University of Calgary

PRISM Repository **https://prism.ucalgary.ca**

The Vault Open Theses and Dissertations

2021-02-09

How Might We Understand Mothers' Experiences of the VID-KIDS Intervention? More than Meets the Eye

Bon Bernard, Jennifer

Bon Bernard, J. (2021). How Might We Understand Mothers' Experiences of the VID-KIDS Intervention? More than Meets the Eye (Master's thesis, University of Calgary, Calgary, Canada). Retrieved from https://prism.ucalgary.ca.

http://hdl.handle.net/1880/113085

Downloaded from PRISM Repository, University of Calgary

UNIVERSITY OF CALGARY

How Might We Understand Mothers' Experiences of the VID-KIDS Intervention?

More than Meets the Eye

by

Jennifer Bon Bernard

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILMENT OF THE REQUIREMNTS FOR THE

DEGREE OF MASTER OF SCIENCE

GRADUATE PROGRAM IN COMMUNITY HEATLH SCIENCES

CALGARY, ALBERTA

FEBRUARY, 2021

© Jennifer Bon Bernard 2021

Abstract

Postpartum depression (PPD) is a complex public health concern that can disrupt the healthy interaction between a mother and her infant. An impairment in this foundational relationship is perceived by infants to be a toxic stressor, and as a result negative long-term outcomes on growth and development can ensue. Parenting interventions in the early years of an infant's life that aim to modify this significant stressor are a type of support that can alleviate potential concerns associated with the experience of PPD. Video-Feedback Interaction Guidance for Improving Interactions Between Depressed Mothers and their Infants (VID-KIDS) is an example of a parenting intervention that has been evaluated to improve the quality of mother-infant interactions when mothers are experiencing PPD, improve maternal depression and decrease infants stress levels.

To ensure successful uptake of VID-KIDS in public health care settings, it is essential that maternal perspectives are heard and applied accordingly. The goal of this research project was to understand the perspectives of mothers who participated in the VID-KIDS intervention, as this was a gap that required further exploration. Four mothers were interviewed, following the tenets of hermeneutics, to understand the meaning that they attached to this experience. The findings of this study provided encouragement that VID-KIDS makes a positive difference in the lives of mothers and their infants when experiencing PPD.

Acknowledgments

Dr. Nicole Letourneau

for always believing in me and for providing me with this fulfilling opportunity to engage in scholarly activity.

Dr. Nancy Moules for your kindness and inspiring me to write and understand experiences with both heart and rigor.

Dr. Suzanne Tough for your support and challenging me to think about science from a different perspective.

Ms. Penny Tryphonopoulos for being an inspiration and offering positive encouragement every step of the way.

My husband for supporting our family through this process, doing the grocery shopping yet again, and cooking yet again. I am forever grateful.

My daughters for filling my world with happiness and their mature way of encouraging me to the finish line.

Dedication

To the mothers who participated in the VID-KIDS study: Your wisdom, honesty, and strength will remain with me forever; you have taught me that which cannot be found in a textbook.

"Care has to be provided as caritative in which love, compassion and mercy enable the carer to listen and ask the question towards the silent voice from the parents' heart of hearts."

(Blegen et al., 2016, p. 8)

List of Abbreviations

AAS	Adult Attachment Scale
ACE	Adverse Childhood Experiences
ADHD	Attention Deficit-Hyperactivity Disorder
AHS	Alberta Health Services
ALSPAC	Avon Longitudinal Study of Parents and Children
AMSS	Ainsworth Maternal Sensitivity Scale
AOB	All Our Babies
APRON	Alberta Pregnancy Outcomes and Nutrition
AQS/ AQS Version 3	Attachment Q-Set/ Attachment Q-Set
ASQ-SE	Ages and Stages Questionnaire-Social and Emotional
BaM-13	The Being a Mother Scale
BDI/ BDI-11	Beck Depression Inventory/ Beck Depression Inventory II
BITSEA	Brief Infant-Toddler Social and Emotional Assessment
BPDS	Bromley Postnatal Depression Scale
BSI	Brief Symptom Inventory
BSID	Bayley Scales of Infant and Toddler Development
CARE	Communicating and Relating Effectively
CBT	Cognitive Behavioural Therapy
CBCL	Child Behaviour Checklist
CD	Conduct Disorder
CIB	Coding Interactive Behaviour
CMHA	Canadian Mental Health Association
CTAM	Clinical Tool for Assessment of Methodology
DASS-21	Depression Anxiety Stress Scale, Short Version
DHS	Daily Hassle Scale
DMC	Dyadic Mutuality Code
EAS	Emotional Availability Scale
ECBQ	Early Childhood Behaviour Questionnaire
EPDS	The Edinburgh Postnatal Depression Scale
ER	Emergency Room
GIPT	Group Interpersonal Therapy
HCP	Health Care Professional
HRQoL	Health Related Quality of Life
IBQ	Infant Behaviour Questionnaire
IH-CBT	In-Home Cognitive Behavioural Therapy
IPT	Interpersonal Psychotherapy
ITSC	Infant Toddler Symptom Checklist
ITSEA	Infant Toddler Social and Emotional Assessment
KPCS	Karitane Parenting Confidence Scale
MBU	Mother Baby Unit
MDD	Major Depressive Disorder
M-I	Maternal-Infant
MINI	The Mini-International Neuropsychiatric Interview
MIP	Maternal-Infant Psychotherapy

MIT	Mother's Information Tool
M-ITG	Mother-Infant Therapy Group
MORS-SF	Mothers Object Relation Scale-Short Form
MOS-SS	The Medical Outcome Survey, Social Support Survey
MSI-SF	Maternal Self-Report-Inventory-Short Form
NCAST	Nursing Child Assessment Satellite Training
NICU	Neonatal Intensive Care Unit
NLSCY	National Longitudinal Survey of Children and Youth
NPI	Neonatal Perception Inventory
ODD	Oppositional Defiant Disorder
OR	Odds Ratio
PASS	Perinatal Anxiety Screening Scale
PCITS	Parent-Child Interaction Teaching Scale
PDP	Perinatal Dyadic Psychotherapy
PDSS	Postpartum Depression Screening Scale
PIP	Parent-Infant Psychotherapy
PMR	Progressive Muscle Relaxation
PSI/SF	Parenting Stress Index, Short Form
PSS	Parental Stress Scale
PSCS	Parenting Sense of Competence Scale
RCT	Randomized-Controlled Trial
RN	Registered Nurse
RR	Relative Risk
SCID	Structured Clinical Interview for DSM Disorders
SCS	Salimetrics Children's Swab
SOS	Salimetrics Oral Swab
SDQ	Strength and Difficulties Questionnaire
SES	Socio-Economic Status
SFP	Still Face Paradigm
SOS	Salimetrics Oral Swab
SPOR	Strategy for Patient Orientated Research
SSSQ	Sarason's Social Support Questionnaire
TIP	Tuned in Program
TIP-RS	Tuned-In-Parenting Rating Scale
TPP	Toddler Parenting Psychotherapy
UK	United Kingdom
VIG	Video Interaction Guidance
VID-KIDS	Video-Feedback Interaction Guidance for Improving Interactions Between Depressed Mothers and their Infants
VIPP	Video-Feedback Interaction to Promote Positive Parenting
VFT	Video-Feedback Therapy
WHO	World Health Organization
WPPSI-R	Wechsler Preschool Primary Scale of Intelligence(Revised)

Table of Contents

Abstract ii
Acknowledgments iii
Dedication iv
List of Abbreviations v
Table of Contents vii
Chapter 1: Introduction 11
Overview of Study 15
Format for Thesis 17
Chapter 2 - Literature Review 18
Prevalence of PPD 19
Maternal Perspectives of PPD Screening 21
Risk Factors for PPD 22
History of Depression 23
Social Support 24
Socio-Economic Status 26
Stressors 27
Maternal Perspectives of Causes of PPD 28
Outcomes of PPD on Mothers 31
Maternal Parenting Confidence 31
Parenting Behaviour/Practices 32
Breastfeeding 33
Maternal Perspectives Related to PPD Outcomes 34
PPD Outcomes on Children 36
Prenatal Exposure to Maternal Depression 36
Biological Outcomes in Children Exposed to PPD 37
Behaviour Outcomes 39
PPD on Internalizing and Externalizing Behaviour 40
Timing of PPD Exposure 41
Socio-Emotional Outcomes 42
Cognitive Outcomes 44
Type/Timing of PPD Exposure 45

Maternal Perspectives of their Children's Development....46
Impact of PPD on M-I Interactions....47
Maternal Perspectives Related to M-I Interactions....51
Interventions to Improve M-I Interactions for Mothers with PPD....52
Systematic Reviews of Parenting Interventions for PPD....53
Video-Feedback Interventions to Improve M-I Interactions for Mothers with PPD....56
Critical Appraisal of Video-Feedback Intervention Studies....57
Countries....57
Mental Health Assessment: Inclusion Criteria....58
Measuring Maternal Mental Health....59
Measuring M-I Interactions....60
Measuring Parenting....61
Measuring Child Outcomes....61
Parenting Programs/Interventions....62
Samples....63
Maternal Acceptability....63
Mental Health Outcomes....64
Parenting-M-I Interaction Outcomes....65
Child Outcomes....66
Qualitative Research on Video-feedback Interventions....67
Understanding Maternal Perspectives Related to PPD Support....68
Maternal Perspectives of PPD Research.....68
Maternal Support Seeking Patterns....70
Maternal Perspectives on Care for PPD....72
Speaking and Hearing My Words....72
Mother and HCP Alignment....74
Stigma....75
Chapter 3: Submitted Publication....77
Abstract....78
The VID-KIDS Intervention: More than Meets the Eye-A Hermeneutic Study....79
Description of the VID-KIDS Study....81
Research Question....82
Method....82
Participants....82
Data Collection-Interviews....84
Interview Questions....84
Data Analysis....85

Results 85
In Witnessing, Transformation Emerged 85
Finding the Power to Get Out of the Fog 88
Understanding Roots of Disempowerment 89
The Healing Power of Connection 91
Understanding the Necessary Beauty: The Mother-Infant Relationship 94
The Relational Flow - Getting Harmony in Return 95
Understanding the Infant as a Competent Healer 97
A Call for Authenticity 99
Deepening Understanding with Metaphoric Dialogue 101
The Rapport - A Gateway to Authenticity 102
Authenticity Invites Curiosity 103
Being Real in Dialogue - The Back and Forth Matters 104
Discussion 105
Implications for Clinical Practise 107
Limitations and Strengths 108
Conclusion 108
Chapter 4: Discussion 110
Combining Hermeneutics with RCT Methods 110
Bias and Lebenswelt 111
Generalization and Uniqueness 111
Numbers and Words 112
Underpowered and Power 112
Findings from the Project 113
Witnessing 114
Transformation 114
Dialogue 115
Implementation of VID-KIDS for Clinical Practice 115
What Mattered Most in VID-KIDS? 116
When is VID-KIDS Delivered? 116
Who Delivers VID-KIDS? 117
Where Is VID-KIDS Delivered? 118
Public Health and Policy 119
Future Research 122
Timing of Enrolment in VID-KIDS 122
Testing VID-KIDS with Different Populations 123

Fathers 123
Immigrants 124
Premature Infants 125
Adolescents 125
Socio-Economic Challenges 126
Other Maternal Mental Illnesses, Sensitivity, and Confidence 126
Different Modes of Delivering VID-KIDS 127
Hospital Settings 127
Peer Delivery 128
Group Format 128
Long-term Outcomes of VID-KIDS 129
Relational Research in VID-KIDS 129
Different Ways to Evaluate VID-KIDS 130
Conclusion 131
References 133
Appendix A 196
Appendix B 208

Chapter 1: Introduction

Postpartum Depression (PPD) is a significant global public health concern (Almond, 2009; Meaney, 2018; Oates et al., 2004; Wachs et al., 2009; Wisner et al., 2006; World Health Organization [WHO] 2015, 2019) and has been described as a "humanistic burden" (Moore Simas et al., 2018, p. 390) and a *"*family affair" (Letourneau et al., 2012, p. 445) as children and other family members, in particular fathers, are significantly affected by the challenges associated with the mother's experience of PPD. With an estimated prevalence rate of probable PPD between 13% - 19% (Gavin et al., 2005; Lanes et al., 2011; O'Hara & Swain, 2009), PPD is one of the most frequent complications following childbirth (Guintivano et al., 2018; Robertson et al., 2004). Adding to the complexity of PPD, Maggi et al. (2010) explained that in an infant's brain "… there is a rapid process of 'sculpting' of neuron-neuron connections"… (p.629) in response to healthy exposures in their environments. Thus, infancy development is sensitive to poor maternal mental health (Bagner et al., 2010; Ride, 2019; Sanger et al., 2015).

The relationship between PPD and long-term child outcomes was illustrated in a Yale University study (Kramer et al., 1998) that reported children exposed to parental depression were at an increased risk of experiencing a variety of increased medical problems, even ten years later. For example, 22.6% of children exposed to depression experienced skin disorders, compared to 15% for non–exposed children. At the same time, 12% of children exposed to depression experienced genitourinary disorders, compared to 2.5% for the non-exposed children. Finally, 27.5% of the exposed children experienced headaches, compared to 5.8% for the non-exposed children. Similarly, Weissman et al. (2006) followed children for an average of 20 years, finding that the cohort exposed to parental depression were at an elevated risk for experiencing a range of mental health concerns as an adult. The rate of major depressive disorder (MDD) in children

exposed to one parent with MDD was 27%, and when both parents had MDD, the rate was 65% (Weissman et al., 2006).

For children to have an equitable foundation in infancy, maternal mental health concerns must be addressed to mitigate the life-long adversity associated with PPD. In a seminal report, entitled the "Commission of Social Determinants of Health," the importance of providing healthy environments that protect and promote early childhood growth and development was emphasized (WHO, 2008). One concerning determinant in the early years is less than optimal parenting that may be associated with PPD (Beck, 1995; Field, 1995). Leading scholars in the field of early maternal-infant (M-I) interactions have indicated how critical it is for parents to nurture this foundational relationship (Ainsworth, 1964; Beck, 1995; Bowlby, 1969; Crittenden & Snell, 1983; Field, 2010; Stern, 1977). Ainsworth (1964) defined maternal deprivation as "insufficient interaction between the infant and a mother-figure, not as a mere lack of stimulation" (p. 57). Healthy relationships sustained from the start of life are fundamental in building resilient populations. When infants are deprived of stimulating and responsive interactions in their early years, negative outcomes can arise in many domains of life (Shonkoff et al., 2009; Shonkoff & Garner, 2012). Of critical public health importance, ample evidence has indicated that the relationship between the mother and her infant can be impaired when a mother is experiencing PPD (Beck, 1995; Field, 1995; Murray et al., 2014; Stein et al., 2014; Tronick & Reck; 2009).

When mothers experience PPD, they may become less engaged, responsive, and sensitive toward their infants, which infants perceive as stressful (Beck, 1995; Tryphonopoulos & Letourneau, 2020; WHO, 2015). In turn, this distress can negatively influence early child development (Garner et al., 2012; Lanes et al., 2011; Letourneau et al., 2011; Shonkoff &

Garner, 2012). Thus, PPD has been deemed a toxic stress. Shonkoff et al. (2009) explained that toxic stress is associated with …"prolonged activation of the body's stress-response systems in the absence of the buffering protection of adult support" (p. 2256). When children are exposed to toxic stress, this can result in long-term adverse consequences related to their behavioural, cognitive, and emotional health (Shonkoff & Garner, 2012).

Early intervention is of primary importance to prevent the intergenerational transmission of stress that may ensue from adverse exposures, such as PPD (Shonkoff et al., 2009). Investing in parenting interventions that aim to improve M-I relationships can increase the likelihood that children will reach their full potential and reduce their odds of experiencing adverse outcomes. With appropriate supports, there is mounting evidence to indicate that PPD is amendable. Kingston and Tough (2014) stated, "maternal mental health represents one of the earliest, modifiable influences in a child's life" (p. 1728). When environments are enriched with nurturing and supportive parenting, children have an increased chance of developing resilience and thriving long-term (Belsky, 1984; Goodman & Gotlib, 1999).

To illustrate how parenting is modifiable, Mihelic et al.'s (2017) systematic and meta-analytic review (n = 36 studies) reported that interventions targeting parent-child relationships in the early years can have a large effect (d = 0.77) on improving maternal responsiveness. Similarly, in another meta-analysis (n = 77 studies), parent training programs that were most effective focused on positive parent-child engagement and provided skill-building opportunities (Wyatt Kaminski et al., 2008). Finally, Eshel et al.'s (2006) systematic review (n = 50 studies) reported parenting interventions significantly improved maternal responsiveness and child outcomes.

Video-Feedback Interaction Guidance for Improving Interactions Between Depressed Mothers and their Infants (VID-KIDS) is an example of a parenting intervention that focuses on improving maternal responsiveness and sensitivity in the context of PPD. VID-KIDS pilot testing has shown that the program may improve the quality of M-I interactions when mothers are suffering from PPD and, in turn, decrease infant stress levels (Tryphonopoulos & Letourneau, 2020). VID-KIDS is a home-based video-feedback intervention delivered by registered nurses (RNs) over 15 weeks, involving three contacts (the RCT involved four contacts, but only three contacts are employed for the intervention delivery) targeting mothers experiencing symptoms of PPD. The tool used to determine inclusion for the intervention is the Edinburgh Postnatal Depression Scale (EPDS) (Cox et al., 1987), and a score equal to or greater than 13 was the cut-off for eligibility. The discussion and feedback sessions with mothers are guided by the Parent-Child Interaction Teaching Scale (PCITS) (Oxford & Findlay, 2015) from Parent-Child Relationships Programs (PCRP; formerly NCAST) at the Barnard Center (https://www.pcrprograms.org/). PCITS assesses the quality of the M-I interactions using the following categories related to maternal behaviour; Sensitivity to Cues, Responsiveness to Distress, Social-Emotional Growth Fostering Activities and Cognitive Growth Fostering Activities and for the infant; Clarity of Cues and Responsiveness to Parent.

The intervention's initial step involves an education component related to understanding infant cues that the RN provides using the PCRP BabyCues® cue cards, which provide information pertaining to disengaging and engaging infant cues. Next, mothers select a challenging yet achievable task from a list of activities as per the PCITS to teach their infants. Then, a video is captured of the mother teaching her infant the task. The maximum video length is five minutes and may be shortened at the mother's request if she feels the infant has become

disengaged or experiencing signs of stress. After the M-I interaction is recorded, the mother and RN co-view the video together three times with the primary goal of acknowledging serve and return moments that are sensitive, responsive, and foster cognitive development. “Serve and Return” is the term used to describe responsive and sensitive back and forth interaction between a child and caregiver and contributes to the development of trust and confidence, which in turn promotes positive brain development (Center of the Developing Brain, n.d.).

For the uptake of parenting interventions to be successful, we must connect with mothers to determine how they perceive video-feedback interventions. There is currently a gap in qualitative research related to understanding maternal perceptions of interventions for PPD, specifically video-feedback interventions. Hermeneutics is a form of qualitative research that can lead to the opening of a different understanding of how mothers with PPD experience their participation in the VID-KIDS intervention.

Overview of Study

This study aimed to gain a new understanding related to maternal perceptions of the experience of being involved in the VID-KIDS intervention. Hermeneutics, also referred to as interpretive inquiry, was the methodology used in this research project to uncover new understandings (Moules et al., 2015). With this type of research inquiry, the discovery of meaning, which is primarily situated in the exchange of dialogue, is inherent in understanding a topic differently (Moules et al., 2015). In following this fundamental principle of hermeneutics, four mothers who participated in the VID-KIDS intervention were interviewed individually in their homes. Amidst the vast repertoire of emotions nestled in the experience of PPD, hermeneutics provided an opportunity for mothers to share their untold thoughts that, for some, have been buried in silence. It was a space that celebrated their happiness related to their growth

and healing, and it was a space that provided presence to acknowledge their pain and suffering. Most importantly, while maintaining research rigour, mothers were provided with a type of freedom aligned with how they needed to be. Regardless of how they chose to be, there was a welcoming of vulnerability and humanness with compassion and humbleness.

The interviews were recorded, transcribed, read, and re-read with an openness and a sense of curiosity towards discovering different and expanded understandings that were protected in the shared maternal words, both from the verbal and written perspective. In the review process, with every new encounter with the transcripts, there was a deepening of understanding and an unraveling of the topic. In hermeneutics, depth and meaning is uncovered when the topic under study is "unpacked and expressed as opposed to just a naming of it and a description of it" (Moules et al., 2015, p.127). In this process of hermeneutic *unpacking* and with each *re*encounter with the maternal words, joyfulness, and even weeping, it became more and more perceptible what called for sensitive attention and what deserved to be honoured. This immersive process encouraged what Moules et al.'s (2015) referred to as "hermeneutic sleuthing" (p. 128). This type of *sleuthing* contributed to an expansion and a deepening of knowledge associated maternal perceptions related to the VID-KIDS intervention. In summary, in this reflective process, the researcher advocated to ensure the maternal voice was openly received.

This study is grounded in Bandura's (1977) theory of self-efficacy. Bandura's (1977) view aligns with the VID-KIDS primary intention, which is to highlight maternal capabilities during moments of interaction with her infant. Mothers who are experiencing PPD are at risk for decreased self-esteem related to contemplating their ability to perform in their socially defined mothering role (Knudson-Martin & Silverstein, 2009). The co-viewing component of the video portion of VID-KIDS provided an opportunity to highlight the capabilities that each mother

maintained during her interaction with her infant. Bandura (1989) asserted that feeling confident in one's ability to influence their experiences is necessary for individual self-efficacy to flourish. In VID-KIDS, maternal competency is identified by both the RN and the mother. As a result of this acknowledgment, it is hoped that mothers will experience increased motivation to interact with their infants in a meaningful way. Just as Bandura (1989) suggested that self-efficacy protects individuals in stressful times, the witnessing of maternal efficacy serves as a source of strength that carries mothers through the challenging times that reside in motherhood.

Format for Thesis

This thesis is manuscript-based. Chapter 2 is the literature review to provide a brief overview of the risks, outcomes, tensions, and complexities that mothers withstand in the experience of PPD, in addition to an overview of video-feedback interventions and maternal acceptability of PPD treatments. Chapter 3 is a paper that consolidated the most meaningful findings from this research project. This paper will be submitted to the *Infant Mental Health Journal* and is titled *"A Hermeneutic Study of Mothers in the VID-KIDS Intervention: More than Meets the Eye."* The thesis concludes with Chapter 4, a discussion that includes implications of: (1) combining hermeneutics with randomized controlled trials (RCTs); (2) project findings; and (3) implementation in clinical practice, public health and policy, and future research.

Chapter 2 - Literature Review

This literature review begins with defining PPD, including the prevalence and risk factors of PPD, followed by adverse outcomes on the mother, infant, and the M-I dyad. After the concerns with PPD are framed, a review of interventions, including an overview of video feedback interventions, is presented. Next, a summary of maternal perspectives related to PPD support is provided. Ultimately, the goal of this literature review is to provide evidence for the importance of conducting research that aims to understand maternal perspectives related to video-feedback interventions pertaining to the experience of PPD.

PPD is characterized as MDD and is diagnosed when symptoms over two weeks represent a change from previous functioning and include depressed mood most of the day or decreased pleasure in all or most activities (American Psychiatric Association, 2013). Symptoms may include insomnia or hypersomnia, psychomotor agitation, fatigue, loss of energy, feelings of worthlessness, excessive or inappropriate guilt, diminished ability to think or concentrate, and suicidal ideation (American Psychiatric Association, 2013; Canadian Mental Health Association [CMHA], n.d.). The CMHA (n.d.) highlighted the challenges in recognizing PPD, as many of the symptoms overlap with mothers' expected feelings in the early postpartum period.

In addition to the symptoms of MDD, mothers with PPD are also faced with the added responsibility of nurturing their infant, possibly caring for other children, while attempting to multi-task house-hold chores (Beck, 1996; O'Hara & McCabe, 2013). Of most difficulty, mothers need to process that having a baby is not always filled with happiness, as she had expected (Beck, 1996; Edwards & Timmons, 2005; Thurgood et al., 2009).

Da Costa et al. (2006) (n = 78) reported that mothers with PPD (between 4 - 38 weeks postpartum) experienced a mean decrease in their health-related quality of life (HRQoL) as per

The Medical Outcomes Study Short-form General Health Survey (SF-36) (Ware & Sherbourne, 1992), when compared to mothers without PPD. Similarly, in another study by Dennis (2004a), mothers (*n* = 594) with depressive symptoms, as determined by scores on EPDS, experienced a significantly decreased HRQoL, as indicated by the SF-36 measure.

Other more concerning outcomes of PPD are maternal psychosis and thoughts of wanting to harm herself or her infant. VanderKruik et al. (2017) conducted a systematic review (*n* = 6 studies) to determine the global prevalence of postpartum psychosis and a prevalence rate of 0.5% was detected (*n* = 1000). Of further concern, in another study, almost 20% of mothers who scored high on the EPDS, defined as scoring 10 or greater, experienced thoughts of self-harm (Wisner et al., 2013). Due to the seriousness of PPD, research aimed towards understanding the experience of PPD from the mothers' perspective is called for to effectively address the root cause of this emotionally embedded individual and public health concern.

Prevalence of PPD

The estimated prevalence of PPD has varied from 13% (*n* = 59 studies; *n* = 12,810) (O'Hara & Swain, 2009) to 19.2% (*n* = 28 studies; 14, 835) (Gavin et al., 2005). From a Canadian context, Lanes et al. (2011) examined data from the 2006 Canadian Maternity Experiences Survey (MES) (*n* = 6,421), and the prevalence rate was 17.15%. Dennis et al. (2012) found that prevalence rates for PPD varied across Canada. For example, in the Territories, mothers were at increased risk (*OR* = 1.36), whereas in the Atlantic provinces, the risk was lower (*OR* = 0.75) (Dennis et al., 2012).

From a global perspective, lower-income countries have higher prevalence rates of PPD than developed countries (Simhi et al., 2019; Gelaye et al., 2016; Woody et al., 2017). Affonso et al. (2000) investigated global maternal depression in 9 countries (*n* = 892) and detected variability

in maternal symptomology. For example, in the first month postpartum EPDS scores were substantially lower in Sweden compared to Taiwan (4.9, 12.68 respectively). (Affonso et al., 2000). Woody et al.'s (2017) systematic review and meta-analysis (*n* = 96 studies) reported global PPD prevalence to be 11.9%. The researchers detected that mothers living in developing countries, compared to mothers in developed countries, were at almost double the risk of developing PPD (*OR* = 1.8, 95 % CI [1.4, 2.2]).

The prevalence of PPD can vary substantially due to variance in the study sample size, design, and the definition used for PPD (Dennis, 2004a). For example, rates can vary "from 3% to more than 25% ... and whether the studies were retrospective (low rates) or prospective can be 6-10-fold higher" (Dennis, 2004a, p.183). Additionally, research has indicated that the prevalence rate is difficult to determine accurately because many cases remain undetected (Dennis & Chung-Lee, 2006; Higgins et al., 2018; Letourneau et al., 2007; Yu & Sampson, 2016). Earls (2010) highlighted that PPD is the "most under-diagnosed obstetric complication in America" (p. 1032). A commonly referenced statistic from the Lancet indicated that approximately half of all PPD cases remain undetected (Ramsay, 1993). However, despite differences in methodology and measurement and considering the evidence from robust meta-analyses (Gavin et al., 2005; O'Hara & Swain, 2009), the probable PPD prevalence rate is between 13% - 19%.

In the literature, there are multiple reasons cited that present challenges in identifying true cases of PPD. However, this section will focus attention on the debate regarding using screening tools to arrive at an accurate understanding of PPD. Despite Cox et al.'s (1987) study that detected an 86% sensitivity rate and a 78% specificity rate for the EPDS, controversy remains regarding the validation of this tool (Eberhard-Gran et al., 2008; Gjerdingen et al., 2009; Stewart

& Vigod 2019; Ukatu et al., 2018). In a systematic review (*n* = 37 studies), measurements using the EPDS resulted in large variance pertaining to sensitivity and specificity (34 - 100% and 40 - 100%) and the researchers concluded that it could not be recommended as a reliable tool (Gibson et al., 2009). Furthermore, in Ukatu et al.'s (2018) review (*n* = 36 studies), they concluded that further PPD screening tool research is required due to specificity and sensitivity issues detected. However, despite challenges with screening tools, the EPDS was selected to determine inclusion for the VID-KIDS study because EPDS remains one of the most widely used tools (Gibson et al., 2009). Additionally, it is the tool that is currently being employed to screen mothers routinely for symptoms of PPD, with the agency recruitment partner, Alberta Health Services (AHS, 2019).

In summary, although evidence has indicated psychometric concerns with depression screening tools, they maintain value in potentially beginning the conversation with mothers about their experience with PPD and facilitating connection with appropriate resources. Premji et al. (2019) found that mothers who met the criteria for high risk, using the EPDS, were almost four times more likely to be later diagnosed with PPD and more likely to seek treatment, compared to those who were not defined as high risk, demonstrating the efficacy of screening.

Maternal Perspectives of PPD Screening

Screening tools are used to detect symptoms of depression and are not intended to provide a diagnosis for PPD (Hamel et al., 2019). A diagnosis of PPD is completed using diagnostic interviews (Boyd & Somberg, 2005). The EPDS, the Bromley Postnatal Depression Scale (BPDS) (Stein & Van den Akker, 1992), and the Postpartum Depression Screening Scale (PDSS) (Beck & Gable, 2000) are examples of screening tools that target depressive symptoms in the postpartum period (Boyd & Somberg, 2005). Mothers have expressed mixed opinions about the

desirability and effectiveness of PPD screening tools (Coates et al., 2014; Shakespeare et al., 2003). Therefore, it is valuable to provide studies that report on maternal perspectives.

In a Canadian study, mothers (*n* = 15) were interviewed about their views on mental health screening and found that maternal acceptability varied (Bayrampour et al., 2018). This research discovered that mothers with a history of mental distress were more likely to openly share their emotions with a HCP and willingly engage in PPD screening (Bayrampour et al., 2018). In a different qualitative study in the UK, Shakespeare et al. (2003) interviewed mothers (*n* = 39) about their experience using the EPDS as a screening tool. Their findings indicated that more than 50% of mothers viewed EPDS screening to be "less than acceptable" (p. 614) and mothers "expressed a clear preference for talking about how they were feeling, rather than ticking boxes" (p. 618). Additionally, an accurate understanding of the maternal experience with PPD is potentially restricted by the use of screening tools as "self-report measure tools are validated against diagnostic criteria which may not be relevant to postnatal women" (Coates et al., 2014, p. 2). Furthermore, mothers have expressed concerns about PPD screening's utility, as follow-up care was not always provided post-screening (Byatt et al., 2013).

In summary, issues related to screening continue to remain unsettled in the literature due to mixed evidence and varying theoretical beliefs associated with understanding the experience of PPD. However, what cannot be disputed is the importance of obtaining maternal perspectives about what is deemed most beneficial in supporting her through the process of healing in the experience of PPD.

Risk Factors for PPD

While the exact cause of PPD is not well understood, its onset is likely multi-factorial in nature (Grace et al., 2003; Guintivano et al., 2018; Letourneau et al., 2007; Vigod & Stewart,

2017). PPD "is a heterogeneous disorder with a variety of etiologic contributions and no singular phenotype" (Fisher et al., 2016, p. 111). However, amidst this complex area of study, in an umbrella review (*n* = 21 studies), Hutchens and Kearney (2020) reported that a history of prenatal mental illness and intimate partner violence (IPV) had the strongest correlation with PPD. This review also detected that poor maternal support systems and substantial life distress were significant risk factors for PPD. Thus, this section of the review will focus attention on the following risk factors for PPD: a history of depression (Silverman et al., 2017); social support (Dennis et al., 2012); socio-economic status (SES) (Serge et al., 2007); and stressors (Dennis et al., 2012).

History of Depression

Maternal history of mental illness has frequently been cited as increasing the risk of PPD (Davey et al., 2011; Dennis et al., 2012; Field, 2011; Guintivano et al., 2018; O'Hara & McCabe, 2013; Ogbo et al., 2018; Righetti-Veltema et al., 1998; Robertson et al., 2004; Shorey et al., 2018; Silverman et al., 2017; Stewart & Vigod, 2019; Wisner et al., 2013). In a Swedish cohort study (*n* = 707,701), "the RR of PPD in women with a history of depression was estimated at 21.03 (confidence interval:19.72-22.42), compared to those without" (Silverman et al., 2017, p. 178). As per a systematic synthesis review, other evidence indicated that the association between a history of depression and PPD had a "strong to moderate effect size" *(d* = 0.58) (Robertson et al., 2004, p.291). Additionally, in a cross-sectional survey (MES) of Canadian mothers, a history of PPD doubled the risk of PPD (*OR* = 1.87) (Dennis et al., 2012).

Specifically, mental illness during pregnancy has commonly been reported to be a significant risk factor for PPD (Beck, 2001; Davey et al., 2011; Guintivano et al., 2018; Leung et al., 2017; Milgrom et al., 2008; O'Hara & McCabe, 2013; O'Hara & Swain, 1996; Robertson et al., 2004;

Underwood et al., 2017). Robertson et al. (2004) reported that depression during pregnancy was the strongest risk factor (d = 0.75) detected for PPD. In Ogbo et al.'s (2018) Australian retrospective cohort study, mothers (n = 17,564) who had depression during pregnancy were almost seven times more likely to get PPD (OR = 6.7).

However, Shorey et al. (2018) evaluated PPD prevalence rates in their systematic review and meta-analysis (n = 58 studies) for mothers without a history of depression and reported the rate to be 17%. Additionally, Underwood et al.'s (2017) New Zealand longitudinal study (n = 5,301) detected that depressive symptoms were higher during pregnancy than in the first year following childbirth. Furthermore, Silverman et al. (2018) found that postpartum mothers were not at an increased risk compared to other women who had not delivered an infant in this time frame.

In summary, based on research from cohort studies (Ogbo et al., 2018; Silverman et al., 2017), a systematic synthesis review (Robertson et al., 2004), and data from a large cross-sectional survey (Dennis et al., 2012), there is convincing evidence that mothers with a history of mental illness are at an increased risk for developing PPD. These studies provide findings that support the need to offer upstream societal support focused on the prevention of mental health concerns from the beginning.

Social Support

Low maternal social support is associated with PPD (Beck, 2001; Dennis et al., 2012; Hetherington et al., 2018; Guintivano et al., 2018; Leung et al., 2017; Milgrom et al., 2008; O'Hara & McCabe, 2013; O'Hara & Swain, 2009). Mothers in Canada with low support had triple the risk of getting PPD (OR = 3.95) (Dennis et al., 2012). In another large Canadian study (n = 3,057), Hetherington et al. (2018) evaluated social support during pregnancy, using The Medical Outcome Survey Social Support Scale (MOS-SS) (Sherbourne & Stewart, 1991). The

authors detected that limited prenatal maternal support increased the risk of developing PPD in the early postpartum stage (RR 1.50, 95% CI [1.24, 1.82]). Other evidence has reported, more specifically, that poor marital support is associated with an elevated risk for PPD (Beck, 2001; O'Hara & McCabe, 2013; O'Hara & Swain, 2009). In particular, as suggested above, IPV significantly increased the risk for PPD (Alvarez-Segura et al., 2014; Dennis et al., 2012; Howard et al., 2014; Ogbo et al., 2018; Wu et al., 2012). Ogbo et al. (2018) found that IPV, in the form of psychological abuse, increased the risk for PPD five times (*OR* = 5.3). Wu et al.'s (2012) meta-analysis (*n* = 6 studies; *n* = 3,950 mothers) reported exposure to IPV tripled the risk factor for developing PPD, (*OR* = 3.47, 95% CI [2.13, 5.64]). In Alvarez-Segura et al.'s (2014) systematic review (*n* = 43 studies), they found that "any lifetime abuse" (p. 353) put mothers at risk for PPD, even when accounting for confounding factors.

Research has indicated that the type of support associated with PPD is variable. For example, Hetherington et al. (2018) found that "low emotional/informational support" (p. 938) was more associated with mothers experiencing anxiety, whereas "low total support"(p. 938) was associated with depression. In a different study, Leahy-Warren et al. (2012) (*n* = 410) reported a positive correlation between maternal social support, specifically informal support from friends and family, and maternal self-efficacy. The authors further detected a significant relationship between maternal self-efficacy and PPD at 6 weeks postpartum (Leahy-Warren et al., 2012). Racine et al. (2019) also reported that a mother's informal network was a valuable type of support and indicated that it was associated with improvement in maternal anxiety and stress. Haslam et al. (2006) (*n* = 247) reported an association between informal support, specifically from maternal parents, on PPD and self-efficacy. This research discovered that partner support was not associated with maternal self-efficacy and PPD. The authors hypothesized that maternal

parental support contributed to building efficacy as it was associated with positively teaching new tasks (Haslam et al., 2006). Finally, in another study, Leahy-Warren et al. (2011) reported that "formal structural support and emotional functional support at birth" (p.181) provided protection from mothers experiencing PPD at 3 months postpartum.

In summary, evidence obtained from a meta-analysis (Wu et al., 2012), cohort studies (Hetherington et al., 2018; Ogbo et al., 2018; Racine et al., 2019), and a systematic review (Alvarez-Segura et al., 2014) demonstrated an association between limited support and poor maternal mental health. The correlation of support on maternal efficacy in the experience of PPD (Haslam et al., 2006; Leahy-Warren et al., 2012) indicates the importance of ensuring adequate support is provided to mothers in the postpartum period, specifically support received from informal sources.

Socio-Economic Status

From a population health perspective, it is essential to understand how social determinants, such as SES, may contribute to increased risk for PPD. The WHO (2008) recommended that advocating for health equity and assessing social determinants of health should be incorporated into every level of care. When conducting research pertaining to PPD, it is also an important consideration to know how social determinants can widen inequalities (Guintavano et al., 2018; Lanes et al., 2011; Leung et al., 2017; O'Hara & McCabe, 2013; Ride, 2019). For example, low-income is a social determinant associated with an increased risk for PPD (Dennis et al., 2012; Guintivano et al., 2018; Howard et al., 2014; Leung et al., 2017; O'Hara & McCabe, 2013; O'Hara & Swain, 2009; Righetti-Veltema et al.,1998; Serge et al., 2007). In an American study, mothers (n = 4,332) with low-income were four times more likely to experience PPD than mothers with higher incomes (Serge et al., 2007). In another study, similar findings were

obtained that indicated financial hardship was associated with an increased risk of PPD (*OR* = 3.38, 95% CI [2.68-4.26], $p < 0.001$) (Dennis et al., 2012). In Goodman et al.'s (2011) meta-analysis (*n* = 193 studies), the impact of poverty on maternal depression was described as a "broad-scale enhancer of risk" (p.16). However, Robertson et al.'s (2004) review detected the effect of SES on PPD to have a small effect ($d = -0.14$).

In summary, when mothers are exposed to financial stress, evidence from studies with large sample sizes (Dennis et al., 2012; Serge et al., 2007) and a meta-analysis (Goodman et al., 2011) suggests they are at an increased risk of developing PPD. This research indicates the importance for health care providers (HCPs) and researchers alike to advocate for upstream policies that aim to prevent SES adversity and consider how a poor maternal economic environment can increase her risk of developing PPD.

Stressors

When a mother experiences stressful experiences in her life, there is evidence that her risk of developing PPD is increased (Guintivano et al., 2018; Howard et al., 2014; Leung et al., 2017; O'Hara & McCabe, 2013; O'Hara & Swain, 2009; Reck et al. 2016). Stressful life events (SLEs) were significantly associated with an increase in PPD with Canadian mothers, such as divorce, (*OR* = 2.48, 95% [1.75, 3.50], $p < 0.001$), heightened relationship stress (*OR* 3.65, 95% CI [2.95, 4.52], $p < 0.001$) and her partner not accepting of pregnancy (*OR* 3.08, 95% [2.16,4.39], $p < 0.001$) (Dennis et al., 2012). Furthermore, when three or more SLEs were experienced, mothers had more than double the odds of developing PPD (*OR* = 2.43; 95% CI [1.88, 3.15], $p < 0.001$) (Dennis et al., 2012).

Exposure to traumatic events in childhood, particularly abuse and dysfunction within the home environment, including parental mental illness, addiction, and criminal activity, are

commonly referred to as maternal adverse childhood experiences (ACEs) (Felitti et al., 1998). ACEs are correlated with an increased risk of PPD (Letourneau et al., 2019a; McDonald et al., 2019; McDonnell & Valentino, 2016; Racine et al., 2020). In Letourneau et al.'s (2019a) Canadian study (*n* = 907) maternal ACEs were associated with both depression and anxiety symptomology in the prenatal and postpartum time frames. In a more recent study, Racine et al. (2020) extended this area of research by reporting that "social support did not moderate the association between maternal ACEs and depression" (p.579). In further Canadian research (*n* = 1,994), McDonald et al.'s (2019) cohort study indicated mothers were at an increased risk of experiencing PPD and decreased self-confidence, notably when they experienced three or more ACEs. Finally, in an at-risk sample of mothers (*n* = 398), McDonnell and Valentino (2016) studied the associations among ACEs, PPD, and infant socio-emotional development. High ACE scores increased the risk of PPD, and infants exposed to PPD had increased adverse social-emotional infant outcomes at 6 months of age (McDonnell & Valentino, 2016).

In summary, findings from robust cohort studies (Letourneau et al., 2019a; McDonald et al., 2019; Racine et al., 2020) and a study with a large sample size (McDonnell & Valentino, 2016) provided evidence that ACEs are associated with increasing the risk of PPD. These studies suggest that it is important to understand a mother's history and exposure to ACEs, when providing support to mothers experiencing PPD. From a population health perspective, it is critical to know how ACEs contribute to maternal mental health concerns to ensure parenting programs address these deeply rooted social concerns.

