A systematic review regarding the emotional/psychological experiences of medically complicated pregnancies

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ABSTRACT

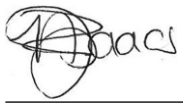
Over time, the 'normal' experience of pregnancy transitioned to the hospital setting, leading to a discourse steeped in the notions of risks and complications. Risks and complications refer to health problems expectant women may experience, causing them to have a high-risk pregnancy. High-risk pregnancy refers to a pregnancy that negatively affects the health of the mother, the baby, or both, and evoking a range of emotional and psychological experiences. Research on high-risk pregnancy is predominantly found in the medical arena. Such research usually concerns the disease, while women's emotional/psychological experiences are not sufficiently documented. For this reason, the objectives of this study was to explore the emotional and psychological experiences of women in the reviewed articles throughout their high-risk pregnancies, and identify the medical conditions and complications in the same reviewed articles.

Ethics clearance was obtained from the senate research committee at UWC. The systematic review examined qualitative studies, including the qualitative components of mixed method studies published between January 2006 and June 2017. The databases that were searched are EbscoHost, JSTOR, Sage Journals Online, ScienceDirect, SpringerLink, Sabinet, Scopus, Emerald eJournals Premier, Pubmed, as well as Taylor and Francis Open Access eJournals. The study evaluated the literature found on these databases for methodological quality by using three stages of review (i.e. abstract reading, title reading, and full-text reading) and applying a meta-synthesis to the current evidence on the research topic.

The findings provide empirical evidence based on sound research that medical conditions and complications (i.e. HELLP syndrome, thrombophilia, gestational diabetes, maternal near-miss syndrome, foetal abnormality, preterm birth, hypertension, and uterine rupture) are associated with women's emotional and psychological experiences (i.e. fear, shock, feeling frightened, sadness, worry, alienation, frustration, grief, guilt, anger, ambivalence, despair, upset, loneliness and isolation, anxiety, depression, and PTSD) throughout their high-risk pregnancies. As a result of this, survivors of severe pregnancy complications have subsequent psychological and emotional challenges. It is therefore recommended that future researchers consider including quantitative studies in a systematic review on the same topic.

DECLARATION

I declare that *A Systematic Review regarding the emotional/psychological experiences of medically complicated pregnancies* is my own work, and that it has not been submitted before for any degree or examination at any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.



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CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Pregnancy and hospitalisation are momentous events in any women's life. Polomeno (1997) contends that some women are more susceptible to complications than others during their pregnancy experience. Some women experience a healthy and straightforward pregnancy, while a portion of women experience complications or are at risk. Historical references to high-risk pregnancy can be traced back to the writings of Hippocrates (460-377 BC). Hippocrates believed that the environment is related to a miscarriage, but this belief is still being investigated (Polomeno, 1997). However, the writings of Hippocrates provided a foundation for the consideration of high-risk pregnancies. Health professionals started managing pregnancy-related complications during the 1970s (Jayaprakasan & Panchal, 2014). During this time, health problems that range from mild to severe illnesses that affect the health of the mother, the baby, or both were regarded as complications during pregnancy (Center for Disease Control and Prevention, 2017). Polomeno (1997) argues that being able to control medically complicated pregnancies gave rise to feelings of success among doctors. Thus, the vulnerability of pregnant women and childbirth continued until the 20th century (Polomeno, 1997). During the 20th century, women generally regarded pregnancy and childbirth as 'normal' events. Health professionals had a similar attitude, even though they started to acknowledge that risk is always present during these processes, while medical personnel aim to reduce risks (Shorter, 1982). Emerging risks or complications provided more evidence for medical practitioners to identify a high-risk pregnancy in expectant women. It is therefore important to understand this phenomenon.

