Infanticide and its relationship with postpartum psychosis: A critical interpretive synthesis

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Dissertation submitted in fulfilment of the requirements for the degree Master of Arts in Clinical Psychology at the North-West University

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Co-supervisor: Mrs L Malan

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INFANTICIDE AND ITS RELATIONSHIP WITH POSTPARTUM PSYCHOSIS

Preface

Article Format

This mini-dissertation forms part of the requirements for the Magister of Artium degree in Clinical Psychology. It has been prepared according to the article format regulations of the North-West University.

Journal

This manuscript is compiled in accordance with the requirements as set by the Aggression and Violent Behavior journal. Please take note that Section 2, the article, is presented as per the guidelines for authors in the aforementioned journal. The in-text citations as well as references in Section 1 and 3 are prepared according to APA (American Psychological Association) publication guidelines.

Page Numbers

Please take note that, for examination purposes, the pages are numbered from the table of contents page onwards.
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Structure of Mini-Dissertation

The mini-dissertation will be submitted in article format, consistent with the General Regulation A.13.7 of the North-West University, and is structured as follows:

Section 1: Introduction, literature review, rationale, the aim of the study, methodology and ethical considerations.

Section 2: Research article: Infanticide and its relationship with postpartum psychosis: A critical interpretive synthesis. This article will be submitted for publication in the Aggressive and Violent Behavior journal. This section and the reference list at the end of the section were compiled in accordance with the guidelines of the last-mentioned journal.

Section 3: Critical reflection about the study.
Guidelines for Authors

Aggressive and Violent Behavior journal

*Aggressive and Violent Behavior* is a multidisciplinary review journal. It publishes integrative and substantive reviews as well as summary reports of ongoing innovative clinical research. The journal includes a wide range of topics such as homicide, assault, sexual deviance, child and youth violence, family violence, genetic predispositions, and physiological basis for aggression.

The journal places emphasis on being multidisciplinary and cross-theoretical. It publishes articles from disciplines such as psychology, psychiatry, anthropology, criminology, criminal justice, law, sociology, ethology, and physiology.

Guidelines for Authors

The journal allows the author to write their paper in any form which they prefer. The paper is then submitted to the journal and, after a revision process, once accepted, the author is required to put the paper in the correct format.

Submission Declaration and Verification

The paper should comply with the journal’s ethical guidelines which can be found at www.elsevier.com/locate/aggviobeh. Submission of an article implies that the work has not been published on another platform. The work is also not being considered for publication on another platform. Once the work is accepted, it may not be published in the same form, in English or any other language including electronic publishing without the copyright holder’s consent.

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The journal has no strict formatting requirements; however, all articles must include the essential elements such as abstract, keywords, introduction, materials and methods,
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conclusion, artwork, and tables with captions. The article should be divided into clear sections. Text should be double spaced for peer reviewing purposes.

Article Structure

- Subdivision – numbered sections
- Introduction
- Material and methods
- Theory/calculation
- Results
- Discussion
- Conclusions
- Appendices
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Permission to Submit Article for Examination Purposes

Permission is hereby granted for the submission by the first author, Nicole Jansen van Rensburg, of the following article for examination purposes in partial fulfilment of the requirements for the degree Master of Arts in Clinical Psychology:


The role of the co-authors was as follows: Dr. R. Spies acted as supervisor and Ms. L. Malan as co-supervisor of this research inquiry and assisted in the peer review of this article.

__________________________
Dr. Ruan Spies: Supervisor
To whom it may concern

This is to testify that the Master's dissertation titled

‘Infanticide and its relationship with postpartum psychosis: A critical interpretive synthesis’

by

Ms Nicole Jansen van Rensburg

has been language edited to the best of the language practitioner’s knowledge and ability.

The language practitioner in question is registered at the South African Translators’ Institute (SATI) with membership number 1003382 and thereby fully qualified and authorised to provide said services.

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Kind regards

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Summary

Homicide is the cause of death in one in five deaths related to injury globally in children aged younger than five years (Child Trends, 2015). Infanticide is defined as the homicide of an infant within its first year of life (Ellonen, Kaarianeh, Lethi, & Aaltonen, 2015). The most likely perpetrators of infanticide are the biological mothers of the infants (Stockl et al., 2017). Infanticide in developed countries occurs at an estimated rate of 2.1 to 6.9 per 100 000 live births (Abrahams et al., 2016). South Africa’s infanticide rate is estimated at 28.9 per 100 000 live births, more than double that of the global estimates (Abrahams et al., 2016).

Postpartum psychosis is currently considered a ‘rare’ phenomenon in the literature, occurring in approximately one to two per 1000 births (Doucet, Letoutneau, & Robertson-Blackmore, 2011). Postpartum psychosis is considered as a psychiatric emergency (Barnes & Brown, 2016). The most noticeable symptoms of postpartum psychosis include delusions, hallucinations, and disorganised behaviour (Stewart et al., 2003).

Infanticide is one of the well-known risk factors for women suffering from postpartum psychosis (Spinelli, 2009). The current literature on the phenomenon of infanticide within the context of postpartum psychosis is predominantly either medically informed or informed by legislation.

The study aimed to synthesise the available literature on the phenomenon of infanticide within the context of postpartum psychosis. The method used to achieve this was Critical interpretive synthesis (CIS), as coined by Dixon-Woods et al. (2006). The study further aimed to shift its focus to the environmental aspects involved in the outcome of infanticide within the context of postpartum psychosis, as well as the chosen method of inflicting death. A synthesis of the literature from a different perspective added to the existing body of knowledge in a new and meaningful manner. This could possibly lead to greater
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awareness on the phenomenon and inform further research. An electronic search of the literature using the EBSCO Discovery Service was used. Ultimately, 51 sources were considered of which 15 were included in the final sample. Sources were included based on their quality and ability to answer the research questions. Non-peer reviewed studies and studies without the potential to adequately address the research questions were excluded. All sources under consideration were independently reviewed by the primary and co-reviewer in terms of their title and abstract. The studies were then examined in full text to finalise inclusion or exclusion independently by the reviewers. The reviewers ultimately agreed to include the final 15 sources. The reviewers critically appraised the sources using the two-pronged approach as suggested by Dixon-Woods et al. (2006). The reviewers then proceeded to the data analysis phase and ultimately constructed a list of initial themes which emerged from the literature. The initial themes became synthetic constructs which assisted with the exploration and discussion of the phenomenon of infanticide within the context of postpartum psychosis. In addition, due to the natural critique arising from CIS (Dixon-Woods et al., 2006), a critical reflection of the current body of literature formed part of the study.

The first synthetic construct involved the prior psychiatric history of the perpetrator as well as prior psychiatric care. The second construct involved the demographics of the perpetrator including age, marital status, and employment. The third synthetic construct involved the perceptions on motherhood e.g., wanting to become a mother and planning pregnancy, as well as those perceptions resulting from the individuals in their environment such as the women being superior caretakers. An additional construct involved the victims: the synthesis found that victims were often aged between three and 11 months, which had implications for diagnostic considerations, i.e., that there are often multiple victims including older biological children and that victims are commonly killed using hands. The following
The study also reflected on the current state of literature. The study indicated that most research on the topic is outdated, with a mean publication date of 2000. In addition, the current available literature is heavily informed by the medical or legislative disciplines. Furthermore, the manner in which both the concepts of infanticide and postpartum psychosis is described and understood is reflective of society’s view on motherhood and how mothers ‘should’ be. Lastly, the study discusses the implications of describing the phenomenon of psychotic infanticide as rare.
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SECTION 1
INTRODUCTION AND CONTEXTUALISATION OF THE STUDY

Introduction

The study reviews and synthesises the existing literature on infanticide and its relationship with postpartum psychosis. Furthermore, it includes an exploration of the impact that environmental aspects may have on the outcome of infanticide and the chosen method of inflicting death. To offer the necessary context, the concepts of infanticide, postpartum psychosis, environmental aspects, and chosen method of inflicting death will be explored. This will provide the foundation of the study and the exploration of the possible links between the concepts.

Statistics on Child Homicide

Child homicide is a global problem and the under-five age group is the second largest cohort affected by homicide in South Africa, with mothers being the most common perpetrators. Infanticide in South Africa occurs at an estimated rate of 28.4 per 100 000 live births, yet little is known in terms of epidemiology (Abrahams et al., 2016). According to Abrahams et al. (2016), homicides of specifically the under-five age group have received little research attention.

The global estimate for child homicide is approximately 95 000 per year, with 20% of the victims falling in the under-five age category (Stockl, Dekel, Morris-Gehring, Watts & Abrahams, 2017). The estimated global rate of infanticide ranges from 2.1 to 6.9 infanticides per 100 000 live births (Abrahams et al., 2016). The most likely perpetrators of child homicides in children under one year were identified to be the parents; more specifically, the biological mother (Stockl et al., 2017).
Defining Infanticide

The likelihood of a child becoming the victim of homicide increases significantly during infancy and then again during the adolescent years (Ellonen, Kaarianeh, Lethi, & Aaltonen, 2015). It is, however, important to define and categorize the different forms of child homicide, as age group and motive play a role in literature.

Filicide is defined as the homicide of a child committed by a parent at any age (Pitt, Erin, & Bale, 1995). Infanticide is defined as the homicide of an infant within its first year of life (Ellonen et al., 2015). Neonaticide is the homicide of an infant within the first 24 hours of life (Ellonen et al., 2015). Thus, each category of child homicide is specifically linked to the age of the child; where filicide may include a child of any age, infanticide only includes children who are killed within the first year of life and neonaticide children who are killed in the first 24 hours of life.

Neonaticide was coined by Resnick (1970). In his pioneering work, he separated neonaticide from infanticide because it differed significantly in terms of motive and the accompanying psychosocial aspects (Ellonen et al., 2015). Motives for neonaticide specifically, included the inability to care for the infant or infants born out of wedlock (Ellonen et al., 2015, Resnick, 1970). Furthermore, women who committed neonaticide often attempted to conceal their pregnancy (Ellonen et al., 2015, Resnick, 1970). Neonaticide was found to be committed largely by adolescent mothers, whereas infanticide was committed predominantly by older mothers (Ellonen et al., 2015). Thus, there is a distinction between the general factors surrounding neonaticide when compared to the factors involved in infanticide; these include mostly motive, age, and other psychosocial aspects.

Resnick (1970) further found that the mothers who committed neonaticide differed from mothers who committed filicide (including infanticide). In his review at the time, he found that only 17% of the mothers who committed neonaticide were psychotic, whereas
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two thirds of his sample who committed filicide were psychotic (Resnick, 1970).
Furthermore, suicide attempts accompanied one third of the filicide cases, where there were no attempts in the neonaticide cases (Resnick, 1970). The factors for psychotic mothers who have committed infanticide involved the influence of hallucinations, epilepsy, or delirium (Resnick, 1970). Moreover, Resnick (1970) reported that 40 % of filicidal mothers sought medical attention shortly before committing their crimes.

Pitt et al. (1995) and Friedman and Resnick (2007) echo Resnick’s initial findings, stating that mothers who committed infanticide were more likely to be depressed, psychotic, and have poor mental healthcare, and were more at risk for suicide. It is, however, important to discuss that maternal filicide (homicide of children older than one year) may co-occur with postpartum psychosis. This is reflected in the well-known case of Andrea Yates who killed her five children including her infant daughter after suffering from multiple episodes of postpartum psychosis after subsequent pregnancies (Resnick, 2007).

