Thank you very much for taking the time to

fill in this questionnaire

THE UNIVERSITY OF

WARWICK

Appendix Nine - Peer Supporter Activity Log

Telephone Record Sheet

Please record all information relating to the call you have just completed

Date: ………………………

Mother ID No: ………………………

Time: ………………………

Mother Initials: ………………………

Length: ………………………

Call number (i.e. 1, 2, etc): ……………..

You called from: Landline / Mobile Will you be charged for this call? Yes / No

You called a: Landline / Mobile (some people have already paid for free evening calls for example, so this may not cost you any extra)

Main Topics of Discussion: Following completion of the call please note the key topics discussed - e.g. concerns expressed in relation to:

Any suggestions or advice you provided to the mother during the telephone call

(this is regardless of whether this advice was accepted or acted upon)

Any actions agreed during the call such as going to a mother/baby group or visiting the GP
- Actions planned by person (include when, where , how etc as appropriate)

Any Additional Points (including mother's views on the telephone service)

Date and time agreed for next call
- Date …………………
- Time …………………

You can fax Telephone Record Sheet to Sukhdev Sembi on 02476 574 879, post them back to the medical school in the envelope enclosed or alternatively email them back to sukhdev.sembi@warwick.ac.uk

Mums4Mums research study

Interview guide for research participants

To the researcher undertaking the interview

The interview schedule provides detailed guidance about what to cover and suggestions about the wording of questions. Please try and ask all the questions. The questions are divided into sections with a **title in bold.** Sometimes it is helpful to the interviewee to indicate that you are moving onto a new section and indicate to them what it is about.

The interview should be conducted in an informal manner, allowing the participant to talk about issues in the order s/he wishes. It is important to allow the interviewee time to talk around issues. If you feel a question has already been answered very fully then you can miss it out. However, sometimes it is better to check with the interviewee e.g. 'I know you have already told me about this, but on my list the next question was going to be….. …. Was there anything you want to add?,' Towards the end of the interview please take time to check that all the issues in the interview schedule have been covered and ask about anything that has not been covered.

If the participant uses a word you do not understand please take time to clarify what s/he is talking about, perhaps explaining that you do not know about postnatal depression (although you do know about how to do an interview!). You can explain that you are experienced in research and you are undertaking the interview for the research team. It is an intentional part of the research design. We are interested in is

the participant's understanding, so use your own lack of knowledge of postnatal depression to benefit the interview!

Interview schedule

Introductions

Reminder what the study is about

Audio recording of interview: Would you mind if I recorded the interview?

Turn on audio-recorder at this point as it is good to record the discussion of confidentiality and anonymity and that they are happy to continue with the interview: if not happy with audio-recording then ask about taking notes – you will need to slow the interview down to ensure you have time to take as full notes as possible

If you change your mind and would like me to stop recording the interview at any time, please just tell me.

Explanation of confidentiality and anonymity: Any data that is collected will remain entirely confidential to the research team, and if used in any research reports will be anonymised so you cannot be identified.

Reviewing the interview at the end: At the end of the interview we will discuss what you have told me and I will ask you if there is anything you don't want used in the study.

Check participant is happy to continue. Do you have any questions about the interview? Are you happy for me to continue with the interview?

Topic guide:

1. Satisfaction with communication

- What is your opinion of the support you received?
- Overall, how helpful did you find the service?
- To what extent were your expectations about this telephone-support service met?
- What aspects of the service were important to you?
- Were there any ways you could have been better supported?, if so then how

2. Elements of the intervention

The aim of the telephone calls was to listen, identify possible concerns, provide supportive comments, and help increase your confidence and establish practical goals.

- ➢ In your opinion, how well did the supporter listen to you?
- ➢ What sorts of supportive comments, if any, do you remember being provided with? (If yes, what sort of supportive comments were helpful?)
- Do you remember being provided with any feed-back that helped increase your confidence?
- In what ways, if any, were you helped in establishing short-term, practical goals? Please give examples
- Would you have liked to be provided with advice? (If yes, what would you have liked advice about?)
- What else would you have liked the supporter to talk to you about on the telephone?
- Are there any other ways in which you think the supporter could have been helpful to you (on the telephone or in other ways).

3. Views about the service:

- What is your opinion about the frequency of the calls?
- What is your opinion about the duration of the calls?
- What is your opinion on the timing of the calls?
- Would you have liked to receive the phone calls for a longer period of time?
- Would you have liked to be able to call back the supporter?
- Would you have liked to be able to meet your telephone-supporter?