Pozzo and colleagues state that the change from a 'normal' pregnancy to a 'high-risk' pregnancy is significant for both health professionals and pregnant women (Pozzo, Brusati, &

Cetin, 2010). Polomeno (1997) points out that the concept of 'high-risk' pregnancy is still relatively new. Additionally, Shorter (1982) reveals that this term was not used in 19th century obstetrics. Health professionals used terms such as 'complications' or 'risks' to describe a women's pregnancy experience. However, during the 1960s, systems were put in place to determine risk in pregnancy to diagnose high-risk pregnancy (James & Stirrat, 1988). A high-risk pregnancy is defined as "any pregnancy in which there is a medical factor, maternal or foetal that potentially acts adversely to affect the outcome of pregnancy" (Leichentritt et al., 2005, p. 39). Dangal (2006) believes that a pregnancy is considered high-risk when maternal or foetal complications are evident. In other words, a high-risk pregnancy includes medical conditions or complications that emanate from the mother, the baby, or both.

Kashani, Hassanzad, and Mohaddeseh (2012) consider women who have medical complication(s), such as a history of chronic diseases (i.e. diabetes, hypertension, heart disease, etc.), those who have a history of previous pregnancy problems (i.e. abortion and stillbirth), those who have had multiple pregnancies, women who are under 18 or over 35 years of age, those who have been pregnant more than four times (the fifth and then the next), and those who had an interval between pregnancies of less than one year, as at risk. There may be a family history of foetal difficulties that put women at risk for a complicated pregnancy (Magowan, Owen, & Thomson, 2014). Multiple pregnancies increase the risk of premature labour, gestational diabetes, and pregnancy-induced high blood pressure (Neiger, 2017). The most recognised problems in pregnancy include infertility/involuntary childlessness, severe vomiting, placenta previa (i.e. a condition in which the placenta covers the cervix), pregnancy-induced hypertension (PIH), and premature rupture of the membranes (Bachman & Lind, 1997). Premature rupture of membranes, preeclampsia, multiple gestation, maternal substance abuse, diabetes, vaginal bleeding, and preterm labour (PTL) and delivery are also common problems (Dangal, 2006; Ramsey & Goldenberg, 2002). Medical diseases and maternal

complications such as neonates who are small-for-gestational age (SGA) or large-for-gestational age (LGA) are also classified as complications during pregnancy (Khalil, Maiz, Nicolaides, Syngelaki, & Zineviah, 2013; Lykke et al., 2009). Some medical conditions emerge only during the pregnancy, such as gestational diabetes (Neiger, 2017). They are usually not evident before pregnancy. Ganesh (2007) contend that risk factors may be existent before pregnancy (i.e. physical features such as age, height and weight), and during pregnancy (i.e. infections, preeclampsia/eclampsia), and may result in the pregnancy being at risk. For this reason, Dangal (2006) and Maloni (1996) reveal that specialised care should be given to pregnant women who are experiencing these medical conditions and complications because the problems may increase the chances of fatality for both the mother and baby.

Despite the rapid advancement in medical technology, maternal and infant deaths remain (Isler et al., 1999). Koblinsky, Chowdhury, Moran, and Ronsmans (2012) argue that 15% of all pregnancies will develop into life-threatening complications. During 2013, there were 289 000 maternal deaths, of which sub-Saharan Africa accounted for 60% and South Asia 24% (World Health Organization, 2018). However, between 1990 and 2015, global maternal deaths per 100 000 live births decreased by 2.3% per year, specifically in regions such as Asia and North Africa (World Health Organization, 2018). A large percentage of these maternal deaths can be attributed to high-risk pregnancy complications. Furthermore, a study conducted in Nigeria in 2011 reported that 26% of women who were pregnant experienced a high-risk pregnancy (Oyibo, Ebeigbe, & Nwonwu, 2011). Similarly, the findings of a study conducted in Iran in 2012 indicated that 63.5% of all pregnancies were in fact high-risk (Firozi, 2012). In a recent study conducted by Hafez, Dorgham, and Sayed (2014) in Saudi Arabia in 2013–2014, the results showed that 63.3% of the participants who were pregnant were considered high-risk. Thus, high-risk pregnancy is a significant problem in maternal health across the world.