In essence, child homicide is studied and understood in its different categories. Infanticide specifically involves the death of a child older than 24 hours but younger than 12 months. Research, as illustrated, has indicated that mothers who commit infanticide are more likely to be psychotic at the time of killing their infants. For this reason, the study focused on psychosis in the postpartum period as one of its parameters.

Defining Postpartum Psychosis

Postpartum psychosis is defined as the most serious form of mental disorder related to childbirth (Engqvist, Ahlin, Ferszt, & Nilsson, 2011a). Barnes and Brown (2016), argue that the perception of a postpartum psychosis sufferer involves the distortion of objective reality beyond that which could be understood logically. Kelly (2001), further states that the key characteristic of postpartum psychosis is losing contact with reality for an extended amount of time.
There has been considerable debate amongst experts concerning the diagnosis of postpartum psychosis. Postpartum psychosis forms part of post-natal affective illness (Stewart, Robertson, Dennis, Grace, & Wallington, 2003). The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013) does not define postpartum psychosis as a separate or distinct psychological disorder (Monzon, Lanza di Scelea, & Pearlstein, 2014). Postpartum psychosis is diagnosed as part of major depressive disorder or bipolar and related disorders, with the specifiers ‘with peri-partum onset’ and ‘with psychotic features’ (Monzon et al., 2014). The specifiers can also be applied to disorders such as schizoaffective disorder or psychotic disorder not otherwise specified (Engqvist et al., 2011a). Alternatively, postpartum psychosis may be diagnosed as brief psychotic disorder with the specifier ‘with postpartum onset’ (American Psychiatric Association, 2013). As illustrated, the diagnosis of postpartum psychosis can be complex.

Postpartum psychosis is not recognised as a separate or distinct disorder with a unique aetiology by the DSM–5. Barnes and Brown (2016) argue that postpartum psychosis has a unique presentation which distinguishes it from other psychiatric disorders not related to childbirth. One of the prominent factors which forms part of the diagnostic debate has been the timeframe in terms of onset. The current DSM–5 suggests that postpartum psychosis should have its onset within four weeks post-delivery (Monzon et al., 2014). However, many experts have argued that this should be extended to at least six months post-delivery (Monzon et al., 2014).

**Prevalence and Clinical Presentation of Postpartum Psychosis**

The prevalence of postpartum psychosis is estimated to be 0.1 % to 0.2 % within the general global population (Monzon et al., 2014). Doucet, Letoutneau, and Robertson-Blackmore (2011) suggest that postpartum psychosis occurs within one to two per 1000 births. Thus, within the general population, postpartum psychosis is considered ‘rare’
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(Engqvist, Ahlin, Ferszt, & Nilsson, 2011b). The prevalence or risk for developing postpartum psychosis significantly changes when an individual has a history of psychiatric disorders, specifically mood disorders (Doucet et al., 2014).

In terms of clinical presentation, although the timeframe of onset is debated, it is clear that onset may occur rapidly (Stewart et al., 2003). Stewart et al. (2003) suggest that most symptoms present within two weeks post-delivery, with some symptoms starting to occur as soon as 48 hours post-delivery. Heron, McGuinness, Robertson-Blackmore, Cradock, and Jones (2007), in their study of women who have experienced at least one episode of postpartum psychosis, found that 8% of their sample experienced mild symptoms such as exaggerated excitement and tension anxiety already in the last trimester of pregnancy. A further 40% reported experiencing symptoms on the day of delivery (Heron et al., 2007).

Engqvist et al. (2011a) suggest that some of the earliest overt symptoms include delusions of guilt, delusions concerning the infant, grandiosity, feelings of worthlessness, and psychomotor agitation or retardation. In terms of mood, fluctuations between depressed and elated mood occur rapidly (Stewart et al., 2003). Furthermore, delusions, hallucinations, and grossly disorganised behaviour are prominent (Stewart et al., 2003). Often, disorganised cognitions and confusion lead to more severe outcomes for the mother and the infant (Sit, Rothschild, & Wisner, 2006). Barnes and Brown (2016) describe that periods of ‘waxing and waning’ may be present, where symptoms fluctuate between severe and mild. This may have serious implications for the correct identification of postpartum psychosis and the subsequent management of risk.

Hallucinations and delusions, as previously mentioned, are prominent in postpartum psychosis, as is the case with other psychotic spectrum disorders (Sit et al., 2006). However, the content of hallucinations and delusions is often strongly centred around the theme of birth or the infant itself (Sit et al., 2006). This is one of the argued distinctions which sets
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postpartum psychosis apart from other psychotic disorders and is a common finding across individuals who have suffered from postpartum psychosis (Sit et al., 2006).

Aetiology

The exact cause of postpartum psychosis is unknown. However, multiple theories exist on what could possibly act as a trigger for onset. Spinelli (2009) suggests that postpartum psychosis may occur as a result of abrupt hormonal loss after delivery. The loss of hormones is also directly linked to bipolar and related disorders (Spinelli, 2009). Many experts argue that postpartum psychosis could possibly be directly related to bipolar disorder (Doucet et al., 2014; Sit et al., 2006). Women with bipolar and related disorders are more sensitive to the loss of oestrogen and progesterone, which would support the notion that hormonal loss may act as a trigger (Spinelli, 2009). Schizoaffective disorder and schizophrenia have also been implicated in an increased risk for developing postpartum psychosis (Sit et al., 2006).

Other research suggests that the aetiology of postpartum psychosis may be related to genetics, with the genes responsible for the regulation of serotonin and dopamine as well as oestrogen and progesterone receptors being specifically implicated (Monzon et al., 2014). Studies on genetics further support the suggested link between postpartum psychosis and bipolar and related disorders (Monzon et al., 2014). However, currently, the exact psychiatric nosology for postpartum psychosis remains unknown (Monzon et al., 2014).

Relating Infanticide to Postpartum Psychosis: Risk

Barnes and Brown (2016) state that women in their reproductive years are more at risk for developing psychiatric disorders than during any other time in their lifespan. Previously diagnosed psychiatric disorders and a family history of postpartum psychosis appear to be the most significant risk factors for its development. The statistics for women with a previous diagnosis of specifically bipolar disorder increase the rate of occurrence to
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570 out of 1000 births compared to the rate of one in 1000 births in the general population (Stewart et al., 2003). However, Friedman and Sorrentino (2012) state that women who develop postpartum psychosis may have no prior psychiatric history, which complicates risk screening. Once an individual has experienced an episode of postpartum psychosis, she is 50% more likely to experience further episodes with subsequent pregnancies (Stewart et al., 2003). Other biological risk factors include primigravida (first pregnancy) and having a female infant (Sadock, & Sadock, 2005).

The literature suggests that there is a relationship between infanticide and postpartum psychosis. The nature of this relationship has, however, not yet been explored fully. Postpartum psychosis places both mother and infant at increased risk for death. Spinelli (2009) suggests that approximately 4% of women with postpartum psychosis will commit infanticide, whereas Thurgood, Avery, and Williamson (2009) suggest 5% of postpartum psychosis sufferers will commit infanticide. In 2010, the rates in the United States of America for infanticide occurred at approximately eight in 100,000 births in the general population, and three in 100,000 births in Canada (Porter, & Gavin, 2010). The statistics, however, may be underreported due to debates on diagnostic criteria, which impacts identification of the phenomenon, as well as the inaccurate attribution of infant mortality to other causes such as Sudden Infant Death Syndrome (SIDS; Kelly, 2002). Sit et al. (2006) found that 9% of postpartum psychosis sufferers in their sample expressed homicidal ideation towards their infants within the context of their psychosis. Furthermore, factors such as disorganised behaviour also placed the infant at increased risk for neglect (Sit et al., 2006). Heron et al. (2007) echo this notion, stating that 35% of the infants in their sample were at increased risk due to behavioural disturbances and active delusions and hallucinations.

It is further important to discuss the link between postpartum psychosis sufferers who commit infanticide and suicide. Both infanticide and suicide are major risk factors for
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Postpartum psychosis sufferers and are often inter-linked (Spinelli, 2009). In addition, suicide is the leading cause of death for mothers within the general population one year post-delivery (Sit et al., 2006). Engqvist et al. (2011b) estimate that the suicide risk for postpartum psychosis sufferers specifically is approximately 5%, whereas Sit et al. (2006) suggest that two out of 1000 women with postpartum psychosis will complete suicide. In addition, suicide is often committed in more aggressive manners such as incineration and jumping from heights, whereas suicide amongst women in other circumstances is usually less aggressive (Sit et al., 2006). Linking this to infanticide, it is estimated that approximately 62% of mothers who commit infanticide will subsequently commit suicide (Sit et al., 2006).

Although experiencing an episode of postpartum psychosis increases the risk for both infanticide and suicide, the nature of this relationship and the distinguishing factors between postpartum psychosis sufferers who commit infanticide in comparison to those who do not are unclear. The study will thus undertake an examination of the environmental aspects involved in postpartum psychosis cases where the outcome was infanticide as part of an exploration to see whether environmental aspects could possibly contribute to an outcome of infanticide.

The Contribution of Environmental Aspects on the Relationship between Infanticide and Postpartum Psychosis

For the purpose of the current study, environmental aspects were defined as any contributing aspect or factor resulting from the immediate or larger environment which may influence the occurrence of infanticide within cases of postpartum psychosis and is of a psychological significance. The concept of environmental aspects was purposefully left broad and not narrowly defined to allow the literature to define the concept, which is in line with the research methodology. Known contributors, however, such as ‘stressful environments’, for example, exacerbate the symptomology and presentation of postpartum psychosis.
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(Mighton et al., 2016; Sit et al., 2006). Some of the most well-known environmental aspects which exacerbate postpartum psychosis presentation include sleep loss, marital discord, unplanned pregnancy, and ‘life stress’ (Mighton et al., 2016; Posmontier, 2010). The available literature generally does not focus on the environment and its influence on presentation. The study aimed to provide a new direction in focusing on the environment and its possible influence. The study aimed to further explore and add other aspects to the known body of literature.

While there is consensus that environmental aspects may exacerbate postpartum psychosis’ presentation, little is known on exactly what these environmental aspects are and how a combination of unfavourable environmental aspects may influence an outcome of infanticide. As mentioned previously, one of the most well-known cases of postpartum psychosis resulting in infanticide and subsequent maternal filicide is the case of Andrea Yates. While she had many biological risk factors such as a history of mental illness and previous episodes of postpartum psychosis, she also had multiple environmental aspects which were of psychological significance, such as being isolated from her support structure and the death of her father shortly after the birth of her last child (Kelly, 2002). While many other cases of postpartum psychosis which resulted in infanticide are discussed or listed in literature, little is known about these women’s circumstances, other than a possible history of mental illness or the outcome of the court case.