4. Views about the provider: credibility, trustworthiness, helpfulness

- How do you feel about the idea of a person who has recovered from PND helping you?
- Was talking to another person who has experienced PND helpful? If yes, in what ways was a peer supporter helpful? What might a health professional offer that a peer supporter cannot?

- What makes a good supporter?
  - Own experiences of PND/background
  - qualities as a person
  - age
  - where they lived
  - occupation or education
  - knowledge of other sources of help
- How well were you able to share your concerns with the supporter?
- How well you related to the supporter?
- Do you think the supporter was on your side?

5. Benefits of the service

- What do you feel you have gained from receiving the service (new insights)?
- What changes (if any) have you noticed in yourself as a result of receiving the service?
- What life changes have you initiated (if any)?
- What did you learn about yourself?
- Did your mood change as a result of the service? In what way?
- Have your relationships at home or with other people changed since you received the service? In what way?
- Have your relationships with the GPs and health visitor changed as a result of receiving the service? In what way?
- If the service would continue to be available, would you use it in the future?

6. Dislikes and problems

- What problems, if any, did you experience with receiving help over the phone?
- Was there anything that you disliked about the service?

7. Is there anything else you would like to share with us?

Thank you

Turn off audio-recorder

Mums4Mums research study

Interview schedule

Topic guide:

Theme: Satisfaction and Support:

1. Training
2. Would the intervention have helped you if you were the participant
3. Support received
4. How could you be better supported
5. What do you think about calling participants from your own home
6. Would a calling centre be better
7. What do you feel you are gaining from the trial:
- new insights
- satisfaction/dissatisfaction
- would you like to continue being a supporter beyond the trial

Theme: Experience of calls

1. Initiating new contacts
2. Maintaining the support
3. Finishing the intervention
4. What calls were more challenging – please give examples
5. What calls were more rewarding – please give examples

Theme: Impact on Supporters

1. What changes (if any) have you noticed in yourself over the course of participating in the study?
2. What life changes have you initiated (if any) since beginning this study?
3. What did you learn about yourself over the course of participating in the study?
4. What skills are you aware of developing over the course of participating in the study?
5. Did you feelings about other people change over the course of participating in the study? In what way?
6. Has your mood changed over the course of participating in the study? In what way?
7. Has your sense of the future changed over the course of participating in the study? In what way?

Has your sense of the past changed over the course of participating in the study? In what way?

Appendix Twelve - Statement Read out to Participants after

Randomisation

Hello [Name].

As you are aware, the Mums4Mums study is now in the feasibility study phase which means you will be randomly allocated to one of 2 groups, the control group or the intervention group. I can inform you that you have been allocated to the:

- Control Group – you will continue to receive standard care from your health visitor and as part of the study you be asked to complete the questionnaire pack at two-months (during) and four-months (at the end of the study). You will receive a £10 gift voucher each time you complete and send back the questionnaire.
- Intervention group – you will be matched to a trained peer supporter, your name and contact details would be passed on and you will receive phone support over a four- month period. You will be asked to complete the questionnaire during and at the end of a four-month period, you will receive a £10 gift voucher each time you complete and send back the questionnaire. At the end of the study a researcher would like to interview you to ask you some questions about how whether the telephone-support had been helpful, and in what ways the service could be improved. This call/visit would be tape-recorded with your permission to make sure that all your comments could be included.

Appendix Thirteen – Letter to GP

address

Dear

<u>Mums4Mums research study</u>

The University of Warwick is conducting a study to try to develop ways to help mothers living with postnatal depression. A telephone-based support system has been designed, where mothers who have recovered from postnatal depression help mothers who currently have postnatal depression.

This study is being funded the National Institute for Health Research and ethics approval has been provided. The study aims to adapt for use in the UK a peer support intervention targeting women experiencing postnatal depression. The study will undertake an evaluation of the clinical and cost effectiveness of this intervention in the management of depressive symptomatology among women experiencing postnatal depression.

Peer-supporters (mums who have recovered from postnatal depression) have been trained to provide telephone-support to mums who are currently experiencing postnatal depression. Participants have been recruited via their GP's, health visitors or self-referred, they have provided informed consent and they have been made aware that their participation is completely voluntary.

I would like to inform you that one of your patients is currently <u>taking part in</u> the study. If she is taking part in the study her peer supporter has been given your details should the need to contact you arise. The participant's details are:

Name …… …… …………………

Address ……… ………………………………….

………………... ……………………………..

………….… ……………………………….

Please feel free to contact me if you require any further information about the study or if you have any concerns about your patient taking part.