While the above statistics focus on high-risk pregnancies in general, it is important to present statistics on specific conditions of pregnancy. The National Heart, Lung, and Blood Institute (2017) states that 6% to 8% of pregnant women in the United States have high blood pressure and 70% of these women are pregnant for the first time. Lykke et al. (2009) report that hypertensive pregnancy disorders such as preeclampsia complicate up to 5% to 7% of all pregnancies and affect 5% to 10% of all pregnant women globally. According to the Center for Disease Control and Prevention (CDC), gestational diabetes affects 2% to 10% of all pregnancies (National Diabetes Fact Sheet, 2017). Furthermore, the National Center for Health Statistics reveal that between the years 1980 and 2009, the twin birth rates increased by 76% for women aged between 35 and 39 years of age (Martin, Hamilton, & Osterman, 2012). Albasri et al. (2017) indicate that in Western Saudi Arabia, preterm birth has complicated all triplet pregnancies and 42% of twin pregnancies. Thus, the above-mentioned statistics provides one with an idea of the magnitude of the problem for pregnant women globally.

It appears that most of the research conducted on high-risk pregnancy has focused mainly on the medical and clinical issues, while the psychological experiences have been omitted. For example, Gausia, Fisher, Koblinsky, Moran, and Ryder Ali (2012) assert that very few studies focused on the effects that the experiences of pregnancy have on women's psychological well-being. However, Campillo, Meaney, McNamara, and O'Donoghue (2017) argue that recent studies are now drawing attention to these issues. For instance, the World Health Organization (2007) has now declared medically complicated pregnancies an emergency situation and alerts us that such situations would evoke a range of emotions in women who are affected.

As high-risk pregnancies have subsequent emotional and psychological challenges, Fisher, Fenwick, and Hauck (2006) report that 6% to 10% of pregnant women who experienced severe pregnancy complications, also experience emotional/psychological discomfort. Campillo et al.

(2017) found that 25% of women reported emotional distress during the antenatal period. Furthermore, Currie and Barber (2016) highlight the fact that when there is a health threat during the pregnancy, women are more likely to experience psychological distress. Similarly, Simmons and Goldberg (2010) report that the label 'high-risk' pregnancy is associated with higher psychological distress. Furuta, Bick, and Sandall (2012) propose that there is the possibility of an indirect relationship between maternal morbidity and psychological disorders. In other words, the synthesis of experiencing a life-threatening event (i.e. high-risk pregnancy) and the need for medical intervention may lead to psychological morbidity. Therefore, not all pregnancies are simple, straightforward events, and sometimes health professionals overlook the complicating emotional and psychological factors. Zager (2009) argues that the psychological status of a pregnant woman might affect her ability to and the probability of her following healthcare guidelines and caring for herself while pregnant and after the pregnancy. Some women may experience either the onset or relapse of some serious psychological disorders (Simmons & Goldberg, 2010). For instance, some women's psychological disorders are triggered because of the high-risk pregnancy experience, whereas other women develop a psychological disorder due to the high-risk pregnancy experience.

The above background to the current study presented an overview of high-risk pregnancy and defined the term. The section explained how expectant women might have pre-existing medical conditions. Complications may also develop during pregnancy and have an effect on the pregnancy outcome, or the woman could be affected by the pregnancy. Often times the consequences of a high-risk pregnancy negatively affect women's emotional and psychological well-being. Conducting a thorough literature review is critical to consolidate the psychological literature on high-risk pregnancy, focusing specifically on the medical conditions and complications of pregnancy and women's emotional/psychological experiences.

1.2 Problem statement

Both contemporary and previous research on high-risk pregnancies primarily focuses on the medical aspects and the psychological experiences are not acknowledged sufficiently. A pregnancy may be classified as at risk as a result of obstetric factors in previous pregnancies or the current one, or more general medical issues experienced by the individual before the pregnancy, such as diabetes (Cumberbatch, Birndorf, & Dresner, 2005). Pregnancy is regarded as a unique experience, but facing a high-risk pregnancy poses different emotional and psychological challenges to women. Each woman's pregnancy experience is subjective because of her conscious and unconscious reactions to it (Zager, 2009). Therefore, the pregnant woman's emotional and psychological well-being should receive continuous attention. According to Vincent (2006), the majority of women who are at risk are protected by appropriate medical interventions, but the general trauma literature shows that life-threatening events (i.e. high-risk pregnancy) are most likely to lead to psychological problems even when medical treatment is effective. As a result, various worthwhile studies have reported on the emotional and psychological experiences of women who experienced high-risk pregnancies (Roomaney, Andipatin, & Naidoo, 2014; Pozzo et al., 2010; Simmons & Goldberg, 2010; Zager, 2009). However, these studies and the methodology they used have not been assessed for their rigour. There is therefore a gap in the body of literature for filtered information. This thesis aims to consolidate the base of empirical evidence by providing filtered information and a comprehensive meta-synthesis of studies reporting on the medical conditions and complications that are classified high-risk and by exploring the emotional and psychological experiences of these events both locally and internationally.