**Motive and Method of Infanticide amongst Postpartum Psychosis Sufferers**

Resnick (1970) identified five major motives for maternal filicide. This ‘model’ is still relevant and is often cited in literature, including Friedman and Sorrentino (2012). Resnick (1970) compiled the five major motives based on communication with the perpetrators, and these motives were understood separately from clinical diagnosis. The first identified motive is that of the unwanted child; this category of motive was largely associated
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with specifically neonaticide (Resnick, 1970). The second motive involved altruistic themes and was committed to either ‘saving’ the victim from real or imagined suffering or in conjunction with suicide (Resnick, 1970). This motive was specifically associated with mothers who have committed maternal filicide in psychiatric populations (Friedman & Resnick, 2007). The third motive is the acutely psychotic motive in which the murder is committed due to hallucinations, epilepsy, or delirium (Resnick, 1970). The fourth motive is accidental murder in which there is no specific homicidal intent toward the child but it is associated with child abuse (Resnick, 1970). The fifth and final motive is spouse revenge, where the child is killed as a means to make the other spouse suffer (Resnick, 1970). Thus, as suggested by Resnick (1970), postpartum psychosis where the outcome was infanticide was specifically linked to the acutely psychotic motive or altruistic motives.

Method of Inflicting Death

As with environmental aspects, while examining the general body of literature, the chosen methods of inflicting death appear to be an under-researched area within the realm of infanticide and postpartum psychosis. Engqvist et al. (2011b) reported that the majority of women in their sample thought about killing their infant through defenestration. Pitt et al. (1995) suggest that the most common methods of killing included suffocation, head trauma, drowning, exposure, and stabbing. In their review of postpartum psychosis cases which resulted in infanticide, Nau, McNiel, and Binder (2012) discuss the cases of Otty Sanchez who dismembered her infant and ate part of his brain; Anne Green who suffocated two of her infants and attempted to suffocate a third; Ms. Adams who killed her infant by placing him in a clothes dryer; and Sheryl Massip who killed her infant son by placing his head underneath the wheel of her car. Similar to environmental aspects, the method of inflicting death is listed as part of court proceedings; however, no articles could be found which discussed the
circumstances and possible influences on why a certain method of inflicting death was chosen.

**Rationale**

As discussed previously, child homicide is a global problem (Stockl et al., 2017). Infanticide statistics are likely to be under-representative of the actual rate at which the phenomenon occurs due to death being recorded wrongfully as from natural causes and inadequate recording systems (Stock et al., 2017). Furthermore, in general literature, although infanticide is considered as relatively rare, developing countries such as South Africa have much higher rates of occurrence when compared on an international platform (Abrahams et al., 2016). In addition, postpartum psychosis is considered a medical emergency (Barnes & Brown, 2016). Furthering understanding of the phenomenon could ultimately aid in more effective screening and risk prevention.

The study aimed to add to an existing body of knowledge in a new and meaningful manner. In addition, the study attempted to address under-researched areas within the realm of postpartum psychosis where the outcome was infanticide. Specifically, environmental aspects and its possible contribution towards infanticide appear to represent a gap in the knowledge base. Thus, an investigation of environmental aspects which possibly influenced the outcome of infanticide may assist further research in terms of risk screening, prevention, and support. Furthermore, the examination of the chosen method of inflicting death will further add to our understanding of how infanticide occurs within the context of psychosis. This has also been an area in research where listing rather than discussion forms the majority of the body of literature.

In essence, the study contributed by asking and answering research questions from a different perspective, while placing the emphasis on the psychological significance of both environmental aspects and the ways in which the infants are killed. This represented a change
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in the postpartum psychosis literature, where the focus has been predominantly medical or formed part of legislative faculties. This may ultimately identify further research gaps and inform future studies on the topic, which may be adapted specifically to the South African context. A Critical interpretive synthesis (CIS) was purposefully chosen to address the research questions based on its flexible and fluid approach to finding literature. The pool of literature which addresses infanticide in the context of psychosis is limited and needs expansion and development. Furthermore, because the literature was based in diverse faculties such as medical sciences, law, psychology, and journalism, a flexible approach to reviewing was required to include the maximum amount of relevant literature. In addition, due to the relatively ‘rare’ occurrence of postpartum psychosis, a review of existing literature was chosen in order to include as much knowledge as possible on the phenomenon. The study may, in future, inform further empirical research.

Lastly, the study aimed to create greater awareness. Kelly (2002) discussed how lack of awareness amongst the public and clinical practitioners alike too often result in tragic consequences which may have been prevented if greater awareness on postpartum psychosis and its risk for infanticide had been created.

Aim of the Study

The aim of this study was to examine and explore the literature in terms of the environmental aspects involved in the phenomenon of postpartum psychosis where the outcome was infanticide. The study further aimed to explore what the methods of inflicting death were.

In light of the research aims discussed above, the main research question that this study sought to answer was: What are the environmental aspects discussed in literature which influence the relationship between infanticide and postpartum psychosis?
A secondary research question was: *What are the chosen methods of inflicting death in cases of postpartum psychosis where the outcome was infanticide?*

**Methodology**

This section aims to describe and discuss the chosen methodology, namely Critical interpretive synthesis (CIS).

**Review Approach**

The review approach which was used was Critical interpretive synthesis (CIS). CIS was chosen for its approach to the identification of literature as well as the data extraction process which is more flexible than other review approaches, and allows for inclusion of relevant sources which may not have been identified through the use of rigid search strategies. An example of this would be the use of reference chaining within CIS (Dixon-Woods et al., 2006). Furthermore, the purpose of CIS was to derive at an exploration and possible explanation of the phenomenon rather than including an exhaustive body of literature, as with other review methods (Dixon-Woods et al., 2006).

CIS as a method was coined by Dixon-Woods et al. (2006). CIS was initially designed as an adaptive form of meta-ethnography (Dixon-Woods et al., 2006). However, as the process evolved, it has become a review method on its own, separate from its meta-ethnographical roots (Dixon-Woods et al., 2006). CIS has its strengths in its inclusion of vast bodies of diverse literature (Edwards & Kaimal, 2016). Thus, studies of both qualitative, quantitative, and mixed method designs may be included within the CIS (Edwards & Kaimal, 2016). This was specifically useful in addressing the research questions, because the data found was multi-disciplinary in nature. Sources for inclusion were found in diverse faculties such as law, medical, psychology, journalism, and so forth. Due to the nature of the body of literature being diverse, this inevitably meant diverse methodologies, which was important for inclusion to gain an in-depth perspective of that which the literature addresses.
Importantly, the CIS method is based on critically interacting with the literature (McFerran, Garrido, & Saarikallio, 2016). The critical nature of the CIS is grounded in terms of how the phenomenon under consideration has been conceptualised and understood by the researchers; this forms the basis for their argumentation line (McFerran et al., 2016). In addition, a key characteristic of the CIS method is its inherent flexibility and fluidity, which allows all relevant sources to be included in the study (Edwards & Kaimal, 2016). Furthermore, this flexibility also means that the steps may be altered and adapted to fit the needs of the unique study (Edward & Kaimal, 2016). In essence, the CIS process is dynamic and interactive and not based on fixed steps which should be followed in a chronological or hierarchical manner, as with other review methods (Dixon-Woods et al., 2016). The strength of this flexible approach is allowing the themes to emerge from the literature instead of examining the literature with predisposed expectations (McFerran et al., 2016).

Phases

As discussed previously, the CIS does not adhere to rigid chronological steps. Thus, this section offers an overview of the phases involved in the study. The phases were altered as the research needs became clearer; this was specifically relevant in the searching phase when the reviewers’ search strategies did not yield as many relevant articles as was expected and they relied on reference chaining to finalise the sample of literature.

Phase 1: Search for keywords. The search for relevant literature was conducted by the primary and co-reviewer independently. The search was conducted using EBSCO Discovery Service. This is a search platform which includes all sources that the North-West University library subscribes to. This searching method was chosen to allow for maximum inclusion of relevant literature. Limiting the search strategies to a select few databases would have possibly excluded relevant literature. The following keywords were used to search for literature to include in the CIS: postpartum psychosis, infanticide, schizophrenia, major
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depressive disorder, bipolar disorder, schizoaffective disorder, brief psychotic disorder, schizophreniform disorder, neonaticide, and filicide.

Synonyms used in the search strategies included: *puerperal psychosis, baby death, baby murder, and infant mortality*.

The Boolean phrase AND was predominantly used; an example of a search strategy which was employed is: *postpartum AND psychosis AND infanticide*.

The following represents the inclusion criteria the reviewers considered for both title and abstract: full text journals, peer-reviewed studies, quantitative designs, qualitative designs, mixed methods design, reviews, Ph.D. theses, master’s dissertations, studies published in Afrikaans or English, any publication date (publication date was not used to limit search), postpartum psychosis discussed in study, infanticide as the outcome of postpartum psychosis, studies with the potential to answer the research questions, and studies where the working definition of infanticide was met (children who are between the ages of 24 hours to one year who were killed by the biological mother).

The exclusion criteria the reviewers considered for both title and abstract were: non-peer reviewed studies, conference proceedings, languages other than Afrikaans or English, psychosis not in post-partum period, infanticide not the outcome of postpartum psychosis, infanticide as concept not discussed, non-psychotic infanticide, victim not within parameters of the definition of infanticide used.

Studies were initially included based on an examination of both the title and abstract. The reviewers decided independently which articles to include and then had a meeting to finalise the literature after the first phase of searching. A total of ten articles were included after the initial searching phase. The articles were then examined in full text to determine if the article meets the inclusion criteria. Out of the ten articles, six were included after the
reviewers examined the literature in full text; the sample was finalised during a reviewers’ meeting.

The reviewers were of the opinion that more articles of relevance could be found. The inherent flexibility and fluidity of CIS as described by Dixon-Woods et al. (2006) were drawn upon to employ other search strategies. The included articles were used for reference chaining, where sources appeared to be of relevance as suggested by the CIS process (Dixon-Woods et al., 2006). Reference lists were scanned independently, and based upon the title, the reviewers decided whether or not to search for the source. A list of sources which were to be reference chained was agreed upon by the reviewers. The literature was then analysed based on title and abstract and the reviewers independently decided whether or not the article was of relevance. Where the reviewers disagreed, a source was examined in full text. Ultimately, the reviewers agreed to include 15 sources in the final sample. Fifteen sources were decided on because the reviewers achieved data saturation. The sample may be finalised when data saturation is achieved in CIS, as is the case with many other predominantly qualitative means of enquiry (Dixon-Woods et al., 2006). The purpose of CIS, as mentioned previously, was not to include an exhaustive body literature (Dixon-Woods et al., 2006), but to address and answer the research questions adequately.

Phase 2: Quality appraisal of selected sample. Debate exists whether quality appraisal should be included in inherently qualitative methods such as CIS (Dixon-Woods et al., 2006). However, for the purpose of rigor and clarity the quality of the selected sample was appraised by using the two-pronged approach as coined by Dixon-Woods et al. (2006). The reviewers appraised the quality of the final sample of literature independently.

The first step within the two-pronged approach is the determination of whether a study is fatally flawed (Dixon-Woods et al., 2006). This involved an examination of the criteria as stipulated in Table 1 below.
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Table 1

Criteria for studies

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<td>Is there enough data to support interpretations and conclusions?</td>
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Adapted from Dixon-Woods et al. (2006).

If a study did not comply reasonably with the criteria as represented in Table 1, the study would be deemed as fatally flawed and should be excluded from the sample of literature. The reviewers found no studies in the final sample which were considered as fatally flawed.

The second set of criteria in terms of quality appraisal is based on the relevance to the study and its ability to address the research questions sufficiently. The reviewers ensured that each included study discussed the phenomenon of infanticide within the context of postpartum psychosis in part of the study or in the study in its entirety. Furthermore, each included study addressed or discussed either the environmental aspects involved or the chosen method of inflicting death.