Yours sincerely

Mrs Sukhdev Sembi
Research Associate Mums4Mums Study
Tel: 02476-150508, E-mail: sukhdev.sembi@warwick.ac.uk

CC – Heath Visitor –

Mums 4 Mums

Do you think you might have postnatal depression?

Would you like some extra support?

Researchers at Warwick Medical school together with health visitors at Warwickshire PCT are involved in a research study looking at whether a telephone-support service for mums, from women who have recovered from postnatal depression themselves, may be helpful.

We are looking for women who are currently experiencing postnatal depression and would like some extra support. Taking part in the study would involve having a trained peer supporter who has experienced PND providing telephone-support over a period of four-months. All information provided to us will be treated as confidential.

If you would like more information the please check out the webpage on: www.warwick.ac.uk/go/mums4mums or contact Mrs Sukhdev Sembi on mob: 07974 955770 or by email at: Sukhdev.sembi@warwick.ac.uk.

Appendix Fifteen – Magazine Advertisement

We contacted the editor of 'Raring2go!' in Nuneaton and Hinckley

Research study on postnatal depression seeking participants

The University of Warwick is conducting a research study to pilot a telephone peer support service for women suffering from Postnatal Depression (PND). A Canadian study showed that this method of support was effective in reducing symptoms of depression among mothers experiencing postnatal depression and we want to see if it can also be effective, and feasible to deliver, in the UK.

The initial data analysis from our pilot study was encouraging with telephone peer-supporters commenting."..*it is a brilliant study, worthwhile and I am glad to be a part of it*" and "*I feel I am doing something constructive, helpful and positive.*" One mum participating in the study commented "*Yes, it was what I expected, I didn't realise it would be as good as it was, just to know that she was there because it meant if I felt really awful, I could just phone her up.*"

We are in the process of recruiting mums to take part in the study, either as a telephone peer supporter or a participant requiring support. If you are interested in hearing more about the study or would like further information you can telephone the study researcher Mrs Sukhdev Sembi on 02476 150508 or email Sukhdev.sembi@warwick.ac.uk. There is also information on the Mums4Mums website: www.warwick.ac.uk/go/mums4mums. All information that you provide would we be treated confidentially and would not be shared with anyone outside the research team unless required by law under the terms of the Children Act (1989).

Appendix Sixteen - IAPT Recruitment Strategy

The recruitment strategy agreed between the IAPT-RR team and the Mums4Mums study team is as follows:

	Method	Agreed
1	<u>Consent to contact</u> ❖ IAPT-RR team to identify clients who have already consented to be contacted by researchers and who fit the study inclusion criteria ❖ Contact details and brief information passed on to the study team ❖ Invitation letter sent to the client (attachment 1)	☐
2	<u>IAPT Service Opt-in Pack</u> Study leaflet to be attached to opt-in packs by IAPT Service staff Interested clients to contact study team direct	☐
3	<u>Telephone and Referral Centre (TaRC)</u> ❖ IAPT Service staff to identify clients presenting with symptoms of postnatal depression (pnd) during the initial telephone assessment ❖ IAPT Service clinician to give a very brief description of the study and to ask for consent to be contacted by the study team ❖ ID numbers of clients who have consented to be contacted by the study team given to TaRC Operational Manager ❖ Operational manager to email ID numbers to IAPT-RR team ❖ IAPT-RR team to forward client contact details to study team	☐ ☐
4	<u>Clients already in treatment</u> ❖ IAPT-RR team to send an all user email to IAPT Service clinicians (attachment 2) ❖ IAPT Service clinicians to give a brief description of the study to all of their clients in treatment for pnd and ask for consent to be contacted by the study team ❖ IAPT Service clinicians to pass contact details to IAPT-RR team ❖ IAPT-RR team to pass contact details to study team	☐ ☐

Evidence has been provided by the Mums4Mums study Principal Investigator,

Professor Jane Barlow, that these recruitment methods have the appropriate eth ☐

approval. *(Please*

tick)

Date of receipt   Participant no:

Mums4Mums Study

Peer Support Evaluation Inventory

Please read the following information before you answer the questions:

A: Instructions

8. This questionnaire is divided into 4 sections, labelled Form 1-4.
9. Please answer all of the questions in each section in the order they appear in the questionnaire
10.   There are no 'right' or 'wrong' answers, so please answer the questions as honestly as you can.
11. Please read the instructions at the beginning of each section and circle the response which you feel is best.
12.   Although some statements may seem similar to others, no two are exactly the same.
13.   If there is anything you do not understand, please ask the researcher for help.

B: Confidentiality

4. Your name will not be put on the questionnaire. The researchers have given each questionnaire a code number which is known only to them.
5. All information stored on computer is compliant with Data Protection Act.