Maternal Perspectives of Causes of PPD

In hearing the words of mothers, researchers can arrive at different understandings pertaining to experiences with PPD. Knudson-Martin and Silverstein's (2009) meta-analyzed

data from nine studies to understand PPD from mothers' perspectives. A theme for the cause of PPD was associated with mothers not disclosing negative feelings due to fear their experience would not align with the idealized construction of motherhood. As a result, mothers with PPD commonly endured "silencing processes" (Knudson-Martin & Silverstein, 2009, p.150) and this acted to further perpetuate their depression. Knudson-Martin and Silverstein (2009) asserted that more emphasis needs to be directed towards understanding the cause of PPD from a relational and social perspective that moves outside the bio-medical paradigm. In further understanding perspectives of PPD, Mauthner (1998) explored mothers' experiences (*n* = 18) with in-depth interviews. Mothers with PPD conveyed that they faced an unrelieved tension with others that "involved an active silencing of themselves within their relationships" (Mauthner, 1998, p. 347). Hence, Mauthner (1998) interpreted PPD as a '*Woman's Cry for Help'* within their relational world, as captured in the paper's title.

In a different study, Patel et al. (2013) interviewed mothers (*n* = 11) to understand their illness beliefs related to PPD. Their theory of PPD emerged from an unanticipated start to motherhood that initiated a spiral into what Patel et al. (2013) coined a "descent into" (p. 684) depression. Patel et al (2013) also found that PPD was connected to a sense of grief mothers experienced stemming from a "loss of time"(p. 687) related to missed connection with their children in a way that they had not envisioned. Furthermore, complicated tensions associated with being labelled with PPD and facing an unescapable ambiguity about their future were significant factors that were retained in developing the theory of PPD. Mothers "fused their illness with their sense of self and often had complex narratives about its origin and consequences" (Patel et al., 2013, p. 687).

In an American study, Ugarriza (2002) interviewed mothers (*n* = 30) about their

perspectives related to causes of PPD. This study reported that the experience of PPD did not always align with the criteria set out in the DSM-IV. For example, mothers reported that discovering enjoyment was critically important to them and this was opposite to the description in the DSM-IV (Ugarriza, 2002). Although mothers agreed that there were multiple understandings for their PPD, they attributed discouraging birthing and breastfeeding experiences, strain navigating the transition to becoming a mother, and an accumulation of never-ending stressors to be significant factors. In the United Kingdom (UK), McIntosh (1993) interviewed mothers (n = 60) to understand their perceptions of what causes PPD, and predominantly they reported it was rooted in the struggles "associated with the experience of motherhood itself" (p.180). Mothers' shared that "the best medicine of all was simply the reassurance" (McIntosh, 1993, p.183) that their experience with PPD was not uncommon.

In summary, amidst PPD scholarship, there is an abundance of research invested toward obtaining a quantitative perspective within a bio-medical lens that is motivated to understand the causes and distribution of illness (McIntosh, 1993). Leahy-Warren and McCarthy (2007) suggested that it is necessary for HCPs to obtain maternal interpretations of PPD and indicated that this is a universal research gap. Furthermore, providing mothers with the opportunity to share their stories about their mental health can be healing, and it was indicated that the "relational can be rehabilitated *through* narrative" (Stone & Kokanovic, 2016, p.105). Due to the intricacies associated with the experience of PPD, such as variance in social determinants and heterogeneous contextual environments, HCPs and researchers must listen to a mother's story to carefully understand the cause of her *case* of PPD. By using a research approach, such as hermeneutics, this outcome can be achieved.

Outcomes of PPD on Mothers

Maternal outcomes of PPD may include decreased parenting confidence (Arante et al., 2019), changes to parenting behaviour (Balbierz et al., 2015), and breastfeeding difficulties (Kendall-Tackett et al., 2011). PPD may also negatively influence M-I interactions (Field, 1998, 2010), resulting in adverse long-term outcomes for children. This topic will be discussed in a later section of this literature review.

Maternal Parenting Confidence

Concepts related to parenting confidence, such as self-esteem, self-efficacy, and competency, are important to healthy parenting and are of even more significance in the experience of PPD (Arante et al., 2020; Beck, 2001; Haslam et al., 2006; Kavanaugh et al., 2006; Leahy-Warren et al., 2012; O'Hara & McCabe, 2013; Pedro et al., 2019; Reck et al., 2012). In Reck et al.'s (2012) German longitudinal, prospective study (n = 798), a large effect (d = -1.88) was observed with PPD on decreasing maternal self-confidence at 3 months postpartum, measured via the Maternal Self-Confidence Scale (LMSCS) (Lips, Bloom, & Barnett, 1993). Additionally, a history of depression resulted in a large effect on decreased maternal self-confidence (d = -1.36). Furthermore, using validated tools, in a Brazilian cross-sectional study (n = 346), Arante et al. (2020) reported a negative correlation between "moderate to severe" (p .21) depressive symptoms during pregnancy and maternal confidence (*PR* 1.37, 95% CI [1.10, 1.71] .

In summary, based on evidence from a prospective international study (Reck et al., 2012) and a cross-sectional study (Arante et al., 2020), parenting confidence is associated with PPD. Thus, this provides the impetus for developing parenting programs that focus on exploring and building maternal confidence for mothers experiencing PPD.

Parenting Behaviour/Practices

Mothers with PPD have demonstrated different parenting practices compared to mothers without PPD (Balbierz et al., 2015; Chung et al., 2004; Field, 2010; Lovejoy et al., 2000; McLearn et al., 2006; McLennan & Kotelchuck, 2000; Sills et al., 2007). In Lovejoy et al.'s (2000) meta-analytic review (*n* = 46 studies), the authors investigated the effect of PPD on parenting outcomes, related to negativity, positivity, and engagement. PPD had the strongest effect (*d* = 40) on negativity and parenting, which was described as including "hostility" and "coercive" (p.583) behaviour.

PPD negatively influenced parenting practices, across all SES domains, such as feeding, sleep, health care, and safety practices (Field, 2010). Similarly, in an American study, Balbierz et al. (2015) compared parenting behaviours of mothers (*n* = 945) with PPD (using the EPDS) to those without (at 3 months postpartum), and PPD was correlated with unsafe parenting practices. In this study, just as Field (2010) reported, mothers remained significantly less likely to demonstrate safe parenting behaviour, irrelevant of their SES. However, no differences between mothers with PPD and without were detected for feeding practices or health care utilization (Balbierz et al., 2015). In an American secondary data analysis (*n* = 4,874), a correlation between increased depressive maternal symptoms and decreased interactive engagement with their children was reported. However, other feeding and parenting practices were not correlated with depressive symptomology (McLearn et al., 2006).

In Kavanaugh et al.'s (2006) American study, (*n* = 400) depressive symptoms were negatively associated with maternal self-esteem, inconsistent parenting, and decreased participation in literacy-related activities and oral health care routines with their children, compared to mothers without symptoms. However, no differences in the rate of accessing well-

childcare health care services were reported. Contrary to this finding, in an Australian study, Turner et al. (2003) reported that mothers (*n* = 159) with mental illness "were 3 - 5 times more likely" (p. 120) to miss or delay their children's immunizations. Additionally, in a prospective cohort study (*n* = 3,482), mothers with depressive symptoms utilized acute care and ER more frequently and well-child assessments less often (Minkovitz et al., 2005).

In summary, based on research using large sample sizes (Balbierz et al., 2015; McLearn et al., 2006), PPD is associated with an increased risk for unsafe and disengaged parenting practices in developed countries. Additionally, evidence from a cohort study (Minkovitz et al., 2005) indicated that PPD was associated with different health care utilization patterns. Thus, research pertaining to deepening understanding of parenting programs and support patterns of mothers seeking support in the health care system would be beneficial.

Breastfeeding

Several studies have investigated the correlation between breastfeeding and PPD (Dias & Figueiredo, 2015; Dennis & McQueen; 2009; Foulkes, 2011; Gagliardi et al., 2012; Kendall-Tackett et al., 2011; McLearn et al., 2006). In an American study by Kendall-Tackett et al. (2011), mothers (*n* = 6,410) who breastfed were at an increased likelihood of improved overall health, including a decreased likelihood of experiencing PPD. In Dennis and McQueen's (2009) qualitative systematic review (*n* = 49 studies), mothers who had symptoms of PPD were more likely to endure feeding challenges, including decreased breastfeeding confidence and duration. However, in another systematic review (*n* = 48 studies), the authors concluded that the "predictive value of breastfeeding" on PPD "remains equivocal" (Dias & Figueiredo, 2015, p.149).

In summary, in a large sample size study (Kendall-Tackett et al., 2011) breastfeeding was correlated with decreased PPD. In other evidence, as per a systematic review (Dennis & McQueen, 2009) PPD was related to breastfeeding concerns and mixed evidence was reported in a different review (Dias & Figueiredo, 2015). Furthermore, when mothers' experienced challenges with breastfeeding if the support they received was not perceived to be positive, their risk for experiencing PPD increased (Chaput et al., 2016). This research provides support for the critical need to communicate with mothers to understand what their perspectives are regarding what type of support matters to them.

Maternal Perspectives Related to PPD Outcomes

In Beck's (2002) seminal meta-synthesis (*n* = 18 studies), maternal perspectives related to PPD were explored. In this study four themes emerged that mothers with PPD faced, including "*(a) incongruity between expectations and reality of motherhood, (b), spiraling downward, (c) pervasive loss, and (d) making gains*" (p. 453). The theme of incongruity emerged for mothers in another study by Coates et al. (2014) who interviewed mothers (*n* = 17) who experienced increased distress in the postpartum period (not necessarily specific to PPD). In this UK interpretative phenomenological analysis (IPA) (Brocki & Wearden, 2006), maternal distress was associated with unforeseen birthing experiences filled with complicated feelings of shame and loss. Mothers also felt an unpredictable sense of disconnect in the postpartum stage, which included distancing themselves from their own emotions and experiencing challenges connecting with others, including HCPs. When conversations were absent with HCPs, mothers "felt anonymous" and "uncared for" (Coates et al., 2014, p. 7). However, mothers did report positive experiences when HCPs offered an appropriate amount of time to dialogue about their experiences and genuinely understand their distress.

In Blegen et al.'s (2012) hermeneutic study (*n* = 5), mothers shared that their experience with PPD was linked with a consuming fear related to an anticipated judgment from others if they truthfully disclosed their thoughts with others. Mothers were also encapsulated with a sense of despair associated with not engaging positively with their infant (Blegen et al., 2012).

Blegen et al. (2012) stated:

> The anxiety, guilt, and despair expressed the mothers' existential pain in the struggle to reach their source of strength; the courage to be the mother they longed to be. The mothers' yearning implied a struggle to muster their courage to develop their true possibilities of motherhood and live openly and honestly in the caring relationship with their child and others. (p. 426)

The intrinsic need to find strength was also discovered in another hermeneutic study by Blegen et al. (2014) in which they interviewed mothers (*n* = 10) in psychiatric care. Mothers' were consumed with managing the intense suffering while at the same time finding their… "inner source of strength as mothers" (p. 855).

In another study, Maxwell et al. (2019) sought a deeper understanding of the experience of marginalized mothers (*n* = 12 studies) with PPD, by using qualitative meta-interpretive synthesis (QIMS) (Aguirre & Bolton, 2014). Compared to other research, it was a fundamental goal for mothers to find their resilience to more successfully navigate PPD. This strength often came from the need to be healthy to care for their children. Another prominent theme that emerged was related to how poverty was a contributing factor to PPD, in and of itself. Mothers also expressed concern related to HCPs failing to consider how their SES influenced their experience of PPD, such as offering treatment options that were not financially feasible. Finally, mothers experienced accumulative isolation related to cultural misalignment, which stemmed

from differences in how Western society perceives PPD (Maxwell et al., 2019).

In summary, the literature suggests PPD is a complicated experience to unravel, thus mothers and HCPs can benefit from more qualitative research to explore this topic further. When designing studies that aim to answer questions about understanding PPD outcomes, obtaining maternal perceptions in research development can help HCPs understand their genuine experience. Murky, blurry, and poignant concepts that are tangled in PPD, lend themselves to exploration via qualitative methodology. In qualitative research such as hermeneutics, mothers are offered the space to express their feelings using their *own words* to attach meaning to their experience. A mother's words are a gateway to more profound meaning and understanding into her experience with PPD.

PPD Outcomes on Children

This section will begin with a discussion of exposure to depression prenatally, followed by a literature review related to biological, behavioural, socio-emotional, and cognitive outcomes when children are exposed to PPD. This review provides evidence that PPD is a concerning exposure and will therefore, provide the justification that continued research for understanding how to best develop supportive parenting programs, that offer enhanced protection for children and their families that is needed.

Prenatal Exposure to Maternal Depression

Evidence has indicated that when fetuses are exposed to maternal depression during pregnancy, they are at an increased risk for experiencing adverse biological outcomes. Abrams et al. (1995) examined infants 24 hours after birth, comparing those exposed to maternal depression during pregnancy (n = 47) to infants who were not exposed (n = 36) using the Brazelton Neonatal Assessment Scale (BNAS) (Brazelton & Nugent, 2011). Those exposed to depressed

mothers exhibited decreased motor tone and increased irritability, suggesting that exposure in utero may influence infant outcomes. Field (2011) reported associations between depression during pregnancy and fetal motor activity and concerns related to prematurity and infant birthweight. Suggested factors that may contribute to these outcomes include fetal exposure to increased maternal cortisol and norepinephrine, and decreased dopamine and serotonin linked to maternal depression (Field, 2011; Giesbrecht et al., 2015). In summary, more research is needed to understand how prenatal and postnatal stress influences outcomes in children (Field, 2011; Kingston & Tough, 2014).

Biological Outcomes in Children Exposed to PPD

Of significant concern, stress hormone (cortisol) levels can become elevated when children are exposed to the stress of PPD (Ashman et al., 2002; Essex et al. 2002; Gunnar et al., 2009; Halligan et al., 2004; Letourneau et al., 2011; Murray et al., 2010; Tryphonopoulos & Letourneau; 2020). PPD exposure is also associated with changes to children's grey matter in the brain (Lebel et al., 2016; Sethna et al., 2017), which may be related to prolonged exposure to elevated levels of cortisol (either prenatally or postnatally) which is considered neurotoxic (Gunnar et al., 2009). Moreover, the type of interaction between a mother and her infant can influence the brain in different ways (Field et al., 2006). For example, children of mothers who are more withdrawn exhibited "an EEG pattern that is associated with negative affect … as well as lower levels of activating neurotransmitter, dopamine" (Field et al., 2006, p. 15). In other research, infants were reported to be at increased risk of developing changes to their skin in the form of atopic dermatitis, when maternal sensitivity was decreased (Letourneau et al., 2017a) and PPD increased (Wang et al., 2016). Other biological effects were reported in Conradt et al.'s (2016) study that found an association between PPD, maternal sensitivity, and infant DNA

methylation. Infants (*n* = 128) exposed to mothers who provided responsive nurturing demonstrated less DNA methylation compared to mothers who demonstrated insensitivity during their experience with PPD (Conradt et al., 2016).

Farías-Antúnez et al.'s (2018) systematic review (*n* = 20 studies) reported exposure to PPD during the first year of a child's life was the most significant time frame associated with experiencing growth concerns, such as being underweight and even "stunted" (p.143). Irrelevant of the sample or country, this finding was consistent across studies. A South African birth cohort study (Avan et al., 2010) found that 2 year old children (*n* = 1,035) with PPD exposure were also at an increased risk of "stunted growth" (p. 690) (*OR* = 1.61) and poor behavioural outcomes. The researchers reported that behavioural concerns in children were further mediated by impaired growth. Similar to Farías-Antúnez et al.'s (2018) findings, these results were not influenced by SES. Other adverse health effects have also been observed in children exposed to PPD. In a cohort UK study (Ban et al., 2010) (*n* = 107,587), childhood infections in children (between birth to 4 years of age) exposed to mothers with PPD were compared to children not exposed. Children exposed to PPD had a "40% increase of GI infections, and 27% increased risk of lower respiratory infections" (Ban et al., 2010, p. 1).

In summary, PPD can negatively influence biological outcomes, such as physical growth impairments as per evidence obtained in a cohort study (Avan et al., 2010) and a systematic review (Farías-Antúnez et al., 2018). Additionally, research has indicated that PPD is correlated with an increased risk of infection in children, as per a large cohort study (Ban et al., 2010). This evidence provides support for the need to invest in preventative PPD research to decrease the risk of developing adverse physical health outcomes on children.

Behaviour Outcomes

Behavioural problems in children can be classified into either internalizing, such as depression and anxiety, or externalizing, such as attention deficit hyperactivity disorder (ADHD), conduct disorder (CD), oppositional defiant disorder (ODD), or aggression (Ogundele, 2018). Vasileva et al.'s (2020) meta-analysis from eight countries (*n* = 10 studies; *n* = 18,282) determined international prevalence rates of mental health concerns for children under 7 years age. Overall, the prevalence rate of mental illness in children was 20.1%. The rates of specific mental health disorders ranged from 8.5% for "any" anxiety disorder, 4.9% for ODD, 4.3% for ADHD, and 1.1% for depressive disorders, with a comorbidity rate of 6.4% (Vasileva et al., 2020). In the UK, Netsi et al. (2018) studied children from the Avon Longitudinal Study of Parents and Children (ALSPAC) (*n* = 9,848). The researchers reported that exposure to PPD that was described to be continuous with serious symptomology, significantly increased the odds of 3.5 years old's experiencing behavioural concerns (*OR* = 4.84, 95% CI [2.94, 7.98]), as measured using the Rutter Total Problem Scale, of the Rutter revised preschool questionnaire (Elander et al., 1996). Comparably, in an Australian prospective cohort study (*n* = 1,507), The Maternal Health Study, Woolhouse et al. (2016) reported that children exposed to maternal depression at 4 years of age had triple the odds of developing behavioural problems (*OR* = 3.46, 95% CI [2.21, 5.43]) as per the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 2001). In support of these findings, in a different study, the prevalence of maternal depressive symptoms was found to be more common four years after delivery, comparatively to the rate of depressive symptoms in the first year after delivery (Woolhouse et al., 2015). PPD may persist beyond the first year postpartum and may even worsen over time, presenting more negative impacts on children's behaviour than has been widely understood.

There is an abundance of research that aims to understand how children's behaviour is affected when they are exposed to PPD in their early environments (Beck, 1998,1999; Goodman et al., 2011; Kingston et al., 2018; Letourneau et al., 2019b; Naicker et al., 2012; Norcross et al., 2017; Pires et al., 2020; Rogers et al., 2020; Sanger et al., 2015; van Der Waerden et al., 2015; Verbeek et al., 2012; Woolhouse et al., 2016). In particular, a substantial amount of literature has been conducted to understand specifically what type of behaviour, internalizing or externalizing, may be a resultant outcome for children exposed to PPD. Additionally, research has been conducted to determine if the type and timing of PPD exposure will yield different outcomes on children's behaviour.

PPD on Internalizing and Externalizing Behaviour

In Goodman et al.'s (2011) meta-analysis (*n* = 193 studies, *n* = 80,851 mother-child dyads), an association was reported between PPD internalizing and externalizing behaviour in children. In this study, PPD was more likely correlated with internalizing behaviour with girls, whereas externalizing behaviour was not associated with gender (Goodman et al., 2011). King et al. (2018), using data from the All Our Families (AOF) cohort (*n* = 1,983), reported that chronic PPD was associated with both externalizing and internalizing behaviour in children. In a Netherlands cohort study, Verbeek et al. (2012) investigated adolescents (*n* = 2,729) and found that PPD was not associated with externalizing behaviour and reported that only internalizing behavior was significantly related. Similarly, in an American study (*n* = 259 dyads), PPD on 2 year old children was only associated with internalizing behaviour (Norcross et al., 2017). Sanger et al.'s (2015) systematic review (*n* = 16 studies) investigated the correlation between PPD on behaviour on adolescents and reported inconclusive findings with limited evidence for concerns associated with internalizing behaviour. Letourneau et al. (2019b) provided different

evidence from the Alberta Pregnancy Outcomes and Nutrition (APRON) cohort (*n* = 634) that the type of behaviour toddlers exhibited was associated with whether or not they were exposed to maternal depressive symptoms or "both" paternal and maternal depressive symptoms. Maternal depressive symptomology was associated with externalizing behaviour whereas exposure to simultaneous parental depressive symptoms was associated with internalizing behaviour (Letourneau et al., 2019b).

Timing of PPD Exposure

In a Canadian cohort study (*n* = 937), the National Longitudinal Survey of Children and Youth (NLSCY), the relationship between the primary exposure to PPD and behavioural concerns at 12 - 13 years of age were investigated (Naicker et al., 2012). When children were exposed to PPD between the age of 2 - 5 years, it was more concerning than if their first exposure was under one year of age. This timing of exposure resulted in doubling the risk of developing anxiety and depression as an adolescent (Naicker et al., 2012). This finding is contrary to other research that has indicated that the first year is the most concerning time for a child to be exposed to PPD. However, similar to the study by Woolhouse et al. (2015) about the persistence of PPD and impacts on children mentioned above. In a French cohort study (*n* = 1,183 dyads), van Der Waerden at el. (2015) reported that exposure to chronic depression had the largest effects on 5 year old children and resulted in poorer behavioural outcomes, than exposure in the postpartum time frame. Moreover, Pires et al. (2020) researched children (*n* = 413) of adolescent mothers with PPD from postpartum to 5 years of age to determine the most critical exposure time. Chronic exposure to PPD was more concerning than the timing of exposure, as children exposed to cumulative PPD had poorer behavioural outcomes, when measured using the SDQ (Pires et al., 2020).

In summary, although there are mixed findings regarding the outcomes of PPD on children's behaviour (Sanger et al., 2015) based on evidence from cohort studies (Letourneau et al., 2019b; King et al., 2018; Naicker et al., 2012; van Der Waerden et al., 2015; Verbeek et al., 2012; Woolhouse et al., 2016), and meta-analytic research (Goodman et al., 2011) when children are exposed to PPD they are at an increased risk for experiencing poorer outcomes related to their behaviour. This research indicates the importance of ensuring meaningful parenting support is available for families when maternal depression is present, in an effort to provide children with opportunities that will encourage them to achieve optimum outcomes.

Socio-Emotional Outcomes

Social and emotional development is defined as the ability to "form close and secure adult and peer relationships; experience, regulate, and express emotions in socially and culturally appropriate ways; and explore the environment and learn- all in the context of family, community, and culture" (Yates et al., 2008, p. 2) (as cited in Darling-Churchill & Lippman, 2016, p.1). When children are exposed to PPD, they are at an increased risk of experiencing concerns related to their socio-emotional health (Field, 1995; Junge et al., 2017; Kingston et al., 2012; McDonald et al., 2018; Murray et al., 1999; Rogers et al., 2020; Wall-Wieler et al., 2020). In a large-scale Canadian study, Wall-Wieler et al. (2020) reported that 5 year old children (*n* = 52,103) exposed to depression were at an increased risk for experiencing socio-emotional concerns related to "social competence" (p.6) at a rate of 13.2% vs. 9.7% in the non-exposed group. Wall-Wieler et al. (2020) additionally detected that the exposed children were at further risk of developing concerns related to "emotional maturity" (p.6) at a rate of 13.2%, compared to 10.1% for the non-exposed. To further support these findings, meta-analytic research conducted by Rogers et al.'s (2020) (*n* = 191 studies; n = 195,751 M-I dyads) examined the outcomes of

PPD from infancy to 18 years of age and reported that PPD was associated with socio-emotional development concerns ($r = 0.24$, 95% [CI-0.20, 0.29]). The next section will further examine the association between exposure to PPD and socio-emotional outcomes in children.

Junge et al.'s (2017) cohort study ($n = 1{,}235$) in Norway evaluated the association between PPD and social-emotional development at 2 years of age, using the Ages and Stages Questionnaire: Social-Emotional (ASQ-SE) (Squires et al., 2002). Children were at almost four times the risk of developing socio-emotional concerns when exposed to their mothers' depression during pregnancy and postpartum, compared to those not exposed. In another study, Murray et al. (1999) followed children exposed to PPD from 2 months of age to 5 years ($n = 693$) and evaluated socio-emotional development outcomes based on the type of play 5 year old's engaged in at school. Children exposed to PPD displayed significantly more negativity when socializing with peers ($p = 0.04$) and were significantly less likely to play creatively ($p = <0.01$). Furthermore, in a systematic review ($n = 18$ studies), Kingston et al. (2012) investigated the association between maternal distress, (including PPD, anxiety, stress, and psychological distress) in the prenatal and postpartum period on a variety of infant development outcomes. Infants exposed to maternal distress experienced socio-emotional concerns with "moderate effects on reduced social engagement and increased fear" (Kingston et al., 2012, p. 698). In a more current Canadian cohort study ($n = 1{,}596$) 2 year old children exposed to maternal depression, decreased parenting confidence, and limited playtime, with their care-giver were significantly more likely to exhibit socio-emotional concerns (McDonald et al., 2018). This study evaluated data using the Brief Infant-Toddler Social and Emotional Assessment (BITSEA) (Briggs-Gowan et al., 2004) which identifies concerns related to "empathy, pro-social behaviors and compliance" (McDonald et al., 2018, p.3).

In summary, as per evidence from cohort studies (Junge et al., 2017; McDonald et al., 2018), a systematic review (Kingston et al., 2012), studies with large sample sizes (Murray et al.,1999; Wall-Wieler et al., 2020) and a large meta-analysis (Rogers et al., 2020) exposure to PPD is associated with an increased risk of less than optimal socio-emotional outcomes in children. This research indicates that programming to prevent and reduce the risks associated with PPD may positively impact children's emotional health.

Cognitive Outcomes

Cognitive development refers to intellectual skills that pertain to a child's ability to comprehend, learn, problem-solve, memorize, and reason (The Canadian Pediatric Society, n.d.). The prevalence of cognitive and language development concerns in Canadian children was reported to be approximately 10%, and when children were exposed to maternal depression, this increased to 12% (Wall-Wieler et al., 2020). Ample research has examined the association between exposure to PPD and cognitive outcomes in children (Brennan et al., 2000; Grace et al., 2003; Liu et al., 2017; Milgrom et al., 2004; Murray, 1992; Netsi et al., 2018; Shen et al., 2016; Smith-Nielsen et al., 2017; Sohr-Preston & Scaramella, 2006). In the following section, evidence highlighting the association between cognitive developmental concerns in children and exposure to PPD will be presented.

In a meta-analysis (n = 14 studies), Liu et al. (2017) investigated the relationship between cognitive outcomes exposure to maternal depressive symptomology in infancy. This research reported that symptoms of depression were correlated with decreased cognitive outcomes in 6 - 8 week-old infants, as per the Mental Developmental Index (MDI) of the Bayley Scales of Infant and Toddler Development (BSID) (Albers & Grieve, 2007). Murray (1992) found that when infants (n = 702) were exposed to PPD, developmental problems in cognition at 18 months of

age were identified when measured using Piaget's object concept task (Stages V and VI) (Wishart & Bower, 1984). Milgrom et al.'s (2004) study of depressed (n = 40) and not depressed (n = 48) inpatients evaluated the effects of PPD, impaired M-I interactions, and maternal responsiveness at 6 months postpartum on children's cognition at 42 months of age using the Full-Scale IQ on the Wechsler Preschool Primary Scale of Intelligence (Revised) (WPPSI-R) (Wechsler, 1989). Results indicated that children exposed to PPD had significantly lower IQ scores compared to the non-exposed children and cognitive performance was further mediated by maternal responsiveness (Milgrom et al., 2004).

Type/Timing of PPD Exposure

Grace et al.'s (2003) review of (n = 13 studies) on the association between PPD and cognitive development (variously measured), found mixed effects with context or chronicity of exposure playing a role. Children exposed to PPD chronically were more likely to experience longer-lasting effects compared to children exposed to PPD intermittently. Netsi et al. (2018) examined whether the type "or" the length of PPD exposure affected children's cognitive outcomes. Their findings revealed exposure to both severe and chronic PPD increased the risk of experiencing academic challenges, even in the late stages of adolescence (OR = 2.65; 95% CI [1.26, 5.57] (Netsi et al., 2018). Similarly, Brennan et al. (2000) reported in their Australian cohort study (n = 4,953) that children exposed to persistent PPD that was defined as "severe" experienced language delays at 5 years of age. A Swedish cohort study (Shen et al., 2016) (n = 1,124,162) studied the effects of children exposed to maternal and paternal depression at various stages during their life on academic achievement. Poor academic performance was associated with exposure to maternal depression (−0.45, 95% CI [−0.48, −0.42]) and paternal depression

(−0.40, 95% CI [−0.43, −0.37]). However, exposure to maternal depression resulted in more negative outcomes than paternal depression. Like other research, a gender correlation was identified in that boys performed better academically, when compared to girls exposed to maternal depression (Shen et al., 2016).

In summary, despite some inconsistent findings in the literature, evidence from a meta-analysis (Liu et al., 2017), cohort studies (Brennan et al., 2000; Netsi et al., 2018; Shen et al., 2016), and a study with a large sample size (Murray, 1992) reported that when children are exposed to PPD, they can experience cognitive challenges. This research provides a foundation for providing appropriate support in the early year environments that aims to protect children from the stressors associated with parental mental health concerns.

Maternal Perspectives of their Children's Development

How do mothers understand how their children are doing, and how do they interpret the association between PPD and their children's behaviour? Evidence has indicated that mothers with PPD described their infants in a negative manner (Field et al., 1993), including reporting of more deleterious patterns of child behaviour (Avan et al., 2010). Gartstein et al. (2009) referred to this phenomenon as the "depression-distortion hypothesis" (p.149) or heightened reporting of poorer child behaviour by mothers experiencing PPD.

This disconnect between what mothers' report and what HCPs assess indicates that we need more understanding of mothers' experiences. Thus, it is suggested that more research is required to understand depressed mothers' perceptions of their infants in this context. In particular, qualitative inquiry provides an opportunity for mothers' to explore the meaning and perspectives they attach to this assessment of their children. Furthermore, regardless of whether or not parent assessments of their children are accurate, negative perceptions may decrease

feelings of maternal competency and the quality of the M-I (Beck., 1996; Woolhouse et al., 2016). Therefore, ensuring adequate time is provided in health care to collect maternal interpretations of how mothers understand and perceive how their children behave would be an invaluable conversation in health care. In concluding, Woolhouse et al. (2016) asserted that maternal reporting should be deemed as an appropriate means of gathering data on children's health.

Impact of PPD on M-I Interactions

Responsiveness toward children's bids for caring attention has been described as a "vital parenting tool" (Eshel et al., 2006, p. 991). However, when mothers have PPD, there is mounting evidence that they exhibit decreased maternal sensitivity and responsiveness to their infant's emotional requirements (Beck, 1996; Eshel et al., 2006; Field, 1998, 2010; Field et al., 2006; Field et al., 2009; Karl, 1995; Murray et al., 2010; Stein et al., 1991; Stein et al., 2010; Tronick & Reck, 2009). Due to the potential of decreased sensitivity and responsiveness that mothers experiencing PPD may demonstrate, researchers have explored the correlation between PPD and the quality of M-I interactions (Beck, 1995; Beebe et al., 2008; Cohn et al., 1990; Cornish et al., 2008; Earls, 2018; Field, 1984; Graham et al., 2018; Macmillian et al., 2020; Milgrom et al., 2004; Moehler et al., 2006; Reck et al., 2016; Righetti-Veltema et al., 2002; Stein et al.,1991; Tronick & Reck; 2009; Tronick et al.,1978; Vaever et al., 2020). To investigate the concerns associated with PPD and M-I interactions, Beck (1995) conducted a meta-analysis (n = 19 studies; n = 829 dyads). The results indicated that PPD had an overall medium to large effect (r = 0.47 - 0.50) on the quality of the M-I. This section will present literature related to how PPD can impair M-I communication.

Tronick et al.'s (1978) momentous Still Face Paradigm (SFP) experiment observed that

infants found it distressing when their mothers did not engage with them in a responsive manner. In this experiment, mothers were recorded being unresponsive to their infants for 3 minutes (between the ages of 1 - 4 months). Infants initially responded to their mother's disengagement with a series of engagement cues in a bid to attract the mother's attention. However, when there was no maternal response, it became difficult for infants to regulate their emotions and they became visibly distressed (Tronick et al., 1978). In a meta-analysis (*n* = 7 studies), Graham et al. (2018) explored how infants with mothers who have PPD respond to the SFP. Contrary to other evidence, infants exposed to PPD exhibited increased affect that was positively shared, compared to infants not exposed to PPD. The authors hypothesized that infants exposed to PPD come to understand that they need to display positivity in an effort to sustain interaction with their mothers. A second hypothesis was that infants' positivity served as a coping mechanism to manage their negative feelings (Graham et al., 2018). In a different study, Vaever et al. (2020) ascertained in their Denmark study of 4 month old infants exposed to PPD (*n* = 28) and not exposed (*n* = 52) that infants exposed to both "PPD symptoms and diagnosis were associated with … fewer high negative, more neutral interest facial affect … and fewer gaze off events" (p. 477).

Tronick and Reck (2009) conveyed that depressed mothers and their infants experienced difficulty in successfully reconnecting when "mismatching" (p.148) occurred, which led to infant negativity and difficulty with perceptive communication. Tronick and Reck (2009) further explained that mismatching occurs typically in any M-I interaction. However, in non-depressed dyads, they can efficiently respond to this misalignment. In this formative review, two primary styles of communicating were identified by mothers who have PPD, which were "intrusive" or "disengaged and withdrawn" (Tronick & Reck, 2009, p.151). The researchers reported that

infants commonly responded to maternal disengagement with emotions that represented unhappiness. In comparison, maternal intrusiveness was more correlated with infants exhibiting emotions that reflected anger.

In Field's (1984) pivotal study of 3 month old infants exposed to PPD compared to infants not exposed, non-exposed infants demonstrated increased positivity and higher heart rates. Comparatively, the depressed dyads demonstrated less variability in their heart rates. In Field's (1995) review, infants emulated their depressed mothers' negative behaviour. Furthermore, exposure to maternal depression may be concerning "…because the infant receives no feedback or contingent responsivity … and this serves as a model for the infant to develop depressed behavior" (Field, 1995, p. 8). In comparison, in Cohn et al.'s (1990) Pittsburgh study, observing interactions between depressed (n = 24) and non-depressed (n = 22) dyads at 2 months postpartum. The researchers detected that "… reduced positivity of depressed dyads was achieved through contingent responsiveness" (p. 15) and maternal negativity "… consisted of irritation or … disinterest" (p. 19). Furthermore, in a prospective Swiss study (n = 570), Righetti-Veltema et al. (2002) evaluated PPD (as per EPDS) and M-I interactions at 3 months postpartum, and PPD was correlated with decreased verbal and positive engagement.

Stein et al. (1991) compared depressed (n = 49) and non-depressed (n = 49) maternal-toddler interactions at 19 months of age. Children of depressed mothers demonstrated socio-emotional concerns related to decreased "affective sharing" (p <0.01); the mothers showed … less facilitation" (p <0.01); while the mothers and the children showed … less interaction (p<0.01)" (Stein et al.,1991, p, 48). Similarly, in Beebe et al.'s (2008) (n = 152) American study, distressed mothers engaged unpredictably making it challenging for infants to understand what to expect. This is of significant concern because maintaining a coordinated state within a dyad is

critical for healthy M-I interactions. Furthermore, in a German study, Moehler et al. (2006) found PPD (*n* = 101 dyads), including mild depression in the early postpartum stage, was associated with decreased quality of M-I interaction as per the Postpartum Bonding Questionnaire (PBQ) (Brockington et al., 2001).

Australian researchers Cornish et al. (2008) examined depressed (*n* = 77) and non-depressed (*n* = 35) mothers to determine the relationship between PPD persistence and infant gender (15 months of age) on the quality of M-I interaction, as per the Emotional Availability Scale, (EAS) (Biringen et al., 2014). Contrary to other research findings, the interactions between the depressed and non-depressed dyads did not differ significantly; however, PPD was correlated with a more invasive communication style. There was no effect on persistent depression or infant gender (Cornish et al., 2008). In other Australian research, Macmillian et al. (2020) examined maternal emotional availability using the EAS with mothers experiencing depression (*n* = 59) compared to mothers without depression (*n* = 152) at 6 months postpartum, and similar to Cornish et al.'s (2008) findings, the effects of PPD on maternal emotional availability were small.

In summary, despite inconsistent research findings (Cornish et al., 2008; Graham et al., 2018; Macmillian et al., 2020), ample evidence (Cohn et al., 1990; Moehler et al., 2006; Righetti-Veltema et al., 2002; Stein et al.,1991), including a meta-analysis (Beck, 1995) has informed that PPD is associated with negative M-I interactions. These studies indicate the essentiality of parenting interventions to include components that aim to improve the quality of the M-I interaction when mothers are experiencing PPD.

Maternal Perspectives Related to M-I Interactions

Mothers have shared a multitude of perspectives related to how it feels to interact with their children in the experience of PPD that is encompassed with guilt, loss, and suffering (Beck, 1996). Beck's (2020) novel metaphor analysis study analyzed previous qualitative research findings using the Metaphor Identification Procedure (MIP) (Group, 2007). In applying MIP to prior research, the metaphors that mothers used to describe their experience with PPD were identified. Examples of metaphors that mothers used to describe what it felt like to interact with their infants while depressed included: "a robot," "being at the races," "an actor," "an erupting volcano," "enveloping fogginess," "skin crawling," and "a wall" (Beck, 2020, p.112). This research illustrated how MIP is able to provide further comprehension into quantitative findings. For example, Beck (2020) suggested that when a mother's experience with PPD is consumed in fog, it is comprehensible that she would experience challenges in attempting to clearly respond to her infant cues. Beck (2020) further stated:

> It is this insiders' view of mother-infant interactions that qualitative research on women's experiences of postpartum depression can provide … Being attentive to metaphors mothers express in describing their interactions with their infants is one strategy nurses can use to help identify a struggling mother/infant dyad. (p. 109)

In summing up the evidence related to PPD and M-I interactions, experiences in health care have been primarily assessed using quantitative tools. With the implementation of innovative qualitative research, deepened and different understandings related to PPD could be obtained (Beck, 2020).

Interventions to Improve M-I Interactions for Mothers with PPD

Effective treatment for PPD alone is not sufficient to improve the quality of M-I interactions (Field, 1998; Forman et al., 2007; Gunlicks & Weissman, 2008; Milgrom et al., 2006; Milgrom & Holt, 2014; Murray et al., 2003; Nylen et al., 2006; Poobalan et al., 2007; Reck et al., 2016; Stein et al., 2014; Stewart & Vigod, 2019). Based on this evidence, it is critical to ensure that interventions focus on improving the relationship quality of the M-I dyad (Earls, 2018).

Evidence has indicated that there is low maternal acceptability related to taking medication for PPD for a variety of reasons (Boath et al., 2004; Hadfield & Wittowski, 2017; Henshaw, 2004; Henshaw et al., 2011; Jones; 2019; O'Mahen & Flynn, 2008; Tobin et al., 2018; Young et al., 2019). In a British study, Boath et al. (2004) explored maternal perceptions (n = 35) regarding medication for the treatment of PPD, and mothers reported they did not take it as intended, were concerned about side effects, and felt that it did not meet their needs. One mother shared that she was in "search for 'something more' " (Boath et al., 2004, p. 226).

Given voiced maternal concerns related to medications, it is worthy of highlighting other interventions that have been studied to treat PPD. Different types of interventions for PPD include; interpersonal psychotherapy (IPT) (Clark et al., 2003; Forman et al., 2007; Nylen et al., 2010; O'Hara et al., 2000), group interpersonal therapy (GIPT) (Mulcahy et al., 2010; Reay et al., 2012), individual Perinatal Dyadic Psychotherapy (PDP) (Goodman et al., 2015), cognitive behavioural therapy (CBT) (Misri et al., 2006; Morrell et al., 2009; Murray et al., 2003), individual CBT in pregnancy (Pearson et al., 2013), group CBT (Meager & Milgrom, 1996; Verduyn et al., 2003), In-Home Cognitive Behavioral Therapy (IH-CBT) (Ammerman et al., 2015), infant massage (Field et al., 1996; Onazaowa et al., 2001), telephone peer support (Dennis

et al., 2009; Letourneau et al., 2015), and group peer support (Letourneau et al., 2011b). However, these studies resulted in mixed findings and did not commonly assess maternal acceptability. For a broader understanding of the effects of PPD interventions, several systematic reviews provide a general overview of the findings related to PPD interventions.

Systematic Reviews of Parenting Interventions for PPD

Poobalan et al.'s (2007) systematic review (n = 8 studies) evaluated RCTs on the effectiveness of PPD treatment on M-I interactions and child development. Although changes were detected for children's cognitive and behavioural outcomes, out of the 3/8 studies that assessed cognitive effects, only one resulted in significant improvements (Cicchetti et al., 2000). In Cicchetti et al.'s (2000) study, the researchers evaluated a toddler parenting psychotherapy (TPP) for children exposed to PPD. The findings yielded significant group IQ differences (p = 0.008) that detected decreasing IQ scores for the control group. The effectiveness of treatment on the M-I was investigated in 5/8 studies, and all demonstrated positive change. Due to the omission of calculated effect sizes and variability with interventions, results were inconclusive. Therefore, the authors concluded that more research is needed (Poobalan et al., 2007).

In another systematic review (n = 19 studies), Tsivos et al. (2015) evaluated PPD interventions for effects on M-I interactions, PPD, and children's development. In this review, improvements in PPD was most significant when a behavioural coaching based program was used (Horowitz et al., 2001) and in a study that provided support in the form of M-I therapy group support (M-ITG) (Clark et al., 2008). Interventions aimed to improve the M-I interaction yielded the strongest effects in this review. For example, Kersten-Alvarez et al.'s (2010) study detected a medium effect (r = 0.68) on video-feedback improving M-I interaction quality. Developmental outcomes were assessed in less than 1/3 of the studies with varied result. The

findings were equivocal as most of the studies did not meet the criteria defined by the Clinical Tool for Assessment of Methodology (CTAM) (Tarrier & Wykes, 2004). Additionally, small sample sizes, limited outcomes assessment, heterogeneity of interventions, and inconsistent approaches to defining PPD, made it challenging to provide conclusive evidence (Tsivos et al., 2015).