**Phase 3: Data extraction.** The included studies were analysed independently by the reviewers in full text. The data extraction phase was recorded on independent Excel spreadsheets and a cross-comparison occurred after the data extraction phase was completed. The following data were extracted from each included study:

- Title, author, year of publication.
- Database and search strategy used to identify study.
- Type of publication (journal, dissertation, etc.).
- Research design, sampling method, sample size, data analysis strategy.
- Findings on environmental aspects.
• Findings on method of inflicting death.
• Other relevant findings.
• Critique on how phenomenon was conceptualised.

**Phase 4: Data analysis.** After a cross-comparison of the data extraction spreadsheets was conducted, the reviewers used thematic analysis as suggested by Dixon-Woods et al. (2006) and were able to agree upon a list of major emerging themes. These themes were predominantly categorised in terms of environmental aspects, method of inflicting death, the way in which the phenomenon in the literature was conceptualised, as well as other major findings which were not planned as part of the research questions when the study was initiated. Emerging themes were constantly compared to the data before major themes were finalised (Dixon-Woods et al., 2006). The reviewers were able to agree upon a final list of themes without involving a third party. Once the final themes were agreed upon, the reviewers proceeded to the interpretive synthesis phase.

**Phase 5: Interpretive synthesis.** Identified themes within the data extraction phase ultimately became synthetic constructions (finalised major themes) and were used to build an exploratory model of the research questions (Bales & Sare, 2014). The synthetic constructs found within the literature were introduced and explained in detail (Dixon-Woods et al., 2006). Thus, the synthetic constructs within this study represented the contributing environmental aspects which influenced or were present in the occurrence of infanticide within cases of postpartum psychosis, as well as the chosen method of inflicting death and a critique of the existing body of literature.

The aim of the synthetic constructs and, ultimately, the holistic process of the CIS was to generate an exploration of this specific phenomenon. The study ultimately aimed to address the impact or presence of environmental aspects on postpartum psychosis sufferers where the outcome was infanticide, as well as the chosen method of inflicting death. The
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reviewer’s own epistemological orientations had an impact on the synthesis phase and the CIS as a process. CIS places its focus on the attempt to answer meaningful questions rather than an answerable question, as in other forms of review (Dixon-Woods et al., 2006). Thus, the inherent qualitative nature and characteristics of CIS should be kept in mind. This places an emphasis on the researcher’s role and influence and the acceptance that different researchers may have different conclusions (Dixon-Woods et al., 2006). In essence, the reflexivity and transparency of the reviewers played a critical role.

The key element within the interpretive synthesis phase was the natural critique of the literature (Dixon-Woods et al., 2006). The critique originated from the dynamic and reflexive process of interacting with the literature and drawing valuable information from it (Dixon-Woods et al., 2006). Furthermore, the critical stance is developed by adopting a reflexive approach, valuing various epistemological stances and attempting to avoid bias and assumptions (McFerran et al., 2016). The ultimate aim was to create a synthesis which addressed and answered the research questions and to gain exploratory knowledge of the phenomenon. Thus, the manner in which a phenomenon such as postpartum psychosis, environmental aspects, and method of inflicting death were conceptualised within the included studies had an impact on the ultimate exploration of the literature.

Ethical Considerations

The study went through the necessary processes as set out by the NWU to gain ethical approval before the research commenced. The study was exempted from review from the Health Research Ethics Committee (HREC), because the review neither involved participants nor would make any suggestions in terms of informing treatment. The highest level of ethical approval was obtained from the research focus area Community for Psychosocial Research (COMPRES).
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Informed consent was not relevant to the study as the main form of enquiry was a review of existing literature. Care was taken for the duration of the review process to ensure professionally sound work whilst avoiding misconduct. The process was continuously monitored by the study leader Dr R. Spies. The primary reviewer and co-reviewer attended the necessary ethical training as required and outlined by the NWU. The study leader and co-study leader completed similar training and are approved to carry out and supervise research. Both reviewers and the study leaders are registered with the Health Professions Council of South Africa (HPCSA) under the relevant categories. In addition, the co-study leader Ms L. Malan is registered as a research psychologist in addition to her registration as a clinical psychologist with the HPCSA.

The co-reviewer was involved reasonably in the process so as not to deter the study’s intended purpose of fulfilling the requirements of the Magister of Artium degree in Clinical Psychology. The first author and primary reviewer thus carried out most of the process including design, contextualisation, and consolidating the reviewers’ findings independently.

Reviews work primarily with the published work of other researchers (Wager & Wiffen, 2011). It is thus critical that all precautions are set in place to avoid plagiarism. This was achieved through offering the correct citations throughout the review in APA format as well as utilising ‘Turnitin’ as another source of plagiarism identification.

The multiple publication or duplication of primary data is largely viewed as unethical practice (Wager & Wiffen, 2011). It was thus a focus to exclude any work that had been duplicated or published as primary data on multiple platforms.

In terms of transparency, the reviewer, co-reviewer, and the study leaders adhered to an open and reflexive approach at all times. This included the process of being clear about any private or competing interests that arose throughout the review process (Wager & Wiffen, 2011).
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Accuracy relating to data extraction was ensured by recording and describing the data extraction process meticulously. This was achieved through the independent review of sources by the reviewers, who then consolidated the findings. Furthermore, the data were not modified or changed in any way; this process was constantly under the supervision of the study leaders.

Lastly, in terms of ethics surrounding the storage of data, the data were peer-reviewed published data. Thus, there were no concerns in terms of the protection of participants’ identity or confidentiality. If studies did not adhere to reasonable ethical standards, it would have been excluded from the sample. The product will be stored in hard copy by the primary reviewer as well as the primary study leader. Data extraction and synthesis processes will be stored electronically by the primary reviewer and co-reviewer under a password-protected folder.
References


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Criminology and Crime Prevention, 16(2), 175–193.
https://doi.org/10.1080/14043858.2015.1038905


Mighton, C. E., Inglis, A. J., Carrion, P. B., Hippman, C. L., Morris, E. M., Andrigi
... Austin, J. C. (2016). Perinatal psychosis in mothers with a history of major
depressive disorder. *Archives of Women’s Mental Health, 19*(2), 253–258.

https://doi.org/10.1007/s00737-015-0561-9


Porter, T., & Gavin, H. (2010). Infanticide and neonaticide: A review of 40 years of research

https://doi.org/10.1177/1524838010371950

*Journal of Midwifery and Women’s Health, 55*(5), 430–437.

https://doi.org/10.1016/j.jmwh.2010.02.011
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SECTION 2

ARTICLE

Infanticide and its relationship with postpartum psychosis:

A critical interpretive synthesis

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Abstract

The study aimed to synthesise the available literature on the phenomenon of infanticide within the context of postpartum psychosis. It further aimed to examine the literature from a different perspective using Critical interpretive synthesis (CIS). The study placed its focus on the environmental aspects involved in the phenomenon of postpartum psychosis where the outcome was infanticide, as well as the chosen method of inflicting death. The natural critique resulting from the CIS was critical to the study and the findings. The study ultimately found six synthetic constructs related to environmental aspects and method of inflicting death. These included prior psychiatric history and care, demographics of perpetrators, perceptions on motherhood, profile on victims such as age and the method of death, and, finally, the presence of ‘warning behaviour’. Reflections on the current state of the literature formed an important part of the study and enabled the author to make recommendations for future research.

Keywords: infanticide, postpartum psychosis, environmental aspects, method of death
1. Introduction

Homicide in general is the cause of death for approximately one in five injury-related deaths for children aged younger than one year (Child Trends, 2015). Infanticide, specifically, is defined as the homicide of an infant before the first year of life (Ellonen, Kaarianeh, Lethi, & Aaltonen, 2015). It is separated in definition from neonaticide (homicide of an infant within the first 24 hours) and filicide (homicide of children older than one year; Pitt, Erin, & Bale, 1995; Ellonen et al., 2015). The distinction between neonaticide and infanticide was first studied by Resnick (1970). In his sample, he found that 17% of mothers who committed neonaticide were psychotic, compared to two thirds of the sample who committed filicide. Pitt et al. (1995) echo this notion stating that women who commit infanticide are more likely to be psychotic, depressed, and at risk for suicide.

Postpartum psychosis is often described as the most serious and dangerous mental disorder related to childbirth (Engqvist, Ahlin, Ferszt, & Nilsson, 2011a; Kelly, 2001). Barnes and Brown (2016) explain that losing contact with objective reality beyond the realms of what could be logically comprehended is the essence of postpartum psychosis. The diagnosis of postpartum psychosis is debated by professionals in the field. The Diagnostic and Statistical Manual (5th ed.; DSM–5; American Psychiatric Association, 2013) does not recognise postpartum psychosis as a separate or distinct psychiatric disorder (Monzon, Lanza di Scelea, & Pearlstein, 2014). Postpartum psychosis is diagnosed as part of major depressive disorder, bipolar disorders, brief psychotic disorder, schizophrenia, and schizoaffective disorder, with the specifiers ‘with peri-partum onset’ and ‘with psychotic features’ most commonly used (American Psychiatric Association, 2013; Engqvist et al., 2011a; Monzon et al., 2014). The current DSM–5 suggests that onset should occur within four weeks post-delivery, whereas other experts argue that onset may only occur at a delayed rate extending to six months post-delivery (Monzon et al., 2014).
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Although the timeframe of onset is debated, experts agree that the clinical presentation may occur rapidly (Stewart et al., 2003). Heron, McGuinness, Robertson-Blackmore, Cradock, and Jones (2007) found that women already started experiencing prodromal symptoms such as tension, anxiety, and exaggerated excitement within the last trimester of pregnancy. Stewart et al. (2003) found that some women began experiencing symptoms within 48 hours post-delivery, with most symptoms being present within two weeks post-delivery. Some of the earliest overt symptoms include delusions concerning the infant, feelings of worthlessness, grandiosity, and psychomotor abnormalities (Engqvist et al., 2011a). Rapidly fluctuating mood, hallucinations, and disorganised behaviour are also commonly observed (Stewart et al., 2003). Periods of ‘waxing and waning’ of symptoms are often observed and pose complications for risk screening and early identification (Barnes & Brown, 2016).

The exact psychiatric nosology of postpartum psychosis is unknown (Monzon et al., 2014). Multiple theories attempt to address aetiology, including theories on hormone production (Monzon et al., 2014; Spinelli, 2009). None of these, however, are currently accepted as a known cause of the phenomenon. Bipolar disorder is one of the well-known risk factors for developing postpartum psychosis, and some experts argue that the presentation of postpartum psychosis is directly related to bipolar disorder (Doucet, Letourneau, & Robertson-Blackmore, 2011, 2014; Sit, Rothschild, & Wisner, 2006). The risk for a woman with a previously diagnosed bipolar disorder to develop postpartum psychosis increases to 570 in 1000 births (Stewart et al., 2003), compared to the one to two in 1000 births within the general population (Doucet et al., 2011). Once a woman has experienced one episode of postpartum psychosis, she is 50% more likely to experience further episodes with subsequent pregnancies (Stewart et al., 2003). Other risk factors discussed by Sadock and Sadock (2005) include primigravida (first pregnancy) and having a female infant.
Infanticide occurs in many different contexts and is not exclusively related to mental illness or psychosis (Bourget & Gagne, 2002). However, experiencing psychosis in the postpartum period is a well-known risk factor for infanticide and places both mother and infant at increased risk for death (Spinelli, 2009). Suicide is another risk factor for a woman who experiences postpartum psychosis (Sit et al., 2006). The statistics on how many women experience postpartum psychosis, and how some of these women will subsequently commit infanticide and possibly suicide vary across the literature. The current statistics globally are questioned due to under-reporting specifically of infanticide, as well as the diagnostic debate surrounding postpartum psychosis (Kelly, 2002).