6. The information you provide in this questionnaire is confidential and will not be shared with anyone outside the research team unless required by law under the terms of the Children Act (1989). If you have any queries please contact: Sukhdev Sembi on 024 76150508 or email Sukhdev.sembi@warwick.ac.uk

Form 1 – Please place a tick in the column that describes you best:					
	Strongly disagree	disagree	Do not agree or disagree	Agree	Strongly agree
A1. My peer supporter listened to me talk about my feelings or concern					
A2. My peer supporter helped me feel that I was not alone in my situation					
A3. My peer supporter expressed interest and concern about how I was doing					
A4. My peer supporter told me that help was available when I needed it					
A5. My peer supporter accepted me for who I was					
A6. My peer supporter told me what was usual for my current situation					
A7. My peer supporter suggests other ways of doing things					
A8. My peer supporter told me what to expect in a certain situation					
A9. My peer supporter assisted me to solve my problems or concern					
A10. My peer supporter provided me with practical information					
A11. My peer supporter gave trustworthy advice					
A12. My peer supporter told me that I did something well					
A13. My peer supporter helped me feel what I was going through was ''normal''					
A14. My peer supporter expressed admiration for a personal quality of mine					
A15. My peer supporter gave me feedback on how I was doing					

	Strongly disagree	disagree	Do not agree or disagree	Agree	Strongly agree
B1. If something important happened to me I could share the experience with my peer					
B2. I knew that whatever I said was just between us					
B3. My peer could tell when I was worried about something					
B4. My peer was trustworthy					
B5. My peer was dependable					
B6. I knew my peer would respond to me in a supportive way					
B7. I felt accepted by my peer					
B8. I felt comfortable 'just being myself' with my peer					
B9. With my peer I could confide my most inner feelings					
B10. My peer understood my point of view					
B11. My peer felt bad if things didn't go well for me					
B12. I felt comfortable getting close to my peer					
B13. I depended on my peer					
B14. I felt close to my peer					
B15. My peer influenced how I felt or acted					
B16. My peer was an important source of support for me					
B17. My peer worked at maintaining a relationship with me					
B18. I looked forward to talking with my peer					
B19. My peer invested time to help me					
B20. My peer revealed personal information					
B21. My peer was interesting and enjoyable to talk to					
B22. My peer presented a good first impression					
B23. My peer seemed like she would be able to talk to anyone					
B24. My peer was sensitive and understanding					
B25. My peer talked too much					
B26. My peer would get over-involved in my problems					
B27. My peer pressured me to change					
B28. My peer made me feel guilty					
B29. My peer made me feel angry					
B30. My peer was critical of me					
B31. My peer minimised my problems					

	My peer helped me feel this way									
Over the past couple of months I generally feel:	Strongly disagree	Disagree	Do not agree or disagree	Agree	Strongly agree	Strongly disagree	Disagree	Do not agree or disagree	Agree	Strongly agree
C1. More able to solve problems or concerns										
C2. More control of my situation										
C3. Better able to cope with all the things I have to do										
C4. Better able to respond to stressful situations										
C5. Things are going my way										
C6. More in control of important things in my life										
C7. More on top of things										
C8. Less worried										
C9. More calm										
C10. Less tense										
C11. Life is more enjoyable										
C12. Less depressed										
C13. Less alone										
C14. There are more people I can turn to										
C15. Less isolated from others										
C16. I have something in common with other mothers										
C17. More trust towards my community										
C18. I am more likely to get help if needed										
C19. More knowledgeable about my situation										
C20. I have much more to be proud of										
C21. A more positive attitude toward myself										
C22. More satisfied with myself										
C23. More confident in my ability to care for my baby										
C24. More confident in my abilities										
C25. More confident to deal with my situation										
C26. More similar to other mothers										
C27. Less negative thoughts about myself										

	Strongly disagree	Disagree	Do not agree or disagree	Agree	Strongly agree
D1. My peer provided the assistance I needed					
D2. My peer met my expectations					
D3. My peer was respectful to me					
D4. I liked my peer					
D5. There is nothing I would have liked done differently					
D6. For my situation one-to-one support was better than group support					
D7. Receiving support from my peer was convenient for me					
D8. I like the support over the telephone					
D9. I had very few problems with the support I received					
D10. I was able to talk to my peer when I needed it					
D11. My peer telephoned when planned					
D12. I had enough contact with my peer					
D13. I would recommend this type of support to a friend					
D14. Overall, I am satisfied with my peer support experience					

Is there anything else you would like to tell us about your peer support experience?

Thank you very much for taking part in the study.