Barlow et al.'s (2016) systematic review (n = 8 studies) investigated Parent-Infant Psychotherapy (PIP), also referred to as Infant-Parent Psychotherapy (IPP) (Main et al., 1985), which aims to improve "parental internal working models" (p. 466). Studies were included in the review if researchers employed a standardized tool to measure parent and infant mental health outcomes. PIP resulted in significantly increasing secure attachment (p = 0.003). Additionally, the researchers detected significant decreases in disorganized (*RR* 0.32; 95% CI [0.17, 0.58]) and avoidant (*RR* 0.48; 95% CI [0.24, 0.95]) attachment. Barlow et al. (2016) suggested that more research is needed to test the effectiveness of PIP due to the limited number of studies in this review and lack of homogeneity in the findings.

In a systematic review (n = 36 studies), Letourneau et al. (2017a) evaluated the effects of various treatment modalities on PPD and child development and parenting. Interventions investigated included IPT, maternal-child guidance CBT, peer support, and massage. Out of the studies (6/36) that investigated M-I guidance outcomes, maternal confidence and children's stress levels improved. For example, one study in this review (van Doesum et al. 2008) reported large effects on child responsiveness, (d = 0.67), security (d = 0.51), and socio-emotional functioning (d = 0.46) and maternal sensitivity improved (d = 1.86) when maternal-child interaction guidance was evaluated using video-feedback. Out of the studies (6/36) that investigated the outcomes of M-I guidance, maternal confidence and children's stress levels

improved. For IPT, no group differences or effects on parenting stress were found, while interventions that incorporated coaching improved maternal responsiveness.

Rayce et al.'s (2020) systematic review and meta-analysis of RCTs (n = 8 studies) evaluated the effects of psychosocial parenting interventions for mothers with PPD on the quality of the M-I interaction and child development outcomes. Overall, as per the meta-analytic findings, the interventions resulted in an effect size of (d = 0.028) on the parent-child relationship, indicating insignificant effectiveness. On child development, efficacy was limited, as the researchers could not perform a meta-analysis due to missing information. In conclusion, the parenting interventions assessed in this review yielded limited effectiveness, and more robust research is needed (Rayce et al., 2020).

Huang et al. (2020) conducted a systematic review and meta-analysis (n = 13 studies) of RCTs that assessed the effectiveness of M-I psychotherapy (MIP) (Austin & Highet, 2011) on PPD. From a short-term perspective, MIP resulted in significantly decreasing PPD (p = 0.002). However, this review was unable to detect any significant findings on the improvement of M-I interactions with MIP. Huang et al. (2020) suggested that due to heterogeneity, limited sample diversity, and unknown treatment adherence identified in this review, more evidence with larger studies are needed.

Kersten-Alvarez et al.'s (2011) meta-analysis (n = 10 studies) examined thirteen different interventions to decrease maternal sensitivity when PPD is present. Interventions were grouped into either support groups, interaction coaching, individual mother therapy, or infant massage. Overall, infant massage (g = 0.85, 0.28 - 1.41) and support groups (g = 0.79, 0.31 - 1.26) had the largest effects on improving maternal sensitivity, whereas individual therapy was detected to have minimal benefit. In this meta-analysis, Mayers et al.'s (2008) research "used a combination

of individual, dyadic, and group interventions" (Kersten-Alvarez et al., 2011, p.372). Mayers et al.'s (2008) study delivered to adolescent mothers resulted in the most promising effects on maternal sensitivity in this review. Overall, the results of interventions designed to improve maternal sensitivity were mixed. Kersten-Alvarez et al. (2011) suggested more research is called for to increase understanding related to the specific components of the interventions that positively contribute to improving maternal sensitivity.

Overall, the evidence related to the effectiveness of current treatments available for the M-I dyad is mixed, suggesting that continued research is needed. Maternal perspectives about this treatment are limited and not always explored or included in the research findings, suggesting a gap remains. Video-feedback interventions are an example of a parenting intervention related to improving sensitivity, mental health, and the quality of the M-I relationship. Thus, expanding research related to video-feedback interventions is an imperative research endeavour.

Video-Feedback Interventions to Improve M-I Interactions for Mothers with PPD

Video-feedback intervention is an example of an innovative treatment that has the potential to significantly improve the M-I relationship when mothers are experiencing PPD (Beebe, 2005; Crittenden & Snell, 1983; Kalinauskiene et al., 2009; Reck et al., 2016; Rusconi-Serpa et al., 2009; Stein et al., 2018; Tryphonopoulos & Letourneau; 2020; Vik & Hafting, 2009). Reck et al. (2016) described video-feedback interventions as a hopeful strategy that can acknowledge positive engagement between a mother and her infant. Similarly, Beebe (2005) referred to video-feedback interventions as a "… remarkable clinical tool …" (p.12) that can uncover "… subtleties and subliminal details of interactions which are too rapid and complex to grasp with the naked eye in on-going time" (p. 12). Additionally, when mothers observed how

they engaged with their infant, they experienced powerful feelings related to strength and liveliness, they became more sensitive, and their mental health improved (Vik & Hafting, 2009). When delivering video-feedback interventions, maternal perceptions matter and are a key component of the conversation between the mother and the RN. In this reflective opportunity, mothers arrived at re-defined understandings of their maternal competencies (Viks & Hafting, 2009).

Critical Appraisal of Video-Feedback Intervention Studies

In consultation with a librarian with expertise in health sciences, MEDLINE was searched for English-language video-feedback interventions that specifically targeted mothers with PPD and their infants. There were 12 studies that matched this search (Bilszta et al., 2012; Coo et al., 2018; Horowitz et al., 2001; Horowitz et al., 2013; Kalinauskiene et al., 2009; Kenny et al., 2013; King et al., 2015; Kristensen et al., 2017; Paris et al., 2011; Stein et al., 2018; Tryphonopoulos & Letourneau, 2020; van Doesum et al., 2008) plus four qualitative studies (Gill et al., 2019; Vik & Braten, 2009; Vik & Hafting, 2006, 2009). One additional study was retrieved but excluded as it was not in English (Olhaberry et al., 2015). For a more detailed assessment of the studies, see Appendix A. For a detailed assessment of search terms, see Appendix B.

Countries

The studies included in the critical appraisal were done in the following countries: Australia (Bilszta, 2012; King et al., 2015), Canada (Tryphonopoulos & Letourneau, 2020), Netherlands (van Doesum et al., 2008), UK (Horowitz et al., 2001; Horowitz et al., 2013; Kenny et al., 2013), Lithuania (Kalinauskiene et al., 2009), Denmark (Kristensen et al., 2017), and USA (Paris et al., 2011; Stein et al., 2018). In Canada, only one study was identified, thus

demonstrating the need for further research, advocacy, and promotion of parenting interventions in the infancy stage related to video-feedback interventions for mothers experiencing PPD.

Video-feedback intervention studies for mothers experiencing PPD in developing countries were not found in this review, raising questions about factors associated with this gap. An area to investigate would be to understand how video-feedback interventions are perceived in developing countries that maintain different health care policies, variance in approaches to PPD care, and increased SES risks. From a global perspective, due to the increased adversities that children face in developing countries, it is critical to offer enhanced parenting support in these areas (Rayce et al., 2020).

Mental Health Assessment: Inclusion Criteria

Mothers' mental health status was assessed in a variety of ways to determine eligibility for the studies. Three of 12 studies used diagnosed cases of PPD instead of screened cases as the inclusion criteria (Bilszta et al., 2012; Kenny et al., 2013; Stein et al., 2018). In addition, Stein et al. (2018) required that mothers experienced depression for at least 3 months, and Bilszta et al. (2012) included mothers if they had a diagnosis of MDD *or* adjustment disorder with anxious *or* depressed mood. Another study used screening with the EPDS with a score of $\geq$10 and a structured clinical interview diagnostic interview for their inclusion criteria (Horowitz et al., 2013). In van Doesum et al.'s (2008) study, mothers were required to have a diagnosed case of MDD (DSM-IV criteria) *or* dysthymia *or* screened depression symptoms using the Beck Depression Inventory (BDI) (Beck et al., 1988) *and* currently enrolled in treatment for mental health. One study required mothers to have been diagnosed with either anxiety disorder *or* depression by a mental health specialist (Coo et al., 2018). Insensitivity was used as the inclusion criteria (instead of depression), as determined by using the Ainsworth Maternal Sensitivity Scale

(AMSS) (Ainsworth et al., 1974) in one study (Kalinauskiene et al., 2009). In another study, Kristensen et al. (2017) required that mothers have at least one of the following: moderate depression criteria with an EPDS score ranging from ≥ 8 < 13, low parenting confidence, as per the Karitane Parenting Confidence Scale (KPCS) (Črnčec et al., 2008) *or* preterm birth between ≥ 32 and < 37 months. In 3/12 studies, no details were provided about how depression was measured for inclusion (Horowitz et al., 2001; King et al., 2015; Paris et al., 2011). In King et al.'s (2015) study, mothers were included if they had completed the Tuned in Program (TIP) program (Priddis et al., 2008) of which they were self-referred, as per the recommendation of a HCP. In another study, mothers were included if HCPs referred them due to depression, loneliness and "extreme" parenting challenges (Paris et al., 2011). Finally, Kenny et al. (2013) compared 3 groups, each requiring a different inclusion criterion; admission to the mother-baby unit (MBU) required a psychiatric diagnosis of depression, *or* schizophrenia, *or* other mood disorder. The community ill group required a psychiatric diagnosis of personality disorder *and* depression. The healthy group were included if they were not experiencing a current mental health concern (Kenny et al., 2013).

Measuring Maternal Mental Health

There was heterogeneity in the measurements used across the studies for the assessment of maternal mental health. Maternal mental health was measured using the EPDS in 8/12 studies (Coo et al., 2018; Bilszta et al., 2012; Horowitz et al., 2001; Horowitz et al., 2013; King et al., 2015; Kristensen et al., 2017; Stein et al., 2018; Tryphonopoulos & Letourneau, 2020). In addition, 2/12 studies evaluated depression using the Structured Clinical Interview for DSM Disorders (SCID) (Stein et al. 2018; Horowitz et al., 2013). PDSS was used in 2/12 studies (Horowitz et al., 2013; Paris et al., 2011), the Depression Anxiety Stress Scale, Short Version

(DASS-21) (Lovibond & Lovibond, 1995) was used in 1/12 studies (King et al., 2015), BDI in 2/12 studies (Kalinauskiene et al., 2009; van Doesum et al., 2008). Beck Depression Inventory-II (BDI-II) (Beck et al., 1996) was used in 1/12 studies (Horowitz et al., 2001). Additionally, van Doesum et al. (2008) assessed mental health using the Mini-International Neuropsychiatric Interview (MINI) (Sheehan et al., 1998) and the Survey of Recent Life Experiences (De Jong et al., 1996). Perinatal Anxiety Screening Scale (PASS) (Somerville et al., 2015) was used in 1/12 studies (Coo et al., 2018), the Brief Symptom Inventory (BSI) (Degrogatis, 1993) in 1/12 studies (Paris et al., 2011), and the Parenting Stress Index, Short Form (PSI/SFF) (Abidin, 1995) in 2/12 studies (King et al., 2015; Paris et al., 2011).

Measuring M-I Interactions

There were inconsistencies in the type of observation tools used to assess M-I interactions. The measures included the Neonatal Perception Inventory (NPI) (Palisin, 1981) in 1/12 studies (Bilszta et al., 2012), PCITS in 2/12 studies (Horowitz et al., 2013; Tryphonopoulos & Letourneau, 2020), The Dyadic Mutuality Code (DMC) (Censullo et al., 1987) in 1/12 studies (Horowitz et al., 2001), CARE Index (Crittenden, 2005) in 3/12 studies (Kenny et al., 2013, Kristensen et al., 2017; Tryphonopoulos & Letourneau, 2020), Tuned-In-Parenting Rating Scale (TIP-RS) (Priddis & Kane, 2013) in 2/12 studies (Coo et al., 2018; King et al., 2015), EAS in 1/12 studies (van Doesum et al., 2018), and a modified version of Coding Interactive Behavior (CIB) Manual (Feldman, 1998) in 1/12 studies (Paris et al., 2011). Finally, Stein et al. (2018) observed M-I interactions using the principles of video-feedback therapy (VFT) (Juffer et al., 2008) which includes assessing maternal attentiveness to infant cues, affection, and sensitivity.

Measuring Parenting

In regard to assessing parenting, there were also a variety of measures used. These included: Attachment Q-Set (AQS) Version 3 (Waters, 1995) in 3/12 studies (Kalinauskiene et al., 2009; Stein et al., 2018; van Doesum et al., 2008), Being a Mother Scale (BaM-13) (Matthey, 2010) in 1/12 studies (Coo et al., 2018), Pleasure in Parenting Scale (Fagot, 1995) in 1/12 studies (King et al., 2015), Mothers Object Relation Scale Short Form (MORS-SF) (Oates et al., 2018) in 1/12 studies, (Coo et al., 2018), Parenting Sense of Competence Scale (PSCS) (Johnston & Mash, 1989) in 1/12 studies (Bilszta et al., 2012), the Parenting Efficacy Questionnaire (Van IJzendoorn et al., unpublished data) in 1/12 studies (Kalinauskiene et al., 2009), KPCS in 1/12 studies (Kristensen et al., 2017), AMSS in 1/12 studies (Kalinauskiene et al., 2009), Sarason's Social Support Questionnaire (SSSQ) (Sarason et al., 2016) in 1/12 studies (Bilszta et al., 2012), Daily Hassles Scale (DHS) (Crnic & Greenberg, 1990) in 1/12 studies (Kalinauskiene et al., 2009), the Parenting Stress Index Short Form (PSI-SF) (Abidin, 1995) in 2/12 studies (King et al., 2015; Paris et al., 2011), and Parental Stress Scale (PSS) (Berry & Jones, 2016) in 1/12 studies (Kristensen et al., 2017), and Maternal Self-Report Inventory (MSI-SF) (Shea & Tronick, 1988) in 1/12 studies (Paris et al., 2011) and the Adult Attachment Scale (AAS) (Collins & Read, 1990) in 1/12 studies (Bilszta et al., 2012).

Measuring Child Outcomes

The measurement of child development outcomes was limited in the studies. However, 6/12 the studies assessed child development outcomes with various tools, including the ASQ:SE-2 (Squires et al., 1997) in 1/12 studies (Kristensen et al., 2017), BSID-II and BSID-III (Yi et al., 2018) in 1/12 studies, (Stein et al., 2018), Child Behavior Checklist (CBCL) (Rescorla, 2005) in 1/12 studies (Stein et al., 2018), Early Childhood Behavior Questionnaire (ECBQ) (Putnam et

al., 2006) in 1/12 studies (Stein et al., 2018), the Infant Behavior Questionnaire (IBQ) (Gartstein & Rothbart, 2003) in 1/12 studies (Stein et al., 2018), the Infant Toddler Social and Emotional Assessment (ITSEA) (Carter et al., 2003) in 1/12 studies (van Doesum et al., 2008), Infant Toddler Symptom Checklist (ITSC) (DeGangi et al., 1995) in 1/12 studies (Coo et al., 2018), and the AQS (Cadman et al., 2018) in 3/12 studies (Kalinauskiene et al., 2009; Stein et al., 2018; van Doesum et al., 2008). Tryphonopoulos & Letourneau (2020) assessed infant cortisol levels using the Salimetrics Children's Swab (SCS).

Parenting Programs/Interventions

Many different programs employed video-feedback intervention. These included: Early Connections Treatment (Spielman, 2002) (Paris et al., 2011), an adapted version of Mothers and Babies Course (Muñoz et al., 2007) called Emotional Well-Being Group Intervention (Coo et al., 2018), an adapted version of Circle of Security called Secure Base-Secure Haven (Marvin et al., 2002) in Bilstza et al. (2012), Communicating and Relating Effectively (CARE) built on principles of cognitive-behaviour family therapy (Nichols, 2010) in Horowitz et al. (2013), Interaction Coaching for at Risk Parents, (ICAP) (Censullo, 1994) in Horowitz et al. (2001), Video-Feedback Intervention to Promote Positive Parenting (VIPP) (Juffer et al., 2008) in Kalinauskiene et al. (2009), TIP in King et al. (2015), Marteo Meo (Gill et al., 2019) in Kristensen et al. (2017), VFT in Stein et al. (2018), Video-Feedback Interaction Guidance for Improving Interactions Between Depressed Mothers and their Infants (VID-KIDS), guided by PCITS in Tryphonopoulos and Letourneau (2020). In another study, video-feedback was included as part of an "in-patient treatment package" (Kenny et al., 2013, p.1192). Lastly, in another study, an unnamed parenting program developed by authors focused on improving the M-I relationship (van Doesum et al., 2008).

The majority of the studies delivered the intervention in the home setting. However, 2/12 of the studies were delivered in hospitals (Bilszta et al., 2012; Kenny et al., 2013), one in a community health center (King et al., 2015), and 2/12 studies offered the intervention in a group setting (Coo et al., 2018; King et al., 2015); however, the majority were provided in an individual format. There was also variability in the number of intervention sessions (ranged from 3-16 sessions), the length of the video viewing, and infant's age (6 weeks - 22 months). There was heterogeneity in the type of individuals who delivered the intervention that ranged from clinical psychologists, clinical psychology students, mental health nurses, registered nurses, certified Marte Meo therapists, M-I trained mental therapists, advanced practice nurses, research nurses, graduate students, and trained research assistants.

Samples

The sample sizes varied from 5 to 138 dyads. The demographics of the samples, on average, did not represent a diverse representation as the mothers were primarily over age 25, well educated, married, had no significant income concerns, and the majority were Caucasian.

Maternal Acceptability

Maternal acceptability was assessed in 5/13 studies, and there was variance in how this was collected. Assessment of acceptability of the video-feedback interventions varied from using a satisfaction form (1/5), a questionnaire about the usefulness of the video-feedback (2/5), a focus group (1/5), and semi-structured individual interviews (2/5). Coo et al. (2018) reported that mothers found the video-feedback interventions to be beneficial, appreciated their improved understanding related to interacting with their baby, and valued their connections with the other mothers. All of the participating mothers felt more "relieved" and "hopeful about the future" (Coo et al., 2018, p. 338). In another study, despite mothers disclosed feelings of discomfort in

viewing the video sharing, this decreased over time and they shared that they experienced an increased sense of self-efficacy (Bilstza et al., 2012). Similarly, in another study (Horowitz et al., 2013), a sub-sample of mothers who participated were asked about their experience with the intervention by conducting focus groups and interviews. Although, mothers in this study expressed feeling nervous when watching the video, they reported valuing the education related to interacting with their infants and the encouragement offered by the RN. The complete set of questions used in this qualitative section of this RCT was not disclosed (Horowitz et al., 2013). King et al. (2015) shared that positivity related to mothering was reported. Finally, Stein et al. (2018) indicated that mothers thought that the video-feedback intervention was well-received, as suggested by low attrition.

Mental Health Outcomes

Overall, the outcomes of these 12 studies were mixed. Maternal depression significantly improved in 3/12 studies (Coo et al., 2018; King et al., 2015; Paris et al., 2011) and in these studies, sample sizes ranged from 5 to 25. Whereas, in 5/12 studies, although improvements were detected in depression, no group differences were found (Bilszta et al., 2012; Horowitz et al., 2013; Horowitz et al., 2001; Stein et al., 2018; van Doesum et al., 2008). In these RCT studies, the sample sizes ranged from 74 to 144 (Bilszta et al., 2012; Horowitz et al., 2013; Horowitz et al., 2001; Stein et al., 2018; van Doesum et al., 2008). In another pilot study (n = 12), although improvements in depressive symptoms were detected, no significance was detected, as per the EPDS (Tryphonopoulos & Letourneau, 2020). In a quasi-experimental study (n = 278), also using the EPDS, no significant group differences were detected for mental health (Kristensen et al., 2017).

Parenting-M-I Interaction Outcomes

Improvements to parenting were also mixed. In one RCT, maternal responsiveness showed improvements in both groups (as per PCITS); however, no group differences were detected (Horowitz et al., 2013). In a different RCT (n = 54), significant improvements in maternal sensitivity and responsiveness were detected (Kalinauskiene et al., 2009) and in Horowitz et al.'s (2001) RCT, maternal responsiveness significantly improved with the intervention group. In a third RCT (n = 71), significance was detected for maternal sensitivity and maternal structuring favouring the intervention group (van Doesum et al., 2018). In a quasi-experimental study (n = 69), significant improvements were detected in dyadic synchrony, maternal sensitivity, and confidence, in addition to lower levels of parental stress favouring the intervention group (Kristensen et al., 2017). In Kenny et al.'s (2013) study, mothers (n = 138 dyads) in the MBU group demonstrated significant improvements in maternal sensitivity ($p \leq$. 0.001) and responsiveness ($p \leq .001$) and the infants were significantly more "cooperative" ($p \leq .001$) and "less passive" ($p \leq .001$) (p.1195). Significant improvements were reported as per TIP-RS in a mixed-methods study (n = 14) (King et al., 2015). In a pilot study (n = 25 dyads), significant improvements were detected in maternal responsiveness and sensitivity during engagement that was described to be "unstructured" (Paris et al., 2011, p.330). Furthermore, infants demonstrated a significant increase in "positive affect… during both structured and unstructured interactions…" (Paris et al., 2011, 331). Another pilot study detected significant improvements in maternal sensitivity to cues, cognitive growth fostering, and caregiver contingency, as per the PCITS, in the treatment compared to the control group (Tryphonopoulos & Letourneau, 2020). Coo et al. (2018) found significant improvements in their "experience of motherhood" (p. 336) and the majority perceived their infants as "warmer and more affectionate"

(p.336) as per the MOR-SF. In another study, (*n* = 74) maternal confidence or perceptions of the infant did not change significantly for the video-feedback group (Bilszta et al., 2012).

Child Outcomes

Examination of child outcomes showed various results. In two RCTs no significant group differences were detected in child development (*n* = 144; Stein et al., 2018) or secure attachment (*n* = 54; Kalinauskiene et al., 2009). However, other studies showed that post video-feedback interventions infants were significantly more "cooperative" (Kristensen et al., 2017, p. 7), socially "competent" (van Doesum et al., 2008, 554), and demonstrated "more positive vocalizations" (Paris et al., 2011, p. 331). Finally, Tryphonopoulos and Letourneau (2020) reported infants had decreased diurnal cortisol in the intervention group, as per the SCS. Given the mixed findings, obtaining feedback from mothers will improve understanding of how to improve the effectiveness of video-feedback interventions.

Furthermore, Ballidin et al. (2018) conducted a systematic review (*n* = 29 studies) of video-feedback interventions between the years (1990 - 2014) involving children between 0 - 12 years of age. Compared to the inclusion criteria used in this project, this review included a wide range of populations. In addition to including mothers with depression, Ballidin et al. (2018) also extended this review to include fathers, adoptive mothers, adolescent mothers, mother with decreased maternal sensitivity, eating disorders, or insecure attachment. Thus, more studies were retrieved, in comparison to this project. Although, overall the evidence from this review was mixed, in almost half of the studies, improvements were detected on maternal sensitivity and positive outcomes on children. The authors concluded that more research needs to be conducted due to variance in measures employed in this review and difficulty understanding the details of each program (Ballidin et al., 2018).

Qualitative Research on Video-feedback Interventions

In this literature search, four qualitative studies were retrieved which were conducted to understand maternal perceptions related to video-feedback interventions delivered for mothers experiencing PPD (Gill et al., 2019; Vik & Braten, 2009; Vik & Hafting, 2006, 2009). These were Norwegian studies and reported on mothers' experiences with Marteo Meo, a video interaction guidance (VIG) program (Aarts, 2000). In Latin, Marteo Meo translates into "by my own strength" and aims to "stimulate parents' reflective functioning" (Gill et al., 2019, p. 2).

In Vik and Hafting's (2009) study, they conducted semi-structured interviews with mothers (*n* = 15; 45 interviews in total) to listen to their narratives of their experience with PPD and hear their accounts of viewing their interactions with their infants on video. Vik and Hafting (2009) reported that video viewing provided the mothers' with an enriching sense of optimism. Their 2006 study of mothers (*n* = 6) focused on understanding interactive quality changes between themselves and their infant. After observing their interactions with their infants, mothers reported a significant amount of reassurance that they were parenting better than they had envisioned (Vik & Hafting, 2006). In addition, the mothers expressed that to have their suffering heard and "be met as depressed" (Vik & Hafting, 2006, p. 235) was of utmost importance. In another study led by Vik and Braten (2009), the team used a case vignette approach to understand mothers' (*n* = 3) experiences of participating in counselling combined with the Marte Meo program. The authors concluded participation in video-feedback supported the mothers in "transcending their self-centered position" (Vik & Braten, 2009, p. 298). Finally, in the most recent study, Gill et al. (2019), using a phenomenological hermeneutical method, interviewed four parents about their experience with Marteo Meo and found that "new understandings, narratives and perceptions were revealed" (p. 8). Furthermore, the experience of viewing the way

in which they skillfully communicated with their infant contributed to improved parental sensitivity (Gill et al., 2019).

In summary, with the wide variability in the delivery of video-feedback programs and limited engagement with mothers about how they perceived the experience of being a participant in this type of parenting intervention, more research with mothers is needed. When mothers are engaged in designing parenting support that meets their needs, it can be anticipated that the potential likelihood of effectiveness will increase for both herself and her infant. Canada's Strategy for Patient-Oriented Research (SPOR) explicated that when patients are actively involved in planning research, the health care system improves overall (Canadian Institute of Health Research, 2014). The importance of patient engagement provides the stimulus for this research project.

Understanding Maternal Perspectives Related to PPD Support

It is critical when planning parenting interventions to ensure that mothers are involved in development to ensure health care policies are "mother sensitive" (Simhi et al., 2019, p 1). To design such policies, qualitative research can be utilized to deepen understanding pertaining to the diverse underlying complexities and unique tensions that prevail with the experience of engaging in care for mothers experiencing PPD. This section will begin with a brief overview of maternal perspectives related to PPD research, followed by research on PPD preferences for treatment and interventions.

Maternal Perspectives of PPD Research.

Scholars, clinicians, and most importantly mothers, could benefit from further research into understanding the maternal experience of participating in research related to PPD (Henshaw, 2004; McCarthy & McHahon, 2008). Expanding research pertaining to understanding and

eliminating barriers mothers encounter in navigating their treatment for PPD is fundamental (Stewart & Vigod, 2019). The need to understand maternal perspectives related to PPD has been identified as an area that requires further research for decades (Nicolson, 1990). Mauthner (1998) indicated that a significant concern in research is the omission of the maternal narrative and stated, "clinical research is embedded within a positivistic framework in which the basic goal is to understand postnatal depression in an 'objective' way"' (p. 327). Over twenty years later, a gap in research that aims to deepen understanding of the experience of seeking support for maternal depression continues to exist (McCarthy & McHahon, 2008; Woolhouse et al., 2009). In a British study, Baker et al. (2005) interviewed women (n = 17) to understand their willingness to engage in research. Research that was not relevant to their individual needs was associated with feelings of vulnerability and disempowerment and a decreased sense of motivation to participate (Baker et al., 2005).

Furthermore, the evaluation of experiences in health care by mothers experiencing PPD presents challenges. One issue related to assessing user experiences in health care is associated with limitations that exist with satisfaction psychometrics, such as surveys (Peterson et al., 2005). For example, accurately assessing experiences using instruments can be a concern (Peterson et al., 2005). In addition, Smith (2011) indicated that "there is no published valid, reliable multidimensional, quantitative questionnaire … that can be utilised to compare and contrast their satisfaction with different models of care … or to assess changes over time" (p. e628). Thus, open-ended interviews, employed in hermeneutics, provide an appropriate research strategy to meet this evaluation gap in maternal acceptability research.

Maternal Support Seeking Patterns

Many mothers with PPD ache in silence (McIntosh, 1993; Knudson-Martin & Silverstein, 2009) and choose not to participate or withdraw from treatment (McCarthy & McHahon, 2008) or delay accessing care (Edwards & Timmons, 2005). Even mothers who screen positive for PPD do not always seek treatment (Young et al., 2019). Estimates vary from 20% (Prevatt & Desmaris, 2018), 50%, (McGarry et al., 2009), 63% (Declercq et al., 2014), 72% (Flynn et al., 2006) and 74% of mothers with risk factors for PPD were reported to not access support (McIntosh, 1993). When mothers with depression seek support, they often wait until they experience significant distress (McCarthy & McHahon, 2008). Australian researchers Woolhouse et al. (2009) studied treatment-seeking patterns in mothers (*n* = 1,385) with depression and anxiety at 9 months postpartum. This research reported that 17% of depressed mothers did not feel comfortable asking for support from HCPs. When mothers choose to connect with HCPs, it was with a GP less than half the time. Additionally, a majority (90%) of mothers did not seek formal psychological support, and 11% did not share their concerns with anyone (Woolhouse et al., 2009). In an American study (*n* = 509), Goodman (2009) aimed to understand preferences and barriers to PPD treatment, and a significant finding was that "only 4% of women reported no perceived barriers to treatment" (p. 67). This sample was a well-educated group without any SES concerns, indicative that accessing care is a prevalent concern for all mothers. Similarly, a systematic qualitative review (Dennis & Chung-Lee, 2006) (*n* = 40 studies) that aimed to understand barriers and maternal treatment preferences in the experience of PPD ascertained that treatment-seeking concerns are universal. In a UK study, Woolgar et al. (2003) discovered that "self-exclusion" (p. 131) from health care visitor support was a trend that 20% of first-time mothers at risk for PPD experienced. Mothers who declined care typically

represented a less educated and younger age group, and their infants experienced increased health concerns (Murray et al., 2003). Similarly, Tough et al. (2007) reported that the most at-risk mothers were the most challenging to engage in prenatal research and were identified as having significant life stressors.

However, other evidence has suggested that mothers with PPD access the health care system more frequently than mothers who do not have PPD, implying that their pattern is unique. Although they access it more regularly, they may not disclose how they are feeling. In a Canadian study, mothers with PPD had an increased rate of accessing health care "50% of high utilizers of family physician and public health services in the first month had PPD symptoms" (Dennis, 2004a, p.189). In addition, mothers with PPD have higher health care utilization with their children, accessing emergency rooms (ERs) and specialty clinics more frequently (Sills et al., 2007). This pattern suggests that mothers are accessing health care but perhaps not making contact or building a connection with the appropriate service providers. The experience of stigma may also be a barrier in accessing treatment for themselves. However, other research has indicated that when mothers are screened to have depressive symptoms, their likelihood of engaging with the health care system for support increases (Premji et al., 2019).

In summary, in reviewing the evidence related to the patterns of how mothers experiencing PPD access support, accessing care was a concern (Woolhouse et al., 2009). These findings provide the rationale to explore factors that contribute to mothers' decision to connect or disconnect with HCPs when encountering PPD. In the next section, literature related to understanding the maternal experience of seeking while navigating PPD will be presented.

Maternal Perspectives on Care for PPD

In reviewing the literature related to understanding maternal care preferences when experiencing PPD, three predominant themes emerged. The themes were grouped into; the need for mothers to speak about their experience (Blegen et al., 2016; Dennis & Chung-Lee, 2006; Henshaw et al., 2011; Jones, 2019; Kassam, 2019; Kingston et al., 2014; Letourneau et al., 2007;), the importance of mother and HCP alignment, (Blegen et al., 2010; Feeley et al., 2016; Hadfield & Wittkowski, 2017; Holopainen & Hakulinen; 2019; Sword et al., 2008) and the stigma surrounding PPD (Blegen et al., 2010; Byatt et al., 2013; Dennis & Chung-Lee, 2006; Dolman et al., 2013; Edwards & Timmons, 2005; Foulkes, 2011; Hadfield & Wittowski, 2017; Jones, 2019; Tobin et al., 2018; Young et al., 2019).

Speaking and Hearing My Words

Letourneau et al. (2007) interviewed Canadian mothers both individually (*n* = 41) and in groups (*n* = 11) about their perceived support needs when they were experiencing PPD. Mothers appreciated 1:1 treatment that provided the opportunity for HCPs to 'dig deeper' (Letourneau et al., 2007, p. 443) as this acknowledged their experience with PPD. Mothers valued HCPs who listened intently to their narratives and did not discount their genuine feelings, as this prevented any negative consequences associated with the disclosure of depressive symptoms (Letourneau et al., 2007). Similarly, in Kingston et al.'s (2014) study, depressed mothers (*n* = 1,207) reported the value of conversation, and 82% of the mothers indicated that engaging in conversation with their HCP was the type of "treatment" (p.5) they preferred, and in-person contact was of utmost importance. Furthermore, Henshaw et al. (2011) (*n* = 23) interviewed mothers about what mattered to them when communicating with HCPs in the face of PPD. Henshaw et al. (2011) explicated that "feeling heard" (p. 941) was fundamental to mothers and was associated with

maternal autonomy increasing related to their care for PPD. Jones (2019) explained that "social facilitators" (p. 600) that motivated mothers to seek support were associated with the experience of connecting with a responsive and honest HCP. Similarly, when mothers could openly share their experience with a trusting HCP it was restorative (Hadfield & Wittkowski, 2017). Finally, Kassam's (2019) review aimed to understand the type of support that mattered to immigrant and refugee mothers amidst the experience of PPD. A theme related to the need for "relational space" and "relational practice" (Kassam, 2019, p. 1009), where mothers could develop an entrusting bond with a HCP, was uncovered. Kassam (2019) encouraged critical reflection on how relationships are formed in health care and suggested that levelling the power between mothers and HCPs is an approach that may benefit relational practice.

In other research, Blegen et al. (2016) explored how parents with mental illness experienced care from the perspective of navigating the tension of being both a parent and a patient. Similar to other research findings, a prominent finding was the need for mothers to be heard and have the opportunity to reveal their feelings openly. The central question that mothers hoped that HCPs would ask them is found in their study title '*Ask What is in My Heart of Hearts'* (p. 1). In maintaining this overarching research question, important findings were discovered about their experience with PPD. For example, Blegen et al. (2016) explicated that "in the mothers' intense and heartfelt longing to find the inner strength, they searched for care where they can confidently grasp the lifeline thrown by someone who hears their beating heart" (p .6). One mother stated:

> I feel I have much at heart but when I arrive he asks me about how I have been since the last time, and continues with that, including techniques and exercises and I have no opportunity to say what I was going to say. (Blegen et al., 2016. p 6)

In a different study, mothers also expressed a desire to openly talk about their feelings. However, the shame they experienced in not maintaining societal set standards of motherhood, resulted in their reluctance to engage in this type of honest communication with HCPs (Dennis & Chung-Lee, 2006). This presented an added complexity because mothers indicated that "the most desired treatment was simply having the opportunity to talk about their feelings with a sympathetic and empathetic listener" (Dennis & Chung-Lee, 2006, p. 326).

Mother and HCP Alignment

In a Canadian study, Feeley et al. (2016) interviewed couples (n = 30) to understand parental preferences for PPD support to understand what factors contributed to "accepting" or "declining" support for mental health. The authors hypothesized that parents who favoured accessing formal health care were more likely to link PPD to biological causes. In contrast, when PPD was defined as a socially constructed experience, they speculated that informal support would be the primary preference. Overall, the majority of parents preferred less formal support. However, parents felt that HCPs played a vital role in disseminating information about PPD (Feeley et al., 2016). Similarly, Canadian researchers Sword et al. (2008) interviewed mothers (n = 18) to understand their experience of receiving a public health referral for PPD. In applying a socioecological framework, which aims to understand health service utilization from both an individual and social perspective, mothers indicated that health care support did not always align with their own personal preference. This misalignment created further self-isolation (Sword et al., 2008).

Other research to understand the experience of seeking mental health support when faced with PPD found that when mothers were understood by HCPs they experienced a sense of enrichment in their relationship with their infant and others, and their self-assurance was elevated

(Hadfield & Witkowski, 2017). Blegen et al.'s (2010) systematic review brought further attention to the importance of shared understanding between mothers and HCPs and suggested that differences originated in how PPD was constructed. Their findings indicated that it was not uncommon for PPD to be interpreted from a bio-medical lens and in this context, "… mothers' own voice remained silent" (Blegen et al., 2010, p. 527). However, the researchers suggested progress is being made in understanding the experience of PPD from a societal lens, rather than maintaining a primary focus on the medical diagnosis. In another study, Scope et al. (2017) aimed to understand experiences of parenting interventions to prevent PPD from both the mother and HCP perspectives. HCPs and mothers both felt that compassionate and enabling parenting support were the most meaningful (Scope et al., 2017). Finally, in Holopainen and Hakulinen's (2019) review a theme emerged related to the importance of parental and HCP alignment in the presence of PPD. Mothers felt a sense of exasperation if they encountered discrepancies between the support they had wished to receive and what was provided (Holopainen & Hakulinen, 2019).

Stigma

In a systematic review (*n* = 19 studies) that examined the experience of mothers seeking support with prenatal depression, stigma was a social barrier experienced by the majority of the mothers (Jones, 2019). Stigma has been a theme for mothers experiencing PPD, primarily due to the fear of being judged in their parenting role (Byatt et al., 2013; McCarthy & McMahon; 2008). In addition, mothers faced the fear of their infants being removed if they disclosed their thoughts associated with PPD (Dennis & Chung-Lee, 2006; Dolman et al., 2013; Jones, 2019; Tobin et al., 2018). In other research, Tobin et al. (2018) conducted a meta-synthesis (*n* = 13 studies; *n* = 167) to understand refugee and immigrant women's experience of PPD. Themes related to isolation emerged such, as "suffering in solitude" and "the invisible illness" (p. 84).

This experience of loneliness stemmed from the need to keep their PPD concealed due to worries about what others would think, having their feelings defined by Western medicine as an illness, and not having the ability to accurately verbally express their experience. Mothers' seclusion was amplified because they had "no language to convey their concerns in both a literal and cultural sense" (Tobin et al., 2018, p. 98).

In summary, when maternal preferences are understood, maternal and infant outcomes improve (Goodman, 2009). When care aligns with an individual's choice, Lin et al. (2005) found that there is "… rapid improvement in depression …" (p.164), in comparison to those who did not receive preferred treatment. Concerningly, in the Netherlands, Van Schaik et al.'s (2004) systematic review (*n* = 9 studies) related to patient preference for depression treatment reported that minimal "studies paid attention to assumptions underlying preferences" (p. 187). Bombard et al.'s (2018) systematic review illustrated that patient engagement improves care. The authors reported that when patients are involved in the planning of care, confidence and motivation to make changes increased, and health care quality improved. Furthermore, this type of engagement between HCPs and patients resulted in meaningful partnerships and reciprocal learning (Bombard et al., 2018). Given the benefits that ensue when patients are engaged, hearing mothers' perspectives about involvement in video-feedback interventions when suffering from PPD is critical to developing parenting interventions and the need for this project is well-established.

Chapter 3: Submitted Publication

Publication Cover Sheet

Working Title: A Hermeneutic Study of Mothers in the VID-KIDS Intervention: More than Meets the Eye

Short Title: The VID-KIDS Intervention: More than Meets the Eye
Target Journal: *Infant Mental Health Journal*

Authors:
Jennifer Bon Bernard
Dr. Nancy Moules
Dr. Suzanne Tough
Ms. Penny Tryphonopoulos
Dr. Nicole Letourneau

Affiliations:

Faculty of Nursing, University of Calgary
Cumming School of Medicine, Department of Paediatrics and Community Health Sciences, University of Calgary

Corresponding Author & Contact:

Corresponding Author & Contact
Jennifer Bon Bernard
Owekro Centre, Alberta Children's Hospital Research Institute
University of Calgary
Third Floor-Child Development Centre
c/o 2500 University Drive NW
Calgary, Alberta, Canada T2N 1N4
Phone 403-829-0905

Publication Abstract for *Infant Mental Health*

Abstract

Postpartum depression (PPD) is a complex phenomenon that can negatively influence M-I interactions. Video-Feedback Interaction Guidance for Improving Interactions Between Depressed Mothers and their Infants (VID-KIDS) is a parenting intervention that provides opportunities for mothers suffering from PPD to observe their interactions with their infants. VID-KIDS has improved M-I communication and infant stress levels when mothers are suffering from PPD. There is limited research related to maternal perspectives and VID-KIDS. In this study, four mothers were interviewed to increase understanding of the experience with VID-KIDS. Hermeneutics was the methodology used to explore maternal perceptions related to this intervention. Three key findings included: 1) VID-KIDS provided an opportunity for mothers with PPD to positively transform their identity; 2) VID-KIDS provided a chance to witness the M-I relationship forming and improve maternal well-being as a result, and; 3) VID-KIDS provided a space for mothers to dialogue about their experience with PPD authentically.

Word Count: 150 / 200

Keywords: Postpartum depression, hermeneutics, video-feedback intervention, mothering

Article Submission for *Infant Mental Health*

The VID-KIDS Intervention: More than Meets the Eye-A Hermeneutic Study

Jennifer Bon Bernard

Dr. Nancy Moules

Dr. Suzanne Tough

Ms. Penny Tryphonopoulos

Dr. Nicole Letourneau

Postpartum depression (PPD) is a significant public health concern (Almond, 2009) that affects between 13 - 19% of mothers (O'Hara & McCabe, 2013). PPD is the "thief that robs mothers of the love and happiness they expected to feel toward their newborn babies" (Beck, 2002, p. 453). PPD is a complex phenomenon during which infants are reliant on mothers and sensitive to the quality of this relationship (Murray, 1999). PPD interferes with M-I interactions (Field, 1995), primarily due to decreased maternal sensitivity (Beck, 1995). When parental sensitivity diminishes, stress levels increase for both the mother and infant. This increase in stress can negatively influence cognitive and social-emotional growth in children (Letourneau et al., 2011).

Based on this evidence, implementing interventions aimed to improve M-I interactions should be a priority when designing programs that provide support for women suffering from PPD. One such M-I intervention is called Video-Feedback Interaction Guidance for Improving Interactions Between Depressed Mothers and Infants (VID-KIDS). It was developed in 2014 to improve the relationship between mothers experiencing depression and their infants. VID-KIDS involves registered nurses (RNs) providing feedback to depressed mothers after viewing a video of the mother and infant playing together, using materials and concepts underpinning the Parent-Child Interaction Teaching Scale (PCITS; Oxford & Finlay, 2015). PCITS has been extensively researched as a reliable tool to measure the quality of M-I interactions (Oxford & Finlay, 2015). Tryphonopoulos and Letourneau (2020) pilot tested (n =12) VID-KIDS to evaluate its effects among depressed mothers on the following outcomes: 1) M-I interaction quality, 2) infant cortisol patterns, 3) infant development, 4) maternal PPD and anxiety, and 5) parenting stress. This study found that VID-KIDS resulted in significantly improved M-I interactions and infant cortisol patterns (Tryphonopoulos & Letourneau, 2020).