In essence, although infanticide is a known risk factor for postpartum psychosis sufferers, little is currently known on the aspects contributing to infanticide within the context of postpartum psychosis other than clinical presentation. The study set out to explore the available literature on women with postpartum psychosis who subsequently committed infanticide, as well as how the environment could possibly contribute to an outcome of infanticide.

For the purpose of this study and in line with its methodology, the concept of environmental aspects was specifically left broad to allow the literature to define and refine the concept. Thus, at the outset of the study, the concept was loosely defined as any aspects or factors resulting from the immediate or larger environment which are of psychological significance and which could possibly contribute to an outcome of infanticide within the context of postpartum psychosis.

‘Stressful’ environments are known to exacerbate the symptomology of postpartum psychosis (Mighton et al., 2016; Sit et al, 2006). Some of the most well-known environmental aspects mentioned in the general body of literature include marital discord, sleep loss, unplanned pregnancy, and ‘life stress’ (Mighton et al., 2016; Posmontier, 2010). While there
is consensus that environmental aspects exacerbate symptomology and may contribute to an outcome of infanticide, little is known on what exactly these environmental aspects are. Furthermore, listing rather than discussion appears to dominate most of the current literature.

Resnick (1970) identified the five major motives for maternal filicide. His work is currently still used in most of the literature to understand why women kill their children. The first identified motive is the unwanted child; the second involves altruistic themes; the third is the acutely psychotic motive; the fourth, accidental murder; and the fifth motive is to achieve spousal revenge (Resnick, 1970). Infanticide committed within the context of postpartum psychosis is often related to the altruistic or acutely psychotic motive (Resnick, 1970). The altruistic motive often involves the idea that the infant is being ‘saved’ from real or imagined suffering and possibly occurs in conjunction with suicide (Resnick, 1970). The acutely psychotic motive involves the influence of hallucinations, epilepsy, or delirium (Resnick, 1970).

In terms of the method of inflicting death, the most common methods used by women who suffer from postpartum psychosis are defenestration, head trauma, stabbing, or exposure (Engqvist, Ahlin, Ferszt, & Nilsson, 2011b; Pitt et al., 1995). However, other methods such as dismemberment, placing the infant in a clothes dryer, and running the infant over with a car are also discussed in literature (Nau, McNiel, & Binder, 2012).

2. Aims of the Study

The study aimed to explore and examine the existing literature in terms of the environmental aspects involved in the phenomenon of infanticide in the context of postpartum psychosis, as well as the chosen method of inflicting death.

Based on the aims stated above, the primary research question was: What are the environmental aspects discussed in literature which influence the relationship between infanticide and postpartum psychosis?
A secondary research question was: What are the chosen methods of inflicting death in cases of postpartum psychosis where the outcome was infanticide?

3. Design

The review approach used was critical interpretive synthesis (CIS) as coined by Dixon-Woods et al. (2006). CIS was specifically chosen for its inherent flexibility and fluidity, and its ability to include literature from different disciplines and research designs (Dixon-Woods et al., 2006). The purpose of CIS is to synthesise existing literature into a coherent frame and to arrive at an exploration of the available literature rather than include an exhaustive body of literature, as with other reviewing methods (Dixon-Woods et al., 2006; McFerran, Garrido, & Saarikallio, 2016). Important to the CIS is its critical nature examining how authors have conceptualised and constructed the phenomenon being studied, allowing the reviewers an appreciation across disciplines and paradigms (McFerran et al., 2016). By adopting this stance, the reviewers attempt to avoid bias and allow the literature to inform the study and its concepts (McFerran et al., 2016).

4. Method

CIS allows the reviewers to adapt phases as the research needs become clearer; the phases of reviewing do not occur in a fixed hierarchical or chronological manner. An outline of how the research took place thus follows.

4.1 Phase 1: Searching for Keywords

The primary reviewer (first author) and independent co-reviewer conducted the first phase of searching. The searching process was conducted using the EBSCO Discovery Service. This service includes all the publication platforms the North-West University has access to. This method of searching was chosen to allow for maximum inclusion of relevant literature. The following keywords were used to conduct the search: postpartum psychosis,
infanticide, schizophrenia, major depressive disorder, bipolar disorder, schizoaffective disorder, brief psychotic disorder, schizophreniform disorder, neonaticide, and filicide.

Synonyms used in the search included: puerperal psychosis, baby death, baby murder, and infant mortality.

BOOLEAN phrases such as AND were predominantly used; an example of a search strategy used is: postpartum AND psychosis AND infanticide.

The articles which were identified during the searching phase were screened for inclusion, initially based both on title and abstract. The following was used as a guide to inclusion criteria: full text journals, peer-reviewed studies, quantitative designs, qualitative designs, mixed methods design, reviews, Ph.D. theses, master’s dissertations, studies published in Afrikaans or English, any publication date (publication date was not used to limit search), postpartum psychosis discussed in study, infanticide as the outcome of postpartum psychosis, studies with the potential to answer the research questions, and studies where the working definition of infanticide was met (children who are between the ages of 24 hours to one year who were killed by the biological mother).

A guide to exclusion criteria which the reviewers adhered to involved: non-peer reviewed studies, conference proceedings, languages other than Afrikaans or English, psychosis not in post-partum period, infanticide not the outcome of postpartum psychosis, infanticide as concept not discussed, non-psychotic infanticide, victim not within parameters of the definition of infanticide used.

The initial search yielded 51 articles in total. This was in line with the initial scope search which yielded 37 articles, suggesting that the available literature on infanticide within the context of postpartum psychosis is limited. The reviewers purposively finalised the first sample of literature independently based on the inclusion and exclusion criteria. Out of the 51 articles, an initial ten articles were included after a review of both titles and abstracts. These
articles were then examined in full text by the reviewers independently; out of the ten articles, the reviewers agreed to include six within the final sample during a reviewers’ meeting.

The reviewers decided that more studies of relevance could possibly be identified. The reviewers used reference chaining a characteristic method of the CIS to identify further articles. Reference lists of the included studies were scanned based upon title independently by the reviewers, and a list of sources to be reference chained was finalised. The sources were then examined based on title and abstract, and the reviewers independently decided whether to include or exclude sources. Where the reviewers disagreed, a source was examined in full text and a consensus meeting was held where the differences were discussed. A final sample of 15 articles was agreed upon by the reviewers during a subsequent reviewers’ meeting.

4.2 Phase 2: Quality Appraisal of Final Sample

It is debated whether literature should undergo quality appraisal in characteristically qualitative work such as CIS (Dixon-Woods et al., 2006). However, for the purpose of trustworthiness and clarity, the reviewers decided to appraise the final sample using the two-pronged approach as first suggested by Dixon-Woods et al. (2006). To appraise quality, the criteria as set out in Table 1 below were used.

Table 1

Criteria for studies

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Adapted from Dixon-Woods et al. (2006).

The second step involved examining the source and its relevance to the study as well as its ability to address the research questions. All 15 sources were appraised in terms of quality by the reviewers independently. The reviewers decided that all the sources reasonably
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complied with the checklist and that the sources, in part or as a whole, had the ability to address the research questions. The quality appraisal was not relevant to the one included court document.

4.3 Phase 3: Data Extraction

Once the sample was finalised and appraised, the reviewers moved on to the data extraction phase. The reviewers independently extracted the data onto Excel spreadsheets. The following data were extracted from each included source:

- Title, author, year of publication.
- Database and search strategy used to identify study.
- Type of publication (journal, dissertation, etc.).
- Research design, sampling method, sample size, data analysis strategy.
- Findings on environmental aspects.
- Findings on method of inflicting death.
- Other relevant findings.
- Critique on how phenomenon was constructed and conceptualised.

4.4 Phase 4: Data Analysis

After the extraction phase concluded, the reviewers proceeded to use the extracted data to perform thematic analysis as suggested by Dixon-Woods et al. (2006). The reviewers independently identified recurring themes and performed a cross-comparison of the themes. Themes were predominantly categorised based on environmental aspects, method of inflicting death, the conceptualisation of concepts, and other themes which were not related to the research questions. The emerging themes were constantly compared to the literature before the major themes were finalised (Dixon-Woods et al., 2006).
4.5 Phase 5: Interpretive Synthesis

The identified themes became the synthetic constructs (final major themes) within the interpretive synthesis phase (Dixon-Woods et al., 2006). The synthetic constructs were used to build an exploration of the literature. Thus, the synthetic constructs consisted of the identified environmental aspects, the method of inflicting death, and a critique on how phenomenon was conceptualised. General reflection and critique of the overall body of literature on the phenomenon were included as the final synthetic construct. Within the CIS, it is accepted that different researchers may come to different conclusions, and that the disposition of the researchers will influence the process (Dixon-Woods et al., 2006). Furthermore, the CIS attempts to answer the meaningful question and does not necessarily only focus on the answerable question (Dixon-Woods et al., 2006).

5. Findings

The final 15 studies included seven reviews, five qualitative studies, two quantitative studies, and one summary of a court report. Many of the studies did not solely focus on infanticide within the context of postpartum psychosis; however, the phenomenon formed part of the study along with other forms of child homicide such as neonaticide and filicide.

Table 2 below summarises the initial themes that the reviewers agreed upon, which eventually merged and became synthetic constructs.

<table>
<thead>
<tr>
<th>Themes on environment</th>
<th>Themes on method of death</th>
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<tbody>
<tr>
<td>Inadequate mental health care</td>
<td>Drowning and head trauma</td>
</tr>
<tr>
<td>Prior psychiatric history</td>
<td>Suffocation and strangulation</td>
</tr>
<tr>
<td>Warning behaviour before infanticide</td>
<td>Hands most common</td>
</tr>
<tr>
<td>Wanted child and superior caretaker</td>
<td></td>
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<tr>
<td>History of substance use</td>
<td></td>
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<tr>
<td>Marriatal Status</td>
<td></td>
</tr>
<tr>
<td>Highly educated but not formally employed</td>
<td></td>
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<tr>
<td>Multiple victims, older infants</td>
<td></td>
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<tr>
<td>Altruistic motives</td>
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</table>
Ultimately, the abovementioned themes formed the following synthetic constructs, as set out in Table 3.

**Table 3**

*Synthetic Constructs*

<table>
<thead>
<tr>
<th>Synthetic constructs</th>
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<tbody>
<tr>
<td>Psychiatric history and treatment</td>
</tr>
<tr>
<td>Demographics of perpetrators</td>
</tr>
<tr>
<td>Perceptions of motherhood</td>
</tr>
<tr>
<td>The victims and death</td>
</tr>
<tr>
<td>Warning behaviour</td>
</tr>
<tr>
<td>Reflections on the current body of literature</td>
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</table>

**5.1 Psychiatric History and Treatment**

The findings suggest that women who commit infanticide within the context of postpartum psychosis often have a personal psychiatric history and prior formal psychiatric care.