While the pilot study demonstrated considerable promise, mothers' views of VID-KIDS are unknown. In general, there is limited research on understanding mothers' perspectives related to video-feedback interventions. It is central to obtain maternal opinions regarding the type of parental support they define as meaningful (Hadfield & Wittkowski, 2017). Overall, there are inconsistent findings regarding outcomes of parenting interventions related to improving maternal confidence (Mihelic et al., 2017). Currently, in health care, opportunities for M-I dyads to engage in treatment together are uncommon, indicating more evidence related to the importance of these types of interventions is needed (Kornaros et al., 2019).

Description of the VID-KIDS Study

VID-KIDS is a video-feedback parenting intervention designed to support mothers experiencing PPD to interact with their infants responsively and sensitively. The program is appropriate for infants from 2 - 8 months of age. The intervention is conducted in a series of three home visits over 15 weeks. Sessions occur in the mothers' homes and are between 60 - 90 minutes in duration, beginning with the RN providing education related to interpreting infant cues. This educational component involves the RN reviewing flashcards depicting infants displaying both engaging and disengaging cues. Next, the mother selects an activity from a list provided with the PCITS (e.g. teach her infant to shake a rattle or pass a block from one hand to the other) that she can use to interact with her infant while being videotaped. The mother is informed that her role is to teach her infant how to do the activity, and she is videotaped for a maximum of five minutes. The RN and mother co-view the video three times. The first viewing does not involve any discussion between the RN and mother. The second viewing consists of a conversation related to infant engagement and disengagement cues. The third viewing consists of highlighting instances of the serve and return relationship. Serve and return refers to the back and

forth interaction between a child and caregiver when cues are responded to with sensitivity (Center of the Developing Brain, n.d.). The feedback involves using a strengths-based approach, based on the PCITS assessment guidelines for a healthy M-I interaction. The RN also provides up to 30 minutes of social support related to the mother's experience with PPD, centred on what she chooses to discuss with the RN.

Research Question

The research question for this study was the following:

How Might We Understand Mothers' Experiences of the VID-KIDS Intervention?

Method

Hermeneutics, commonly referred to as "interpretive inquiry" (Moules et al., 2015, p. 2) guided this research project. This study applied hermeneutics, which "... is comprised of all those situations in which we encounter meanings that are not immediately understandable but require interpretative effort" (Gadamer, 2008, p. xii). This research aimed to derive meaning from what the mothers shared about their experience participating in the VID-KIDS intervention, and in applying an *interpretative effort* different and rich understanding was reached. Furthermore, hermeneutics seeks to uncover and understand complexities associated with challenging human experiences, making it an appropriate fit for research exploring the experience of PPD.

Participants

In this study, the researcher (JB) recruited four mothers who had completed participation in VID-KIDS. This was an appropriate number of mothers to interview as "an adequate sample size in qualitative research is one that permits-by virtue of not being too large-the deep, case-oriented analysis … that results in … a new and richly textured understanding of experience" (Sandelowski, 1995, p. 183). The inclusion criteria included completing the VID-KIDS

intervention within the last six months and a score above 12 on the Edinburgh Postnatal Depression Screening (EPDS) tool, as administered by RNs at the infant's immunization clinic. The primary researcher of this hermeneutics study (JB) had to have been the RN to deliver the VID-KIDS intervention to preserve relational comfort in the interview. Additionally, the mothers had to consent to be audio-recorded in the interview. The exclusion criteria included the maternal age of less than 18 years of age and non-fluency in English. Using these criteria, seven mothers met the inclusion criteria, and four mothers completed the interview.

JB purposefully selected mothers who meaningfully articulated their thoughts and demonstrated inquisitiveness about the intervention, thus increasing the likelihood of obtaining data rich in meaning. In hermeneutics, individuals actively involved in the topic of interest are recruited, as this contributes to a deeper understanding (Moules et al., 2015). Additionally, recruiting mothers who received the intervention by the delivering RN contributed to an increased degree of honesty, due to this pre-established rapport.

The participants demographic data included Caucasian mothers over the age of 30, all had post-secondary education, household incomes over $60,000, and were either married or in a significant relationship with the infant's father. The EPDS scores improved for all four mothers from the beginning of the study to the end, with two mothers changing their thoughts of "wanting to harm herself" to "no feelings of wanting to harm herself." All of the infants were full-term and healthy at birth. Mothers signed the consent form before enrolment in the study, and the University of Calgary Conjoint Health Research Ethics Board (CHREB) provided ethical approval.

Data Collection-Interviews

Hermeneutic interviews involve more than merely requesting participants to describe their experiences. Instead, the researcher aims to understand what matters most to participants while keeping with the topic under investigation (Moules et al., 2015). Semi-structured interviews were conducted to hear what mothers had to voice about their experience with VID-KIDS. Six pre-determined questions guided the interview process. With discernment and sensitivity, JB had the freedom to ask different questions that invited new meaning and where different understandings would emerge. Maintaining flexibility in the conversation resulted in the length of the interviews varying from one to two and a half hours. When fluidity is preserved as in this type of interview process, the researcher experiences "… understanding that leads the conversational partners beyond their original horizons into a process of inquiry that has a life of its own and it often filled with developments that are unanticipated and unintended" (Gadamer, 2008, p. xxii). The interviews were audio-recorded in the mothers' homes, which provided convenience and comfort.

Interview Questions

The researcher asked the mothers questions such as:

- How have any concerns or barriers affected your experience related to the VID-KIDS intervention
- How might you describe your experience of being involved in the VID-KIDS study? What was the biggest impact and perhaps the biggest disappointment, if any?
- How do you think the VID-KIDS intervention might be improved? And what would be important to conserve in it?

Data Analysis

Hermeneutics is "guided by practical wisdom" (Moules et al., 2015, p. 68) and is only acquired when one gains experiential knowledge derived from encountering human experiences. This study aimed to gather experiential information; therefore, it differs from quantitative research, which strives to collect precise findings in a pre-determined process. With interpretive inquiry and honouring space for the unfolding of maternal wisdom throughout the research process, deeper insight into the experience with VID-KIDS was obtained.

The researcher transcribed the interviews and read and reflected upon the mothers' words repeatedly until understandings that were deemed to expand knowledge most uniquely were discovered. Once the most compelling findings were selected, an interpretive inquiry was applied to open this topic of interest up further. The study aimed to arrive at a "different" meaning or understanding related to this phenomenon. Therefore, coding the data and searching for themes was not a goal of this research (Moules et al., 2015). In hermeneutics, the standard way of presenting findings is to quote passages that best exemplify meanings and then interpret those meanings related to the phenomenon of interest, in this case, how mothers experienced the VID-KIDS program.

Results

In Witnessing, Transformation Emerged

I felt like even though I felt sad, she didn't feel that, like even in my dark moments, it is like she wasn't being dragged down with me. I was definitely worried that I was dragging the whole house down with me but looking at those videos I was like no, it is actually okay - there isn't some horrible dark cloud over this entire house … I am not actually screwing up I didn't feel like I was … failing that badly.

When I am watching the video, it feels like I am … doing something right because she is happy and you don't have that feeling of anxiety that everything you do is harming … So when I am watching the video and she is happy … it makes me feel like okay … we are doing good things together … you just don't feel hopeless … you are actually doing what you are supposed to be doing as a parent and you are not letting the anxiety or the anger or the dark thoughts … creep in to make you second guess yourself.

VID-KIDS offered mothers an opportunity to powerfully witness their capabilities related to mothering, informing them that they were flourishing in *becoming* a mother. For one mother, when she observed the interaction with her infant, it was a moment that provided her with confidence and significant relief upon ascertaining that there was not a "horrible cloud over the house" and that she was not "screwing up." This mother's interpretation of her secure connection with her infant provided a new meaning related to how she moved in the world. Her renewed understanding that she was "doing something right" allowed for a re-definition of herself as a mother. With this awareness, maternal strength and a new sense of self emerged. As a result of this wisdom, feelings of affirmation emerged that provided maternal restoration and rejuvenation. Her healing was grounded in the realization that she was "doing what she was supposed to be doing." This finding aligns with observations in another qualitative study in which mothers expressed that "viewing from the outside" (Vik & Hafting, 2009, p. 291) provided opportunities to acknowledge that they were succeeding as mothers.

Mothers with mental health concerns have expressed distress that others will judge them as not being a good enough parent (Blegen et al., 2010; Knudson-Martin & Silverstein, 2009). As a result, there is persistent pressure bestowed on mothers to ensure that others perceive them

as competent. In the formidable world of mothering, to be told you are doing a job well-done is the ultimate badge of honour. Unfortunately, literature has described PPD as an expected response to the societal expectations that encapsulate motherhood (Berggren-Clive, 1998). Mothers with mental illness experience challenges related to preserving their identity and explained that there is limited support available to understand this struggle (Shor & Moreh-Kremer, 2016). In another study, the initial stage mothers' encountered with PPD was entitled "shattered role identity" (Chen et al., 2006, p. 450). Abrams and Curran (2011) further highlighted that when mothers' experiencing PPD are confronted with additional social strain, such as financial issues or limited support, developing a positive identity represents a more complicated and challenging process.

With the challenges mothers endure in building a new identity amidst the penetrating societal expectations is not surprising that evidence has demonstrated a relationship between PPD and maternal attainment (Fowles, 1998). How can we provide compassion for mothers who are in the process of distinguishing their new role as a mother when experiencing PPD? Mercer (2004) recommended using the word becoming, instead of the word attainment, when describing the process of identifying as a new mother. This shift in reframing provides a more accurate representation of the fluid growth pattern in motherhood (Mercer, 2004). In this type of space there is welcoming of vulnerability, and in turn, striving to be a perfect mother naturally subsides. Becoming is related to growing, metamorphosis, turning, and never-ending (Merriam-Webster, n.d.). In comparison, the word attaining is associated with scoring, winning, beating, and excelling (Merriam-Webster, n.d.).

VID-KIDS provided mothers with a supportive space where they could *become* a new mother, without facing the pressure of *attaining* the status of a perfect mother. As Gadamer

(1960/2013) stated, "If we thus regard experience in terms of its result, we have ignored the fact that experience is a process" (p. 361). For this mother, in her process of learning about her mothering from a different perspective, strength became unleashed, and she understood herself as powerful and wise.

Finding the Power to Get Out of the Fog

I felt she was very engaged with me and I think that made me realize that I need to take more time to have those moments with her… I think seeing those moments made me want to engage with her more. Seeing her like light up and hearing her laugh and like her trying to copy what I am doing is incredible … It made me excited to engage with her.

I never realized how much she watches me. It matters what I am doing and what I am saying and I guess it made me feel more motivated to pull myself out of the fog and put energy into my mental health so that I can be there with them and not just … give up. I would say that I didn't feel strong but I knew that I could be and I didn't feel like I had hope but I knew that I needed it. So like watching the videos of me looking at her, looking at me, I was like … she needs a strong Mom … I can be the strong Mom, I can be this good Mom … I can be a good Mom right now and I can still work towards being better.

From the mothers' voices in VID-KIDS, after observing their connection with their infants, they developed a refreshed sense of self that contributed to an increased desire to make positive changes. One mother felt "motivated to pull herself out of the fog" after she understood how much she mattered to her infant. This new expansion provided this mother with the capacity to take action towards improving her mental health. For another mother, when she became aware of how much her infant engaged with her, she felt inspired to have more similar interactions. In

this instance, she felt enabled to take action when she understood how much she meant to her infant. In this moment of awe, her maternal power was unveiled.

This discernment of how mothers with PPD may experience a sense of empowerment is meaningful because evidence has indicated that when mothers experience mental illness, there is decreased self-confidence in their parenting (Perera et al., 2014; Reck et al., 2012). Vik and Hafting (2009) found similar findings where mothers were filled with confidence and motivation to make affirmative changes in their way of being after observing themselves interact with their infants. Additionally, researchers have stressed the importance of providing support that fosters maternal competence for mothers experiencing PPD (Arante et al., 2020).

Gadamer (1960/2013) informed us that "we always find ourselves within a situation, and throwing light on it is a task that is never entirely finished" (p. 312). VID-KIDS *threw light* on how important it was for the mothers to observe their interactions with her infant. When we shine a light on instances, such as the meaningful interaction between a mother and her infant, maternal confidence levels rise. Additionally, maternal motivation to make a difference is elevated, and mothers understand their experiences differently. Motherhood is a *situation* where growth and learning are continuous for both the mother and infant. To support mothers in maintaining a healthy trajectory of growth, it is important for HCPs to highlight their capabilities and ensure their successes shine-just as in the experience of VID-KIDS.

Understanding Roots of Disempowerment

The … nurse that diagnosed me at the … clinic was a real B. She basically … checked me off and then … called my doctor and was like either you are making an appointment to go and see your doctor or I am calling her, 'cause someone needs to see you … she basically … strong-armed me and said … 'cause you are not okay … And I know they just … crank people through because

they are busy or whatever but … those little questionnaires, every time since that, they have asked me to fill out I have been … no thank you - I am declining ... I have been diagnosed by your little system and I am getting help elsewhere … I don't know how honest people are checking off those lists. This is the very first time that I was like going to lie on the check boxes and then I was like no I feel terrible-maybe I should just check the boxes and maybe someone will help me and I did and then she acted horrible ... she acted like I was … a naughty kid-like I had done something wrong.

In exploring the roots of powerlessness that perseveres in the experience of PPD, it is valuable to examine systemic contributions to this persistent anguish that mothers face. How does societal discourse contribute to the disempowerment of mothers, impede witnessing her wisdom, and silence her voice? This disempowering experience originated in this mother's situation when she was "strong-armed" and told that someone needed to see her right away because she was "not okay." She continued to share that her diagnosis by the "little system" offered her a sense of regret, and unfortunately, in her state of vulnerability, she was scolded. She continued to share that it was as if she was "a naughty kid" and "doing something wrong" in this moment of insight.

This account of powerlessness is situated between the HCP and the mother, where they faced indifference in the care provided. Perhaps, this is a situation that calls for what Bryne (1999) referred to as "dismantling professional boundaries" (p. 69) and recommended that for this to happen, there needs to be movement from caring *for* to caring *with*. This mother's experience of discordance came from the space of being desperately honest and experiencing unintended negative consequences as a result. This type of support did not align with how she envisioned the nurse would be *with* her in this instance of vulnerability.

Disharmony between the HCP and mother may stem from how mental illness is constructed and perceived in health care and society (Savvidou et al., 2003). Traditionally, in health care, with good intentions, there is an emphasis on evaluating mothers' performance, which is amplified when a mother is experiencing a mental illness (Savvidou et al., 2003). Furthermore, from a societal context, maternal capabilities remain hidden and there is a tendency towards identifying weakness over strengths, which Savvidou et al. (2003) described as "deficit-based discourses" (p.399). Additionally, in health care, HCPs control the diagnosis and treatment plan, which can be associated with patients experiencing feelings of powerlessness and having difficulty making sense of their illness (Benaryo & Widdershoven, 2004). This approach can be discomforting as determining the most appropriate goals pertaining to one's health is best achieved when done in a collaborative conversation between the HCP and patient (Epstein et al., 2005).

When providing support to mothers experiencing PPD it is necessary to provide respectful and collaborative spaces, in health care, where their understanding related to suffering can be received with compassion (Dennis & Chung-Lee, 2006). How would the experience shift for mothers with PPD if the identification of their competencies and capabilities became the primary focus? If maternal wisdom were honoured, the discord between the HCP and mother would perhaps subside and a compassionate connection would emerge. In VID-KIDS, maternal strength is acknowledged and mothers find the happiness they were calling for.

The Healing Power of Connection

I think for a couple of days I would try to keep that interaction going and try to find times where we could just do that together, so that she could have that again because I saw how much she really enjoyed that and it does make you feel good that you might be doing something right as a

parent, that you can enjoy something that simple … that happy feeling probably like a day or two at least, so it was nice. It definitively helped me … feel less trapped because you get to feel that excitement again and you feel like … we can make this a regular occurrence.

In observation, there was a medicinal type of connection filled with happiness that infused throughout the mother's body, as she interacted with her infant. This was comparable to the way an IV rapidly infuses drugs. The primary difference is that this type of healing was derived from the mother witnessing how capable she was in connecting with her infant. The medicine was observing the positive M-I engagement, and the side effect was pure authentic "happiness" and "excitement" that would last "for one day or two days." The prescription was simply the mother observing her interaction with her infant and reflecting on this experience. This infusion of joy seemed to be the "treatment" that this mother needed. Similarly, in another study, the authors explored the parental experience of viewing themselves interact with their infant (Gill et al., 2019). One parent described this experience to be comparable to receiving a "vitamin injection" that was filled with "new insight, coping experience and empowerment" (Gill et al., 2019, p. 6).

In the literature, there is a predominant discussion related to the implications associated with implementing an exclusive biomedical model in the treatment of PPD. In the biomedical field, treating the pathology of PPD becomes the primary focus, in which HCPs construe symptoms as an illness (Gammell & Stoppard, 1999). With this linear treatment pathway, there is a risk that contextual causes of PPD may not be recognized (Schrieber & Hartick, 2002), resulting in a limited understanding of the experience, thus decreasing the chances of recovery. Women expressed in Gammell and Stoppard's (1999) study biological mechanisms could cause depression and that receiving a diagnosis provided them with a sense of reprieve. However,

Gammell and Stoppard (1999) advocated that it is of fundamental importance to look beyond the medical spectrum and understand how social experiences may offer insight into the cause of PPD. Furthermore, Shaikh and Kauppi (2015) voiced the importance of being open to the many different explanations of PPD, that may vary from biological to socio-political based understandings and recommended that we "need to honour the interpretations of clients, counter the hegemonic influence of the medical model and provide services that align with clients worldviews" (p.475).

From a medical perspective, when reflecting on prescription PPD medication, mothers need to consider a multitude of factors. Implications related to medicine as reported by mothers included: impairment of her ability to parent, negative impact on relationships due to adverse side effects (Savvidou et al., 2003), poor compliance, fear of becoming addicted (Boath et al., 2004), concerns related to breastfeeding (Boath et al., 2004; Ugarriza, 2002), and ineffectiveness (Ugarriza, 2002). Mothers with depression have also reported that medication acted to simply fill a gap that arose from others who failed to genuinely understand their experience (Montgomery et al., 2006). Given the vast array of maternal concerns regarding PPD treatment and differing perspectives on the cause of PPD, it is vital to think about novel ways HCPs can deliver care. VID-KIDS is an innovative intervention that is accepted by mothers and has the potential to increase happiness without adverse side effects, stigma, and guilt. This finding suggests that VID-KIDS can be wisely implemented in health care as a complementary form of treatment for PPD, with the traditional biomedical interface for PPD, in collaboration with the mother. VID-KIDS illustrated a compelling association between maternal healing and the witnessing of the M-I connection.

Understanding the Necessary Beauty: The Mother-Infant Relationship

With depression, I feel like sometimes you don't think that you are doing the best job or that the kid doesn't really like you and you don't really like them so I think when someone else is telling you that oh she is really engaging with you ... it is … very helpful. It kind of makes you realize oh we do have a relationship. We are forming a relationship … she is looking at me, she is telling me she is interested, she is telling me that she wants to participate in this activity. Before I participated in this study, I was just ... taking care of this little person and I really didn't think that there was a relationship there ... I thought I was just taking care of this blob … it just kind of allowed me to deepen my relationship with her.

The M-I relationship is the first opportunity for human beings to experience love and connection (Bergum & Dossetor, 2005). Mothers living with a mental illness have such a profound yearning to experience connection with their children and have indicated that this is so imperative they created coping mechanisms such as "masking" (Montgomery et al., 2006, p.24) to hide their suffering, in an effort to preserve this relationship. Therefore, given how necessary the formation of a relationship is for mothers in the face of mental illness, it was an illuminating moment for this mother when she observed that she was no longer looking after a "blob" and that there was indeed a relationship forming. This finding also parallels Vik and Hafting's (2009) study, which heard, "in order to participate in mutual interactions with the baby, it is necessary for the mother to discover her child" (p. 292).

The Latin word for relationship is *necessitudio*, which means "necessity" (Word Hippo, n.d.) and *forma* is the Latin word for form, which is described as "beauty" (Word Hippo, n.d.). When these two words are combined, the forming of a relationship can be interpreted as a necessary beauty. The revelation for this mother, that a relationship was forming, was a moment

that provided her with relief and clarity. This mother was reassured that a deep connection with her infant was established and it was in this instance she understood her *necessary beauty*.

For years, scholars have studied the formation and sustainment of healthy M-I relationships (Ainsworth, 1967; Bowlby, 1969; Stern, 1977). In recognition of the vast amount of quantitative research conducted on this topic, this interpretation focuses instead on the mother's perspective. How did this mother know in her heart that a relationship was forming? This mother interpreted that a relationship was established after witnessing the non-verbal communication of her infant "looking" and "telling" her that she was interested in participating, which transpired during her engagement in the VID-KIDS intervention. In this moment, when the RN and mother exchanged knowledge related to the infant's active involvement in their interaction, she was filled with sudden relief that a relationship had taken shape.

How do HCPs engage in conversation related to understanding how mothers perceive their relationship with their infant in the experience of PPD? VID-KIDS provides experiential learning, observation, and dialogue with mothers that aims to explore these perceptions. For an infant to be an active relational partner and contribute to the building of a relationship, the freedom to explore is essential. When there is freedom for exploration, the mother and infant have an increased likelihood of experiencing relational flow together.

The Relational Flow - Getting Harmony in Return

I guess it just feels natural-it feels like I am not forcing it. I don't really think about it, like I am happy, this is what I want to do … like I am not doing it on purpose I guess. I am just happy and I just want to engage with her and I want to make her laugh and I want to make her smile ... I never really said, I am going to sing her a song, we are just engaging with another and previously you know that is the response that I have gotten and I know when I sing to her it will

make her happy … I think that focusing in on the fact that there is a serve and return relationship and that you know what you put out is going to bring something back to you.

I don't know with being in the red zone, probably my anxiety, just not being so uptight about everything and just being more laid back I guess with him, and kind of giving him more freedom, because I couldn't let him do anything. I always had to be right there hovering all the time.

Understanding the flow between the mother and her infant is of primary importance in VID-KIDS. One mother communicated that when she was involved in serve and return moments with her infant, there was a "natural" feeling, and she was "not forcing it." Another mother shared when she offered more "freedom" and less "hovering," her baby spent less time in the red zone. In the red zone, infants display signs of emotional distress, and the communication flow is disrupted. When the M-I dyad is flowing, shared *harmony* is visibly pronounced.

As human beings, we experience the state of flow "when all the contents of consciousness are in harmony with each other …" (Csikszentmihalyi & Csikszentmihalyi, 1988, p. 24). Similarly, Vik and Hafting (2006) described the communication in a healthy M-I as a "harmonized relation" (p. 237). How does this harmonious concept of flow protect mothers from PPD? For humans to experience the state of flow, focus and presence are required. Therefore, when we enter moments of flow, distressful thoughts are unable to occupy our state of being (Csikszentmihalyi & Csikszentmihalyi, 1988). This stress-free zone highlights the importance for mothers to engage in moments of flow with their infants as a strategy to improve happiness. In a state of genuine presence, we bring our authentic selves into the moment, and our focus related to the future or the past subsides (Bergum & Dossetor, 2005). Thus, when mothers and infants are present with each other in a flow state, enjoyment consumes their experience, and they savour the moment of engagement.

In looking at the inverse of this interpretation, how does impaired flow between a mother and infant manifest? The opposite of flow would suggest what Barr (2008) referred to as "mechanical infant caring" (p. 366), which is how mothers related to their infants when they felt disengaged. From a societal lens, rationalization was raised as a potential hindrance towards the movement of flow because it prefers control over spontaneity (Csikszentmihalyi & Csikszentmihalyi, 1988). In the context of the M-I relationship, the need to be *rational* might be an outcome of the numerous parenting books and the overwhelming advice on social media related to being the perfect mother. This exemplifies how public discourse in parenting might be associated with maternal desire to follow the rules, expectations, and standards. As a result, this type of societal dialogue can potentially negatively impact the flow in the M-I relationship.

How do we support discussions related to flow in clinical assessments with mothers who have PPD? HCPs must evaluate the flow in the M-I relationship because of the potential connection it has in improving maternal mental well-being. VID-KIDS is an opportunity for mothers and infants to experience flow that can create a state of connectedness and happiness. In turn, when infants interact in a relationship that respects freedom and spontaneity, the infant's perceptive proficiencies are uncovered.

Understanding the Infant as a Competent Healer

I think that it is crazy how much they can tell you without being able to talk

I think it definitely has a positive impact knowing that I can teach her things - it has been a very positive impact on my well-being… knowing that I can make her feel good and that she wants to engage with me. I feel like as the engagement increases … as she has more expression, has more ability to move her hands and her feet and her face and everything. I feel like that this has

improved our relationship and it has improved my happiness — I feel like we are starting to understand each other better … I felt like she could if I took enough time she could do anything.

This mother was elated in her infant's cleverness when she stated, "I think it is crazy how much they can tell you without being able to talk." She went onto say that her "infant could do anything" if she provided sufficient time. The revelation of her infant's profound competency to connect despite not engaging verbally in dialogue caught this mother off-guard. The subtle non-verbal communication provided a level of protection for this mother in that her well-being improved when she understood her infant's insightfulness.

Infants are gifted with a profound perceptiveness that contributes to their success as social communicators (Goldberg, 1977; Stern, 1977). Stern (1977) acknowledged "the infant comes into this world bringing formidable capabilities to establish human relatedness. Immediately he is a partner in shaping his first and foremost relationships" (p.33). During the VID-KIDS intervention, infants illustrated that they have the ability to communicate capably. Interestingly, the English word capable means "sufficiently able, having power or capacity," and is derived from the French word *capable*, which means "able, sufficient; able to hold" and the Latin word *capabilis,* which means "receptive; able to grasp hold" (Online Etymology Dictionary, n.d.). This can be interpreted that infants have the power to *hold* their mother *sufficiently* in a state of contentment, therefore illustrating a capacity to protect her from unhappiness. This example of infant capacity is an essential finding because when mothers are experiencing PPD, they can have difficulty "holding onto their infants" (Arante et al., 2020, p. 22).

Furthermore, a positive maternal perception of her infant, such as understanding her infant to be socially capable, is associated with increased maternal self-esteem (McGrath et al.,

1993). As this mother shared, her happiness improved with an increase in her infant's expression and engagement. Gill et al. (2019) used the term "mutuality" (p.5) to describe the interrelated bond that parents maintain with their children. The discovery of this profound interconnection during the video viewing led to improved energy and expressiveness between the parents and the infants (Gill et al., 2019).

How do infants arrive into this world with the innate wisdom that prepares them to be capable relational beings? To grasp the infant's ability to interact meaningful without dialogue, it is important to consider how historic influences contribute to this proficiency. Stern (1977) suggested that an infant's interpersonal competence is associated with having a human face pattern genetically embedded into their DNA. The infant's ability to successfully engage and control their social interactions, such as maintaining and ending mutual facial gazes autonomously, is an example of a skill that supports their ability to capably communicate with others (Stern, 1977). An infant's ability to regulate relational engagement, such as deciding who they maintain eye contact with, holds particular meaning for mothers. Knowing that infants consciously select to interact with their mother may serve as an essential point to identify, as this awareness has the potential to improve maternal mental health.

A Call for Authenticity

I feel like when you are in your home it is more real-like you can have a more authentic experience-whereas when you are in a clinical setting it kind of feels forced … Whereas, if we went somewhere else she might be distracted by … different things and she wouldn't be able to engage the same way that she does at home. Whereas, if you were to take her to a clinic, you know it might be like carpeted floor, white walls and fluorescent lighting and I feel like you know

she would need some time to take all that surrounding in before she was able to properly authentically engage with me, whereas here she is comfortable.

Mothers value physical and emotional environments that provide comforting space for their authentic way of being to unfold. Authenticity is rooted in the Greek word "authentikos" which means "original, genuine, principle," and stems from "authentes" which means "one acting on one's own authority (Online Etymology Dictionary, n.d.). This etymology of authenticity aligns with how this mother felt when she was present in our own home. To further support a mother's desire to maintain her authentic way of being, Dubus's (2014) study explored the maternal experience of a relational-based postpartum intervention and a theory was developed entitled "permission to be authentic" (p. 43). This type of engagement was deemed to be of central importance to the mothers (Dubus, 2014).

This mother chose to use the word "forced" to describe the experience of what it would be like to interact with her infant in a clinical setting. She explained that you can have a more "authentic experience when you are in your home." The opposite of force is natural, effortless, and easy. It is within the confines of an unforced environment where authenticity resides. A state of authenticity is unattainable for individuals when they feel repressed and unable to experience freedom (Freire, 2000). Unfortunately, mothers with mental illness find it challenging to experience authenticity because they are faced with the tension of trying to hide their anguish while at with same time wanting to be honest (Montgomery et al., 2006). Evidence has revealed how mothers silence their voices when experiencing PPD (Knudson-Martin & Silverstein 2009; Mauthner 1998). Knudson-Martin and Silverstein (2009) discerned that when mothers with PPD quieted their narratives, they endured feelings of incompetency and disconnection with others, which further escalated their isolation.

To thrive and be *one's own,* clinical care settings must strive to build spaces that mimic a home away from home. A home away from home is an environment that promotes openness where mothers feel they can *truly* express their stories of vulnerability and suffering. What type of relational environment is needed to ensure that mothers can move with freedom and comfort to express their voice in a way that feels "real?" How does a mother experiencing PPD find her place or home in clinical settings? One way is by providing care that values open and heartfelt dialogue, and as Bergum and Dossetor (2005) stated, "the call to relationship is a call to dialogue" (p. 220).

Deepening Understanding with Metaphoric Dialogue

A metaphor … it is like driving my car and it got foggy out and you can't see ahead of you with all the fog and it is just letting someone help you and asking for help and if the fog lifts and you are running out of gas, don't panic and pull over and take your space. That is my metaphor … that is all I can think of is driving in the fog ... you can't drive in the fog because you are scared and it is dark.

This mother chose to use *fog* as a metaphor to describe her experience with depression. The image of fog during this mother's suffering is filled with thickness, darkness, and fear. When using fog to describe her heaviness, this mother experienced authenticity and an opening up that allowed her to reach a raw and brave truth about her encounter with PPD. This mother had the freedom to express herself that connected to the depths of her difficulty, in a way that perhaps, would not have been obtained if she retreated to more traditional modes of expression.

Women in previous research have shared that there is an omission of available words to describe their experience appropriately, and as a consequence, "parts of their lives "disappear" " (Devault, 1990, p.101). Metaphors may capture the hiddenness of PPD when the existing

linguistic discourse cannot do so (Beck, 2020). To illustrate the benefits of using metaphors to understand the experience of PPD differently, Beck (2020) conducted a secondary qualitative data analysis using the findings from previous studies, using Metaphor Identification Procedure (MIP) (Group, 2007) to understand how mothers attach meaning to their interactions with their infants. In this study, Beck (2020) identified metaphors that mothers had used to describe their depression, such as and similar to what this mother shared, "postpartum depression is enveloping fogginess" (p. 112). When reflecting on experiences from a metaphorical perspective, there is an opportunity for HCPs to arrive at clarity into the maternal difficulties that may ensue when interacting with their infants (Beck, 2020).

Additionally, Schreiber (1996) created a model entitled 'Re-Defining My Self' that depicted phases that women move through during recovery from depression. One of the steps in this model, "Seeing the Abyss," (p. 477) encompassed women using images and metaphors to make sense of their depression. In health care, when metaphors are not used to express emotionally challenging experiences, perhaps there are missed opportunities to obtain a truthful account of PPD. When mothers are linguistically restricted from sharing their experience, metaphors may provide a conduit for their story to be accurately and meaningfully heard.

The Rapport - A Gateway to Authenticity

I felt like the initial conversations that we had, I felt like you were trying to get to know me and kind of what my situation was like and … where I was at emotionally … I felt like we kind of built a rapport before we even started the study and I think that is really important for me to feel comfortable around you or like the researcher, so I feel like building rapport … is really, really important … you get a sense of an idea of where the person is at and what their capabilities are moving forward.

One mother explained that the "initial conversation" between the RN and herself was one of VID-KIDS most valuable experiences. She valued that the RN was trying to get to know "her," implying that this was an attempt to understand her authentic being. For this mother, establishing a relational connection and building "rapport" with the RN was necessary before the study could proceed. This understanding parallels Robinson's (1996) findings that spoke to the criticality of relationships. The relationships were, in fact, the intervention that mattered (Robinson, 1996). There was a sense that mothers in VID-KIDS yearned for relational dialogue that validated their stories of suffering and strength. Additionally, this mother described that the opportunity to dialogue provided an opportunity for the RN to see her "capabilities" – an essential piece for mothers affected by PPD.

Authenticity Invites Curiosity

I guess just you asking questions too, because if you just left it open ended I wouldn't be able to talk but a lot of questions you ask, I was like okay that was a good question and it made me think … deeper. Whereas, if it was more like one ended it would be like okay talk about your experience, I would just be like blah, blah and that is all I would say but you had a lot of these questions where I was okay I can obviously reciprocate and give back to you - so questions that I never even thought of … so that is why I don't like really surveys because they are always … so closed … it is always like bleep, bleep.

This mother preferred questions that she had "never thought of before" because they made her think "deeper." She valued the reciprocal conversation between the RN and herself and that there was more than just her completing a survey. The element of curiosity brought forward in an authentic conversation plays a central role in the unfolding of understanding. This mother appreciated inquiry as an invitation to have her voice heard in a meaningful manner. When she

engaged in inquisitive dialogue, her voice radiated with power and her truth was unmistakably spoken. This mother appreciated questions that supported openness to explore difference, and there was a welcomeness to entering into a potentially unknown territory of her experience. Gadamer (1960/2013) stated:

> to ask a question, means to bring into the open. The openness of what is in question consists in the fact the answer is not settled. It must still be undetermined, awaiting a decisive answer. The significance of questioning consists in revealing the questionability of what is questioned. (p. 371)

This experience filled with *questionability* reminds us that, "being curious involves being aware that the situation is not as tidy as it might seem" (Epstein, 2017, p. 47). However, it is in the place of *untidiness,* where resilience and wisdom grow. When we enter into messiness, we discover ourselves in ways that we might not have otherwise. Furthermore, when we experience distress, maintaining a curious mind can aid mental well-being (Epstein, 2017). This encounter between the RN and mother reflected the value in preserving inquisitive exploration and the importance of ensuring the provision of a curious space when implementing parenting interventions for mothers who have PPD.

Being Real in Dialogue - The Back and Forth Matters

Knowing that you will not be judged for what you say or … what you see-like you didn't come in and think that my kids were gross or my house was yicky or … turn your nose up to anything or say I wish you would have done this better-there was no judgment at all. You told me about your kids – yeah - this was some good back and forth so it wasn't just me on the spotlight by myself - having to put it all out there-which is easier to talk when it is not just that.

This mother elucidated that she appreciated the sharing of personal information from the RN as it meant she would "not be the only one in the spotlight." Pieranunzi (1997) found that when nurses went "beyond the surface, beyond the 'patientness,' " (p.160), their engagement became more meaningful and genuine with patients. There was a plea from this mother to escape the feeling of *patientness.* She desired a human-to-human interaction versus an RN to mother conversation. With softened boundaries, she described it "easier to talk," thus increasing the chances of the power between the RN and the mother becoming equalized. When power is equalized, dialogue and understanding can expand in a more natural and fathomable way. Fenwick et al. (2001) found *"*chatting" (p. 583) between the RN and mother played a critical factor in developing relationships that were mutual, open, and reciprocal. Additionally, this type of dialogue was related to improved maternal self-confidence and connection with her infant.

In interpreting the experience of authenticity, understandings related to the taken-for-granted moments in dialogue for mothers experiencing PPD are uncovered. Through the words of the mothers, the everydayness and subtle moments in conversation are perhaps the big moments that pave the way to authenticity. In this study, knowledge has expanded on how delicate moments of conversational interactions relate to creating an unguarded relational experience. This moment illustrated that interpersonal exchanges do not have to be elaborate to be meaningful, but rather, they need to be genuine and compassionate.

Discussion

This research aimed to understand maternal perceptions related to participating in VID-KIDS. The mothers in this study provided persuasive evidence that VID-KIDS is beneficial, acceptable, and, most importantly, healing amidst the experience of PPD. Three key findings included: 1) VID-KIDS provided an opportunity for mothers to view themselves differently, 2)

reflection on the establishment of the M-I relationship is of central importance, and 3) it is imperative to provide an environment where mothers feel safe to be authentic about their experience with PPD.

VID-KIDS offered space for mothers to re-define their identity. When mothers observed their interactions, they beheld their capabilities in connecting with their infant. This discovery motivated mothers to take action to improve their mental health so that they could be meaningfully present when they engaged with their infant. Mothers also experienced an elevated sense of joy when learning how competent they were in their abilities to interact with their infants. Mothers thus described an increase in maternal happiness, attributable to the M-I relationship, not medication or other therapeutics. The maternal reframing that was witnessed in VID-KIDS is a critical finding because a positive change in identity is crucial in mental illness recovery (Yanaos et al., 2010).

Second, in VID-KIDS, mothers reflected on the formation of the M-I relationship. In understanding that a relationship was indeed formed, there was maternal relief and reassurance. When mothers embraced a flow-like state in their interactions, they witnessed decreased infant distress and experienced improved mental well-being. In addition, when mothers observed their interactions, they discovered their infants' ability to communicate competently. This understanding of the infant's capabilities contributed to further improvements in maternal mood.

Finally, mothers yearned to have their unspoken words about their experience with PPD verbalized, heard, and validated by the RN. This research revealed that the taken-for-granted elements of communication welcome authenticity and are important to preserve in VID-KIDS. From the voice of the mothers, an authentic relational connection, with the RN delivering the intervention should be established at the beginning and maintained throughout the intervention.

This study revealed the need for HCPs to bear witness to the experience of PPD in a non-judgmental and compassionate manner and is a component that is essential in the delivery of video-feedback interventions.

Implications for Clinical Practise

This study's findings contributed to novel maternal understanding about what is deemed to be of most importance in VID-KIDS. The mothers in this study provided meaningful evidence for incorporating video-feedback interventions into clinical practice when mothers are experiencing PPD. The following offers rationale for incorporating VID-KIDS into public health community-based programs for mothers experiencing PPD:

- The application of a strength-based approach offers an opportunity to understand maternal and infant competencies. In turn, maternal confidence and well-being increase.
- It is an innovative intervention for the management of PPD that has the potential to fill the current gap of effective treatment for PPD. Exploring alternative treatments for PPD is important because desirability for medication is a concern postpartum for mothers.
- Mothers value the collaborative participation in VID-KIDS, compared to more traditional medical treatment that is more one-directional.
- From the voice of the mothers, engaging in genuine dialogue is an essential component of VID-KIDS, and space to have their experience heard should be a priority in this intervention.
- The delivery of this intervention in the home environment offers several benefits, including decreasing barriers associated with accessing PPD support and increasing the likelihood of authentic engagement.

Limitations and Strengths

This study was the first to explore maternal perceptions related to VID-KIDS and only one of five studies that examine mothers' perspectives of video-feedback interventions (Gill et al., 2019; Vik & Braten, 2009; Vik & Hafting, 2006, 2009). A benefit of this study was that the RN who delivered the intervention conducted the interviews. This relationship contributed to mothers feeling comfortable to share their thoughts openly. Following the principles of hermeneutics, the direction of this interview focused on what mattered most to this topic from the mother's perspective, resulting in a richer understanding. With the application of hermeneutics, some of the complexities and tensions associated with the experience of PPD were uncovered, which may not have been revealed with research methodology that applies a more structured interview process.

Limitations of this study include a small sample size and one that may not be representative of the diversity associated with PPD. Although not a goal with hermeneutic research, the lack of sample variability may raise a concern related to transferability. Although seen as a benefit and critical in hermeneutics, other research traditions may raise concerns related to social desirability bias, in that given the same individual delivered the intervention and conducted this research, the mothers may have been reluctant to provide a sincere answer. Future research could involve conducting more interviews to continue to expand understanding with varying demographic factors considered.

Conclusion

VID-KIDS promoted healing for mothers experiencing PPD. In this study, mothers experienced a transformation in how they perceived themselves as mothers, their relationship with their infant, and their encounter with PPD. Their changed beliefs emerged from combining

the science of VID-KIDS with a supportive environment that allowed their wisdom to flourish, resulting in a profound *becoming.* This new-found awareness put mothers in a position to move more confidentially and reassuringly in the world. It was the mothers' perceptive ability to interpret themselves as competent that provided healing. In summary, "…like everything meaningful, the beautiful is einleuchted [defined as clearly evident, shining in]" (Gadamer, 1960/2013, p. 500). Participation in VID-KIDS was filled with beauty and meaning for the mother and infant-it was an *einleuchted* experience.

Conflict of Interest

The authors have no conflicts of interest.

Acknowledgements

Mothers who volunteered in this study-for their strength, truth, and wisdom.

Chapter 4: Discussion

Three key findings emerged from this study about what mattered to mothers during their experience with VID-KIDS. The themes related to providing opportunities for mothers experiencing PPD to witness the M-I relationship forming and positively transform their identity via this process. Additionally, VID-KIDS provided a safe space for mothers to engage in genuine dialogue about their experience with PPD. These findings contributed to improved maternal mental health. Before discussing the findings with implications for maternal transformation, witnessing, and dialogue that VID-KIDS provided, insights into the value of combining hermeneutics with RCT methods will be explicated.

Combining Hermeneutics with RCT Methods

Engagement in qualitative scholarship, such as hermeneutics, allows researchers to arrive at rich new understandings of the topic being studied in a different and meaningful way that can complement quantitative data collection, such as an RCT, as demonstrated in this project. Sandelowski (1996) claimed that when qualitative research is joined with intervention studies, quantitative data becomes enriched by expanding contextual perspectives and deepening understandings. Furthermore, a qualitative approach "can be used to detect subtleties in the intervention process…" (p. 360). The word subtle that Sandelowski (1996) used relates to the title chosen for this research project, "*More Than Meets the Eye.*" In this project, although there was indeed a focus on the pronounced beauty of the M-I connection on the video screen, there were also subtle moments, or particulars, that were not as obvious-"leaving more than meets the eye." The finer or more delicate moments were only discovered when the mother's understanding(s) were welcomed into dialogue with the researcher.

Bias and Lebenswelt

The concept of bias was reflected upon in both the RCT of VID-KIDS and the hermeneutic portion of this research project, each holding a different perspective. In the RCT portion, bias was respected to ensure accurate and rigorous data were obtained. Whereas, in the hermeneutic component, bias was embraced as a means of opening insightfulness into the human experience in combination with the researcher's and mothers' prejudices and historical context. In hermeneutics, we cannot remove ourselves from this sharedness of each other's world, or the lifeworld, which is referred to as *Lebenswelt*. Moules et al. (2015) further elaborated that "commitment to the idea of *Lebenswelt* has the effect that we are aware both of our unique, incommensurable experience of the world and of our shared experience of a shared world" (p. 126). In this sharedness, interpretations become richer with layers of contextual depth and insight into the root cause of experiences becomes more vivid.

Generalization and Uniqueness

Generalization is a fundamental goal of an RCT, and it was respected as a desired outcome of the quantitative data gathering process. However, in hermeneutics, the researcher strives to find uniqueness. As a result of inviting hermeneutics into this research realm, the interest in the different served as a valuable way to capture a broader and more expansive understanding of the maternal perspectives applicable to VID-KIDS. Moules et al. (2015) explained,

> to make something valid, in the traditional scientific sense, is to make it repeatable. In hermeneutics, however, to reproduce more of the same does not make it real. Rather we think of *re-production* as a form of discovery, recovery, and legitimization, a freeing of

> something from the encased and enclosed truths of the past and to recover possibilities and free the topic for new conversation as well as to discover something new. (p. 172)

When maternal stories are generalized in a homogenous manner, there is a risk that unique suffering and strength will remain uncovered. Due to the distinctive contextual factors that influence PPD, understanding individual mothering experiences is essential. Difficulties may arise from obtaining a wholesome and comprehensive understanding when mothers are categorized into samples that maintain a uniform hypothesized outcome.

Numbers and Words

Hermeneutics is an example of qualitative research that lends itself ideally to complex and emotionally laden experiences encountered in health care, such as PPD, that benefit from using words in the sense-making process. Forbes et al. (1999) stated, "Interpretative assertions speak to the reader through evocative language and descriptions of human experience rather than through presentations of numbers and statistical procedures" (p. 375). RCTs aim to find truth via numbers, statistics, and data, whereas this research project endeavoured to find meaning through words, language, and dialogue. Eisner (1981) asserted that "*Truth* implies singular and monopoly. *Meaning* implies relativism and diversity. Truth is more closely wedded to consistency and logic, meaning to diverse interpretations and coherence" (p. 11). In this project, truth from the RCTs was melded with meaning from hermeneutics to create more depth to the reality of the mother's experience.

Underpowered and Power

In RCTs, power is only attainable when a large and sufficient sample size is achieved, per the associated power calculation. In fact, the term underpowered is commonly used to describe a small sample size. Tsivos et al. (2015) explicated that studies are commonly underpowered due

to difficulty recruiting mothers experiencing PPD. However, hermeneutics is "rooted in the power of the particular" (Moules et al., 2015, p. 180). Every single mother is considered to hold power; therefore, the notion of being "underpowered" is not applicable in this research endeavour. The power in this project increased when individual mothers radiated their voices with courage and confidence. Furthermore, Beck (2020) suggested that power is situated in words and explained this "… power comes from giving something a different life" (Beck, 2020, p. 110). In contrast, in an RCT, the power is found in the numbers. In this project, when both perspectives related to power were combined, a more powerful understanding was obtained relating to what it meant to be a mother experiencing PPD.

In summary, Erikkson (2010) shared "…ontological evidence is ultimately bound to what we perceive as the ethos of truth, in other words, the basic values that we espouse and with which we feel at home" (p. 277). Mothers needed an opportunity to feel *at home* with their perceptions in their own homes to share their reality in the present moment. In combining hermeneutics with an RCT and making a home for both, valuable understandings were collected to complement the quantitative data in this research project. To this end, Moules et al. (2015) explicated, "Prior to–and present with-the method governed realm of science is the *Lebenswelt,* the human home of being, meaning, and language" (p. 37).

Findings from the Project

This research project provided mothers with an opportunity to express their feelings and reflections related to their experience of being a participant in the VID-KIDS intervention. In listening to their heartfelt voices, mothers informed us that VID-KIDS is an acceptable and feasible intervention to support individuals experiencing PPD. The key components that mattered to the mothers related to meaningful opportunities for witnessing, transformation, and dialogue.

Witnessing

The mothers shared that VID-KIDS offered moments to witness the strong connection they held with their infants and provided a critical opportunity for mothers to observe a relationship forming between themselves and their infants. Witnessing serve and return moments provided important realizations that a relationship between the mother and her infant had formed. When the mothers observed the happiness their infants experienced during their moments of engagement, they were filled with strength associated with improved maternal mental health. In witnessing M-I connections, the mothers felt a shift in the way they viewed themselves, and it was within this changed perception where her maternal transformation was situated. In the unveiling of this relationship formation, maternal healing grew.

Transformation

Mothers shared how they felt transformed in their mothering role when they witnessed how they interacted with their infants in such a loving and capable manner. The mothers experienced a positive change in how they defined themselves, and this new maternal identity that emerged informed them that they were a "good mom" and "not failing." This shift in how they perceived their maternal efficacy provided healing for the mothers. One mother revealed that "there wasn't a dark horrible cloud over this entire house" as she had envisioned prior to her involvement in VID-KIDS.

One mother shared that she felt a sense of motivation to connect with her infant more frequently when she viewed the enjoyment they experienced together. Observing maternal and infant competence in communication was associated with feeling a sense of empowerment in motherhood. When individuals define themselves as skilled at a particular task, they experience

increased enthusiasm to participate (Bandura, 1977,1989). This type of enthusiasm associated with skillfulness is parallel to what mothers experienced in VID-KIDS.

Dialogue

Mothers valued the opportunity to dialogue with the RN about their experience with PPD before the delivery of the VID-KIDS intervention. A supportive and compassionate conversation with the RN provided mothers with freedom to engage in a conversation about their experience with PPD in-depth, not just exclusively of the interactions with her infant. It was clear that space to speak about maternal experience with PPD in a holistic manner was valued and deemed to be a fundamental component in delivering VID-KIDS. The opportunity to engage in honest conversation about what PPD meant to mothers was a call that was loudly spoken by all of the mothers in a way they felt was most relevant.

Implementation of VID-KIDS for Clinical Practice

A gap exists in Alberta, Canada and internationally pertaining to public health programming that provides parenting interventions that target both improving PPD and M-I interactions. This project provided evidence that VID-KIDS is an intervention that can be implemented into public health care in a feasible and integrated manner. Understanding the maternal experience in VID-KIDS informed us that it made a difference in mothers' and infants' mental well-being and was deemed acceptable and appreciated by mothers experiencing PPD. Further justification stems from the need to offer innovative parenting support for the mother and the infant "dyad" as current medical treatment plans for PPD maintain primary focus on maternal mental health.

What Mattered Most in VID-KIDS?

Implementing what mattered most to the mothers about VID-KIDS, as shared in this project, includes providing space and time to process the witnessing of their recorded interactions with their infants. Mothers need an opportunity to converse collaboratively with the VID-KIDS RN related to what they are observing to make sense of what the experience means. It would be beneficial for the RN to have knowledge related to the key findings that emerged from this project such, as shifting in maternal role identity, witnessing connection, and identifying capabilities. Thus, extra training for the VID-KIDS RNs related to these core concepts could be beneficial. Additionally, providing opportunities for mothers to dialogue about their experience with PPD was fundamental; therefore, skills training related to how to most appropriately and compassionately hear about mothers' experience with PPD, alongside delivering parenting interventions, such as VID-KIDS, would be an asset.

When is VID-KIDS Delivered?

Currently, mothers and their infants are recruited postpartum into the VID-KIDS intervention before infants reach 6 months of age. RNs who work in the well-baby clinics at AHS are well-positioned to provide this intervention to infants in this time frame, as they universally have contact with the families and infants routinely during their early years at the well-child clinics. Although, this study did not directly explore the maternal preferences for the timing of the VID-KIDS intervention, the current protocol is supported by evidence (Moehler et al., 2006). The early postpartum period is a critical time for developing the M-I relationship; therefore support is urgently needed in this time frame (Moehler et al., 2006). Furthermore, VID-KIDS is delivered over a 15 week period, including just three sessions, which aligns with Bakermans et al.'s (2003) recommendation that brief interventions are more effective.

Who Delivers VID-KIDS?

From the findings of this study, RNs are well-matched for many different reasons to deliver VID-KIDS. First, their communication skills contribute to understanding the importance of providing VID-KIDS in a collaborative manner, which mothers value. Mothers shared that a "sense of back and forth" in dialogue was a key component and shared how they preferred not being the only one in the "spotlight." A back and forth conversation made them feel like an equal with the RNs. In turn, maternal powerlessness was limited. Mothers also respected thoughtful questions about their experience with PPD from the RNs, which made them "dig deep." Furthermore, mothers expressed appreciation for opportunities to be creative in their dialogue, such as using metaphors in describing their experience with PPD.

Next, the educational background of RNs prepares them for the necessary relationship building skills and knowledge related to supporting optimal social-emotional environments in the early years. In combination with additional training that is explicitly provided to become a VID-KIDS RN, their skill set makes them ideally prepared to deliver this intervention. The VID-KIDS training that is required for RNs involves classroom instruction and practical video-feedback exercises. Once the training is completed, RNs must achieve at least 85% reliability on the PCITS.

Third, although cost-savings of employing nurses compared to physicians in primary health care settings, remains inconclusive (Laurant et al., 2018; Martínez-González et al., 2014), evidence via systematic review and meta-analysis (Martínez-González et al., 2014) (n = 24 RCT studies) and in a Cochrane systematic review (Laurant et al., 2018) (n = 18 RCT studies) both reported that patient satisfaction was higher when delivered by RNs compared to care delivered by physicians. Fourth, research has indicated that mothers experience increased benefits when

HCPs provide the support compared to lay-people (Letourneau et al., 2011b; Olds et al., 1999; Simhi et al., 2019). One of the most acclaimed examples that has provided robust evidence of RNs successfully delivering parenting programs in the home setting comes from the Family Nurse Partnership Model (Olds et al.,1999). Children and mothers' in this RN-based home visitation program, compared to the lay-person delivered program, demonstrated improved responsiveness towards one another. It was hypothesized that this positive change was due to elevated maternal sensitivity (Olds et al., 1999).

In summary, a compassionate and trusting relationship between the RN and the mother is central to the success of VID-KIDS. One mother appreciated taking time to build rapport with the RN and shared that she appreciated that "she was getting to know me." Ensuring the same RN delivers this intervention with each session supports continuity of care that fosters trust and strengthens the connection between the RN and the mother. Due to feelings associated with stigma and isolation, this type of relationship is of particular importance when mothers are experiencing PPD and contributes to decreasing any potential maternal anxiety present with the video-viewing portion of this intervention.

Where Is VID-KIDS Delivered?

In this project, mothers reported having the VID-KIDS intervention delivered within their homes allowed for a greater sense of authenticity than delivery in a clinical setting for both herself and the infant. A home environment lent itself to more genuine and "real" interactions compared to artificial physical factors (i.e., bright artificial light) present in a clinical setting. The mothers appreciated an environment that supported natural flow in communication with their infant and the RN. There was a sense of comfort in their own home that contributed to feelings of safety related to sharing their feelings related to their experience with PPD.

VID-KIDS has been developed for delivery in the mother's home environment, ensuring "ecological validity" is maintained (Tryphonopoulos & Letourneau, 2020, p.82). Second, delivery in the home setting eliminates barriers due to transportation, child-care, and parking fees, ensuring mothers have an equal opportunity to participate in VID-KIDS. Woolhouse et al. (2009) reported that over 20% of mothers with PPD find it challenging to find the time to access supports; therefore, delivering it in the home environment will eliminate this difficulty. A home-based intervention will also increase the likelihood that at-risk populations, such as mothers experiencing SES challenges, can participate. Additionally, it is extended to mothers living in rural areas. Furthermore, home visiting is not restricted by clinical hours, allowing for more flexibility in delivery times, such as weekends or evenings.

Public Health and Policy

In ensuring effective implementation of early parenting interventions, supportive public policy is essential. In my opinion, a primary responsibility of public health policy planning is to ensure that the health system has protective care pathways built in that enable mothers to access acceptable and feasible mental health care for PPD in a meaningful, equitable, and accessible way. Interventions that target the sensitive M-I relationship are critical to achieving equitable health for all (WHO, 2008). In this section, I suggest three key areas that can contribute to building strong public policies related to the implementation and sustainability of M-I dyad parenting interventions, including following principles of an upstream approach, aiming to integrate the intervention across the health care sector, and advocacy related to investment into parenting programs.

Upstream health care policies are critical to successfully preventing negative long-term outcomes that may transpire when children are exposed to PPD and contribute to preventing the

transmission of adverse risks and consequences from generation to generation. Dopp and Lantz (2019) offered that the implementation of upstream policies requires a "social determinants of health framework" (p.779) where understanding and strategies focus on addressing broader population concerns. Public health policies that embrace upstream implementation "alter the prevalence and social patterning of risk factors for childhood and adolescent mental health problems in communities and populations" (Dopp & Lantz, 2019, p. 779).

Thus, in conjunction with offering VID-KIDS, an example of an intervention at the micro-level, efforts should be made to understand and improve the upstream or macro-level social issues that poise population mental health risks such as PPD. Dopp and Lantz (2019) suggested that both micro and macro-level supports are necessary and stressed the criticality of applying "multi-level efforts" (p. 785) to offer the most meaningful mental health services.

Additionally, an upstream approach emphasizes strengthening understanding of social influences (Lantz, 2018). It aims to resist what Lantz (2018) referred to as the "medicalization of population health" (p. 36), which is focused on responding to rather than eliminating health concerns. Medicalization aims to situate health concerns from a disease-based and individual perspective and deters from reflecting on social causation of illness (Lantz, 2018). Thus, a deepening understanding of upstream supports related to social constructions and factors that may contribute to the development of PPD would be beneficial.

In taking an upstream approach, public health policy could be included in early elementary curriculums that provide education about the value of maternal responsiveness and sensitivity. It would be beneficial to impart knowledge about key principles related to developing healthy M-I relationship, long before children become parents. The Roots of Empathy (ROE) program (Schonert-Reichl et al., 2011) is an example of incorporating social and emotional

learning (SEL) into the early years' curriculum. By caring for infants in elementary school settings, the ROE program has demonstrated improvements in children's knowledge of infant crying, increased children's positive ratings of peers, and decreased children's aggressive behaviour.

Second, public health policy that aims to provide services to children in a collaborative and integrated approach will contribute to the prevention of mental health concerns, such as PPD and the associated adverse infant developmental outcomes. Waddell et al. (2005) referred to "the endemic fragmentation of mental health services" (p. 231) in Canada that is limiting the support and care that children receive for mental health. To ensure integration is maintained in the delivery of VID-KIDS, an interdisciplinary approach with various HCPs (i.e., pediatricians, family physicians, obstetricians, health promotion specialists, academics, psychiatrists, mental health specialists, public health and prenatal service workers) could be beneficial. In addition, ensuring mothers from different populations are engaged in the planning of the intervention and service delivery would be invaluable. Finally, engaging policy planners at the local, provincial, and national levels in developing early parenting interventions for PPD, such as VID-KIDS, in a unified manner, would offer infants and mothers a significant level of protection against mental health concerns. Third, investment in the early years within a preventative framework directed towards parenting interventions targeting M-I relationships will contribute to building a healthy population from the start. Waddell et al. (2007) emphasized that financial commitment towards mental health in the early years is justified and explained this should be a major public investment.

Knowledge Translation

In the knowledge translation (KT) phase of this project, and as part of the ongoing VID-KIDS study, the findings will be put into a summative form that will be used to create key messages about the benefits of VID-KIDS. This KT plan component will highlight information related to the importance of preventing toxic stress, decreasing exposure to PPD, and providing engaging responsive interactions plan. This KT plan will target mothers, their families, and HCPs that deliver care to mothers with PPD. Mothers will be targeted with written information, such as infographics, in locations where mothers congregate (doctors, public health offices, libraries, M-I child groups, child-care centers, and social media outlets (i.e., Twitter) aiming to stimulate conversation and raise awareness of VID-KIDS.

The findings will be translated to care providers and academia by submitting this related paper to a journal with a relevant target audience, presenting findings at mental health-parenting conferences, and shared within professional networks (formal and informal). A key piece of this KT process will be to ensure the stories, the words, and the strength of the mothers who experienced VID-KIDS are acknowledged. Sandelowski (1996) proclaimed, "storied accounts of scientific work are often the more compelling and culturally resonant way to communicate research" (p. 361) to stakeholders who have a vested interest in the area of research.

Future Research

Timing of Enrolment in VID-KIDS

Currently, mothers are being recruited into VID-KIDS in the postpartum stage. Tryphonopoulos & Letourneau (2020) have suggested that offering VID-KIDS at additional time frames could be beneficial. Evidence has indicated that initiating interventions for parents in the prenatal period may result in more preventative effects and offer increasing benefits (Flykt et al.,

2010). For example, Flykt et al. (2010) advised to best protect the M-I relationship and positive outcomes on children, M-I interventions would be optimized if they were initiated during pregnancy and continued throughout the postpartum period. VID-KIDS could be tested in the prenatal period by recruiting mothers showing depressive symptoms during pregnancy. The first phase of the intervention could begin with an education component related to healthy M-I interactions. Post-delivery, the video-feedback session could commence with the mother and her new infant, in perhaps a modified version for newborns.

Testing VID-KIDS with Different Populations

In this study, mothers who were interviewed about their experience screened high on the EPDS tool, were from a Caucasian background, were in supportive partnerships with the infant's mother, were older than 25 years of age, and did not have any financial concerns. Therefore, future qualitative research to explore VID-KIDS is warranted for fathers, immigrants, parents of premature infants, and adolescent parents. Exploring this intervention with other specific populations is an area of study that warrants further investigation (Tryphonopoulos & Letourneau, 2020).

Fathers

Tryphonopoulos and Letourneau (2020) recommended testing VID-KIDS with fathers. In Paulson and Bazermore's (2010) meta-analysis (n = 43 studies),the prevalence of depression in fathers was 10%, and paternal depression had a "moderate positive correlation with maternal depression" (p. 1961). Other research reported that maternal depression was the strongest predictor of paternal depression and estimated that up to half of fathers developed depression when mothers had PPD (Goodman, 2004).

There is currently a gap in parenting interventions explicitly designed for fathers (Letourneau et al., 2012b). In Letourneau et al.'s (2012b) study, fathers (*n* = 40) were interviewed and shared an interest in participating in similar parenting interventions offered to mothers. Evidence has indicated that video-feedback interventions for fathers have been well-received. For example, Lawrence et al. (2013) tested VIPP with fathers (*n* =5) to evaluate impacts on depression, infant temperament, and treatment acceptability. The fathers reported that the intervention increased their knowledge about their infants' emotional well-being and one father shared that it was " 'eye opening' " (Lawrence et al., 2013, p. 66). In another study, Benzies et al. (2008) interviewed fathers (*n* = 81) to understand their experience participating in a video-feedback program that employed the PCITS. Fathers reported that the intervention was valuable and appreciated the validation they received related to their parenting. There were no specific demographic factors associated with the quality of their paternal-infant interactions (Benzies et al., 2008).

Immigrants

There is evidence to support testing VID-KIDS with immigrants and expand research to understand their experience of PPD. First, immigrants experience higher rates of PPD in comparison to non-immigrant mothers (Daoud et al., 2019; Davey et al., 2011; O'Mahony & Donnelly, 2010). Second, immigrants experience additional barriers in obtaining support for their PPD. For example, Tobin et al. (2018) illustrated in reference to immigrants that "conceptualization of PPD may differ significantly from the "taken for granted" western perspective that relies on medication as a primary treatment for PPD" (p. 98).

Due to differences in the interpretations of PPD, more research is needed in this population group to improve understanding of their perspectives on parenting interventions for

PPD. In addition, training interventionists to provide culturally sensitive care and having interpreters available would be an approach that would increase the inclusivity of the VID-KIDS intervention. In support of this recommendation, Tobin et al. (2018) suggested that it would be beneficial to provide specific training to HCPs delivering care to mothers with PPD due to their unique set of contextual factors that they experience.

Premature Infants

In an RCT in Netherlands, Hoffenkamp et al. (2015) tested VIG on mothers (*n* = 150) and fathers (*n* =144) with their premature infants (*n* =150) in a hospital setting. The findings discovered that VIG was successful at increasing maternal sensitivity and engagement for both mothers and fathers. The authors suggested that VIG delivered to parents with premature infants has the potential to contribute to building healthy parent relationships in this context. Thus, this study supports the potential utility of testing VID-KIDS with premature infants and parents.

Adolescents

Tryphonopoulos and Letourneau (2020) suggested that testing VID-KIDS on adolescents is a gap that warrants further research. In Letourneau et al.'s (2004) review, they highlighted the challenging lifestyle factors adolescent mothers may endure that can put them at risk for experiencing impairment related to M-I interactions and poorer child development outcomes. In an RCT (Koniak-Griffin et al., 1992) video-interaction feedback for adolescent mothers (*n* = 31) between the ages of 13-20 years old was evaluated. This study detected significant impacts on the quality of the M-I interaction, specifically related to improvements in maternal positivity and offering activities that promoted infant cognitive stimulation. Although the authors did not assess depression, mothers experienced improved maternal confidence (Koniak-Griffin et al., 1992). Therefore, this study provided evidence that testing VID-KIDS with adolescents offers promise.

Socio-Economic Challenges

Evidence has suggested that when mothers are faced with the stress of financial concerns, they may be more at risk for experiencing a decreased quality of M-I interactions. In one study, Schiffman et al. (2003) assessed M-I interactions with mothers (n = 156) exposed to low-income adversity. The researchers found that a significant amount of the mothers experiencing financial challenges scored in the lower percentile on the PCITS. In another study, Hwa-Froelich et al. (2008) found mothers (n = 23) experiencing depression and living in in poverty participated in different styles of interacting with their infants, such as decreased responsiveness and verbal communication and had more difficulty reading cues. This suggests that exploring VID-KIDS's feasibility and acceptability in high-risk dyads requires more research and collaborating with agencies that provide support to mothers experiencing SES concerns would be of benefit.

Other Maternal Mental Illnesses, Sensitivity, and Confidence

Another area of research where a gap exists, is evaluating VID-KIDS with mothers experiencing different types of mental illnesses, such as anxiety, border-line personality disorder, and schizophrenia. Barker et al. (2011) recommended that assessing both anxiety and depression in mothers in the prenatal and postnatal periods would help prevent negative outcomes, compared to focusing exclusively on depression. Furthermore, mothers experiencing reduced sensitivity, not necessarily a diagnosed mental illness, is another sub-group of populations that VID-KIDS could target. For example, Kalinauskiene et al. (2009) examined VIPP to promote maternal sensitivity and infant attachment security and found that sensitivity and responsiveness significantly improved. In expanding the criteria for VID-KIDS enrolment, more mothers would have the opportunity to participate, thus protecting more infants from the adversity of PPD.

Different Modes of Delivering VID-KIDS

Evaluation of the delivery of VID-KIDS in different and innovative ways is another area of further research. Areas that might benefit from future research include the effects of using an interdisciplinary approach in the delivery of VID-KIDS, such as offering it in diverse care settings, delivered by different HCPS. In addition, delivering VID-KIDS by peers or in a group format could be explored. An interdisciplinary team approach, such as working together with child-care providers, social workers, neonatal intensive care nurses (NICU), postpartum nurses, family doctors, psychologists, pediatricians, and pediatric nurses are examples of HCPs that could provide support in the delivery of VID-KIDS. Rafferty et al. (2019) recommended that pediatricians offer reassurance and understanding to mothers with PPD in different ways. Implementing a strengths-based approach that aims to identify positive interactions between a mother and her infant is an example of how pediatricians can incorporate support for mothers experiencing PPD into their clinical practice (Rafferty et al., 2019). This suggests that even if other HCPs do not become involved with the direct implementation of VID-KIDS, they could provide education related to key concepts that are associated with promoting healthy M-I interactions.

Hospital Settings

Further research could involve evaluating VID-KIDS implementation in the hospital setting, in either postpartum or mental health units. Bilszta et al.'s (2012) video-feedback study, completed in an Australian hospital in-patient setting, resulted in mixed findings. However, in the Netherlands, video-feedback interventions are commonly used and positively received in adult mental health care settings (van Doseum et al., 2008). Given a paucity of research conducted in hospital settings in Canada, this is a gap that would benefit from further analysis.

Peer Delivery

Another area to explore is delivery by peers, as evidence has been mixed regarding receiving support from peers. Dennis et al. (2009) suggested that peers are an invaluable support to mothers when they cannot have their needs met by HCPs. However, mothers likely receive more when parenting interventions are delivered by HCPs over peers, due to insignificant results achieved in research that has evaluated peer home visiting (Letourneau et al., 2011b; Olds et al., 1999).

Group Format

Another area to evaluate is the delivery of VID-KIDS in a group format. VID-KIDS delivery in a group format could offer benefits in many different ways, including mothers receiving support from others experiencing similar situations, decreased stigma, and increased maternal confidence. The sense of commonness and universality can provide healing and comfort to mothers when they learn that they are not alone in the experience of PPD.

King et al.'s (2015) study provided evidence for the acceptability of video-feedback being conducted in a group format. In this research, the benefits of video-feedback in a group format for the mothers included enhanced learning from others, increased awareness of self, and improved perceptions of children. Further, McNeil et al.'s (2012) study reported that support received in a group format was unique in comparison to that received on an individual basis. Namely, the group setting provided mothers with confidence, and a key theme that emerged about their participation in the group was "getting more than they realized they needed" (McNeil et al., 2012, p. 6). However, this group was not studied specifically with mothers experiencing PPD. Finally, group delivery could be a more cost-effective approach because more mothers could be supported with one care provider, and the cost of travel would be eliminated for the RN.

However, this modality would need to be tested, and maternal acceptability of receiving video-feedback in a group setting needs to be further understood.

Long-term Outcomes of VID-KIDS

Long-term evaluation of VID-KIDS is an area for future research, as suggested by Tryphonopoulos and Letourneau (2020). Kersten-Alvarez et al. (2010) followed children five years after being involved in a video-feedback intervention study. The outcomes on child development were mixed, thus suggesting more evaluative research is needed to understand long-term benefits. One component of evaluation that requires future research is the value of adding a booster or modification sessions to VID-KIDS. Incorporating booster (s) for VID-KIDS into the toddler years needs to be researched further because PPD can persist beyond the first year (Letourneau et al., 2013).

Relational Research in VID-KIDS

Research is limited in understanding the relationship between the HCP and the mother in video-feedback parenting interventions. The development of this relationship is a critical component in VID-KIDS. Exploring the relationship between the HCP and the mother in this context, from a qualitative research perspective could offer valuable insight for video-feedback programming. Qualitative questions that could be employed to understand this relationship further could include: How do HCPs conceptualize compassion, caring, and presence amidst a highly technical environment? What relational components do the HCP and mother perceive as strengthening this relationship? What attributes of this connection contribute to the intervention outcomes? What factors need to be further understood that may inhibit the development of this connection?

Different Ways to Evaluate VID-KIDS

In the current VID-KIDS RCT, multiple measures are being used to evaluate M-I outcomes. The following measurement tools are being used; ACES, EPDS, ASQ (Squires, Bricker, & Potter, 1997), ASQ-SE, PSI-SF, State-Trait Anxiety Inventory (STAI) (Spielberger, 1983), Social Support Effectiveness Questionnaire (SSEQ) (Rini et al., 2006), Patient Health Questionnaire 9 (PHQ-9) (Kroenke et al., 2001), the Severity Scoring of Atopic Dermatitis Index (SCORAD) (Schmitt et al., 2013), and questions about health service utilization. Future evaluation of VID-KIDS with different measures could offer insight into impacts on other outcomes. Tryphonopoulos and Letourneau (2020) recommended testing additional measures such as parenting stress and parenting self-efficacy on VID-KIDS. Given the increase in confidence and correlation with PPD and the M-I interactions, as per evidence from the mothers in this project, measuring this variable would be a valuable complement to VID-KDS.

The other area that requires more evaluation relates to the best means to conduct qualitative research, to understand maternal stories that complement quantitative research. In health care, there is a gap related to applying creative research to evaluate mothers' mental health that partners with quantitative-focused studies to ensure maternal stories are captured with the utmost insight and meaning. What is the most effective way to evaluate the experience of PPD in different populations, such as adolescents mothers who do not speak English or mothers who experience different types of mental health concerns? How can data from the voice of mothers be convincing in a way that will contribute to meaningful change? Would mothers prefer conversational evaluation where their perspectives are heard? For example, there is freedom for mothers to express themselves, in using dialogue, such as with metaphors. Metaphors can serve to add depth to the relationship between HCPs and mothers, making them a valuable addition in

health care (Beck, 2020). Beck (2020) suggested that the novel use of metaphors could be combined with traditional care of PPD and with this approach, individual care plans for mothers could be developed.

Conclusion

This project's overarching goal is to improve and promote the health of infants exposed to the stress of PPD. Marmot et al. (2008) stated that in order to create "… equity from the start of life, governments and international agencies need to commit to and implement a comprehensive approach to early life … extending interventions in early life to include social-emotional and language-cognitive development" (p.1662). VID-KIDS is an example of an intervention that aligns with Marmot et al.'s (2008) call to provide fairness from the beginning to improve social outcomes in infants and their families, ultimately ending the intergenerational transmission that can be associated with PPD.

In revisiting the theory of self-efficacy, the etymology of efficacy connects at a deeper level to this project. The etymology of the efficacy suggests it emerged in the 1520s from the Latin efficia "efficacy, efficiency," from efficacy, "powerful, effectual, efficient" (Online Etymology Dictionary, n.d.). The word "powerful" revealed itself in a new way to the mothers in this study. The mothers' co-constructed awareness of her competent ability to mother, unveiled maternal powerfulness, and they experienced a sense of em "power*"*ment. In situating this research project, within the theory of self-efficacy, framed within public health principles, under the tenets of hermeneutics, in partnership with an RCT, the mothers in this study had an opportunity to share their *lens* on what it was like to *view* themselves interacting with their infants via the *lens* of the video camera. Fittingly, lens (Meriam-Webster, n.d.) is defined as something that contributes to the development of perception and understanding. VID-KIDS

offered a lens that provided mothers with the experience of shifting their perception of themselves in a positive light.

It is the vision that this research project has opened up a more profound understanding related to the experience for mothers participating in VID-KIDS. Just as Gadamer (1960/2013) informed us that understanding never ends, the pioneer in home visiting programs for mothers and infants, Olds et al. (2013), stated, "evidence-based interventions are rarely final products" (p. S110).

It is the hope that these mothers' voices will stimulate continued discussion related to the critical need for maternal engagement in the design of parenting interventions related to PPD. As we move forward in health care and research, may we strive to continuously invite mothers into conversations and may this type of engagement provide a conduit to understanding experiences differently. In doing so, I conclude that mothers will feel heard and the support they receive for PPD will be aligned with their preferences, which will optimize their capacity to heal.

References

Aarts, M. (2008). *Marte Meo: Basic manual*. (2nd ed.). Eindhoven, the Netherlands: Aarts Productions

Abidin, Richard R. (1995). *Parenting stress index: professional manual. Lutz, FL: Psychological Assessment Resources*

Abrams, S., Field, T., Scafidi, F., & Prodromidis, M. (1995). Newborns of depressed mothers. *Infant Mental Health Journal, 16*(3), 233- 239. https://doi.org/10.1002/1097-0355(199523)16:3<233::aid-imhj2280160309>3.0.co;2-1

Abrams, L. S., & Curran, L. (2011). Maternal identity negotiations among low-income women with symptoms of postpartum depression. *Qualitative health research*, *21*(3), 373–385. https://doi-org.ezproxy.lib.ucalgary.ca/10.1177/1049732310385123

Achenbach, T. M., & Ruffle, T. M. (2000). The child behavior checklist and related forms for assessing behavioral/emotional problems and competencies. *Pediatrics in Review*, *21*(8), 265–271. https://doi.org/10.1542/pir.21-8-265

Affonso, D. D., De, A. K., Horowitz, J. A., & Mayberry, L. J. (2000). An international study exploring levels of postpartum depressive symptomatology. *Journal of Psychosomatic Research*, *49*(3), 207–216. https://doi.org/10.1016/s0022-3999(00)00176-8

Aguirre, R.T., & Bolton, K. W. (2014). Qualitative interpretive meta-synthesis in social work research: Uncharted territory. *Journal of Social Work*, *14*(3), 279 – 294. https://doi.org/10.1177/1468017313476797

Ainsworth, M.D.S., Bell, S. M., & Stayton, D.J. (1974) Infant-mother attachment and social development: Socialization as a product of reciprocal responsiveness to signals. In M.P.

Richards (Ed.), The integration of a child into a social work (pp. 99-135). London, UK: Cambridge University Press.

Ainsworth, M. (1964). Patterns of attachment behavior shown by the infant in interaction with his mother. *Merrill-Palmer Quarterly of Behavior and Development*, *10*(1), 51-58.

Ainsworth, M. (1967). *Infancy in Uganda: Infant care and the growth of love*. Baltimore, MD: The Johns Hopkins Press.

Albers, C. A., & Grieve, A. J. (2007). Test Review: Bayley, N. (2006). Bayley scales of infant and toddler development–Third Edition. San Antonio, TX: Harcourt Assessment. *Journal of Psychoeducational Assessment*, *25*(2), 180–190. https://doi.org/10.1177/0734282906297199

Alberta Health Services (2019). Postpartum depression. Retrieved December 10, 2020 from https://www.albertahealthservices.ca/info/Page16138.aspx

Almond, P. (2009). Postnatal depression: a global public health perspective. *Perspectives in Public Health, 129*(5), 221-227. https://doi.org/10.1177%2F1757913909343882

Almond, P., & Lathlean, J. (2011). Inequity in provision of and access to health visiting postnatal depression services. *Journal of Advanced Nursing, 67*(11), 2350-2362. https://doi.org/10.1111/j.1365-2648.2011.05669.x

Alvarez-Segura, M., Garcia-Esteve, L., Torres, A., Plaza, A., Imaz, M, L., Hermida-Barros, L., & Burtchen, L.S. (2014). Are women with a history of abuse more vulnerable to perinatal depressive symptoms? A systematic review. *Archives of Women's Mental Health, 17*(5), 343-357. https://doi.org/10.1007/s00737-014-0440-9

American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Ammerman, R., Altaye, T., Putnam, M., Teeters, F., Zou, W., & Ginkel, A. (2015). Depression improvement and parenting in low-income mothers in home visiting. *Archives of Women's Mental Health, 18*(3), 555-563. https://doi.org/10.1007/s00737-014-0479-7

Arante, F. O., Tabb, K. M., Wang, Y., & Faisal-Cury, A. (2020). The relationship between postpartum depression and lower maternal confidence in mothers with a history of depression during pregnancy. *The Psychiatric Quarterly*, *91*(1), 21–30. https://doi.org/10.1007/s11126-019-09673-w

Ashman, S., Dawson, G., Panagiotides, H., Yamada, E., & Wilkinson, C. (2002). Stress hormone levels of children of depressed mothers. *Development and Psychopathology, 14*(2), 333-349. https://doi.org/10.1017/s0954579402002080

Austin, M.P., & Highest, N. (2011). Clinical practice guidelines for depression and related disorders-anxiety, bipolar disorder and pureperal psychosis-in the perinatal period. *A guideline for primary care health professionals. Melbourne:beyondblue:the national depression initiative.*

Avan, B., Richter, L., Ramchandani, P., Norris, S., & Stein, A. (2010). Maternal postnatal depression and children's growth and behavior during the early years of life: Exploring the interaction between physical and mental health. *Archives of Disease in Childhood, 95*(9), 690-695. https://doi.org/10.1136/adc.2009.164848

Bagner, D., Pettit, J., Lewinsohn, P., & Seeley, J. (2010). Effect of maternal depression on child behavior: A sensitive period? *Journal of the American Academy of Child & Adolescent Psychiatry, 49*(7), 699-707. https://doi.org/10.1016/j.jaac.2010.03.012

Baker, L., Lavender, T., & Tincello, D. (2005). Factors that influence women's decisions about whether to participate in research: An exploratory study. *Birth, 32*(1), 60-66.

https://doi.org/10.1111/j.0730-7659.2005.00346.x

Bakermans-Kranenburg, M., Van IJzendoorn, M., & Juffer, F. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin, 129*(2), 195-215. https://doi.org/10.1037/0033-2909.129.2.195

Balbierz, A., Bodnar-Deren, S., Wang, J., & Howell, E. (2015). Maternal depressive symptoms and parenting practices 3-months postpartum. *Maternal and Child Health Journal, 19*(6), 1212-1219. https://doi.org/10.1007/s10995-014-1625-6

Balldin, S., Fisher, P. A., & Wirtberg, I. (2018). Video feedback intervention with children. *Research on Social Work Practice*, *28*(6), 682–695. https://doi.org/10.1177/1049731516671809

Ban L., Gibson J., West, J., & Tata L. (2010). Association between perinatal depression in mothers and the risk of childhood infections in offspring: A population-based cohort study. *BMC Public Health, 10*(1), 799. https://doi.org/10.1186/1471-2458-10-799

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. https://doi.org/10.1037/0033-295x.84.2.191

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*(9), 1175-1184. https://doi.org/10.1037/0003-066x.44.9.1175

Barker, E., Jaffee, S., Uher, R., & Maughan, B. (2011). The contribution of prenatal and postnatal maternal anxiety and depression to child maladjustment. *Depression and Anxiety, 28*(8), 696-702. https://doi.org/10.1002/da.20856

Barlow, J., Bennett, C., Midgley, N., Larkin, S., & Wei, Y. (2016) Parent-infant psychotherapy:

a systematic review of the evidence for improving parental and infant mental health. *Journal of Reproductive and Infant Psychology, 34*(5), 464-482. https://doi.org/10.1080/02646838.2016.1222357

Barr, J. (2008). Postpartum depression, delayed maternal adaptation, and mechanical infant caring: A phenomenological hermeneutic study. *International Journal of Nursing Studies, 45*(3), 362-369. https://doi.org/10.1016/j.ijnurstu.2006.10.002

Bayrampour, H., McNeil, D. A., Benzies, K., Salmon, C., Gelb, K., & Tough, S. (2017). A qualitative inquiry on pregnant women's preferences for mental health screening. *BMC Pregnancy and Childbirth*, *17*(1), 339. https://doi.org/10.1186/s12884-017-1512-4

Beck, C. (1995). The effects of postpartum depression on maternal-infant interaction: a meta-analysis. *Nursing Research, 44*(5), 298-304. https://doi.org/10.1097/00006199-199509000-00007

Beck, C. (1996). Postpartum depressed mothers' experiences interacting with their children. *Nursing Research, 45*(2), 98-104. https://doi.org/10.1097/00006199-199603000-00008

Beck, C. (1998). The effects of postpartum depression on child development: a meta-analysis. *Archives of Psychiatric Nursing, 12*(1), 12-20. https://doi.org/10.1016/s0883-9417(98)80004-6

Beck, C. (1999). Maternal depression and child behavior problems: a meta-analysis. *Journal of Advanced Nursing, 29*(3), 623-629. https://doi.org/10.1046/j.1365-2648.1999.00943.x

Beck, C. (2001). Predictors of postpartum depression: an update. *Nursing Research, 50*(5), 275-285. https://doi.org/10.1097/00006199-200109000-00004

Beck, C. (2002). Postpartum depression: a metasynthesis. *Qualitative Health Research*, *12*(4), 453-472. https://doi.org/10.1177/104973202129120016

Beck, C. (2020). Mother-infant interaction during postpartum depression: A metaphor analysis. *The Canadian Journal of Nursing Research = Revue Canadienne De Recherche En Sciences Infirmieres, 52(2)*, 108-116. https://doi.org/10.1177/0844562119897756

Beck, C.T., & Gable, R. K. (2000). Postpartum depression screening scale: development and psychometric testing. *Nursing Research (New York)*, *49*(5), 272–282. https://doi.org/10.1097/00006199-200009000-00006

Beck, A.T., Steer, R., & Brown, G. (1996). BDI-II [database record]. APA PsycTests. https://doi.org/10.1037/t00742-000

Beck, A.T., Steer, R. A., & Garbin, M. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, *8*(1), 77–100. https://doi.org/10.1016/0272-7358(88)90050-5

Beebe, B. (2005). Mother-infant research informs mother-infant treatment. *The Psychoanalytic Study of the Child, 60*, 7-46. https://doi.org/10.1080/00797308.2005.11800745

Beebe, B., Badalamenti, A., Jaffe, J., Feldstein, S., Marquette, L., Helbraun, E., Demetri-Freidman, D., Flaster, C., Goodman, P., Kaminer, T., Kaufman-Balamuth, L., Putterman, J., Stepakoff, S., & Ellman, L. (2008). Distressed mothers and their infants use a less efficient timing mechanism in creating expectancies of each other's looking patterns. *Journal of Psycholinguistic Research, 37*(5), 293-307. https://doi.org/10.1007/s10936-008-9081-3

Belsky, J. (1984). Determinants of parenting: A process model**.** *Child Development, 55*(1), 83-96. https://doi.org/10.2307/1129836

Benaroyo, L., & Widdershoven, G. (2004). Competence in mental health care: A hermeneutic

perspective. *Health Care Analysis, 12*(4), 295-306. https://doi.org/10.1007/s10728-004-6637-8

Benzies, K., Magill-Evans, J., Harrison, M., MacPhail, S., & Kimak, C. (2008). Strengthening new fathers' skills in interaction with their 5-month-old infants: Who benefits from a brief intervention? *Public Health Nursing, 25*(5), 431-439. https://doi.org/10.1111/j.1525-1446.2008.00727.x

Berggren-Clive, K. (1998). Out of the darkness and into the light: Women's experiences with depression after childbirth. *Canadian Journal of Community Mental Health,* 1(17), 103-120. https://doi.org/10.7870/cjcmh-1998-0006

Bergum, V., & Dossetor, J, (2005). *Relational ethics. The meaning of respect.* Hagerstown, MD: University Publishing Group.