Bourget and Gagne (2002), in their qualitative retrospective study, examined eight years of coroner’s files from 1991 to 1998 in Quebec, Canada of mothers who killed their children. There were 27 women in the sample, of which fifteen committed suicide after filicide. The files were examined by the authors and common findings were reported. Most of the women had a previous psychiatric history and prior psychiatric care. Infanticide was conceptualised as a phenomenon which can only take place in the postpartum period and in the context of mental illness. Postpartum psychosis is seen as biological phenomenon.

D’Orban (1979) also indicated that most women have a prior psychiatric history and treatment. In his important contribution to the body of knowledge on women who kill their children, he analysed 89 cases between 1970 to 1975 of perpetrators incarcerated in Holloway Prison in the United Kingdom. In his quantitative approach, he used chi-square
tests to analyse his data. The women who committed filicide in the context of mental illness often had a long history of psychiatric services as well as prior treatment.

Karakasi et al. (2017) offered a case report on a woman who committed infanticide while in hospital, as well as a brief synthesis of the literature. In terms of the synthesis, the methodology was described as an electronic search for sources on databases such as Pubmed and Google Scholar using terms such as ‘puerperal psychosis’ and ‘mood disorders’ until March 2016. In terms of the case report, the child was aged one-day old, which met the working diagnosis of infanticide used for the synthesis. The study discussed that the woman was thirty years old with an acute psychotic episode following the birth of her daughter. Her psychiatric symptoms already started four months into her pregnancy and included anxiety and excessive concern over the foetus which eventually became delusional. She committed infanticide while in hospital receiving care. The concept of postpartum psychosis was conceptualised as a rare biological disorder.

Marks (2006), in her review of literature, discusses that a previous psychiatric history is one of the most crucial aspects in cases of infanticide committed in the context of postpartum psychosis. Summaries of the major studies contributing to the infanticide body of knowledge were provided as well as the contemporary research at the time. No elaboration of specific methodology in terms of phases were, however, provided.

A qualitative narrative analysis by Barnett (2006) was included in the final sample. In her study, she included ten selected cases of women who killed their children. She performed a narrative analysis of the media coverage presented in these cases. Two out of the ten cases were infanticide committed in the context of postpartum psychosis. In both cases, the women had a prior psychiatric history and have been hospitalised on multiple occasions. Furthermore, both women were being treated for postpartum psychosis before committing
infanticide. Infanticide was conceptualised as a tragic consequence which affects the whole community.

In addition, Koenen and Thompson’s (2008) review also indicated that the women who commit psychotic infanticide are likely to have a prior psychiatric history and care. The method was described as a historical review of filicide and included commentary on legislation, the various categories of filicide, risk, and prevention. Specific reviewing methodology was, however, not elaborated upon.

Spinelli (2004), in her review, focused on maternal infanticide and its association with mental illness. The well-known case of Andrea Yates was used to illustrate society’s view throughout the article. The method was described as the review of legislative, historical, and contemporary perspectives on infanticide. The method to reviewing was not described in detail and the focus was placed on the findings and integration. For this synthesis, the study was of relevance because of the illustration and detail provided about the Yates case. In terms of prior psychiatric history, Yates had had previous episodes of postpartum psychosis with her previous pregnancies and she was being treated for postpartum psychosis before she committed infanticide. In this review, postpartum psychosis was conceptualised as a medical phenomenon and legislation was emphasised.

Friedman and Resnick (2007) examined murder by mothers and its corresponding patterns. Postpartum psychosis was discussed as one of these patterns. In terms of methodology, the method was briefly described as a search for peer-reviewed articles in English. The studies were separated in terms of population in order to illustrate differences between psychiatric and non-psychiatric populations. The aim the study was to provide an update on maternal filicide and make suggestions for prevention. In terms of environment, the review suggested that previous psychiatric history strongly predisposed psychotic mothers to committing infanticide. They were also often previously treated for mental health-related
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conditions. All forms of child homicide were conceptualised as a phenomenon which should have been prevented.

The synthetic construct of prior psychiatric history and treatment was in line with the known literature and the known risk factors for the development of postpartum psychosis (Resnick, 1970; Stewart et al., 2003). The findings further indicated that women who commit infanticide within the context of postpartum psychosis often receive psychiatric care; however, the care was deemed to be inadequate (Barnett, 2006; Karakasi et al., 2017; Koenen & Thompson, 2008). Inadequate care within the literature was perceived as hospitalisations which were too brief as well as inadequate psychoeducation (Spinelli, 2004). The finding suggests that, before infanticide is committed, the women who go on to kill their infants are exposed to mental healthcare intervention.

The findings of the synthesis further indicated that women who have postpartum psychosis and go on to commit infanticide often have a history of substance use. This was found in Lewis and Bunce’s (2003) quantitative study; their focus was on filicide in general and the impact of psychosis. The authors analysed case records of women who committed filicide between 1974 and 1996, and was referred for competency to stand trial at Michigan’s Centre for Forensic Psychiatry. Chi-square and tailed t-tests were used to analyse data. In terms of psychotic infanticide, the study indicated that the women were more likely to have a substance abuse history, although the extent and nature of the substance abuse were not elaborated on. Postpartum psychosis was conceptualised as a medical phenomenon.

History of substance abuse was also suggested in Smithey (2002). The study was qualitative in nature, using data gathered through in-depth interviews with fourteen women who fatally injured their infants from 1981 to 1991 in Texas. Although more cases were identified, purposive sampling was used to arrive at the final fourteen participants who agreed to partake in the study. Luckenbill’s theory of homicide was applied to the qualitative data to
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reach a possible explanation. The theory suggested that infanticide resulted due to an escalating transactional process between the mother and infant. Infanticide was thus conceptualised as a social phenomenon resulting from interactional transactions as well as other factors such as mental illness. The study indicated that substance was often used as a coping mechanism for ‘stress’.

5.2 Demographics of Perpetrators

In line with Resnick’s (1970) initial study, the findings indicated that women who commit infanticide in the context of psychosis are often 25 years of age or older; this was indicated in D’Orban (1979), Friedman and Resnick (2007), and Porter and Gavin (2010).

Porter and Gavin (2010) conducted a qualitative review. Being eight years old, the article was the most up-to-date review that could be found addressing infanticide in the context of postpartum psychosis in part of the study. The review approach was not elaborated upon but was described as the review and summary of research, incidence statistics, legislative outcomes, as well as clinical outcomes of cases involving infant murder over forty years. The review indicated that, in terms of environmental aspects, women who commit psychotic infanticide are often older than 25 and have prior psychiatric history often involving hospitalisations. Postpartum psychosis was conceptualised as an ‘extremely rare’ illness.

The findings further illustrated that the women often have a tertiary education and were perceived as excelling students; this was illustrated in Barnett (2005), Koenen and Thompson (2008), Lewis and Bunce (2003), Spinelli (2004), Porter and Gavin (2010), as well as the summary of a court report (State of Illinois v. Skeoch, 1951).

Barnett (2005) authored a qualitative narrative analysis on the press coverage of the Andrea Yates case to examine society’s perceptions and reactions to infanticide committed in the context of postpartum psychosis. The study was useful to the synthesis because of the
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detailed accounts provided on the case, which were not limited to information which would be useful for studies focusing on legislation. In terms of the environment, the study’s findings illustrated that Yates was described as an overachiever and excelling student. She had a formal tertiary qualification in nursing. The concept of postpartum psychosis was conceptualised as a rare illness with infanticide as its tragic consequence which may have been prevented.

The court report summary, namely the people of the state of Illinois, defendant in error, v. Dorothy Skech (1951), indicated that the perpetrator was 22 years old, a high school graduate, and excelling in college. The source was included due to its elaboration on the circumstances involved in the infanticide in the context of postpartum psychosis. Porter and Gavin (2010), also suggest that women who commit psychotic infanticide often have education exceeding high school.

Although the findings suggested that the women often had higher levels of education, it further indicated that the women were often not formally employed and were stay-at-home mothers; this was apparent in Barnett (2005), Barnett (2006), Friedman and Resnick (2007), Koenen and Thompson (2008), Lewis and Bunce (2003), and Spinelli (2004).

The findings of the synthesis were contradictory in terms of whether perpetrators were married or divorced. A possible explanation for this contradiction is the age of the literature, which will be discussed further. The older literature (older than ten years) indicated that the women were often married; this was found in D’Orban (1979) and Dobson and Sales (2000).

Dobson and Sales’ (2000) review focused on the phenomenon of infanticide within the context of mental illness. Its purpose was to critically consider the available scientific evidence that supports mental illness in cases of infanticide. No specific method of reviewing was listed. The article does, however, consider literature based on legislation and court outcomes where mental illness was used as a defence in cases of infanticide. The
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demographic, social, and psychiatric characteristics of the women involved, as well as whether there was an increase in the prevalence of mental illness in the first postpartum year were included in the review. The article’s second line of enquiry was specifically useful for the purpose of the current synthesis. It illustrated that, in terms of environmental aspects, most of the women were married. Importantly, the study also suggests that the prevalence of psychosis increases during the first postpartum year and continues in the second year postpartum, although they conclude that most cases of infanticide are not associated with psychosis.

More contemporary literature such as Lewis and Bunce (2003) and Smithey (2003) indicated that the women were either divorced or not married.

5.3 Perceptions on Motherhood

The findings of the synthesis found that infanticide within the context of postpartum psychosis often occurs within the context of a planned pregnancy, a ‘wanted’ child, and the perpetrator being perceived as a superior caretaker. This was evident in Barnett (2005), Barnett (2006), Porter and Gavin (2010), and Singh (1999).

Singh (1999) focuses on the recognition of postpartum psychosis as a defence where filicide was committed. She discusses nine cases of filicide in the United States where psychosis was used as a defence, and what the outcome of each case entailed. In her description of the cases, she provides information on the women’s circumstances before filicide was committed as well as the method of inflicting death. Although focused on the general category of filicide, eight out of the nine cases discussed met our working diagnosis of infanticide. Findings on environment include the notion that the women were ‘happy’ and ‘rational’ before committing infanticide, and the notion of wanting to become a mother. The concept of postpartum psychosis was conceptualised as a mental illness with infanticide as its tragic consequence. Although comprehensive, no specific methodology was mentioned as its
approach to the review; details of searching strategies and included sources were thus not available. The article appeared to include a consolidated literature review including case discussions.

Barnett (2005) illustrated that Andrea Yates was seen by her community as a natural caretaker excelling at motherhood. Although educated as a nurse, she was not formally employed and identified as a stay-at-home mother. She home-schooled all five of her young children. In addition, Barnett (2006) discusses that both women in her study were seen as superior caretakers of both their children and the community. The notion that the perpetrators were perceived as superior caretakers who wanted to have children was further illustrated in both Porter and Gavin’s (2010) and Singh’s (1999) historical reviews. In addition, with the exception of one study, the women involved often had no prior history with child protective services.