Berry, J.O., & Jones, W. H. (2016). The parental stress scale: Initial psychometric evidence. *Journal of Social and Personal Relationships*, *12*(3), 463–472. https://doi.org/10.1177/0265407595123009

Bilszta, J., Buist, A., Wang, F., & Zulkefli, N. (2012). Use of video feedback intervention in an inpatient perinatal psychiatric setting to improve maternal parenting. *Archives of Women's Mental Health, 15*(4), 249-257. https://doi.org/10.1007/s00737-012-0283-1

Biringen, Z., Derscheid, D.,Vliegen, N., Closson, L., & Easterbrooks, M. A. (2014). Emotional availability (EA): Theoretical background, empirical research using the EA Scales, and clinical applications. *Developmental Review*, *34*(2), 114–167. https://doi.org/10.1016/j.dr.2014.01.002

Blegen, N., Eriksson, K., & Bondas, T. (2014). Through the depths and heights of darkness; mothers as patients in psychiatric care. *Scandinavian Journal of Caring Sciences, 28*(4),

852-860. https://doi.org/10.1111/scs.12122

Blegen, N., Eriksson, K., & Bondas, T. (2016). Ask me what is in my heart of hearts! The core question of care in relation to parents who are patients in a psychiatric care context. *International Journal of Qualitative Studies on Health and Well-being, 11*(1), 1-10. https://doi.org/10.3402/qhw.v11.30758

Blegen, N., Hummelvoll, J., & Severinsson, E. (2010). Mothers with mental health problems: A systematic review. *Nursing & Health Sciences, 12*(4), 519-528. https://doi.org/10.1111/j.1442-2018.2010.00550.x

Blegen, N. E., Hummelvoll, J. K., & Severinsson, E. (2012). Experiences of motherhood when suffering from mental illness: A hermeneutic study. *International Journal of Mental Health Nursing*, *21*(5), 419–427. https://doi.org/10.1111/j.1447-0349.2012.00813.x

Boath, E., Bradley, & Henshaw, C. (2004). Women's views of antidepressants in the treatment of postnatal depression. *Journal of Psychosomatic Obstetrics & Gynecology, 25*(3-4), 221-233. https://doi.org/10.1080/01674820400017889

Bombard, Y., Baker, G. R., Orlando, E., Fancott, C., Bhatia, P., Casalino, S., Onate, K., Denis, J. L., & Pomey, M. P. (2018). Engaging patients to improve quality of care: a systematic review. *Implementation Science : IS*, *13*(1), 98. https://doi.org/10.1186/s13012-018-0784-z

Bowlby, J. (1969*). Attachment and loss: Vol I. Attachment.* New York, NY*: Basic Books.*

Boyd, R.C., Le., H.N., & Somberg. R. (2005). Review of screening instruments for postpartum depression. *Archives of Women's Mental Health, 8*(3), 141-53. https://doi.org/10.1007/s00737-005-0096-6

Brazelton, T. B, & Nugent, J. K. (2011). *Neonatal Behavioral Assessment*

Scale (Vol. 190, Clinics in developmental medicine). Cambridge: Mac Keith Press.

Brennan, P., Hammen, C., Andersen, M., Bor, W., Najman, J., & Williams, G. (2000). Chronicity, severity, and timing of maternal depressive symptoms: Relationships with child outcomes at Age 5. *Developmental Psychology, 36*(6), 759-766. https://doi.org/10.1037/0012-1649.36.6.759

Briggs-Gowan, M. J., Carter, A. S., Irwin, J. R., Wachtel, K., & Cicchetti, D. V. (2004). The Brief infant-toddler social and emotional assessment: screening for social-emotional problems and delays in competence. *Journal of Pediatric Psychology*, *29*(2), 143–155. https://doi.org/10.1093/jpepsy/jsh017

Brocki, J. M., & Wearden, A. J. (2006). A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology. *Psychology & Health*, *21*(1), 87–108. https://doi.org/10.1080/14768320500230185

Brockington, I. F., Oates, J., George, S., Turner, D., Vostanis, P., Sullivan, M., Loh, C., & Murdoch, C. (2001). A Screening questionnaire for mother-infant bonding disorders. *Archives of Women's Mental Health*, *3*(4), 133–140. https://link.springer.com/article/10.1007%2Fs007370170010

Byatt, N., Biebel, K., Friedman, L., Debordes-Jackson, G., & Ziedonis, D. (2013). Women's perspectives on postpartum depression screening in pediatric settings: A preliminary study. *Archives of Women's Mental Health, 16*(5). 429-432. https://doi.org/10.1007/s00737-013-0369-4

Byrne, C. (1999). Facilitating empowerment groups: Dismantling professional boundaries. *Issues in Mental Health Nursing, 20*(1), 55-71. https://doi.org/10.1080/016128499248781

Cadman, T., Diamond, P. R., & Fearon, P. (2018). Reassessing the validity of the

attachment Q-sort: An updated meta-analysis. *Infant and Child Development*, *27*(1), e2034–n/a. https://doi.org/10.1002/icd.2034

Canada Institutes for Health Research (2014). Strategy for Patient-Oriented Research. Strategy for Patient-Oriented Research- Patient Engagement Framework. Retrieved November 20, 2020, from https://cihrirsc.gc.ca/e/documents/spor_framework-en.pdf

Canadian Mental Health Association (n.d.). Post-Partum Depression. Retrieved December 5, 2020, from https://cmha.ca/documents/postpartum-depression

Canadian Pediatric Society (n.d.). Your Children's Development: What to expect. Retrieved December 10, 2020, from https://www.caringforkids.cps.ca/handouts/behavior-and-development/your_childs_development

Carter, A. S., Briggs-Gowan, M. J., Jones, S. M., & Little, T. D. (2003). The Infant-Toddler Social and Emotional Assessment (ITSEA): factor structure, reliability, and validity. *Journal of Abnormal Child Psychology*, *31*(5), 495–514. https://doi-org.ezproxy.lib.ucalgary.ca/10.1023/a:1025449031360

Censullo, M., Bowler, R., Lester, B., & Brazelton, T. B. (1987). An instrument for the measurement of infant-adult synchrony. *Nursing Research (New York)*, *36*(4), 244–248. https://doi.org/10.1097/00006199-198707000-00015

Center of the Developing Brain, Harvard University. *Serve and return*. Retrieved from:.https://developingchild.harvard.edu/science/key-concepts/serve-and-return/

Chaput, K. H., Nettel-Aguirre, A., Musto, R., Adair, C. E., & Tough, S. C. (2016). Breastfeeding difficulties and supports and risk of postpartum depression in a cohort of women who have given birth in Calgary: a prospective cohort

study. *CMAJ Open*, *4*(1), E103–E109. https://doi.org/10.9778/cmajo.20150009

Chen, C. H., Wang, S. Y., Chung, U. L., Tseng, Y. F., & Chou, F. H. (2006). Being reborn: the recovery process of postpartum depression in Taiwanese women. *Journal of advanced nursing*, *54*(4), 450–456. https://doi-org.ezproxy.lib.ucalgary.ca/10.1111/j.1365-2648.2006.03843.x

Cicchetti, D., Rogosch, F.A., & Toth, Sheree L. (2000). The efficacy of toddler-parent psychotherapy for fostering cognitive development in offspring of depressed mothers. *Journal of Abnormal Child Psychology*, *28*(2), 135–148. https://doi.org/10.1080/14616739900134021

Clark, R., Tluczek, A., & Brown, R. (2008). A mother-infant therapy group model for postpartum depression. *Infant Mental Health Journal*, *29*(5), 514–536. https://doi.org/10.1002/imhj.20189

Clark, R., Tluczek, A., & Wenzel, A. (2003). Psychotherapy for postpartum depression: a preliminary report. *American Journal of Orthopsychiatry*, *73*(4), 441-454. https://doi.org/10.1037/0002-9432.73.4.441

Coates, R., Ayers, S., & De Visser, R. (2014). Women's experiences of postnatal distress: A qualitative study. *BMC Pregnancy and Childbirth, 14*(359), 35. https://doi.org/10.1186/1471-2393-14-359

Cohn, J., Campbell, S., Matias, R., & Hopkins, J. (1990). Face-to-Face interactions of postpartum depressed and nondepressed mother–infant pairs at 2 months. *Developmental Psychology, 26*(1), 15-23. https://doi.org/10.1037/0012-1649.26.1.15

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality

in dating couples. *Journal of Personality and Social Psychology*, *58*(4), 644–663. https://doi.org/10.1037/0022-3514.58.4.644

Conradt, E., Hawes, K., Guerin, D., Armstrong, D., Marsit, C., Tronick, E., & Lester, B. (2016). The contributions of maternal sensitivity and maternal depressive symptoms to epigenetic processes and neuroendocrine functioning. *Child Development, 87*(1), 73-85. https://doi.org/10.1111/cdev.12483

Coo, S., Sommerville, S., Matacz, R., & Byrne, S. (2018). Development and preliminary evaluation of a group intervention targeting maternal mental health and mother-infant intervention targeting maternal mental health and mother-infant interaction: A combined qualitative and case series report. *Journal of Reproductive and Infant Psychology, 36*(3), 327-343. https://doi.org/10.1080/02646838.2018.1443435

Cornish, A., McMachon, C., & Ungerer, J. (2008). Postnatal depression and the quality of mother-infant interactions during the second year of life. *Australian Journal of Psychology, 60*(3), 142-151. https://doi.org/10.1080/00049530701477738

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression. Development of the 10-item Edinburgh Postnatal Depression Scale. *The British Journal of Psychiatry: The Journal of Mental Science*, *150*, 782–786. https://doi.org/10.1192/bjp.150.6.782

Crittenden, P.M. (2005). Der CARE-Index als hilfsmittel für früherkennung, intervention und forschung. Frühförderung interdisziplinär (early interdisciplinary intervention), Special issue: Bindungsorientierte Ansätze in der Praxis der Frühförderung 24, S.99-106. (English on www.patcrittenden.com.) 782-786. Retrieved on October 25, 2020 from https://familyrelationsinstitute.org/wp-content/uploads/care_index.pdf

Crittenden, P., & Snell, M. (1983). Intervention to improve mother-infant interaction and infant development. *Infant Mental Health Journal, 4*(1), 23-31. https://doi.org/10.1002/1097-0355(198321)4:1<23::AID-IMHJ2280040104>3.0.CO;2-X

Črnčec, R., Barnett, B., & Matthey, S. (2008). Development of an instrument to assess perceived self-efficacy in the parents of infants. *Research in Nursing & Health*, *31*(5), 442–453. https://doi.org/10.1002/nur.20271

Crnic, K. A., & Greenberg, M. T. (1990). Minor parenting stresses with young children. *Child Development*, *61*(5), 1628–1637. https://doi.org/10.2307/1130770

Csikszentmihalyi, M., & Csikszentmihalyi, I. (1988). *Optimal experience: Psychological studies of flow in consciousness*. Cambridge, MA : Cambridge University Press.

Da Costa, D., Dritsa, M., Rippen, N., Lowensteyn, I., & Khalife, S. (2006). Health-related quality of life in postpartum depressed women. *Archives of Women's Mental Health, 9*(2), 95-102. https://doi.org/10.1007/s00737-005-0108-6

Daoud, N., O'Brien, K., O'Campo, P., Harney, S., Harney, E., Bebee, K., Bourgeois, C., & Smylie, J. (2019). Postpartum depression prevalence and risk factors among Indigenous, non-Indigenous and immigrant women in Canada. *Canadian Journal of Public Health*, *110*(4), 440–452. https://doi.org/10.17269/s41997-019-00182-8

Darling-Churchill, K. E., & Lippman, L. (2016). Early childhood social and emotional development: Advancing the field of measurement. *Journal of Applied Developmental Psychology*, *45*, 1–7. https://doi.org/10.1016/j.appdev.2016.02.002

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

Declercq, E. R., Sakala, C., Corry, M. P., Applebaum, S., & Herrlich, A. (2014). Major survey findings of listening to mothers. *The Journal of Perinatal Education*, *23*(1), 17–24. https://doi.org/10.1891/1058-1243.23.1.17

DeGangi, G., Poisson, S., Sickel, R., & Santman W.A. (1995). Infant Toddler symptom checklist: A screening tool for parents: Bloomington: Pearson

Degrogatis, L., R. (1983). The Brief Symptom Inventory (BSI): Administration, scoring and procedures manual. (4th ed.). Minneapolis, MN National Computer Systems.

De Jong, G.M., Timmerman, I.G.H., & Emmelkamp, P.M.G. (1996). The survey of recent life experiences: A psychometric evaluation. *Journal of Behavioral Medicine*, *19*(6), 529–542. https://doi.org/10.1007/BF01904902

Dennis, C. (2004a). Influence of depressive symptomatology on maternal health service utilization and general health. *Archives of Women's Mental Health, 7*(3), 183-191. https://doi.org/10.1007/s00737-004-0053-9

Dennis, C. (2004b). Preventing postpartum depression part II: A critical review of nonbiological interventions. *The Canadian Journal of Psychiatry, 49*(8), 526-538. https://doi.org/10.1177/070674370404900804

Dennis, C., & Chung-Lee, L. (2006). Postpartum depression. Help-seeking behavior and maternal treatment preferences: a qualitative systematic review. *Birth, 33*(4), 323-331. https://doi.org/10.1111/j.1523-536x.2006.00130.x

Dennis, C., Heaman, M., & Vigod, S. (2012). Epidemiology of postpartum depressive symptoms among Canadian women: Regional and national results from a cross-sectional survey. *The Canadian Journal of Psychiatry, 57*(9), 537-546. https://doi.org/10.1177/070674371205700904

Dennis, C. L., Hodnett, E., Kenton, L., Weston, J., Zupancic, J., Stewart, D. E., & Kiss, A. (2009). Effect of peer support on prevention of postnatal depression among high risk women: multisite randomised controlled trial. *BMJ (Clinical research ed.)*, *338*, a3064. https://doi.org/10.1136/bmj.a3064

Dennis, C. L., & McQueen, K. (2009). The relationship between infant-feeding outcomes and postpartum depression: a qualitative systematic review. *Pediatrics*, *123*(4), e736–e751. https://doi-org.ezproxy.lib.ucalgary.ca/10.1542/peds.2008-1629

Devault, M. (1990). Talking and listening from women's standpoint-feminist strategies for interviewing and analysis. *Social Problems, 37*(1), 96-116. https://doi.org/10.2307/800797

Dias, C., & Figueiredo, B. (2015). Breastfeeding and depression: a systematic review of the literature. *Journal of Affective Disorders, 171*(15), 142-154. https://doi.org/10.1016/j.jad.2014.09.022

Dolman, C., Jones, I., & Howard, L. (2013). Pre-conception to parenting: A systematic review and meta-synthesis of the qualitative literature on motherhood for women with severe mental illness. *Archives of Women's Mental Health, 16*(3), 173-196. https://doi.org/10.1007/s00737-013-0336-0

Dopp, A. R., & Lantz, P. M. (2019). Moving upstream to improve children's mental health through community and policy change. *Administration and Policy in Mental Health and Mental Health Services Research*, *47*(5), 779–787. https://doi.org/10.1007/s10488-019-01001-5

Dubus, N. (2014). Permission to be Authentic. *Affilia*, Journal of Women & Social Work, *29*(1), 43–55. https://doi.org/10.1177/0886109913509539

Earls, M. (2010). Incorporating recognition and management of perinatal and postpartum depression into pediatric practice. *Pediatrics, 126*(5), 1032-1039. doi:10.1542/peds.2010-2348. https://doi.org/10.1542/peds.2010-2348

Eberhard-Gran, M., Eskild, A., Tambs, K., Opjordsmoen, S., & Samuelsen, S. (2008). Review of validation studies of the Edinburgh Postnatal Depression Scale. *Acta Psychiatrica Scandinavica, 104*(4), 243-249. https://doi.org/10.1111/j.1600-0447.2001.00187.x

Edwards, E., & Timmons, S. (2005). A qualitative study of stigma among women suffering postnatal illness. *Journal of Mental Health, 14*(5), 471-481. https://doi.org/10.1080/09638230500271097

Eisner, E. (1981). On the differences between scientific and artistic approaches to qualitative research. *Educational Researcher, 10*(4), 59. https://doi.org/10.3102/0013189x010004005

Elander, J., & Rutter, M. (1996). Use and development of the rutter parents' and teachers' scales. *International Journal of Methods in Psychiatric Research*, *6*(2), 63–78. https://doi.org/10.1002/(sici)1234-988x(199607)6:2%3C63::aid-mpr151%3E3.3.co;2-m

Epstein, R. (2017). *Attending: Medicine, mindfulness, and humanity*. New York, NY: Simon and Shuster.

Epstein, R., Franks, P., Fiscella, K., Shields, C., Meldrum, S., Kravitz, R., & Duberstein, P. (2005). Measuring patient-centered communication in patient–physician consultations: Theoretical and practical issues. *Social science & Medicine, 61*(7), 1516-1528. https://doi.org/10.1016/j.socscimed.2005.02.001

Eriksson, K. (2010). Evidence: To see or not to see. *Nursing Science Quarterly, 23*(4), 275-279. https://doi.org/10.1177/0894318410380271

Eshel, N., Daelmans B., De Mello, M., & Martines, J. (2006) Responsive parenting: Interventions and outcomes. *Bulletin of the World Health Organization, 84*(12), 991-998. https://www.who.int/bulletin/volumes/84/12/06-030163.pdf

Essex, M., Klein, M., Cho, E., & Kalin, N. (2002). Maternal stress beginning in infancy may sensitize children to later stress exposure: effects on cortisol and behavior. *Biological Psychiatry, 52*(8), 776-784. https://doi.org/10.1016/s0006-3223(02)01553-6

Fagot, B. I. (1995). Development of a pleasure in parenting scale. *Early Development & Parenting*, *4*(2), 75–82. https://doi.org/10.1002/edp.2430040204

Farías-Antúnez, S., Xavier, M. O., & Santos, I. S. (2018). Effect of maternal postpartum depression on offspring's growth. *Journal of affective disorders*, *228*, 143–152. https://doi.org/10.1016/j.jad.2017.12.013

Feeley, N., Bell, L., Hayton, B., Zelkowitz, P., & Carrier, M. (2016). Care for postpartum depression: What do women and their partners prefer? *Perspectives in Psychiatric Care, 52*(2), 120-130. https://doi.org/10.1111/ppc.12107

Feldman, R. (1998). Coding Interactive Behavior (CIB). Unpublished manuscript, Bar-Ilan University, Israel.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Fenwick, J., Barclay, L., & Schmied, V. (2001). 'Chatting': An important clinical tool in

facilitating mothering in neonatal nurseries. *Journal of Advanced Nursing, 33*(5), 583-593. https://doi.org/10.1046/j.1365-2648.2001.01694.x

Field, T. (1984). Early interactions between infants and their postpartum depressed mothers. *Infant Behavior and Development, 7*(4), 517-522. https://doi.org/10.1016/s0163-6383(84)80010-7

Field, T. (1995). Infants of depressed mothers. *Infant Behavior and Development, 18*(1), 1-13. https://doi.org/10.1016/0163-6383(95)90003-9

Field, T. (1998). Maternal depression effects on infants and early interventions. *Preventive Medicine, 27*(2), 200-203. https://doi.org/10.1006/pmed.1998.0293

Field, T. (2010). Postpartum depression effects on early interactions, parenting, and safety practices: a review. *Infant Behavior & Development, 33*(1), 1-6. https://doi.org/10.1016/j.infbeh.2009.10.005

Field, T. (2011). Prenatal depression effects on early development: A review. *Infant Behavior and Development, 34*(1), 1-14. https://doi.org/10.1016/j.infbeh.2010.09.008

Field, T., Grizzle, N., Scafidi, F., Abrams, S., Richardson, S., Kuhn, C., & Schanberg, S. (1996). Massage therapy for infants of depressed mothers. *Infant Behavior & Development, 19*(1), 107-112. https://doi.org/10.1016/s0163-6383(96)90048-x

Field, T., Diego, M., & Hernandez-Reif, M. (2009). Depressed mothers' infants are less responsive to faces and voices. *Infant Behavior & Development, 32*(3), 239-244. https://doi.org/10.1016/j.infbeh.2009.03.005

Field, T., Hernandez-Reif, M., & Diego, M., (2006). Intrusive and withdrawn depressed mothers and their infants. *Developmental Review, 26*(1), 15-30. https://doi.org/10.1016/j.dr.2005.04.001

Field, T., Morrow., C., & Adelstein, D. (1993). Depressed mothers' perceptions of infant behavior. *Infant Behavior and Development, 16*(1) , 99-108. https://doi.org/10.1016/0163-6383(93)80031-3

Fisher, S., Wisner, K., Clark, C., Sit, D., Luther, J., & Wisniewski, S. (2016). Factors associated with onset timing, symptoms, and severity of depression identified in the postpartum period. *Journal of Affective Disorders, 203*, 111-120. https://doi.org/10.1016/j.jad.2016.05.063

Flanagan, T., White, H., & Carter, B. (2011). Differential impairments in emotion face recognition in postpartum and non-postpartum depressed women. *Journal of Affective Disorders, 128*(3), 314-318. https://doi.org/10.1016/j.jad.2010.07.021

Flykt, M., Kanninen, K., Sinkkonen, J., & Punamäki, R. (2010). Maternal depression and dyadic interaction: The role of maternal attachment style. *Infant and Child Development, 19*(5), 530-550. https://doi.org/10.1002/icd.679

Flynn, H., O'Mahen H., Massey L., Massey, Marcus, S. (2006). The impact of a brief obstetrics clinic-based intervention on treatment use for perinatal depression. *Journal of Women's Health (2002), 15*(10), 1195-1204. https://doi.org/10.1089/jwh.2006.15.1195

Forbes, D., King, K., Eastlick Kushner, K., Letourneau, N., Myrick, A., & Profetto-McGrath, J. (1999). Warrantable evidence in nursing science. *Journal of Advanced Nursing, 29*(2), 373-379. https://doi.org/10.1046/j.1365-2648.1999.00898.x

Forman, D., O'Hara, M., Stuart, S., Gorman, L., Larsen, K., & Coy, K. (2007). Effective treatment for postpartum depression is not sufficient to improve the developing mother-child relationship. *Development and Psychopathology, 19*(2), 585-602. https://doi.org/10.1017/s0954579407070289

Foulkes, M. (2011). Enablers and barriers to seeking help for a postpartum mood disorder. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 40*(4), 450-457. https://doi.org/10.1111/j.1552-6909.2011.01264.x

Fowles, E. (1998). The relationship between maternal role attainment and postpartum depression. *Health Care for Women International, 19*(1), 83-94. https://doi.org/10.1080/073993398246601

Freire, P. (2000). *Pedagogy of the oppressed*. New York, NY: Continuum.

Gadamer, H-G. (1960/2013). *Truth and method* (J. Weinsheimer & D.G. Marshall, Trans.). New York, NY: Bloomsbury Academic.

Gadamer, H-G. (2008). *Philosophical hermeneutics* (D.E. Linge, Trans. & Ed.). Berkeley, CA: University of California Press.

Gagliardi, L., Petrozzi, A., & Rusconi, F. (2012). Symptoms of maternal depression immediately after delivery predict unsuccessful breast feeding. *Archives of Disease in Childhood, 97*(4), 355-357. https://doi.org/10.1136/adc.2009.179697

Gammell, D., & Stoppard, J. (1999). Women's experiences of treatment of depression: Medicalization or empowerment? *Canadian Psychology/Psychologie Canadienne, 40*(2), 112-128. https://doi.org/10.1037/h0086831

Garner, A. S., Shonkoff, J. P., Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, & Section on Developmental and Behavioral Pediatrics (2012). Early childhood adversity, toxic stress, and the role of the pediatrician: translating developmental science into lifelong health. *Pediatrics*, *129*(1), e224–e231. https://doi.org/10.1542/peds.2011-2662

Gartstein, M. A., Bridgett, D., J, Dishion, T., J, & Kaufman, N., K. (2009).

Depressed mood and maternal report of child behavior problems: Another look at the depression–distortion hypothesis. *Journal of Applied Developmental Psychology*, *30*(2), 149–160. https://doi.org/10.1016/j.appdev.2008.12.001

Gartstein, M. A., & Rothbart, M. K. (2003). Studying infant temperament via the Revised Infant Behavior Questionnaire. *Infant Behavior & Development*, *26*(1), 64–86. https://doi.org/10.1016/s0163-6383(02)00169-8

Gavin, N. I., Gaynes, B. N., Lohr, K. N., Meltzer-Brody, S., Gartlehner, G., & Swinson, T. (2005). Perinatal depression: A systematic review of prevalence and incidence. *Obstetrics and Gynecology (New York. 1953)*, *106*(5), 1071–1083. https://doi.org/10.1097/01.AOG.0000183597.31630.db

Gelaye, B., Rondon, M., Araya, R., & Williams, M. (2016). Epidemiology of maternal depression, risk factors, and child outcomes in low-income and middle-income countries. *The Lancet Psychiatry 3*, (10), 973-982. https://doi.org/10.1016/s2215-0366(16)30284-x

Gibson, J., McKenzie-McHarg, K., Shakespeare J., Price, J., & Gray, R. (2009). A systematic review of studies validating the Edinburgh Postnatal Depression Scale in antepartum and postpartum women. *Acta Psychiatrica Scandinavica, 119*(5), 350-364. https://doi.org/10.1111/j.1600-0447.2009.01363.x

Giesbrecht, G. F., Campbell, T., Letourneau, N., Kooistra, L., Kaplan, B., & APrON Study Team (2012). Psychological distress and salivary cortisol covary within persons during pregnancy. *Psychoneuroendocrinology*, *37*(2), 270–279. https://doi.org/10.1016/j.psyneuen.2011.06.011

Gill, E. H., Thorød, A. B., & Vik, K. (2019). Marte Meo as a port of entry to parental

sensitivity - a three–case study. *BMC Psychiatry*, *19*(1), 5–5. https://doi.org/10.1186/s12888-018-1959-5

Gjerdingen, D., Crow, S., McGovern, P., Miner, M., & Center, B. (2009). Postpartum depression screening at well-child visits: Validity of a 2-question screen and the PHQ-9. *Annals of Family Medicine, 7*(1), 63-70. https://doi.org/10.1370/afm.933

Goldberg, S. (1977). Social competence in infancy: A model of parent-infant interaction *Merrill-Palmer Quarterly of Behavior and Development*, *23*(3), 163–177

Goodman, J. (2009). Women's attitudes, preferences, and perceived barriers to treatment for perinatal depression. *Birth - Issues In Perinatal Care, 36*(1), 60-69. https://doi.org/10.1111/j.1523-536x.2008.00296.x

Goodman, R. (2001). Psychometric Properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry*, *40*(11), 1337–1345. https://doi.org/10.1097/00004583-200111000-00015

Goodman, J., Prager, J., Goldstein, R., & Freeman, M. (2015). Perinatal dyadic psychotherapy for postpartum depression: a randomized controlled pilot trial. *Archive of Women's Mental Health*, *18*(3), 493-506. https://doi.org/10.1007/s00737-014-0483-y

Goodman, S., & Gotlib, I. (1999). Risk for psychopathology in the children of depressed mothers: A Developmental model for understanding mechanisms of transmission. *Psychological Review, 106*(3), 458-490. https://doi.org/10.1037/0033-295x.106.3.458

Goodman, S., Rouse, M. H., Connell, A. M., Broth, M. R., Hall, C. M., & Heyward, D. (2011). Maternal depression and child psychopathology: a meta-analytic review. *Clinical Child and Family Psychology Review, 14*(1), 1-27. https://doi.org/10.1007/s10567-010-0080-1

Grace, S., Evindar, A., & Stewart, D. (2003). The effect of postpartum depression on child cognitive development and behavior: A review and critical analysis of the literature. *Archives of Women's Mental Health, 6*(4), 263-274. https://doi.org/10.1007/s00737-003-0024-6

Graham, K., Blisset, J., Antoniou, E., Zeegers, M., & Mccleery, J. (2018) Effects of maternal depression in the still-face paradigm: A meta-analysis. *Infant Behavior and Development, 50*, 154-164. https://doi.org/10.1016/j.infbeh.2017.12.001

Group, P. (2007). MIP: A method for identifying metaphorically used words in discourse. *Metaphor and Symbol*, *22*(1), 1–39. https://doi.org/10.1080/10926480709336752

Guintivano, J., Manuck, T., & Meltzer-Brody, S. (2018). Predictors of postpartum depression: A comprehensive review of the last decade of evidence clinical obstetrics and gynecology, *61*(3). https://doi.org/10.1097/grf.0000000000000368

Gunlicks, M., & Weissman, M. (2008). Change in child psychopathology with improvement in parental depression: a systematic review. *Journal of the America Academy of Child & Adolescent Psychiatry, 47*(4), 379-389. https://doi.org/10.1097/chi.0b013e3181640805

Gunnar, M., Talge, N., & Herrera, A. (2009). Stressor paradigms in developmental studies: what does and does not work to produce mean increases in salivary cortisol. *Psychoneuroendocrinology, 34*(7), 953-967. https://doi.org/10.1016/j.psyneuen.2009.02.010

Hadfield, H., & Wittkowski, A. (2017). Women's experiences of seeking and receiving

psychological and psychosocial interventions for postpartum depression: A systematic review and thematic synthesis of the qualitative literature. *Journal of Midwifery & Women's Health, 62*(6), 723-736. https://doi.org/10.1111/jmwh.12669

Halligan, S., Herbert, J., Goodyer, I., & Murray, L. (2004). Exposure to postnatal depression predicts elevated cortisol in adolescent offspring. *Biological Psychiatry, 55*(4), 376-381. https://doi.org/10.1016/j.biopsych.2003.09.013

Hamel, C., Lang, E., Morissette, K., Beck, A., Stevens, A., Skidmore, B., Colquhoun, H., LeBlanc, J., Moore, A., Riva, J. J., Thombs, B. D., Colman, I., Grigoriadis, S., Nicholls, S. G., Potter, B. K., Ritchie, K., Robert, J., Vasa, P., Lauria-Horner, B., Patten, S., … Moher, D. (2019). Screening for depression in women during pregnancy or the first year postpartum and in the general adult population: a protocol for two systematic reviews to update a guideline of the Canadian Task Force on Preventive Health Care. *Systematic reviews*, *8*(1), 27. https://doi.org/10.1186/s13643-018-0930-3

Haslam, D., Pakenham, K., & Smith, A. (2006). Social support and postpartum depressive symptomatology: The mediating role of maternal self-efficacy. *Infant Mental Health Journal, 27*(3), 276-291. https://doi.org/10.1002/imhj.20092

Henshaw, C. (2004). What do women think about treatments for postnatal depression? *Clinical Effectiveness in Nursing, 8*(3-4), 170-175. https://doi.org/10.1016/j.cein.2005.03.003

Henshaw, E., Flynn, H., Himle, J., O'Mahen, H., Forman, J., & Fedock, G. (2011). Patient preferences for clinician interactional style in treatment of perinatal depression. *Qualitative Health Research, 21*(7), 936-951, https://doi.org/10.1177/1049732311403499

Hetherington, E., McDonald, S., Williamson, T., Patten, S. B., & Tough, S. C. (2018). Social support and maternal mental health at 4 months and 1 year postpartum:

analysis from the All Our Families cohort. *Journal of Epidemiology and Community Health (1979)*, *72*(10), 933–939. https://doi.org/10.1136/jech-2017-210274

Higgins, A., Downes, C., Carroll, M., Gill, A., & Monahan, M. (2018). There is more to perinatal mental health care than depression: Public health nurses reported engagement and competence in perinatal mental health care. *Journal of Clinical Nursing, 27*(3-4). e476-e487. https://doi.org/10.1111/jocn.13986

Hoffenkamp, H., Tooten, A., Hall, R., Braken, J., Eliens, M., Vingerhoets, A., & VanBakel, H. (2015). Effectiveness of hospital-based video interaction guidance on parental interactive behavior, bonding, and stress after preterm birth: a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 83*(2), 416-429. https://doi.org/10.1037/a0038401

Holopainen, A., & Hakulinen, T. (2019). New parents' experiences of postpartum depression: a systematic review of qualitative evidence. *JBI database of systematic reviews and implementation reports*, *17*(9), 1731–1769. https://doi.org/10.11124/jbisrir-2017-003909

Horowitz, J. A., Bell, M., Trybulski, J., Munro, B. H., Moser, D., Hartz, S. A., McCordic, L., & Sokol, E. S. (2001). Promoting responsiveness between mothers with depressive symptoms and their infants. *Journal of Nursing Scholarship, 33*(4), 323–329. https://doi-org.ezproxy.lib.ucalgary.ca/10.1111/j.1547-5069.2001.00323.x

Horowitz, J., Murphy, C. A., Gregory, K., Wojcik, J., Pulcini, J., & Solon, L. (2013). Nurse home visits improve maternal/infant interaction and decrease severity of postpartum depression. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 42*(3), 287-300. https://doi.org/10.1111/1552-6909.12038

Howard, L., Molyneaux, E., Dennis, C., Rochat, T., Stein, A., & Milgrom, J. (2014). Non-

psychotic mental disorders in the perinatal period. *The Lancet, 384*(9956), 1775-1788. https://doi.org/10.1016/s0140-6736(14)61276-9

Huang, R., Yang, D., Lei, B., Yan, C., Tian, Y., Huang, X., & Lei, J. (2020). The short- and long-term effectiveness of mother–infant psychotherapy on postpartum depression: A systematic review and meta-analysis. *Journal of Affective Disorders, 260*, 670-679. https://doi.org/10.1016/j.jad.2019.09.056

Hutchens, B. F., & Kearney, J. (2020). Risk factors for postpartum depression: An umbrella review. *Journal of Midwifery & Women's Health*, *65*(1), 96–108. https://doi.org/10.1111/jmwh.13067

Hwa-Froelich, D., Cook, C., & Flick, L. (2008). Maternal sensitivity and communication Styles: Mothers with depression. *Journal of Early Intervention, 31*(1), 44-66.]https://doi.org/10.1177/1053815108324754

Johnston, C., & Mash, E. J. (1989). A measure of parenting satisfaction and efficacy. *Journal of Clinical Child Psychology*, *18*(2), 167–175. https://doi.org/10.1207/s15374424jccp1802_8

Jones, A. (2019). Help seeking in the perinatal period: A review of barriers and facilitators. *Social Work in Public Health, 34*(7), 596-605. https://doi.org/10.1080/19371918.2019.1635947

Juffer, F., Bakermans-Kranenburg, M., & Van IJzendoorn, M. (2008). Manual video feedback intervention to promote Positive Parenting and Sensitive Discipline (VIPP-SD). Version 2.0 Leiden: Leiden University, Centre for Child and Family Studies.

Junge, C., Garthus-Niegel, S., Slinning, K., Polte, C., Simonsen, T. B., & Eberhard-Gran, M.

(2017). The impact of perinatal depression on children's social-emotional development: a longitudinal study. *Maternal and Child Health Journal, 21*(3), 607-615. https://doi.org/10.1007/s10995-016-2146-2

Kalinauskiene, L., Cekuoliene, D., Van Ijzendoorn, M., Bakermans-Kranenburg, M., Juffer, F., & Kusakovskaja, I. (2009). Supporting insensitive mothers: the Vilnius randomized control trial of video-feedback intervention to promote maternal sensitivity and infant attachment security. *Child: Care, Health and Development, 35*(5), 613-623. https://doi.org/10.1111/j.1365-2214.2009.00962.x

Karl, D. (1995). Maternal responsiveness of socially high-risk mothers to the elicitation cues of their 7-month-old infants. *Journal of Pediatric Nursing, 10*(4), 254-263. https://doi.org/10.1016/s0882-5963(05)80022-3

Kassam, S. (2019). Understanding experiences of social support as coping resources among immigrant and refugee women with postpartum depression: An integrative literature review. *Issues in Mental Health Nursing*, *40*(12), 999–1011. https://doi.org/10.1080/01612840.2019.1585493

Kavanaugh, M., Halterman, J., Montes, G., Epstein, M., Hightower, A., & Weitzman, M. (2006). Maternal depressive symptoms are adversely associated with prevention practices and parenting behaviors for preschool children. *Ambulatory Pediatrics, 6*(1), 32-37. https://doi.org/10.1016/j.ambp.2005.09.002

Kendall-Tackett, K., Cong, Z., & Hale, T. (2011). The effect of feeding method on sleep duration, maternal well-being, and postpartum depression. *Clinical Lactation, 2*(2), 22-26. https://doi.org/10.1891/215805311807011593

Kenny, M., Conroy, S., Pariante, C. M., Seneviratne, G., & Pawlby, S. (2013). Mother-infant

interaction in mother and baby unit patients: before and after treatment. *Journal of psychiatric research*, *47*(9), 1192–1198. https://doi.org/10.1016/j.jpsychires.2013.05.012

Kersten-Alvarez, L., Hosman, C., Riksen-Walraven, J., van Doesum, K., & Hoefnagels, C. (2010). Long-term effects of a home-visiting intervention for depressed mothers and their infants. *Journal Of Child Psychology And Psychiatry, 51*(10), 1160-1170. https://doi.org/10.1111/j.1469-7610.2010.02268.x

Kersten-Alvarez, L., Hosman, C., Riksen-Walraven, J., van Doesum, K., & Hoefnagels, C. (2011). Which preventive interventions effectively enhance depressed mothers' sensitivity? A meta-analysis. *Infant Mental Health Journal, 32*(3), 362-376. https://doi.org/10.1002/imhj.20301

King, K., Priddis, L., & Kane, L. (2015). Enhancing maternal sensitivity and emotional wellbeing through a preventative parent–child relationship intervention in a community setting. *Journal of Child and Family Studies, 24*(6), 1582-1592. https://doi.org/10.1007/s10826-014-9962-z

Kingston, D., Kehler, H., Austin, M. P., Mughal, M. K., Wajid, A., Vermeyden, L., Benzies, K., Brown, S., Stuart, S., & Giallo, R. (2018). Trajectories of maternal depressive symptoms during pregnancy and the first 12 months postpartum and child externalizing and internalizing behavior at three years. *PloS one*, *13*(4), e0195365. https://doi.org/10.1371/journal.pone.0195365

Kingston, D., McDonald, S., Austin, M., & Tough, S. (2015). Association between prenatal and postnatal psychological distress and toddler cognitive development: A systematic review. Prenatal and postpartum maternal psychological distress and infant development: a systematic review. *PloS One, 10*(5). https://doi.org/10.1371/journal.pone.0126929

Kingston, D., McDonald, S., Tough, S., Austin, M., Hegadoren, K., & Lasiuk, G. (2014). Public views of acceptability of perinatal mental health screening and treatment preference: A population based survey. *BMC Pregnancy and Childbirth, 14*(1), 67. https://doi.org/10.1186/1471-2393-14-67

Kingston, D., McDonald, S., Austin, M., & Tough, S. (2015). Association between prenatal and postnatal psychological distress and toddler cognitive development: A systematic review. *PloS One, 10*(5), e0126929. https://doi.org/10.1371/journal.pone.0126929

Kingston, D., Tough, S., & Whitfield, H. (2012). Prenatal and postpartum maternal psychological distress and infant development: a systematic review. *Child Psychiatry and Human Development, 43*(5), 683-714. https://doi.org/10.1007/s10578-012-0291-4

Knudson-Martin, C., & Silverstein, R. (2009). Suffering in silence: A qualitative meta-data-analysis of postpartum depression. *Journal of Marital and Family Therapy, 35*(2), 145-158. https://doi.org/10.1111/j.1752-0606.2009.00112.x

Koniak-Griffin, D., Verzemnieks, I., & Cahill, D. (1992). Using videotape instruction and feedback to improve adolescents' mothering behaviors. *Journal of Adolescent Health, 13*(7), 570-575. https://doi.org/10.1016/1054-139x(92)90370-q

Kornaros, K., Zwedberg, S., Nissen, E., & Salomonsson, B. (2019). A hermeneutic study of integrating psychotherapist competence in postnatal child health care: Parents' perspectives. *Infant Mental Health Journal, 41*(1), 108-125. https://doi.org/10.1002/imhj.21828

Kramer, R., Warner, V., Olfson, M., Ebanks, C., Chaput, F., & Weissman, M. (1998). General

medical problems among the offspring of depressed parents: A 10-year follow-up. *Journal of the American Academy of Child & Adolescent Psychiatry, 37*(6), 602-611. https://doi.org/10.1097/00004583-199806000-00010

Kristensen, I., Simonsen, M., Trillingsgaard, T., & Kronborg, H. (2017). Video feedback promotes relations between infants and vulnerable first-time mothers: A quasi-experimental study. *BMC Pregnancy and Childbirth, 17*(1), 37. https://doi.org/10.1186/s12884-017-1568-1

Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine :JGIM*, *16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Lanes, A., Kuk, J., & Tamin, H. (2011) Prevalence and characteristics of postpartum depression symptomatology among Canadian women: a cross-sectional study. *BMC Public Health 11*:302. https://doi.org/10.1186/1471-2458-11-302

Lantz, P. M. (2018). The medicalization of population health: Who will stay upstream? *The Milbank Quarterly*, *97*(1), 36–39. https://doi.org/10.1111/1468-0009.12363

Laurant, M., van der Biezen, M., Wijers, N., Watananirun, K., Kontopantelis, E., & van Vught, A. J. (2018). Nurses as substitutes for doctors in primary care. *The Cochrane Database of Systematic Reviews*, *7*(7). https://doi.org/10.1002/14651858.cd001271.pub3

Lawrence, P., Davies, B., & Ramchandani, P. (2013). Using video feedback to improve early father–infant interaction: A pilot study. *Clinical Child Psychology and Psychiatry, 18*(1), 61-71. https://doi.org/10.1177/1359104512437210

Leahy-Warren, P., & McCarthy, G. (2007). Postnatal depression: Prevalence, mothers'

perspectives, and treatments. *Archives of Psychiatric Nursing, 21*(2), 91-100. https://doi.org/10.1016/j.apnu.2006.10.006

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

Leahy-Warren, P., McCarthy, G., & Corcoran, P. (2012). First-time mothers: Social support, maternal parental self-efficacy and postnatal depression. *Journal of Clinical Nursing, 21*(3-4), 388-397. https://doi.org/10.1111/j.1365-2702.2011.03701.x

Lebel, C., Walton, M., Letourneau, N., Giesbrecht, G., Kaplan, B., & Dewey, D. (2016). Prepartum and postpartum maternal depressive symptoms are related to children's brain structure in preschool. *Biological Psychiatry, 80*(11), 859-868. https://doi.org/10.1016/j.biopsych.2015.12.004

Letourneau, N. L., Dennis, C. L., Benzies, K., Duffett-Leger, L., Stewart, M., Tryphonopoulos, P. D., Este, D., & Watson, W. (2012). Postpartum depression is a family affair: addressing the impact on mothers, fathers, and children. *Issues in mental health nursing*, *33*(7), 445–457. https://doi.org/10.3109/01612840.2012.673054

Letourneau, N. L., Dennis, C., Cosic, N., & Linder, J. (2017a). The effect of perinatal depression treatment for mothers on parenting and child development: A systematic review. *Depression and Anxiety, 34*(10), 928-966. https://doi.org/10.1002/da.22687

Letourneau, N., Dewey, D., Kaplan, B. J., Ntanda, H., Novick, J., Thomas, J. C., Deane, A. J., Leung, B., Pon, K., Giesbrecht, G. F., & APrON Study Team (2019a). Intergenerational transmission of adverse childhood experiences via maternal depression and anxiety and

moderation by child sex. *Journal of Developmental Origins of Health and Disease*, *10*(1), 88–99. https://doi.org/10.1017/s2040174418000648

Letourneau, N., Duffett-Leger, L., Stewart, M., Hegadoren, K., Dennis, C., Rinaldi, C. M., & Stoppard, J. (2007). Canadian mothers' perceived support needs during postpartum depression. *Journal of Obstetric, Gynecologic, and Neonatal Nursing, 36*(5), 441-449. https://doi.org/10.1111/j.1552-6909.2007.00174.x

Letourneau, N. L., Kozyrskyj, A. L., Cosic, N., Ntanda, H. N., Anis, L., Hart, M. J., Campbell, T. S., Giesbrecht, G. F., & APrON Team (2017). Maternal sensitivity and social support protect against childhood atopic dermatitis. *Allergy, Asthma, and Clinical Immunology: Official Journal of the Canadian Society of Allergy and Clinical Immunology*, *13*(26). 1-14. https://doi.org/10.1186/s13223-017-0199-4

Letourneau, N., Leung, B., Ntanda, H., Dewey, D., Deane, A. J., & Giesbrecht, G. F. (2019). Maternal and paternal perinatal depressive symptoms associate with 2-and 3-year-old children's behaviour: Findings from the APrON longitudinal study. *BMC Pediatrics*, *19*(1), 435–435. https://doi.org/10.1186/s12887-019-1775-1

Letourneau, N., Salmani, M., & Duffett-Leger, L. (2010). Maternal depressive symptoms and parenting of children from birth to 12 years. *Western Journal of Nursing Research, 32*(5), 662-685. https://doi.org/10.1177/0193945909359409

Letourneau, N., Secco, L., Colpitts, J., Aldous, S., Stewart, M., & Dennis, C. L. (2015). Quasi-experimental evaluation of a telephone-based peer support intervention for maternal depression. *Journal of advanced nursing*, *71*(7), 1587–1599. https://doi.org/10.1111/jan.12622

Letourneau, N., Stewart, M., & Barnfather, A. (2004). Adolescent mothers: Support needs,

resources, and support-education interventions. *Journal of Adolescent Health, 35*(6), 509-525. https://doi.org/10.1016/s1054-139x(04)00069-2

Letourneau, N., Stewart, M., Dennis, C., Hegadoren, K., Duffett-Leger, L., & Watson, B. (2011b). Effect of home-based peer support on maternal-infant interactions among women with postpartum depression: a randomized, controlled trial. *International Journal of Mental Health Nursing, 20*(5), 345-357. https://doi.org/10.1111/j.1447-0349.2010.00736.x

Letourneau, N., Tramonte, L., & Willms, J. (2013). Maternal depression, family functioning and children's longitudinal development. *Journal of Pediatric Nursing, 28*(3), 223-234. https://doi.org/10.1016/j.pedn.2012.07.014

Letourneau, N., Tryphonopoulos, P., Duffett-Leger, L., Stewart, M., Benzies, K., Dennis, C., & Joschko, J. (2012b). Support intervention needs and preferences of fathers affected by postpartum depression. *The Journal of Perinatal & Neonatal Nursing, 26*(1), 69-80. https://doi.org/10.1097/jpn.0b013e318241da87

Letourneau, N., Watson, B., Duffett-Leger, L., Hegadoren, K., & Tryphonopoulos, P. (2011). Cortisol patterns of depressed mothers and their infants are related to maternal–infant interactive behaviours. *Journal of Reproductive and Infant Psychology, 29*(5), 439-459. https://doi.org/10.1080/02646838.2011.649474

Leung, B., Letourneau, N., Giesbrecht, G., Ntanda, H., Hart, M., & Team, A. P. (2017). Predictors of postpartum depression in partnered mothers and fathers from a longitudinal cohort. *Community Mental Health Journal*, *53*(4), 420-431. https://doi.org/10.1007/s10597-016-0060-0

Lin, P., Campbell, D., Chaney, G., Liu, E., Heagerty, F., Felker, C., & Hedrick, P. (2005). The

influence of patient preference on depression treatment in primary care. *Annals of Behavioral Medicine, 30*(2), 164-173. https://doi.org/10.1207/s15324796abm3002_9

Lips, H.M., Bloom, K., & Barnett, H. (1993). Psychometric evaluation of a new scale to measure maternal self-confidence. Unpublished manuscript.

Liu, Y., Kaaya, S., Chai, J., McCoy, D. C., Surkan, P. J., Black, M. M., Sutter-Dallay, A. L., Verdoux, H., & Smith-Fawzi, M. C. (2017). Maternal depressive symptoms and early childhood cognitive development: a meta-analysis. *Psychological Medicine*, *47*(4), 680–689. https://doi.org/10.1017/S003329171600283X

Lovejoy, M., Graczyk, P., O'Hare, E., & Neuman, G. (2000). Maternal depression and parenting behavior: a meta-analytic review. *Clinical Psychology Review, 20*(5), 561-592. https://doi.org/10.1016/s0272-7358(98)00100-7

Lovibond, S. H., & Lovibond, P.F. (1995). Manual for the depression anxiety stress scales (2nd ed.). Sydney: Psychology Foundation.

Macmillian, K., Lewis, A., Watson, S., & Galbally, M. (2020). Maternal depression and the emotional availability of mothers at six months postpartum: Findings from the Mercy Pregnancy and Emotional Wellbeing Study (MPEWS) Pregnancy Cohort. *Journal of Affective Disorders, 266*, 678-685. https://doi.org/10.1016/j.jad.2020.01.109

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*(1/2), 66–104. https://doi.org/10.2307/3333827

Maggi, S., Irwin, L., Siddiqi, A., & Hertzman, C. (2010). The social determinants of early child development: An overview. *Journal of Paediatrics and Child Health, 46*(11), 627-635. https://doi.org/10.1111/j.1440-1754.2010.01817.x

Marmot, M., Friel, S., Bell, R., Houweling, T.A. J., Taylor, S. & On Behalf of the Commission on Social Determinants of Health. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. *The Lancet, 372*(9650), 1661-1669. https://doi.org/10.1016/s0140-6736(08)61690-6

Martínez-González, N. A., Djalali, S., Tandjung, R., Huber-Geismann, F., Markun, S., Wensing, M., & Rosemann, T. (2014). Substitution of physicians by nurses in primary care: a systematic review and meta-analysis. *BMC Health Services Research*, *14*(1), 214–214. https://doi.org/10.1186/1472-6963-14-214

Marvin, R., Cooper, G., Hoffman, K., & Powell, B. (2002). The Circle of Security project: Attachment-based intervention with caregiver-pre-school child dyads. *Attachment & Human Development*, *4*(1), 107–124. https://doi.org/10.1080/14616730252982491

Matthey, S. (2010). Assessing the experience of motherhood: The Being a Mother Scale (BaM-13). *Journal of Affective Disorders*, *128*(1), 142–152. https://doi.org/10.1016/j.jad.2010.06.032

Mauthner, N. (1998). 'It's a woman's cry for help': A relational perspective on postnatal depression. *Feminism & Psychology, 8*(3), 325-355. https://doi.org/10.1177/0959353598083006

Maxwell, D., Robinson, S. R., & Rogers, K. (2019). "I keep it to myself": A qualitative meta-interpretive synthesis of experiences of postpartum depression among marginalised women. *Health & social care in the community*, *27*(3), e23–e36. https://doi.org/10.1111/hsc.12645

Mayers, H. A., Hager-Budny, M., & Buckner, E. B. (2008). The chances for

children teen parent–infant project: Results of a pilot intervention for teen mothers and their infants in inner city high schools. *Infant Mental Health Journal*, *29*(4), 320–342. https://doi.org/10.1002/imhj.20182

McCarthy, M., & McMahon, C. (2008). Acceptance and experience of treatment for postnatal depression in a community mental health setting. *Health Care for Women International, 29*(6), 618-637. https://doi.org/10.1080/07399330802089172

McDonald, S.W., Madigan, S., Racine, N., Benzies, K., Tomfohr, L., & Tough, S. (2019). Maternal adverse childhood experiences, mental health, and child behaviour at age 3: The all our families community cohort study. *Preventive Medicine*, *118*, 286–294. https://doi.org/10.1016/j.ypmed.2018.11.013

McDonald, S. W., Kehler, H. L., & Tough, S. C. (2018). Risk factors for delayed social-emotional development and behavior problems at age two: Results from the All Our Babies/Families (AOB/F) Cohort. *Health Science Reports*, *1*(10), e82–n/a. https://doi.org/10.1002/hsr2.82

McDonnell, C., & Valentino, K. (2016). Intergenerational effects of childhood trauma: evaluating pathways among maternal ACEs, perinatal depressive symptoms, and infant outcomes. *Child Maltreatment, 21*(4), 317-326. https://doi.org/10.1177/1077559516659556

McGarry, J., Kim, H., Sheng, X., Egger, M., & Baksh, L. (2009). Postpartum depression and help-seeking behavior. *Journal of Midwifery and Women's Health, 54*(1), 50-56. https://doi.org/10.1016/j.jmwh.2008.07.003

Mcgrath, M., Boukydis, C., & Lester, B. (1993). Determinants of maternal self-esteem in the neonatal period. *Infant Mental Health Journal, 14*(1), 35-48. https://doi.org/10.1002/1097-0355(199321)14:1%3C35::aid-imhj2280140104%3E3.0.co;2-r

McIntosh, J. (1993). Postpartum depression: Women's help seeking behavior and perceptions of cause. *Journal of Advanced Nursing, 18*(2), 178-184. https://doi.org/10.1046/j.1365-2648.1993.18020178.x

McLearn, K., Minkovitz, C. S., Strobino, D. M., Marks, E., & Hou, W. (2006). Maternal depressive symptoms at 2 to 4 months post-partum and early parenting practices. *Archives of Pediatrics and Adolescent Medicine, 160*(3), 279-284. https://doi.org/10.1001/archpedi.160.3.279

McLennan, J., & Kotelchuck, M. (2000). Parental prevention practices for young children in the context of maternal depression. *Pediatrics, 105*(5), 1090-1095. https://doi.org/10.1542/peds.105.5.1090

McNeil, D.A., Vekved, M., Dolan, S. M., Siever, J., Horn, S., & Tough, S. C. (2012). Getting more than they realized they needed: A qualitative study of women's experience of group prenatal care. *BMC Pregnancy and Childbirth*, *12*(1), 17–17. https://doi.org/10.1186/1471-2393-12-17

Meager, I., & Milgrom, J. (1996). Group treatment for postpartum depression: a pilot study. *Australian and New Zealand Journal of Psychiatry, 30*(6), 852-860. https://doi.org/10.3109/00048679609065055

Meaney, M. (2018). Perinatal maternal depressive symptoms as an issue for population health. *American Journal of Psychiatry, 175*(11), 1084-1093. https://doi.org/10.1176/appi.ajp.2018.17091031

Mercer, R. (2004). Becoming a mother versus maternal role attainment. *Journal of Nursing scholarship*, 36(3), 226-232. https://doi.org/10.1111/j.1547-5069.2004.04042.x

Meriam-Webster. (n.d.). Attaining. In *Merriam-Webster.com dictionary*. Retrieved April, 2020, from https://www.merriam-webster.com/thesaurus/attaining

Meriam-Webster. (n.d).. Becoming. In *Merriam-Webster.com dictionary*. Retrieved March, 2020, from https://www.merriam-webster.com/dictionary/becoming

Meriam-Webster. (n.d.). Lens. In *Merriam-Webster.com dictionary*. Retrieved October, 2020, from https://www.merriam-webster.com/dictionary/lens

Mihelic, M., Morawska, A., & Filus, A. (2017). Effects of early parenting interventions on parents and infants: A meta-analytic review. *Journal of Child and Family Studies, 26*(6), 1507-1526. https://doi.org/10.1007/s10826-017-0675-y

Milgrom, J., Ericksen, J., McCarthy, R., & Gemmill, A. (2006). Stressful impact of depression on early mother–infant relations. *Stress and Health, 22*(4), 229-238. https://doi.org/10.1002/smi.1101

Milgrom, J., Gemmill, A. W., Bilszta, J. L., Hayes, B., Barnett, B., Brooks, J., Ericksen, J., Ellwood, D., & Buist, A. (2008). Antenatal risk factors for postnatal depression: a large prospective study. *Journal of Affective Disorders*, *108*(1-2), 147–157. https://doi.org/10.1016/j.jad.2007.10.014

Milgrom, J., & Holt, C. (2014). Early intervention to protect the mother-infant relationship following postnatal depression: Study protocol for a randomised controlled trial. *Trials, 15*(1), 385. https://doi.org/10.1186/1745-6215-15-385

Milgrom, J., Westley, D., & Gemmill, A. (2004). The mediating role of maternal responsiveness in some longer-term effects of postnatal depression on infant development. *Infant Behavior and Development, 27*(4), 443-454. https://doi.org/10.1016/j.infbeh.2004.03.003

Minkovitz, C., Strobino, D., Scharfstein, D., Hou, W., Miller, T., Mistry, K., & Swartz, K.

(2005). Maternal depressive symptoms and children's receipt of health care in the first 3 years of life. *Pediatrics, 115*(2), 306-314. https://doi.org/10.1542/peds.2004-0341

Misri, S., Reebye, P., Milis, L., & Shah, S. (2006). The impact of treatment intervention on parenting stress in postpartum depressed mothers: a prospective study. *American Journal of Orthopsychiatry, 76*(1), 115-119. https://doi.org/10.1037/0002-9432.76.1.115

Moehler, E., Brunner, R., Wiebel, A., Reck, C., & Resch, F. (2006). Maternal depressive symptoms in the postnatal period are associated with long-term impairment of mother–child bonding. *Archives of Women's Mental Health, 9*(5), 273-278. https://doi.org/10.1007/s00737-006-0149-5

Montgomery, P., Tompkins, C., Forchuk, C., & French, S. (2006). Keeping close: Mothering with serious mental illness. *Journal of Advanced Nursing, 54*(1), 20-28. https://doi.org/10.1111/j.1365-2648.2006.03785.x

Moore Simas, T., Huang, M., Patton, C., Reinhart, M., Chawla, A., Clemson, C., & Eldar-Lissai, A. (2018). The humanistic burden of postpartum depression: A systematic literature review. *Current Medical Research and Opinion, 35*(3), 383-393. https://doi.org/10.1080/03007995.2018.1552039

Morrell, C. J., Slade, P., Warner, R., Paley, G., Dixon, S., Walters, S. J., Brugha, T., Barkham, M., Parry, G. J., & Nicholl, J. (2009). Clinical effectiveness of health visitor training in psychologically informed approaches for depression in postnatal women: pragmatic cluster randomised trial in primary care. *BMJ (Clinical research ed.)*, *338*, a3045. https://doi.org/10.1136/bmj.a3045

Moules, N., McCaffrey, G., Field, J., & Laing, C. (2015). Conducting hermeneutic research:

from philosophy to practice (Vol. 19). New York; NY: Peter Lang. https://doi.org/10.3726/978-1-4539-1473-1

Mulcahy, R., Reay, R., Wilkinson, R., & Owen, C. (2010). A randomised control trial for the effectiveness of group interpersonal psychotherapy for postnatal depression. *Archives of Women's Mental Health, 13*(2), 125-139. https://doi.org/10.1007/s00737-009-0101-6

Muñoz, R. F., Le, H., Ippen, C. G., Diaz, M. A., Urizar Jr., G. G., Soto, J., Mendelson, T., Delucchi, K., & Lieberman, A. F. (2007). Prevention of Postpartum Depression in Low Income Women: Development of the Mamás y Bebés/Mothers and Babies Course. *Cognitive and Behavioral Practice*, *14*(1), 70–83. https://doi.org/10.1016/j.cbpra.2006.04.021

Murray, L. (1992). The impact of postnatal depression on infant development. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 33*(3), 543-561. https://doi.org/10.1111/j.1469-7610.1992.tb00890.x

Murray, L., Cooper, P., & Fearon, P. (2014). Parenting difficulties and postnatal depression: implications for primary healthcare assessment and intervention. *Community practitioner: Journal of the Community Practitioners' & Health Visitors' Association*, *87*(11), 34–38.

Murray, L., Cooper, P. J., Wilson, A., & Romaniuk, H. (2003). Controlled trial of the short- and long-term effect of psychological treatment of post-partum depression: 2. Impact on the mother-child relationship and child outcome. *British Journal of Psychiatry, 182*(0007-1250 (Print), 420-427. https://doi.org/10.1192/bjp.182.5.420

Murray, L., Halligan, S. L., Goodyer, I., & Herbert, J. (2010). Disturbances in early parenting of

depressed mothers and cortisol secretion in offspring: a preliminary study. *Journal of Affective Disorders, 122*(3), 218-223. https://doi.org/10.1016/j.jad.2009.06.034

Murray, L., Sinclair, D., Cooper, P., Ducournau, P., Turner, P., & Stein, A. (1999). The socioemotional development of 5-year-old children of postnatally depressed mothers. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 40*(8), 1259-1271. https://doi.org/10.1111/1469-7610.00542

Murray, L., Woolgar, M., Murray, Joseph, J., & Cooper, P. (2003). Self-exclusion from health care in women at high risk for postpartum depression. *Journal of Public Health Medicine, 25*(2), 131-137. https://doi.org/10.1093/pubmed/fdg028

Naicker, K., Wickham, M., Colman, I., & Laks, J. (2012). Timing of first exposure to maternal depression and adolescent emotional disorder in a National Canadian Cohort (Timing of maternal depression and youth emotion). *PLoS ONE,* 7(3), E33422. https://doi.org/10.1371/journal.pone.0033422

Netsi, E., Pearson, R., Murray, L., Cooper, P., Craske, M., & Stein, A. (2018). Association of persistent and severe postnatal depression with child outcomes. *JAMA Psychiatry, 75*(3), 247-253. https://doi.org/10.1001/jamapsychiatry.2017.4363

Nichols, M.P. (2010) Family therapy: Concepts and methods. Boston, MA: Allyn & Bacon.

Nicolson, P. (1990). Understanding postnatal depression: A mother-centred approach. *Journal of Advanced Nursing, 15*(6), 689-695. https://doi.org/10.1111/j.1365-2648.1990.tb01892.x

Norcross, P., Leerkes, E., & Zhou, N. (2017). Examining pathways linking maternal depressive symptoms in infancy to children's behavior problems: The role of maternal unresponsiveness and negative behaviors. *Infant Behavior and Development, 49*, 238-247. https://doi.org/10.1016/j.infbeh.2017.09.009

Nylen, K., Moran, T., Franklin, C., & O'Hara, M. (2006). Maternal depression: A review of relevant treatment approaches for mothers and infants. *Infant Mental Health Journal, 27*(4), 327-343. https://doi.org/10.1002/imhj.20095

Nylen, K., O'Hara, M., Brock, R., Moel, J., Gorman, L., & Stuart, S. (2010). Predictors of the longitudinal course of postpartum depression following interpersonal psychotherapy. *Journal of Consulting and Clinical Psychology, 78*(5), 757-763. https://doi.org/10.1037/a0020623

Oates, M. R., Cox, J. L., Neema, S., Asten, P., Glangeaud-Freudenthal, N., Figueiredo, B., Gorman, L. L., Hacking, S., Hirst, E., Kammerer, M. H., Klier, C. M., Seneviratne, G., Smith, M., Sutter-Dallay, A. L., Valoriani, V., Wickberg, B., Yoshida, K., & TCS-PND Group (2004). Postnatal depression across countries and cultures: a qualitative study. *The British journal of psychiatry. Supplement*, *46*, s10–s16. https://doi.org/10.1192/bjp.184.46.s10

Oates, J., Gervai, J., Danis, I., Lakatos, K., & Davies. J. (2018). Validation of the Mothers' Object Relations Scales Short-Form (MORS-SF). *Journal of Prenatal & Perinatal Psychology & Health*, *33*(1), 38–50. http://doi: 10.1186/1477-7525-11-49

Ogbo, F., Eastwood, J., Hendry, A., Jalaludin, B. Agho, Kingsley E., Barnett, B, & Page, A. (2018). Determinants of antenatal depression and postnatal depression in Australia. *BMC Psychiatry, 18*(1), 49. https://doi.org/10.1186/s12888-018-1598-x

Ogundele, M., O. (2018). Behavioural and emotional disorders in childhood: A brief overview for paediatricians. *World Journal of Clinical Pediatrics*, *7*(1), 9–26. https://doi.org/10.5409/wjcp.v7.i1.9

O'Hara, M., & McCabe, J. (2013). Postpartum depression: current status and future directions.

Annual Review of Clinical Psychology, 9, 379-407. https://doi.org/10.1146/annurev-clinpsy-050212-185612

O'Hara, M., Stuart, S., Gorman, L., & Wenzel, A. (2000). Efficacy of interpersonal psychotherapy for postpartum depression. *Archives of General Psychiatry, 57*(11), 1039-1045. https://doi.org/10.1001/archpsyc.57.11.1039

O'Hara, M., & Swain, A. (2009). Rates and risk of postpartum depression—a meta-analysis. *International Review of Psychiatry, 8*(1), 37-54. https://doi.org/10.3109/09540269609037816

Olds, D., Donelan-McCall, N., O'Brien, R., MacMillan, H., Jack, S., Jenkins, T., Dunlap, W. P., 3rd, O'Fallon, M., Yost, E., Thorland, B., Pinto, F., Gasbarro, M., Baca, P., Melnick, A., & Beeber, L. (2013). Improving the nurse-family partnership in community practice. *Pediatrics*, *132* (Suppl 2) S110–S117. https://doi.org/10.1542/peds.2013-1021i

Olds, D., Henderson, C., Kitzman, H., & Eckenrode, J. (1999). Prenatal and infancy home visitation by nurses: Recent findings. *The Future of Children, 9*(1), 44-65. https://doi.org/10.2307/1602721

Olhaberry, M., León, M.J., Seguel, M., & Mena, C. (2015). Video-feedback intervention in mother-baby dyads with depressive symptomatology and relationship difficulties. *Research in Psychotherapy (Milano).*, *18*(2). https://doi.org/10.4081/ripppo.2015.177

O'Mahen, H., & Flynn H. (2008). Preferences and perceived barriers to treatment for depression during the perinatal period. *Journal of Women's Health (2002), 17*(8), 1301-1309. https://doi.org/10.1089/jwh.2007.0631

O'Mahony, J., & Donnelly, T. (2010). Immigrant and refugee women's post-partum

depression help-seeking experiences and access to care: A review and analysis of the literature. *Journal of Psychiatric and Mental Health Nursing, 17*(10), 917-928. https://doi.org/10.1111/j.1365-2850.2010.01625.x

Online Etymology Dictionary. (n.d.). Authentic. In *Etymonline.com*. Retrieved February 1, 2021, from https://www.etymonline.com/word/authentic

Online Etymology Dictionary. (n.d.). Capable. In *Etymonline.com*. Retrieved March 21, 2020, from https://www.etymonline.com/search?q=capable

Online Etymology Dictionary. (n.d.). Efficacy. In. *Etymonline.com*. Retrieved April 10, 2020, https://www.etymonline.com/word/efficacy

Onozawa, K., Glover, V., Adams, D., Modi, N., & Kumar, R. (2001). Infant massage improves mother–infant interaction for mothers with postnatal depression. *Journal of Affective Disorders, 63*(1-3), 201-207. https://doi.org/10.1016/s0165-0327(00)00198-1

Oxford, M. L., & Findlay, D. M. (2015). *NCAST caregiver/parent-child interaction feeding manual* (2nd ed.). Seattle, WA: NCAST Programs, University of Washington, School of Nursing.

Palisin, H. (1981). The Neonatal Perception Inventory: A Review. *Nursing Research, 30*(5), 285–289. https://doi.org/10.1097/00006199-198109000-00009

Paris, R., Bolton, R., & Spielman, E. (2011). Evaluating a home-based dyadic intervention: Changes in postpartum depression, maternal perceptions, and mother-infant interactions. *Infant Mental Health Journal, 32*(3), 319-338. https://doi.org/10.1002/imhj.20299

Patel, S., Wittkowski, A., Fox, J., & Wieck, A. (2013). An exploration of illness beliefs in mothers with postnatal depression. *Midwifery, 29*(6), 682-689. https://doi.org/10.1016/j.midw.2012.06.012

Paulson, J., & Bazemore, S. (2010). Prenatal and postpartum depression in fathers and its association with maternal depression: A meta-analysis. *JAMA, 303*(19), 1961-1969. https://doi.org/10.1001/jama.2010.605

Pearson, R. M., O'Mahen, H., Burns, A., Bennert, K., Shepherd, C., Baxter, H., Chauhan, D., & Evans, J. (2013). The normalisation of disrupted attentional processing of infant distress in depressed pregnant women following Cognitive Behavioural Therapy. *Journal of Affective Disorders*, *145*(2), 208–213. https://doi.org/10.1016/j.jad.2012.07.033

Pedro, L., Branquinho, M., Canavarro, M.C., & Fonseca, A. (2019). Self-criticism, negative automatic thoughts and postpartum depressive symptoms: The buffering effect of self-compassion. *Journal of Reproductive and Infant Psychology, 37*(5), 539-553. https://doi.org/10.1080/02646838.2019.1597969

Perera, D., Short, L., & Fernbacher, S. (2014). There is a lot to it: Being a mother and living with a mental illness. *Advances in Mental Health, 12*(3), 167-181. https://doi.org/10.1080/18374905.2014.11081895

Peterson, W., Charles, C., DiCenso, A., & Sword, W. (2005). The Newcastle satisfaction with nursing scales: A valid measure of maternal satisfaction with inpatient postpartum nursing care. *Journal of Advanced Nursing, 52*(6), 672-681. https://doi.org/10.1111/j.1365-2648.2005.03634.x

Pieranunzi, V. (1997). The lived experience of power and powerlessness in psychiatric

nursing: a Heideggerian hermeneutical analysis. *Archives of Psychiatric Nursing, 11*(3), 155-162. https://doi.org/10.1016/s0883-9417(97)80039-8

Pires, A. J., de Matos, M. B., Scholl, C. C., Trettim, J. P., Coelho, F. T., da Cunha Coelho, F. M., Pinheiro, K., Pinheiro, R. T., & de Avila Quevedo, L. (2020). Prevalence of mental health problems in preschoolers and the impact of maternal depression. *European Child & Adolescent Psychiatry*, *29*(5), 605–616. https://doi.org/10.1007/s00787-019-01381-x

Poobalan, A. S., Aucott, L. S., Ross, L., Smith, W. C., Helms, P. J., & Williams, J. H. (2007). Effects of treating postnatal depression on mother-infant interaction and child development: systematic review. *British Journal of Psychiatry, 191*, 378-386. https://doi.org/10.1192/bjp.bp.106.032789

Premji, S., Mcdonald, S., Metcalfe, A., Faris, P., Quan, H., Tough, S., & Mcneil, D.A. (2019). Examining postpartum depression screening effectiveness in well child clinics in Alberta, Canada: A study using the All Our Families cohort and administrative data. *Preventive Medicine Reports, 14*, 1-8. https://doi.org/10.1016/j.pmedr.2019.100888

Prevatt, B., & Desmarais, S. (2018). Facilitators and barriers to disclosure of postpartum mood disorder symptoms to a healthcare provider. *Maternal and Child Health Journal, 22*(1), 120-129. https://doi.org/10.1007/s10995-017-2361-5

Priddis, L. E., Wells, G., Dore, K., Booker, J., & Howieson, N. (2008). Tuned in parenting (TIP): A collaborative approach to improving parent-child relationships. *The Australian Community Psycholigist, 20*(2), 58-73. https://www.researchgate.net/publication/269389593_Tuned_In_Parenting_TIP_A_Collaborative_Approach_to_Improving_Parent-child_Relationships

Priddis, L. E., & Kane, R. (2013). The development of a scale for tuned-in

parenting. *Australian Journal of Psychology*, *65*(4), 198–205. https://doi.org/10.1111/ajpy.12021

Putnam, S. P., Gartstein, M. A., & Rothbart, M. K. (2006). Measurement of fine-grained aspects of toddler temperament: The Early Childhood Behavior Questionnaire. *Infant Behavior & Development*, *29*(3), 386–401. https://doi.org/10.1016/j.infbeh.2006.01.004

Racine, N., Plamondon, A., Hentges, R., Tough, S., & Madigan, S. (2019). Dynamic and bidirectional associations between maternal stress, anxiety, and social support: The critical role of partner and family support. *Journal of Affective Disorders*, *252*, 19–24. https://doi.org/10.1016/j.jad.2019.03.083

Racine, N., Zumwalt, K., McDonald, S., Tough, S., & Madigan, S. (2020). Perinatal depression: The role of maternal adverse childhood experiences and social support. *Journal of Affective Disorders*, *263*, 576–581. https://doi.org/10.1016/j.jad.2019.11.030

Rafferty, J., Mattson, G., Earls, M., & Yogman, M. (2019). Incorporating recognition and management of perinatal depression into pediatric practice. *Pediatrics, 143*(1) https://doi.org/10.1542/peds.2018-3259

Ramsay, R. (1993). Postnatal depression. *The Lancet, 342*(8883), 1358. https://doi.org/10.1016/0140-6736(93)92263-s

Rayce, S., Rasmussen, I., Vaever, M., & Pontoppidan, M. (2020). Effects of parenting interventions for mothers with depressive symptoms and an infant: Systematic review and meta-analysis. *BJPsych Open, 6*(1), E9. https://doi.org/10.1192/bjo.2019.89

Reay, R., Owen, E., Shadbolt, C., Raphael, B., Mulcahy, B., & Wilkinson, R. (2012).

Trajectories of long-term outcomes for postnatally depressed mothers treated with group interpersonal psychotherapy. *Archives of Women's Mental Health, 15*(3), 217-228. https://doi.org/10.1007/s00737-012-0280-4

Reck, C., Noe, D., Gerstenlauer, J., & Stehle, E. (2012). Effects of postpartum anxiety disorders and depression on maternal self-confidence. *Infant Behavior and Development, 35*(2), 264-272. https://doi.org/10.1016/j.infbeh.2011.12.005

Reck, C., Zietlow, A. L., Muller, M., & Dubber, S. (2016). Perceived parenting stress in the course of postpartum depression: the buffering effect of maternal bonding. *Archives of Women's Ment Health, 19*(3), 473-482. https://doi.org/10.1007/s00737-015-0590-4

Rescorla, L. A. (2005). Assessment of young children using the Achenbach System of Empirically Based Assessment (ASEBA). *Mental Retardation and Developmental Disabilities Research Reviews*, *11*(3), 226–237. https://doi.org/10.1002/mrdd.20071

Ride, J. (2019). Is socioeconomic inequality in postnatal depression an early-life root of disadvantage for children? *The European Journal of Health Economics: HEPAC : Health Economics in Prevention and Care, 20*(7), 1013-1027. https://doi.org/10.1007/s10198-019-01073-y

Righetti-Veltema, M., Conne-Perréard, E., Bousquet, A., & Manzano, J. (1998). Risk factors and predictive signs of postpartum depression. *Journal of Affective Disorders, 49*(3), 167-180. https://doi.org/10.1016/s0165-0327(97)00110-9

Righetti-Veltema, M., Conne-Perréard, E., Bousquet, A., & Manzano, J. (2002). Postpartum depression and mother–infant relationship at 3 months old. *Journal of Affective Disorders, 70*(3), 291-306. https://doi.org/10.1016/s0165-0327(01)00367-6

Rini, C., Schetter, C.D., Hobel, C. J., Glynn, L. M., & Sandman, C. A. (2006). Effective

social support: Antecedents and consequences of partner support during pregnancy. *Personal Relationships*, *13*(2), 207–229. https://doi.org/10.1111/j.1475-6811.2006.00114.x

Robertson, E., Grace, S., Wallington, T., & Stewart, D. (2004). Antenatal risk factors for postpartum depression: A synthesis of recent literature. *General Hospital Psychiatry, 26*(4), 289-295. https://doi.org/10.1016/j.genhosppsych.2004.02.006

Robinson, C. (1996). Health care relationships revisited. *Journal of Family Nursing, 2*(2), 152-173. https://doi.org/10.1177/107484079600200204

Rogers, A., Obst, S., Teague, S. J., Rossen, L., Spry, E. A,. Macdonald, J.A., Sunderland, M., Olsson, C. A., Youssef, G., & Hutchinson, D. (2020). Association between maternal perinatal depression and anxiety and child and adolescent development: A meta-analysis. *JAMA Pediatrics*, *174*(11), 1082–1092. https://doi.org/10.1001/jamapediatrics.2020.2910

Rusconi-Serpa, S., Sancho Rossignol, A., & McDonough, S. C. (2009). Video feedback in parent-infant treatments. *Child and Adolescent Psychiatric Clinics of North America*, *18*(3), 735-751. https://doi.org/10.1016/j.chc.2009.02.009

Sandelowski, M. (1995). Focus on qualitative methods: Sample size in qualitative research. *Research in Nursing & Health, 18*(2), 179-183. https://doi.org/10.1002/nur.4770180211

Sandelowski, M. (1996). Focus on qualitative methods: Using qualitative methods in intervention studies. *Research in Nursing & Health, 19*(4), 359-364. https://doi.org/10.1002/(sici)1098-240x(199608)19:4%3C359::aid-nur9%3E3.0.co;2-h

Sanger, C., Iles, J., Andrew, E., & Ramchandani, C. (2015). Associations between postnatal

maternal depression and psychological outcomes in adolescent offspring: A systematic review. *Archives of Women's Mental Health, 18*(2), 147-162. https://doi.org/10.1007/s00737-014-0463-2

Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (2016). A Brief Measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships*, *4*(4), 497–510. https://doi.org/10.1177/0265407587044007

Savvidou, I., Bozikas, V., Hatzigeleki, S., & Karavatos, A. (2003). Narratives about their children by mothers hospitalized on a psychiatric unit. *Family Process, 42*(3), 391-402. https://doi.org/10.1111/j.1545-5300.2003.00391.x

Schiffman, R. F., Omar, M. A., & McKelvey, L. M. (2003). Mother-infant interaction in low-income families. *MCN, The American Journal of Maternal/Child Nursing, 28*(4), 246-251. https://doi.org/10.1097/00005721-200307000-00008

Schmitt, J., Langan, S., Deckert, S., Svensson, A., von Kobyletzki, L., Thomas, K., & Spuls, P. (2013). Assessment of clinical signs of atopic dermatitis: A systematic review and recommendation. *Journal of Allergy and Clinical Immunology*, *132*(6), 1337–1347. https://doi.org/10.1016/j.jaci.2013.07.008

Schonert-Reichl, K. A., Smith, V., Zaidman-Zait, A., & Hertzman, C. (2011). Promoting Children's prosocial behaviors in school: Impact of the "Roots of Empathy" Program on the social and emotional competence of school-aged children. *School Mental Health*, *4*(1), 1–21. https://doi.org/10.1007/s12310-011-9064-7

Schreiber, R. (1996). (Re) defining myself: Woman's process of recovery from depression. *Qualitative Health Research, 6*(4), 469-491. https://doi.org/10.1177/104973239600600402

Schreiber, R., & Hartrick, G. (2002). Keeping it together: How women use the biomedical

explanatory model to manage the stigma of depression. *Issues in Mental Health Nursing, 23*(2), 91-105. https://doi.org/10.1080/016128402753542749

Scope, A., Booth, A., Morrell, C., Sutcliffe, P., & Cantrell, A. (2017). Perceptions and experiences of interventions to prevent postnatal depression. A systematic review and qualitative evidence synthesis. *Journal of Affective Disorders, 210*, 100-110. https://doi.org/10.1016/j.jad.2016.12.017

Segre, L. S., O'Hara, M. W., Arndt, S., & Stuart, S. (2007). The prevalence of postpartum depression: the relative significance of three social status indices. *Social Psychiatry and Psychiatric Epidemiology*, *42*(4), 316–321. https://doi.org/10.1007/s00127-007-0168-1

Sethna, V., Pote, I., Wang, S., Gudbrandsen, M., Blasi, A., McCusker, C., Daly, E., Perry, E., Adams, K., Kuklisova-Murgasova, M., Busuulwa, P., Lloyd-Fox, S., Murray, L., Johnson, M. H., Williams, S., Murphy, D., Craig, M. C., & McAlonan, G. M. (2017). Mother-infant interactions and regional brain volumes in infancy: an MRI study. *Brain Structure & Function*, *222*(5), 2379–2388. https://doi.org/10.1007/s00429-016-1347-1

Shaikh, A., & Kauppi, C. (2015). Postpartum depression: Deconstructing the label through a social constructionist lens. *Social Work in Mental Health*, *13*(5), 459–480. https://doi.org/10.1080/15332985.2014.943456

Shakespeare, J., Blake, F., & Garcia, J. (2003). A qualitative study of the acceptability of routine screening of postnatal women using the Edinburgh Postnatal Depression Scale. *The British Journal of General Practice: The Journal of the Royal College of General Practitioners, 53*(493), 614-619.

Shea, E., & Tronick, E.Z. (1988). The Maternal Self-Report Inventory: A research and

clinical instrument for assessing maternal self-esteem. *Theory and Research in Behavioral Pediatrics,* 4, 101-139.

Sheehan, D. V., Lecrubier, Y., Sheehan, K. H., Amorim, P., Janavs, J., Weiller, E., Hergueta, T., Baker, R., & Dunbar, G. C. (1998). The Mini-International Neuropsychiatric Interview (M.I.N.I.): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *The Journal of Clinical Psychiatry*, *59 Suppl 20*, 22–57.

Shen, H., Magnusson, C., Rai, D., Lundberg, M., Lê-Scherban, F., Dalman, C., & Lee, B. (2016). Associations of parental depression with child school performance at age 16 years in Sweden. *JAMA Psychiatry, 73*(3), 239-246. https://doi.org/10.1001/jamapsychiatry.2015.2917

Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science & Medicine (1982)*, *32*(6), 705–714. https://doi.org/10.1016/0277-9536(91)90150-b

Shonkoff, J., Boyce, W., & McEwan, B. (2009) Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *The Journal of the American Medical Association, 301*(21), 2252-2259. https://doi.org/10.1001/jama.2009.754

Shonkoff, J., & Garner, A. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), E232-E246. https://doi.org/10.1542/peds.2011-2663

Shor, R., & Moreh-Kremer, M. (2016). Identity development of mothers with mental illness: Contribution and challenge of motherhood. *Social Work in Mental Health, 14*(3), 215-226. https://doi.org/10.1080/15332985.2015.1017135

Shorey, S., Chee, C., Ng, E., Chan, Y., Tam, W., & Chong, Y. (2018). Prevalence and incidence

of postpartum depression among healthy mothers: A systematic review and meta-analysis. *Journal of Psychiatric Research*, *104*, 235-248. https://doi.org/10.1016/j.jpsychires.2018.08.001

Sills, M., Shetterly, S., Xu, S., Magid, D., & Kempe, A. (2007). Association between parental depression and children's health care use. *Pediatrics, 119*(4), E829-E836. https://doi.org/10.1542/peds.2006-2399

Silverman, M., Reichenberg, E., Lichtenstein, A., & Sandin, P. (2018). Is depression more likely following childbirth? A population-based study. *Archives of Women's Mental Health, 22*(2), 253-258. https://doi.org/10.1007/s00737-018-0891-5

Silverman, M. E., Reichenberg, A., Savitz, D. A., Cnattingius, S., Lichtenstein, P., Hultman, C. M., Larsson, H., & Sandin, S. (2017). The risk factors for postpartum depression: A population-based study. *Depression and Anxiety*, *34*(2), 178–187. https://doi.org/10.1002/da.22597

Simhi, M., Sarid, O., & Cwikel, J. (2019). Preferences for mental health treatment for post-partum depression among new mothers. *Israel Journal of Health Policy Research, 8*(1), 1-8. https://doi.org/10.1186/s13584-019-0354-0

Smith, L. (2011). Postnatal care: Development of a psychometric multidimensional satisfaction questionnaire (the WOMBPNSQ) to assess women's views. *The British Journal of General Practice: The Journal of the Royal College of General Practitioners, 61*(591), E628-E637. https://doi.org/10.3399/bjgp11x601334

Smith-Nielsen, J., Tharner, A., Krogh, M. T., & Vaever, M. S. (2017). Effects of maternal postpartum depression in a well-resourced sample: Early concurrent and long-term

effects on infant cognitive, language, and motor development. *Scandinavian Journal of Psychology, 57*(6), 571-583. https://doi.org/10.1111/sjop.12321

Sohr-Preston, S., & Scaramella, L. (2006). Implications of timing of maternal depressive symptoms for early cognitive and language development. *Clinical Child and Family Psychology Review*, *9*(1), 65-83. https://doi.org/10.1007/s10567-006-0004-2

Somerville, S., Byrne, S. L., Dedman, K., Hagan, R., Coo, S., Oxnam, E., Doherty, D., Cunningham, N., & Page, A. C. (2015). Detecting the severity of perinatal anxiety with the Perinatal Anxiety Screening Scale (PASS). *Journal of Affective Disorders*, *186*, 18–25. https://doi.org/10.1016/j.jad.2015.07.012

Spielberger, C. (1983). Manual for the State-Anxiety Inventory (STAI). Palo Alto, CA: Consulting Psychologists Press.