5.4 Victims and Death

The findings of the synthesis indicated that the victims of infanticide within the context of postpartum psychosis are often older infants with ages ranging from 3 months to 11 months; this was evident in Barnett (2006), Marks (2006), and Porter and Gavin (2010). In addition, six out of the 15 included studies indicated that there are often multiple victims including older children. Barnett (2005) discusses how, in total, five children were drowned, in Barnett (2006) five were killed in one case and two in the other, Lewis and Bunce (2003) mention that two victims were killed. In essence as discussed by D’Orban (1979), Koenen and Thompson (2008), and Singh (1999) psychotic infanticide is often associated with multiple victims.

Furthermore, as Resnick (1970) initially suggested, the synthesis found that the motive for infanticide was frequently altruistic in nature (Barnett, 2006; Dobson & Sales, 2000; Friedman & Resnick, 2007; Koenen & Thompson, 2008; Lewis & Bunce, 2003).
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Barnett (2006) states that in both cases the motive for inflicting death was altruistic in nature. Dobson and Sales (2000) echo this idea discussing that perpetrators view death as the only viable means to end the infant’s ‘suffering’. In essence, often related to delusional content, the women may have felt that infanticide is the best viable option for the child. Friedman and Resnick (2007) elaborate explaining that the mother believes that death is in her child’s best interest.

The findings of the synthesis further suggest that infants were often killed by the perpetrators using their hands. The most common methods of inflicting death were drowning, head trauma, suffocation, and strangulation (Barnett, 2005; Barnett, 2006; Karakasi et al., 2017; Smithey, 2001; Singh, 1999; State of Illinois v. Skeoch, 1951). Drowning was mentioned as the most common, mentioned in eight out of the 15 included studies; head trauma was discussed in five; and suffocation or strangulation in seven studies. Other case-specific methods discussed in the final sample included burning, discussed in Lewis and Bunce (2003); dismemberment, discussed in Porter and Gavin (2010); overdosing on anti-psychotic medication, discussed in Singh (1999); carbon monoxide poisoning, described in Bourget and Gagne (2002), and stabbing the infant with a serum spike, elaborated upon in Karakasi et al. (2017). No studies examining the significance of the chosen method of inflicting death could be found for cases of infanticide within the context of postpartum psychosis.

5.5 Warning Behaviour

Another significant finding the synthesis yielded was the presence of ‘warning behaviour’; this behaviour was frequently discussed as either seeking medical assistance or asking family for assistance. Warning behaviour was discussed in Koenen and Thompson (2008), Lewis and Bunce (2003), Singh (1999), and State of Illinois v. Skeoch (1951). Lewis and Bunce (2003) illustrated warning behaviour in a case study where a 28-year-old female
asked her family to take her four-year old son and six-month old daughter for ‘safekeeping’, shortly before burning both to death. Koenen and Thompson (2008) discuss that the perpetrators would voice concerns before killing. Singh (1999) described how, in one of the cases, the woman sought medical intervention before committing infanticide. Moreover, in the included court document, the perpetrator wrote a letter to her parents explaining her concern for the wellbeing of her child shortly before the birth of her child (State of Illinois v. Skeoch, 1951).

5.6 Reflections on the Existing Body of Literature.

Out of the 15 included studies, only two were less than ten years old; these were Koenen and Thompson (2008) and Porter and Gavin (2010). The oldest included source was the court summary published in 1951 (State of Illinois v. Skeoch, 1951), and the newest was published in 2017 (Karakasi et al., 2017). The mean publication date was 2000. Furthermore, the reviews neither stated the specific reviewing methodology nor document the exact phases of review, making replication of the studies impossible; although publication date and access to electronic means of reviewing should be taken into consideration. Furthermore, the populations of the studies often focused on filicide in general. Although the importance of the sub-categories of filicide is discussed throughout the body of literature, the research does not always reflect the discussed importance. In addition, the majority of studies are focused on data available from developed countries, which raises the question of its applicability to contexts such as South Africa.

In general, the overall search for literature indicated that the field is dominated by the medical and law disciplines. The contributions made by these fields have been critical, but also accompany specific theoretical orientations and mostly deductive manners of enquiry.

Of importance is discussing how the phenomena of infanticide and postpartum psychosis are conceptualised in the current body of literature. Postpartum psychosis is
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predominantly seen as a mental illness with a medical basis for its occurrence (Barnett, 2005; D’Orban, 1979; Karakasi et al., 2017; Singh, 1999; Spinelli, 2004). Infanticide is seen as a tragic consequence of postpartum psychosis or maladaptive behaviour (Barnett, 2005; Karakasi et al., 2017; Singh, 1999; Spinelli, 2004).

In many studies, the language used does not correspond with the language used in other cases where homicide was the outcome (with or without mental illness present) (Barnett, 2005; Barnett, 2006; Dobson & Sales, 2000; Friedman & Resnick, 2007; Karakasi et al., 2017; Lewis & Bunce, 2003; Marks, 2006; Porter & Gavin, 2010; Singh, 1999). The use of language to ‘deflect responsibility’ is discussed by Porter and Gavin (2010). The word ‘mother’ or ‘woman’ is often used instead of ‘perpetrator’, and the infant is termed the ‘victim’; this suggests an unwillingness to view mothers as murderers (Porter & Gavin, 2010). Throughout the literature, psychosis is often linked as the only ‘plausible’ explanation for women to kill their infants (Singh, 1999). Furthermore, while postpartum psychosis is a known risk factor for infanticide, as Porter and Gavin (2010) discussed, most cases of infanticide are not related to mental illness. Neonaticide, for example, is frequently committed in the absence of psychosis, where the main motive for the homicide is that the child is unwanted (Resnick, 1970). Furthermore, attempts are made to conceal the pregnancy (Porter & Gavin, 2010). This stands in contrast with the findings that infanticide within the context of psychosis often occurs within a planned pregnancy. In addition, infanticide, specifically, is commonly committed within the context of psychosis, as suggested by Resnick (1970), Pit et al. (1995), and Friedman and Resnick (2007). As suggested previously, these women often commit infanticide because they believe that they are acting in the best interest of the child (altruistic motive – related to delusional content). In addition, parents who kill children older than one year are more likely to have clinical depression or have been
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diagnosed with a personality disorder; psychosis in these cases are rare (Bourget & Gagne, 2002).

Lastly, the existing body of literature consistently describes the occurrence of postpartum psychosis and infanticide in the context of psychosis as ‘rare’ (Barnes & Brown, 2016; Engqvist et al., 2011b; Monzon et al., 2014). Theresa Twomey, an attorney and author of *Understanding postpartum psychosis: A temporary madness*, who suffered from postpartum psychosis and infanticidal ideation toward her new-born daughter, describes how the occurrence of postpartum psychosis is statistically as common as Down syndrome (Tedx Talks, 2013). The continued conceptualisation or description of postpartum psychosis as rare may have a significant impact on awareness and the need to continuously research the phenomenon, as is illustrated by the findings that literature, in general, is outdated. In addition, as suggested by Spinelli (2009) and Kelly (2002), the current statistics are most likely inaccurate due to under-reporting and challenges with recording systems. Thus, a re-examination of prevalence statistics, especially in developing countries such as South Africa, will ultimately be helpful to foster a deeper understanding of the phenomenon and update contemporary research and recommendations on risk screening and prevention.

6. Discussion

In essence, the synthesis yielded six synthetic constructs in total. The findings of the synthesis in terms of psychiatric history and treatment indicate that opportunities for effective screening and adequate intervention are largely missed. This echoes Kelly’s (2002) notion that there is a lack of awareness on, firstly, the existence of postpartum psychosis and, secondly, its prevalence and management. This lack of awareness extends not only to the public but also to health care practitioners. This is reflected in Barnett (2005), where it is described that the treating team of Andrea Yates was unsure how to adequately intervene, resulting in brief hospitalisations and inadequate psychoeducation. The lack of awareness
further ties in with the synthetic construct of perceptions on motherhood and how it is expected of women to ‘naturally’ be with their children. Due to society’s expectation that women are natural and superior caretakers, behaviour incompatible with this idea is often viewed as alien or rare. This is best illustrated in Singh’s (1999) description that postpartum psychosis is a silent syndrome in which women fear the stigma of not being the perfect mother more than they fear their own deteriorating functioning. In addition, the synthetic construct of the demographics of perpetrators further illuminates the importance society places on motherhood, with many of these women having high levels of education and being perceived as excelling students, but not being employed. This may suggest the intensity of role changes and how the role of mother may to a certain extent become all-encompassing. Furthermore, the contradictory finding of perpetrators being married or divorced further illustrates generational differences, and points out clearly the large gap in research on the topic within the last ten years. While the older literature suggests that the perpetrators were mostly married, some of the more contemporary literature suggests that the perpetrators were divorced or never married. The prevalence of contemporary divorce statistics may have the implication that the notion of perpetrators often being married may be outdated. Moreover, the connotations of motherhood within marriage may also be challenged by one’s own historical context.

The synthetic construct of victims and death indicated that victims are often older than three months (Barnett, 2006; Marks, 2006; Porter & Gavin, 2010). The ages of victims are important for the current diagnostic debate which suggests that postpartum psychosis has its onset four weeks post-delivery (Heron et al., 2007; Stewart et al., 2003). In essence, the ages of the victims, as suggested by the synthesis’ findings, may be indicative that the women who commit infanticide within the context of postpartum psychosis experienced extended symptoms of psychosis if the onset occurred within the timeframe currently suggested.
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Alternatively, it may be indicative that some of the women who commit psychotic infanticide had onset of postpartum psychosis later than that which is currently diagnostically acceptable. In addition, the synthetic construct of multiple victims may either be interpreted as older children being killed due to the presence of psychosis or, possibly, that the stress of multiple young children may be a contributing environmental aspect to the exacerbation of postpartum psychosis presentation which may lead to infanticide and filicide. In essence, women with multiple children presenting with postpartum psychosis may be at increased risk compared to women who delivered a first-born child.

The synthetic construct of warning behaviour indicated that many of the women inform either their family or medical professionals that they experience distress in terms of their ability to care for their children (Koenen & Thompson, 2008; Lewis & Bunce, 2003; Singh, 1999; State of Illinois v. Skeoch, 1951). This indicates missed opportunities for effective screening and intervention that could lead to prevention.

In terms of the existing body of literature, the synthesis indicated that the available research on the topic of infanticide within the context of postpartum psychosis is outdated. Furthermore, the lack of clarity in terms of methodology in the represented reviews challenges the replicability of the studies. Research has been heavily centred on the context of developed countries, with the majority of research stemming from the United States. Thus, the need for research within other contexts is clear to test the applicability of international evidence in contexts such as South Africa. Furthermore, updated empirical research is required to inform the field within our historical context. In addition, other forms of enquiry which document women’s first-hand experiences and accounts of committing infanticide in the context of postpartum psychosis are required if the environment and its contribution are to be truly understood. This mode of enquiry may extend to the method of
inflicting death in an attempt to understand the psychological significance of how the infant is killed.

Lastly, the language used in the existing literature indicates a bias in society’s view of womanhood, motherhood, and mental illness. As Singh (1999) suggests, society’s view is largely that a woman would only be capable of killing her child due to factors beyond her control such as psychosis. This, however, is disputed by Porter and Gavin (2010), suggesting that most infanticide is not committed in the context of psychosis.