Spielman, E. (2002). Early connections: Mother-infant psychotherapy in support of perinatal mental health. *Zero to Three,* 22, 26-20.

Squires, J.B., Bricker, D., & Twombly, E. (2002). The ASQ:SE User's Guide for the Ages & Stages Questionnaires: Social-Emotional. A Parent-Completed, Child-Monitoring System for Social-Emotional Behaviors. Baltimore. Paul H Brookes Pub Co.

Squires, J., Bricker, D., & Potter, L. (1997). Revision of a parent-completed developmental screening tool: Ages and stages questionnaires. *Journal of Pediatric Psychology, 22*(3), 313-328. https://doi.org/10.1093/jpepsy/22.3.313

Stein, A., Arteche, A., Lehtonen, A., Craske, M., Harvey, A., Counsell, N., & Murray, L. (2010). Interpretation of infant facial expression in the context of maternal postnatal depression. *Infant Behavior & Development, 33*(3), 273-278. https://doi.org/10.1016/j.infbeh.2010.03.002

Stein, A., Gath, D., Bucher, J., Bond, P., Day, & Cooper. (1991). The relationship between post-natal depression and mother-child interaction. *British Journal of Psychiatry*, *158*(1), 46-52. https://doi.org/10.1192/bjp.158.1.46

Stein, A., Netsi, E., Lawrence, P. J., Granger, C., Kempton, C., Craske, M. G., Nickless, A., Mollison, J., Stewart, D. A., Rapa, E., West, V., Scerif, G., Cooper, P. J., & Murray, L. (2018). Mitigating the effect of persistent postnatal depression on child outcomes through an intervention to treat depression and improve parenting: a randomised controlled trial. *The Lancet. Psychiatry*, *5*(2), 134–144. https://doi.org/10.1016/s22150366(18)30006-3

Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., Howard, L. M., & Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *Lancet (London, England)*, *384*(9956), 1800–1819. https://doi.org/10.1016/s0140-6736(14)61277-0

Stein, G., & Van den Akker, O. (1992). The retrospective diagnosis of postnatal depression by questionnaire. *Journal of Psychosomatic Research*, *36*(1), 67–75. https://doi.org/10.1016/0022-3999(92)90115-I

Stern, D. (1977). *The first relationship: Mother and infant* (*The developing child*). Cambridge, MA: Harvard University Press.

Stewart, D., & Vigod, S. (2019) Postpartum depression: Pathophysiology, treatment, and emerging therapeutics. *Annual Reviews of Medicine, 70*(1), 183-196. https://doi.org/10.1146/annurev-med-041217-011106

Stone, M., & Kokanovic, R. (2016). “Halfway towards recovery”: Rehabilitating the relational

self in narratives of postnatal depression. *Social Science & Medicine, 163*, 98-106. https://doi.org/10.1016/j.socscimed.2016.06.040

Sword, W., Busser, D., Ganann, R., Mcmillan, T., & Swinton, M. (2008). Women's care-seeking experiences after referral for postpartum depression. *Qualitative Health Research, 18*(9), 1161-1173. https://doi.org/10.1177/1049732308321736

Tarrier, N., & Wykes, T. (2004). Is there evidence that cognitive behaviour therapy is an effective treatment for schizophrenia? A cautious or cautionary tale? *Behaviour Research and Therapy*, *42*(12), 1377–1401. https://doi.org/10.1016/j.brat.2004.06.020

Thurgood, S., Avery, D. M., & Williamson, L. (2009). Postpartum Depression (PPD). *American Journal of Clinical Medicine, 6*(2), 17-22.

Tobin, C., Di Napoli, P., & Beck, C. (2018). Refugee and immigrant women's experience of postpartum depression: A meta-synthesis. *Journal of Transcultural Nursing, 29*(1), 84-100. https://doi.org/10.1177/1043659616686167

Tough, S., Siever, J., & Johnston, David W. (2007). Retaining women in a prenatal care randomized controlled trial in Canada: Implications for program planning. *BMC Public Health, 7*(1), 148. https://doi.org/10.1186/1471-2458-7-148

Tronick, E., Als, H., Adamson, L., Wise, S., & Brazelton, T. (1978). The infant's response to entrapment between contradictory messages in face-to-face interaction. *Journal of the American Academy of Child Psychiatry, 17*(1), 1-13. https://doi.org/10.1016/s0002-7138(09)62273-1

Tronick, E., & Reck, C. (2009). Infants of depressed mothers. *Harvard Review of Psychiatry, 17*(2), 147-156. https://doi.org/10.1080/10673220902899714

Tryphonopoulos, P., & Letourneau, N. (2020). Promising results from a video-feedback interaction guidance intervention for improving maternal-infant interaction quality of depressed mothers: A feasibility pilot study. *The Canadian Journal of Nursing Research = Revue Canadienne De Recherche En Sciences Infirmieres,* 52(2), 74-87. https://doi.org/10.1177/0844562119892769

Tsivos, Z. L., Calam, R., Sanders, M. R., & Wittkowski, A. (2015). Interventions for postnatal depression assessing the mother-infant relationship and child developmental outcomes: a systematic review. *International Journal of Women's Health*, *7*, 429–447. https://doi.org/10.2147/ijwh.s75311

Turner, C., Boyle, F., & O'Rourke, P. (2003). Mothers' health post-partum and their patterns of seeking vaccination for their infants. *International Journal of Nursing Practice, 9*(2), 120-126. https://doi.org/10.1046/j.1322-7114.2003.00410.x

Turney, K. (2011). Maternal depression and childhood health inequalities. *Journal of Health and Social Behavior, 52*(3), 314-332. https://doi.org/10.1177/0022146511408096

Ugarriza, D. (2002). Postpartum depression women's explanation of depression. *Journal of Nursing Scholarship, 34*(3), 227-233. https://doi.org/10.1111/j.1547-5069.2002.00227.x

Ukatu, N., Clare, C., & Brulja, M. (2018). Postpartum depression screening tools: A review. *Psychosomatics, 59*(3), 211-219. https://doi.org/10.1016/j.psym.2017.11.005

Underwood, L., Waldie, K., D'Souza, S., Peterson, E., & Morton, S. (2017). A Longitudinal study of pre-pregnancy and pregnancy risk factors associated with antenatal and postnatal symptoms of depression: Evidence from growing up in New Zealand. *Maternal and Child Health Journal, 21*(4), 915-931. https://doi.org/10.1007/s10995-016-2191-x

Vaever, M., Pedersen, I., Smith-Nielson, J., & Tharner, A. (2020). Maternal postpartum depression is a risk factor for infant emotional variability at 4 months. *Infant Mental Health Journal.* 477-494. https://doi.org/10.1002/imhj.21846

VanderKruik, R., Barreix, M., Chou, D., Allen, T., Say, L., Cohen, L. S., & Maternal Morbidity Working, G. (2017). The global prevalence of postpartum psychosis: a systematic review. *BMC Psychiatry*, *17*(1), 272. https://doi.org/10.1186/s12888-017-1427-7

van Der Waerden, J., Galéra, C., Larroque, B., Saurel-Cubizolles, M., Sutter-Dallay, A., Melchior, M., & Eden Mother–child cohort study group (2015). Maternal depression trajectories and children's behavior at age 5 years. *The Journal of Pediatrics, 166*(6), 1440-1448.e1. https://doi.org/10.1016/j.jpeds.2015.03.002

van Doesum, K., Hosman, C., Riksen-Walraven, J., & Hoefnagels, C. (2007). Correlates of depressed mothers' sensitivity toward their infants: The role of maternal, child, and contextual characteristics. *Journal of the American Academy of Child & Adolescent Psychiatry, 46*(6), 747-756. https://doi.org/10.1097/chi.0b013e318040b272

van Doesum, K., Riksen-Walraven, J., Hosman, C., & Hoefnagels, C. (2008). A randomized controlled trial of a home-visiting intervention aimed at preventing relationship problems in depressed mothers and their infants. *Child Development, 79*(3), 547-561. https://doi.org/10.1111/j.1467-8624.2008.01142.x

Van Schaik, D., Klijn, A., Van Hout, H., Van Marwijk, H., Beekman, A., De Haan, M., & Van Dyck, R. (2004). Patients' preferences in the treatment of depressive disorder in primary care. *General Hospital Psychiatry, 26*(3), 184-189. https://doi.org/10.1016/j.genhosppsych.2003.12.001

Vasileva, M., Graf, R. K., Reinelt, T., Petermann, U., & Petermann, F.

(2020). Research review: A meta-analysis of the international prevalence and comorbidity of mental disorders in children between 1 and 7 years. *Journal of Child Psychology and Psychiatry*. https://doi.org/10.1111/jcpp.13261

Verbeek, T., Bockting, C., Van Pampus, M., Ormel, J., Meijer, J., Hartman, C., & Burger, H. (2012). Postpartum depression predicts offspring mental health problems in adolescence independently of parental lifetime psychopathology. *Journal of Affective Disorders, 136*(3), 948-954. https://doi.org/10.1016/j.jad.2011.08.035

Verduyn, C., Barrowclough, C., Roberts, J., Tarrier, T., & Harrington, R. (2003). Maternal depression and child behaviour problems. Randomised placebo-controlled trial of a cognitive-behavioural group intervention. *British Journal of Psychiatry, 183*(0007-1250), 342-348. https://doi.org/10.1192/bjp.183.4.342

Vigod, S., & Stewart, D. (2017). Postpartum Depression. *New England Journal of Medicine, 376*(9), 895. https://doi.org/10.1056/nejmc1616547

Vik, K., & Braten, S. (2009). Video interaction guidance inviting transcendence of postpartum depressed mothers' self-centered state and holding behavior. *Infant Mental Health Journal, 30*(3), 287-300. https://doi.org/10.1002/imhj.20215

Vik, K., & Hafting, M. (2006). Video interaction guidance offered to mothers with postnatal depression: Experiences from a pilot study. *Nordic Journal of Psychiatry, 60*(3), 234-238. https://doi.org/10.1080/08039480600636593

Vik, K., & Hafting, M. (2009). The outside view as facilitator of self-reflection and vitality: A phenomenological approach. *Journal of Reproductive and Infant Psychology, 27*(3), 287-298. https://doi.org/10.1080/02646830802409645

Wachs, T., Black, M., & Engle, P. (2009). Maternal depression: A global threat to

children's health, development, and behavior and to human rights. *Child Development Perspectives, 3*(1), 51-59. https://doi.org/10.1111/j.1750-8606.2008.00077.x

Waddell, C., McEwan, K., Peters, R., Hua, J., & Garland, O. (2007). Preventing mental disorders in children: A public health priority. *Canadian Journal of Public Health, 98*(3), 174-178. https://doi.org/10.1007/bf03403707

Waddell, C., McEwan, K., Shepherd, C., Offord, D., & Hua, J. (2005). A public health strategy to improve the mental health of Canadian children. *The Canadian Journal of Psychiatry, 50*(4), 226-233. https://doi.org/10.1177/070674370505000406

Wall-Wieler, E., Roos, L. L., & Gotlib, I. H. (2020). Maternal depression in early childhood and developmental vulnerability at school entry. *Pediatrics*, *46*(3), e20200794. https://doi.org/10.1542/peds.2020-0794

Wang, I., Wen, H., Chiang, T., Lin, S., & Guo, Y. (2016). Maternal psychologic problems increased the risk of childhood atopic dermatitis. *Pediatric Allergy and Immunology, 27*(2), 169-176. https://doi.org/10.1111/pai.12518

Ware, J. E., & Sherbourne, C.D. (1992). The MOS 36-Item Short-Form Health Survey (SF-36): I. Conceptual Framework and Item Selection. *Medical Care, 30*(6), 473-483. https://doi.org/10.1097/00005650-199206000-00002

Waters, E. (1995) The attachment Q-set. In E. Waters, B.E. Vaugn, G. Posada, & K. Kondo-Ikemura (Eds.), Caregiving, cultural and cognitive perspectives on secure-base behavior and working models. *Monographs of the Society for Research in Child Development 60* (Serial No. 244), 234-246.

Wechsler, D. (1989). Wecshler preschool and primary scale of intelligence – revised manual. San Antonio: The Psychological Corporation

Weissman, M., Wickramaratne, P., Nomura, Y., Warner, V., Pilowsky, D., & Verdeli, H. (2006). Offspring of depressed parents: 20 years later. *American Journal of Psychiatry*, *163*(6), 1001-1008. https://doi.org/10.1176/ajp.2006.163.6.1001

Mental Health, 19(2), 229-242. https://doi.org/10.1007/s00737-015-0549-5

Wishart, J. G., & Bower, T. G. (1984). Spatial relations and the object concept: A normative study. *Advances in Infancy Research, 3,* 57–123.

Wisner, K., Chambers, C., & Sit, D. (2006). Postpartum depression: A major public health problem. *JAMA, 296*(21), 2616-2618. https://doi.org/10.1001/jama.296.21.2616

Wisner, K. L., Sit, D. K., McShea, M. C., Rizzo, D. M., Zoretich, R. A., Hughes, C. L., Eng, H. F., Luther, J. F., Wisniewski, S. R., Costantino, M. L., Confer, A. L., Moses-Kolko, E. L., Famy, C. S., & Hanusa, B. H. (2013). Onset timing, thoughts of self-harm, and diagnoses in postpartum women with screen-positive depression findings. *JAMA psychiatry*, *70*(5), 490–498. https://doi.org/10.1001/jamapsychiatry.2013.87

Woody, C., Ferrari, A., Siskind, D., Whiteford, H., & Harris, M. (2017). A systematic review and meta-regression of the prevalence and incidence of perinatal depression. *Journal of Affective Disorders*, *219*, 86-92. https://doi.org/10.1016/j.jad.2017.05.003

Woolhouse, H., Brown, S., Krastev, A., Perlen, S., & Gunn, J. (2009). Seeking help for anxiety and depression after childbirth: Results of the maternal health study. *Archives of Women's Mental Health, 12*(2), 75-83. https://doi.org/10.1007/s00737-009-0049-6

Woolhouse, H., Gartland, D., Mensah, F., & Brown, S.J. (2015). Maternal depression from early pregnancy to 4 years postpartum in a prospective pregnancy cohort study: implications for primary health care. *BJOG : an International Journal of Obstetrics and Gynaecology*, *122*(3), 312–321. https://doi.org/10.1111/1471-0528.12837

Woolhouse, H., Gartland, D., Mensah, F., Giallo, R., & Brown, S. (2016). Maternal depression from pregnancy to 4 years postpartum and emotional/behavioural difficulties in children: results from a prospective pregnancy cohort study. *Archives Women's Mental Health, 19*(1), 141-151. https://doi.org/10.1007/s00737-015-0562-8

Word Hippo (n.d.). Form. In *Wordhippo.com*. Retrieved March 10, 2020, from https://www.wordhippo.com/what-is/the/latin-word-for-d00b39815c187d832cef3239eb7a77580728dc47.html

Word Hippo (n.d.). Relationship. In *WordHippo.com.* Retrieved March 10, 2020, from https://www.wordhippo.com/what-is/the/latin-word-for-6a73a9121a5de29346900d4f866e89b5f9e284dc.html

World Health Organization. (2019). Mental Health: Maternal Mental Health. Retrieved November 14, 2020, from https://www.who.int/mental_health/prevention/suicide/Perinatal_depression_mmh_final.pdf?ua=1

World Health Organization. (2015). Thinking healthy: a manual for psychosocial management of perinatal depression, WHO generic field-trial version 1.0, 2105. Retrieved November 14, 2020, from: http://www.who.int/mental_health/maternal-child/thinking_healthy/en/.

World Health Organization (2008). Commission on Social Determinants of Health. Closing the gap in a generation: Health equity through action on the social determinants of health. Geneva. Retrieved November 14, 2020, from https://www.who.int/social_determinants/thecommission/finalreport/en/

Wu, Q., Chen, H., & Xu, X. (2012). Violence as a risk factor for postpartum depression in

mothers: A meta-analysis. *Archives of Women's Mental Health, 15*(2), 107-114. https://doi.org/10.1007/s00737-011-0248-9

Wyatt Kaminski, J., Valle, L., Filene, A., & Boyle, J. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology, 36*(4), 567-589. https://doi.org/10.1007/s10802-007-9201-9

Yanos, P., Roe, D., & Lysaker, P. (2010). The impact of illness identity on recovery from severe mental illness. *American Journal of Psychiatric Rehabilitation, 13*(2), 73-93. https://doi.org/10.1080/15487761003756860

Yates, T. J., Ostrosky, M., Cheatham, G. A., Fettig, A., Shaffer, L., & Santos, R. M. (2009). Research Synthesis on Screening and Assessing Social Emotional Competence. University of Illinois at Urbana-Champaign.

Yi, Y. G., Sung, I. Y., & Yuk, J. S. (2018). Comparison of second and third editions of the Bayley Scales in children with suspected developmental delay. *Annals of Rehabilitation Medicine*, *42*(2), 313–320. https://doi.org/10.5535/arm.2018.42.2.313

Young, C. A., Burnett, H., Ballinger, A., Castro, G., Steinberg, S., Nau, M., Bakken, E. H., Thomas, M., & Beck, A. L. (2019). Embedded maternal mental health care in a pediatric primary care clinic: A qualitative exploration of mothers' experiences. *Academic Pediatrics*, *19*(8), 934–941. https://doi.org/10.1016/j.acap.2019.08.004

Yu, M., & Sampson, M. (2016). Closing the gap between policy and practice in screening for perinatal depression: A policy analysis and call for action. *Social Work in Public Health*, *31*(6), 549-556. https://doi.org/10.108019371918.2016.116033

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Bilszta et al. (2012) Australia RCT-computer generated randomization schedule Hospital-In-Patient Dyads *n* = 74 Video: *n* = 25 Verbal: *n* = 26 Standard Care: *n* = 23 Marital Status: 92% married Language: 99% English Inclusion criteria: Diagnosis of MDD or adjustment disorder with anxious or depressed mood-DSM-IV	**Circle of Security Secure Base/Secure Haven- (modified version)** "*help mothers to become better perceivers of their infant's verbal and non-verbal cues, as well as teach them to respond quickly and appropriately to these signals, identify potentially improper responses, and reinforce established sensitive behaviors.*" Number of sessions: Weekly session while in hospital - μ 3.2 sessions for video group (number of intervention sessions dependent on hospital stay) Length of sessions: 30 min. (10 min. of unstructured play and 20 min. of discussion) First Video Sessions: Emphasis on understanding M-I relationship Remaining Video Session: Mother interacted in the style she preferred and focused on concerns expressed by mother Age of Child: μ 5.8 months +/- 3.1 months at time of admission to hospital Delivered by: Senior Investigator of study	EPDS PSCS NPI SSSQ AAS Maternal Acceptability: Questionnaire re: usefulness of the video-feedback	Significant improvement in EPDS (p = <0.001) for all groups however, no significant group differences in maternal mental health Significant improvement in PSCS in verbal group (p =0.005) and standard care (p = 0.034) but not in video intervention group No significant improvements as per NPI Maternal Acceptability for Video-Feedback Group 42%: found video helpful in understanding their baby 67%: confidence as a parent increased with more sessions 26%: felt very uncomfortable with viewing video 22%: felt discomfort viewing the video improved with time 58%: were very comfortable reviewing the videos 73%: felt the viewing influenced the way they interacted with their baby Majority of parents reported greater parenting confidence in verbal feedback group, compared to video group	No significant differences between the three groups in regard to mental health, confidence, perception of infant, attachment, and social support No psychometric information provided for measures or coding reliability

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Coo et al. (2018) Australia Pilot Study (no control group) Group (in hospital) and individual Dyads *n* = 5 Maternal age: 26 - 36 years Education: all had tertiary education Marital status: 80% married Other: 80% primips Background: English speaking Inclusion criteria: 1) Patient of hospital 2) Diagnosed by mental health professional with depression or anxiety 3) Diagnosis by clinician~ for the Emotional Wellbeing Group	**Emotional Wellbeing Group Intervention** *"interventions to improve maternal mental health and to nurture the developing M-I relationship~based off of Mothers and Babies Couse~ paying attention to attachment and social and emotional presentation of the infant."* Number of sessions: Intervention: 8 group sessions Additional sessions before and after the group session offered on an individual basis -last individual session mother received video-feedback of unstructured play Length of sessions: 1.5 hours Age of Child: 3 - 10 months Delivered by: Clinical Psychologists	EPDS PASS BaM-13 MORS-SF TIP-RS ITSC Maternal Acceptability: Intervention Satisfaction Feedback Form - with (strongly agree to strongly disagree responses) related to their understandings and perceptions interacting with their infant	No changes in maternal depression All had decrease in anxiety (4/5 clinically significant) 80% experienced significant improvement in experience of motherhood 60% perceived their babies to be warmer and more affectionate 60% experienced positive changes in global TIP-RS scores Maternal Acceptability: 100%: learned about themselves, felt hopeful, and relieved 80% learned new ways to interact with their babies and received valuable information 100% learned from group members	Blinded: Coders blinded to mental health status At beginning of intervention all mothers reported a "stressful motherhood experience" EPDS "Cronbach α = 0.87 and sensitivity (95%)" PASS "Cronbach α = 0.96 and moderate test-retest reliability of 0.74" BaM-13 "Cronbach α = 0.87 and moderate test-retest reliability of 0.72" MORS-SF "internal consistency for the Warmth Cronbach α = 0.75-0.79 and Invasiveness Cronbach α =0.81-0.71" TIP-RS "has good inter-rater reliability Cronbach α = 0.89 to 0.95" ITSC not reported

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Horowitz et al. (2013) USA RCT (three phases) Home Dyads: *n* = 134 Maternal age:μ 31 years Income: $80,000 Education: μ 15.6 years Other: 75% married Inclusion criteria: >10 for the EPDS and confirmation with diagnostic interview	**CARE** *"relationship-focused video behavioural nursing intervention…designed to promote responsive interaction over time between depressed mothers to interpret infant's behavioural cues and to respond sensitively"* Number of sessions: Video-recorded 4 times (6 weeks, 3 months, 6 months, and 9 months) Intervention group: 2 "supplement" visits (2 and 4 months postpartum) Length of sessions: 1 Hour 30 mins. – 40 mins. -"supplement" visits for intervention group Age of Child: 6 weeks to 9 months Delivered by: RN *unknown if mother viewed the video	EPDS PDSS PCITS SCID-1 Mother Information Tool (MIT): demographic data collection Maternal Acceptability: Focus group and individual interviews (*n* = 29) re: their experience	PPD decreased for both groups but no significant group difference All groups had significant improvements on all measures No significant group differences between groups for M-I relational effectiveness and responsiveness to caregiver Maternal Acceptability: Mothers had feelings of anxiety during the video session. Both treatment and control group appreciated the support and education provided related to how her actions affect her infant. In both groups, the mothers reported the nurse visits to be valuable.	Blinded: PCITS coders blinded Attrition rate: 6.7% No differences between control and intervention at baseline EPDS Cronbach α = 0.82 PDSS Cronbach α = 0.94 PCITS Cronbach α for all 73 items was 0.91, for 13 item Responsiveness to Caregiver was 0.76, had to drop Clarity of Cues as Cronbach α was < .70

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Horowitz et al. (2001) USA RCT Randomization: Randomly assigned Home Dyads *n* = 117 Intervention: *n* = 60 Control: *n* = 57 Maternal age: μ 31years Income: variance from low-high Education: well-educated Other: 70% European, American or White Inclusion criteria: Depressive symptoms -assessment not reported	**ICAP** *"coaching strategy aimed at improving sensitivity"* Number of sessions: 3 home visits 4 - 8 weeks for Time 1 10 - 14 weeks for Time 2 14 - 18 weeks for Time 3 Length of sessions: Mother informed to position her baby in a face to face position and play as she usually would without a toy and observed for 5 mins. Interacting as per ICAP. Average length of coaching-15 mins. *unclear if videos co-viewed with mother Age of Child: 4 weeks to 18 weeks Delivered by: Advanced Practise Nurse (APN) and Graduate Students	EPDS BDI-II DMC Maternal Acceptability: not assessed	PPD improved in both groups but no group differences Significant difference in responsiveness between treatment and control group (p = 0.006). Both groups had significant increases in responsiveness Significance for treatment group in the M-I quality as per the DMC: (p = 0.002) for Time 2 (p = 0.029) for Time 3	Blinded: coders were blinded to the group Attrition: 5% EDPS Cronbach α = 0.81 Phase 1 Screening administration Cronbach α = 0.86 Administration Time 3 BDI- II Cronbach α = 0.89 for Time 1 Cronbach α = 0.87 for Time 2 Cronbach α = 0.88 for Time 3 DMC Cronbach α = 0.66 for Time 1 Cronbach α = 0.63 for Time 2 Cronbach α = 0.70 for Time 3

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Kalinauskiene et al. (2009) Lithuania RCT -Randomization Home (recruited in hosp.) Dyads *n* = 54 Intervention: *n* = 26 Control: *n* = 28 Maternal age: μ 26.4 years Income: middle class Education: μ 16.8 years Ethnicity: 78% Lithuanian Inclusion criteria: Insensitivity as per AMS (defined as below midpoint of 5) From "intact families" and did not work until child one year of age, and had at least high school education *Depression was not an inclusion criteria	**VIPP** *"to reinforce mothers' sensitive responsiveness their infants' signal focusing on different aspects of mother-infant interactions."* Number of sessions: 5 visits Plus one booster session (for both mother and father) Length of sessions: 90 min. First intervention session was one month after first home visit Mothers completed diary of infant's behavior and maternal responses to be discussed in session. Each session started with mother videotaped playing with infant and then provided information from previous video-feedback sessions. Age of Child: 7- 12 months of age Delivered by: Psychologists	BDI AMSS DHS *(translated into Lithuanian)* AQS Version 3 The Parental Efficacy Questionnaire Infant temperament Maternal Acceptability: not assessed	Significantly improved maternal sensitivity and responsiveness in intervention group ($p = 0.01$) Significant correlation between maternal sensitive, responsiveness, and maternal efficacy ($r = 0.32$, $p = 0.02$) No significant difference in attachment with the intervention group but maternal sensitivity was strongly correlated with infant attachment security in both groups	Blinded: coders for AQS were blinded No significant difference between maternal sensitivity, depression, infant affect and daily hassles, parental education, infant's age at the beginning of the study Controlled for maternal age, education, depression, daily hassles, infant gender, and infant negative and positive affect BDI Cronbach α = 0.72 - 6 months Cronbach α = 0.73 - 12 months AMSS Inter-rater reliability: 0.72 - 0.86 DHS 6 months Cronbach α = 0.71 (DHS-frequency) Cronbach α = 0.82 (DHS-intensity) 12 months Cronbach α = 0.82 (DHS-Freq) Cronbach α = 0.86 (DHS-intensity) AQS Version 3 Inter-coder reliability ranged from 0.75 - 0.85 Infant Temperament Reliability achieved for 2 coders-on 12 cases

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Kenny et al. (2013) UK Prospective MBU and community Dyad: *n* = 138 MBU: *n* = 49 Community Group with Mental Illness: *n* = 67 Healthy group: *n* = 22 Maternal age: µ 30 years Other: 20% single Inclusion criteria: MBU Group – DSM diagnosis by psychiatrist of either depression, schizophrenia or other mood disorder Community Ill Group –DSM diagnosis of personality disorder and depression Healthy Group –no mental health concerns	**Individualized Video Feedback** (no specified name) *"supported in developing their relationship with their babies with individually tailored feedback following video-recordings"* Number of sessions: Between 2-9 sessions Dependent on length of hospital stay (µ stay 13 weeks) First Video: within one week of admission (when mothers unwell) Final Video: prior to discharge Length of sessions: Video session – 3 min (unstructured play) Age of Child: µ 12.4 weeks Discharge Video: µ 20.6 weeks Delivered by: Professional trained in infant observation professional	DSM-IV diagnosis CARE Index Maternal Acceptability: not assessed	MBU Group on Discharge Mothers were significantly more sensitive (p = <0.001) and responsive (p =< 0.001), comparatively to the Community Ill Group Infants were significantly more cooperative (p = <.001) and less passive (p = <0.001) at discharge, comparatively to the Community Ill Group Equally "attuned" to the healthy group MBU Group Scores Following Video-Feedback Intervention Significantly sensitive (p < 0.05) and less unresponsive (p <0.02) from community ill group but not from healthy group Infant were significantly more cooperate (p <0.01) and less passive (p < 0.001) than the community group but not healthy group	Blinded: coders were blinded to illness and study hypothesis Inter-rater reliability: coders reached 80% agreement on CARE Index Data assessed for distribution and skewness- normally distributed, therefore used parametric Tests for Homogeneity of Variance: no significant difference between groups

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
King et al. (2015) Australia Mixed Methods Community Health Center Group format Dyads *n* = 14 Maternal age: μ 35 years Ethnicity: majority Australian Primips: 71% Inclusion criteria: Completion of TIP program (they were self-referred based on the recommendation of a HCP)	**TIP** *"to increase maternal sensitive responsiveness and improve maternal emotional wellbeing"* Number of sessions: 9 weeks Group sessions with video 4 - 6 mothers per group Length of sessions: 2 hrs/week All group members viewed the videos and discussions were facilitated within the group for each mother-child recording Positive interactions reinforced in video viewing Age of Child: 5 - 22 months of age (μ 11 months) Delivered by: Group facilitators-psychologist and mental health nurse	EPDS DASS-21 PSI -SF The Pleasure in Parenting Scale TIP-RS Maternal Acceptability: Semi-structured interviews to ask about feelings and behaviors being videotaped (25 - 45 mins. interviews)	Significant changes in TIP-RS (p = .00) and EPDS (p = 0.21) in the intervention group TIP-RS Results Pre-Intervention Mostly Tuned In – 6.25% Somewhat Tuned In – 25 % Rarely Tuned In – 37.5% Not at all Tuned In – 31.25% Post-Intervention Mostly Tuned In – 50% Somewhat Tuned In – 25% Rarely Tuned In – 12.5% Not at all Tuned In – 12.5% Maternal Acceptability: Reflective themes emerged related to: 1. Attachment experiences: "greater capacity for understanding their child's mind" 2. Child's Emotional needs: "open to the range of emotions" 3. Mother - Child Relationship: 4. Group Therapeutic Experience: improvements in self-awareness and positivity	Blinded: researchers analyzing data blinded EPDS Cronbach α = 0.88 "has been reported" DASS-21 Cronbach α = 0.81 (depression) "has been reported" Cronbach α = 0.73 (anxiety) "has been reported" Cronbach α = 0.81 (stress) "has been reported" PSI-SF Cronbach α = 0.95 (total score)" Cronbach α = 0.91 (parent domain) "has been reported" Cronbach α = 0.91(child domain) "has been reported" The Pleasure in Parenting Scale Cronbach α=0.81" "has been reported" TIP-RS Inter-rater reliability ranging from 0.68 - 0.83

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Kristensen et al. (2017) Denmark Quasi Experimental Home Dyad *n* = 278 Intervention: *n* = 69 Standard Care/Comparison Group: *n* = 209 Matched Video Subsample from Comparison group: *n* = 63 Maternal age: μ 30 years Education: Intervention Group, 56% ("Education Long") Other: primips Fluent in Danish Inclusion criteria: "Vulnerable mothers" that met at least one of the following: 1). Moderate parenting mood (EPDS ≥8 and <13) 2). Low parenting confidence score <40 on the KPCS 3). Moderate preterm birth (≥ 32 months and <37 months)	**Marte Meo** "*uses video-feedback to target mothers sensitivity and is aimed at developing mothers healthy early relationships with their infants.*" Number of sessions: Variable number of sessions continued until maternal concerns resolved (as determined by both therapist and mom) 2 - 5 additional video-feedback sessions Length of sessions: Video-taped for 3 - 5 mins. and then provided delayed feedback after reviewing video at following visit Age of Child: 2 – 6 months of age Delivered by: RN In the intervention group, all were certified in the Marte Meo method	EPDS PSS KPCS ASQ:SE CARE Index Maternal Acceptability: not assessed	Significantly improved dyadic synchrony and maternal sensitivity in the intervention group ($p \leq 0.001$) as per CARE Index Maternal confidence significantly improved for intervention group ($p \leq 0.04$) Parental stress significantly decreased for intervention group ($p = 0.03$) Infants were significantly more cooperative in intervention group ($p \leq 0.001$) No significant differences with EPDS and ASQ:SE	Coders: certified by Crittenden as research raters Inter Rater Reliability Cronbach α = 0.88 No significant difference between groups at baseline except intervention mothers had lower education and parental stress EPDS "sensitivity 96% and specificity ranged from 49% - 78%" PSS "sensitivity 81% and specificity 83%" KPCS "specificity 88% and sensitivity 81%" ASQ:SE-2 "sensitivity 71 - 85% and specificity 90 - 98%" CARE-INDEX: Cronbach α = 0.70 - 0.88 for mothers sensitive, controlling, and unresponsive behaviour Cronbach α = 0.82 - 0.92 for infants cooperative, compulsive, difficult, and passive behaviour

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Paris et al. (2011) USA Pilot Study (no control group) Home Dyads: *n* = 25 Maternal age: µ 33 years Income: 18% income less than $50,000, and 50% between $50,000 - $100,000 Education: 50% had post-secondary Ethnicity: 75% Caucasian Marital Status: vast majority married Other: Mostly Primips Inclusion criteria: Referred to Early Connections Program by community providers due to depression, isolation, and "extreme" difficulties in parenting	**Early Connections Program** *"aimed at decreasing PPD and mitigating its impact on the mother-infant relationship...goals include…increasing atonement to infant's needs, modifying negative perceptions of... infant, increasing pleasurable interactions … and developing confidence in...parenting."* Number of sessions: µ16 Length of sessions: 5 mins. structured play -task orientated 5 mins. unstructured play Age of Child: µ 17 weeks old (1/2 less than 3 months) Delivered by: Trained research assistant * unclear if the mothers viewed the videos	PDSS BSI PSI-SF MSI-SF CIB Manual-Modified version Maternal Acceptability: Not assessed	Significantly improved mental health as per PDSS score and BSI post-treatment Significant decreased stress as per PSI and increased maternal self-esteem Significantly improved maternal sensitivity and responsiveness in unstructured interactions Maternal perceptions of infant significantly improved. Infant was perceived to be less difficult and perceived less dysfunction in their relationship. Maternal perceptions of her capabilities significantly increased Infants demonstrated significantly more positive affect in both unstructured and unstructured interactions No significant changes related to maternal intrusiveness or dyadic reciprocity	No significant group differences between age, education, number of chid, and PPD Reliability score for coders: Coders discussed with expert in infant development to reach agreement - Cronbach reliability = 0.67-0.99 PDSS: "good internal reliability, content, and construct validity." BSI: "good reliability and validity" PSI-SF: "no study has directly assessed the validity of the short from, the full-length PSI has been used in many studies and has good internal and external validity." MSI-SF: "good concurrent, internal and external validity and test-retest reliability." CIB "as been validated with healthy and at risk populations"

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Stein et al. (2018) UK Two-Arm Parallel-Design Individually RCT Randomization (used a random-deterministic minimization algorithm) Home Dyads *n* = 144 Intervention: *n* = 72 Control: *n* = 72 Maternal age: μ 30 years Income: 73.6% non-manual Education: 37% university degree in control, 32% university degree in intervention Ethnicity: 60% white Primips: 34% in control and 31 % in intervention Inclusion criteria: 1). MDD (Persistent - of at least 3 months or longer) and SCID 2). >18 years of age 3). Infants > 35 weeks 4). Birthweight of 2000 g or greater	**VFT** "*aimed to improve the quality of the mother-child interaction by enhancing three core parenting skills maternal attention to infant cues… emotional scaffolding… and sensitivity*" Both groups received (CBT), plus either (VFT) OR (PMR) Number of sessions: 11 sessions in home 6 weekly sessions, followed by 5 every 2 weeks 2 booster sessions at 2 years of age Length of sessions: Session #1: CBT (90 mins.) Session #2: VFT or PMR (45 mins.) Following Sessions: Equally divided between CBT and either VFT or PMR Age of Children: 4 to 9 months of age Delivered by: Clinical psychologists, with special training in CBT	EPDS SCID-CSR BSID-III CBCL AQS ECBQ IBQ Emotion Discrimination Maternal Acceptability: Questionnaire	Depression improved in all groups No significant difference between treatment groups on parenting behaviour Children in both groups achieved normal development outcomes. However, no significant group differences related to child outcomes at age 2. Maternal Acceptability: "high acceptability of treatment and low loss to follow up"	Blinded: assessors were blinded to treatment Attrition Rate: low Groups balanced for child sex, temperament, age, SES status, and depression" "Good levels of fidelity to each treatment were found" EPDS: Nothing reported BSID-III "widely used, validated, and has good reliability and stability" CBCL "widely used and has good discriminant validity and reliability" AQS "reliable, with good discriminant, convergent, and predictive validity" Inter-observer reliability on AQS was completed and intra-class correlation coefficients ranged between 0.70 - 0.89

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
Tryphonopoulos and Letourneau (2020) Canada Pilot RCT Home Dyads: *n* = 12 Control: *n* = 6 Intervention: *n* = 6 Maternal age: μ 29.3 years Income: 10 mothers had income >$60,000 Education: 7 had university degree Language: English speaking Married: 11 partnered Inclusion criteria: PPD diagnosis and in active treatment, EPDS cut off of 12 or greater and actively being treated by psychiatrists for depression	**VID-KIDS** *"7 step protocol targeting maternal sensitivity and responsiveness in order to promote the serve and return relationship."* Number of sessions: 4 sessions Length of sessions 60 - 90 mins. Length of video recording = Max. 5 mins. Control and Intervention: Each home visit mother is videotaped teaching her baby to do a task (as per list of PCITS activities) Intervention Group: Mothers received education related to the serve and return relationship and review of infant cues. Mother co-views the video with RN and feedback is offered-identifying strengths and 2 areas to explore Age of Child: μ 6.33 months Delivered by: RN	EPDS PCITS CARE-Index SOS SCS Maternal Acceptability: Not assessed	Significant group differences between the groups intervention PCITS, Caregiver-Child total scores (p = 0.0065, d = 1.43) Significant improvement in PCITS Sensitivity to Cues (p = 0.031), Cognitive Growth Fostering (p = 0.013), and Caregiver Total Contingency (p = 0.011) Improvements in EPDS but no significance reached Significant improvements in decreasing cortisol for infants in intervention	Blinded: coders blinded and "achieved interrater reliability of greater than or equal to 90%" Attrition: low No statistical demographic variables between the intervention and control group EPDS "reported to be Cronbach α = 0.87 and the spilt-half reliability of scale was 0.88" PCITS Cronbach α = 0.87 with individual subscales ranging from α = 0.77 to 0.84 "interrater reliability of greater than or equal to 90%" CARE Index "high degree of stability and interrater reliability"

Appendix A

Table 1. Studies Related to Video-Feedback Interventions for Mothers who have PPD

Study	Intervention	Measures	Outcomes	Other characteristics
van Doesum et al. (2008) Netherlands RCT (Randomly assigned: computer-generated randomization sequence) Home-intervention Phone support only – control Dyads: *n* = 71 Intervention: *n* = 35 Control: *n* = 36 Maternal age: μ 30 years Income: >75% middle to high range Education: >70% middle to high range Language: fluent in Dutch Other: 11 Immigrants Inclusion Criteria: Major Depressive Episode or Dysthymia or BDI *and* receiving treatment for mental health	**Authors developed intervention program** *"primary objective…the enhancement of the mother's sensitivity to the signals and needs of the child."* Number of sessions: 8 - 10 visits - weekly initially then every 2 weeks Length of sessions: 60 - 90 mins. Videotaped doing day to day activities with child. (15 - 20mins.) Plus, one or more of the following: Modeling, cognitive restructuring, practical pedagogical support, and baby massage Age of Infant: μ 5.5 months Delivered by: Multidisciplinary infant mental health team (qualified prevention specialists trained individuals master's degree in psychology or social psychiatry)	BDI EAS AQS Version 3 ITSEA MINI Structured Diagnostic Interview Survey and Recent Life Experiences Maternal Acceptability: Not assessed	Significance for M-I for the dimensions maternal sensitivity (p = <.01), maternal structuring (p <0.01), child responsiveness ($p \leq$ 0.05), and child involvement (p <0.01) Significance for infant social competency in intervention ($p \leq$ 0.01) Significance for higher attachment security scores in the intervention group ($p \leq 0.05$) Depression improved in both groups but no significant difference	Blinded: Video raters blinded to group assignment Attrition: 16% Inter Rater Reliabilities: 0.90 BDI Cronbach α = 0.89 EAS "Inter Rater Reliabilities: 0.90" AQS Version 3 Valid measures AQS "reliability check showed intraclass reliability exceeded 0.90" ITSEA Cronbach α for 4 domains: 0.68 – internalizing symptoms 0.88 – externalizing symptoms 0.80 – dysregulation 0.84 - competence

Appendix B

Search Terms for Literature Review

Post Partum Depression

- post natal depression
- post partum depression
- post-natal depression
- post-partum depression
- postnatal depression
- postpartum depression
- maternal depression
- postpartum Period
- parental caregiving sensitivity

Video Feedback

- videorecording feedback
- videotape recording
- feedback. psychological
- video Recording
- audiovisual Aids
- audio visual aids
- audio-visual aid
- audio-visual aids
- audiovisual aid
- audiovisual aids
- visual aid
- visual aids
- video tape recording
- video tape recordings
- videotape
- videotape recording
- videotape recordings
- videotapes
- video-feedback therapy
- video interaction guidance

Maternal Infant Mental Health

- parenting interventions
- maternal infant relationships
- maternal mental health
- parenting
- feedback psychological
- attachment
- interaction quality
- mother-child interaction
- mother-infant
- mother-child relations
- mother child interaction
- mother child relations
- mother child relationship