7. Conclusion

The study attempted to synthesise the existing literature on infanticide within the context of postpartum psychosis. Fifteen sources in total were reviewed and synthesised. The study found that women who commit infanticide within the context of postpartum psychosis are often older than 25 years and have higher levels of education, but are not formally employed. In addition, the synthesis indicated a discrepancy in the literature regarding whether the perpetrators are more often married, divorced, or have never been married. Older literature suggests that perpetrators are often married, whereas some of the more contemporary literature suggests a propensity for the women to be divorced or single. This is most likely due to the publication dates of existing literature and the generational increase in divorce statistics.

In terms of motherhood, the study found that the victims are often wanted children resulting from a planned pregnancy. The perpetrators are often seen as superior caretakers and upstanding citizens. This is a significant finding which may be of importance for future research based on risk screening and prevention.

The victims were found to be aged primarily between three months and 11 months. The age of victims is important for the current consideration of diagnostic requirements suggesting that the onset of psychosis should be within four weeks post-delivery (Monzon et
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al., 2014). The age of victims being older suggests either that women have a prolonged psychosis or that onset may occur later than that which is formally accepted in the DSM–5. The study further found that the perpetrators often have multiple victims including their own older biological children. Thus, women with multiple children are at greater risk for an outcome of infanticide. It is, however, unclear whether the presence of psychosis places older children at risk or whether the stress of having multiple young children contributes towards the outcome. In addition, the children are often killed using hands. Drowning, head trauma, suffocation, and strangulation were found to be the most common methods.

The study further found that most of the perpetrators display ‘warning behaviour’ before committing infanticide. This included either seeking medical attention or seeking assistance from family. The finding of warning behaviour suggests that an opportunity for adequate intervention and prevention is largely missed.

In terms of the existing literature, the study found that the general body of literature on the phenomenon is outdated, with a mean publication date of 2000. Furthermore, the available literature is largely dominated by the medical and legislative fields. In addition, the conceptualisation of postpartum psychosis as a mental illness with a medical basis and infanticide as a tragic consequence appears to be the most common conceptualisation of the phenomenon. This indicates a significant historical shift in how infanticide is seen by modern society. The language often used in existing studies further suggests our reluctance to view mothers as killers, and that mental illness and specifically psychosis are viewed as the only ‘plausible’ explanation for why women would kill their children.

Lastly, the continued conceptualisation of postpartum psychosis and infanticide as ‘rare’ may have a significant impact on the urgency with which research needs are understood. This is reflected in the outdated publication dates of many of the studies.
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Furthermore, the idea of its rareness may further impact on stigma and a lack of awareness amongst the public and clinicians, as Kelly (2002) suggests.
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References


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SECTION 3
CRITICAL REFLECTION

Introduction

The study aimed to explore and examine the phenomenon of postpartum psychosis where the outcome was infanticide through an examination of existing literature. Critical interpretive synthesis (CIS) allowed for a fluid and flexible approach to reviewing, which ultimately yielded relevant literature from different faculties, methodological orientations, and epistemological point of views. A critical reflection on the study, its limitations, and recommendations for future studies will be discussed in the sections below.

Critical Reflection on Postpartum Psychosis and Infanticide

Postpartum psychosis is considered as a psychiatric emergency (Barnes & Brown, 2016). Furthermore, the presence of postpartum psychosis increases the risk for infanticide (Spinelli, 2009). The study revealed the following synthetic constructs resulting from the environment involved in infanticide within the context of postpartum psychosis.

Firstly, the psychiatric history of the women revealed that they often have a personal history of psychiatric illness. Furthermore, they often sought care either from medical professionals or their family before committing infanticide. This finding suggests that opportunities for adequate care, risk screening, and prevention are being missed. In addition, a history of substance abuse was found, which could be implemented as part of risk screening procedures in future.

Secondly, the demographics of the women revealed that they are often older than 25 years and have higher levels of education, but are not formally employed. The literature suggests that many of these women were stay-at-home mothers. The dynamics of this may be of psychological significance and could possibly have a significant impact on identity and perception of self. In addition, the study revealed a discrepancy between perpetrators being
married, divorced, or single. This finding emphasised the lack of contemporary research on
the phenomenon and could possibly be explained by the generational differences in marriage
and divorce prevalence.

The third synthetic construct involved perceptions on motherhood. Victims were often
wanted children resulting from planned pregnancies. The women were also perceived as
superior caretakers. The pressure of becoming a mother and subsequently excelling in the
role of a mother may be another significant environmental or societal aspect of psychological
significance contributing toward the phenomenon. The notion that women should naturally
adjust and excel at being a mother may also be indicative of how psychiatric symptoms may
be misconstrued for superior caretaking.

The fourth construct was centred on the victims. The study found that victims were
often between the ages of three and 11 months. This could possibly be significant for the
current diagnostic debate surrounding the onset of postpartum psychosis. The current
consensus is that psychosis should have its onset within four weeks post-delivery (Monzon,
Lanza di Scelea, & Pearlstein, 2014). The finding may suggest that women are either
suffering from postpartum psychosis for extended amounts of time without being accurately
diagnosed and treated or, possibly, that postpartum psychosis may have a later onset than that
which is currently expected. As Monzon et al. (2014) suggests, an argument for extending
diagnostic considerations in terms of timeframe of onset may be warranted. Furthermore, the
study indicated that there are often multiple victims. This warrants further research in terms
of how multiple children and the caretaking needs of multiple young children could possibly
interact with postpartum psychosis presentation and eventual infanticide and maternal
filicide. The findings indicated that, in terms of method of inflicting death, hands are often
used, and that drowning, head trauma, suffocation, and strangulation are the most common
methods of killing. Although these are the most common methods, other more aggressive
INFANTICIDE AND ITS RELATIONSHIP WITH POSTPARTUM PSYCHOSIS

methods such as dismemberment (Porter & Gavin, 2010), stabbing, and burning (D’Orban, 1979) are also observed. The chosen method of inflicting death would be of psychological significance and would assist in understanding the phenomenon from the psychological functioning of the perpetrator. This is possibly case-specific, and the symbolic nature of how the perpetrator chooses to kill her child even in her psychotic state may be indicative of her own history and the interpersonal context she finds herself in. This is also a direction which warrants further research if postpartum psychosis and infanticide are to be understood as more than a medical phenomenon with tragic consequences. Thus, the impact of her environment and how it leads to the killing of the victims are largely not understood in current literature. The study did, however, indicate that the motives for infanticide were often altruistic in nature, as first suggested by Resnick (1970). Thus, the woman in her psychotic state believes that the death of the child is the only way to save them from suffering (Dobson & Sales, 2000; Koenen & Thompson, 2008).

The fifth construct, ‘warning behaviour’, is another significant finding which has been discussed in other studies. The presence of warning behaviour, however, has not been emphasised enough in the current literature. The notion that women seek help both interpersonally and from medical professionals before they commit infanticide is a reflection of our current lack of awareness on the phenomenon. Ultimately, the finding suggests that opportunities to treat and intervene effectively are missed.

The reflection of the current literature suggests that the research on the phenomenon is largely outdated. This reflects Singh’s (1999) notion that postpartum psychosis is a ‘silent syndrome’ in which the stigma of not adjusting ‘naturally’ to motherhood overshadows our observations of symptoms and behaviour that are suggesting that a new mother is not coping. Currently, the lack of contemporary literature reflects the silence suggested by Singh. In addition, the conceptualisation of postpartum psychosis as a mental illness with a medical
INFANTICIDE AND ITS RELATIONSHIP WITH POSTPARTUM PSYCHOSIS

basis and infanticide as its tragic consequence may simplify a complex phenomenon with many contributing factors. In addition, the language used to deflect responsibility (Porter & Gavin, 2010) suggests society’s reluctance to view mothers as killers, and feeds into the expectations of how a mother should ‘naturally’ be with her infant. This may further contribute to a lack of adequate identification and treatment.

Lastly, and perhaps most significantly, the notion that postpartum psychosis is rare with infanticide as its consequence being even more rare may have significantly contributed to a lack of awareness and also the lack of current research. Our conceptualisation of motherhood and what motherhood entails may be contributing to the under-reporting of incidence as well as a reluctance to record cause of death as due to infanticide.

Limitations

- The study was conducted in the form of a critical interpretive synthesis of the literature. Although an attempt was made to engage with literature in a critical manner to provide new insight, the study is still based on available literature. Many of the included studies are older than ten years. The study’s findings should thus be understood within this context.

- The majority of the studies included in the synthesis were conducted in developed countries. This impacts its generalisability to other contexts.

- The study did not aim to include an exhaustive body of knowledge. The possibility thus exists that other relevant studies were not included in the final sample.

- Some of the studies included did not solely focus on psychotic infanticide. This made the process of identification of relevant literature more difficult. Furthermore, the sorting of findings relevant to only psychotic infanticide was more complex.

- Although the reviewers had measures in place to ensure the rigour of the study, CIS is inherently qualitative and the notion that different researchers may come to different
conclusions is accepted (Dixon-Woods et al., 2006). The impact of the reviewers and their own paradigms should be kept in mind as well as the fact that different researchers will not be able to completely replicate the current study.

**Recommendations**

The following recommendations for future research are suggested:

- Empirical research in developing countries.
- Update of empirical research in developed countries.
- Holistic study of the phenomenon including environmental, societal, and cultural impacts of postpartum psychosis and infanticide.
- Focused research on the effective identification of postpartum psychosis, thorough risk screening, and adequate intervention.
- Research assisting with the diagnostic debate surrounding postpartum psychosis including the merit of its distinctness in future major classification systems as well as the timeframe of onset, specifically.

**Conclusion**

The use of the CIS method assisted the researcher in examining existing literature in a new and meaningful manner. The CIS thus assisted in answering the meaningful question and not placing its focus solely on the answerable question, as with other review methods (Dixon-Woods et al., 2006). In addition, the natural critique which results from the CIS (Dixon-Woods et al., 2006) allowed for a critical reflection on the current state of the body of literature and an identification of its strengths as well as areas for further development.

The current research found and highlighted important aspects about both the women who commit infanticide in the context of postpartum psychosis and their victims. In addition, it also succeeded in its critical nature and in identifying generational differences in research, conceptualisations, and understanding of the phenomenon under consideration, as well as
INFANTICIDE AND ITS RELATIONSHIP WITH POSTPARTUM PSYCHOSIS

notions on rates of occurrence and its possible effects. This study could possibly serve as a basis for future empirical research, especially in our own South African context.
INFANTICIDE AND ITS RELATIONSHIP WITH POSTPARTUM PSYCHOSIS

References


https://doi.org/10.1177/152483801037195
APPENDICES

Search Strategies

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**Quality Appraisal of Studies: Two Pronged Approach**

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15. Infanticide and Neonaticide: A Review of 40 Years of Research Literature on
Incidence and Causes

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were the aims and objectives clearly stated?</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the research design clearly specified?</td>
<td>Yes</td>
</tr>
<tr>
<td>Was a clear account of the research process included?</td>
<td>Yes</td>
</tr>
<tr>
<td>Is there enough data to support interpretations and conclusions?</td>
<td>Yes</td>
</tr>
<tr>
<td>Was the method of analysis appropriate to use in the study?</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Schematic representation of selected studies.

Searching on EBSCO Discovery Service.
• 51 Articles identified.

All articles screened in terms of title and abstract.
• 10 Articles initially included.

10 included articles examined in full text.
• 6 Articles included in sample.

Article’s reference lists scanned based on titles for reference chaining.
• 7 Articles identified

15 Sources in final sample.