1.3 Rationale

Women who have experienced a high-risk pregnancy demonstrate significantly higher levels of stress and relate to more negative emotions than their counterparts who experienced a 'normal' pregnancy (Roderigues, Cantilino, Sougey, & Zambaldi, 2016). A high-risk pregnancy is considered a traumatic event that affects the women's emotional/psychological well-being (Power & Dalgleish, 2008). The contribution that research could make in this regard is limited due to the identified lack of research examining the medical conditions and complications that make a pregnancy high-risk and women's emotional and psychological experiences. This thesis was aided by a filtration process that helped to consolidate of the body of literature and to establish a more articulated agenda for further research. The assessment of the evidence that currently exists prompts further research and highlights the methodological challenges involved in conducting this type of research.

1.4 Aims of the study

The aim of this systematic review was to explore the emotional and psychological experiences of women in the reviewed articles throughout their high-risk pregnancies. This thesis further aimed to identify the medical conditions and complications in the same reviewed articles.

1.5 Objectives of the study

- To explore the emotional and psychological experiences of women in the reviewed articles throughout their high-risk pregnancies.
- To identify the various medical conditions and complications in the same reviewed articles.

1.6 Review questions

The review answered the following questions:

- What are the emotional and psychological experiences of women in the reviewed articles throughout their high-risk pregnancies?
- What are the medical conditions and complications in the same reviewed articles?

1.7 Conclusion

In this chapter, the background of the study was discussed by identifying the historical development of risks and complications during pregnancy. Pregnant women remain vulnerable in the 20th century. A high-risk pregnancy includes medical conditions and complications that derive from the mother, the baby, or both. For this reason, health professionals have to pay close attention to pregnant women who are experiencing these medical conditions or complications as it negatively affects the health of both the mother and baby. The most important statistics on high-risk pregnancies and specific conditions of pregnancy were presented. These complicated pregnancies might result in emotional and psychological problems that have previously been disregarded by health professionals. The aim of this thesis is to conduct a study that explore women's emotional and psychological experiences in the reviewed articles throughout their high-risk pregnancies, and identify the medical conditions and complications in the same reviewed articles. Recently, there are studies that report on women's emotional and psychological experiences throughout their high-risk pregnancies, but the methodologies that these studies used have not been assessed for their rigour. This results in a gap in the body of literature. The purpose of this thesis is to provide a consolidation of the body of literature and establish a more articulated agenda for further research.

1.8 Thesis organisation/ lay out

This thesis includes five chapters. The remained of the thesis is made up as follows:

Chapter 2 – Literature review

Chapter 2 presents a brief literature review. The brevity of the literature review is related to the fact that the study design is itself a review of literature. The literature review includes information on complications in pregnancy, high-risk pregnancy, and discusses women's emotional and psychological experiences throughout their high-risk pregnancies.

Chapter 3 – Methodology

Chapter 3 provides a detailed report on the methodology of this review. It offers a clear description of the different methodological elements such as the research design, study procedures, inclusion and exclusion criteria, search strategies, data extraction methods, and ethical considerations of the study.

Chapter 4 – Interpretation of findings and discussion

Chapter 4 presents and discusses the findings. The discussion is guided by a flowchart detailing the search process and shows the number of studies included and excluded at each stage of the review. This is followed by a detailed discussion of each article in relation to the theory presented by Noblit and Hare (1988).

Chapter 5 – Conclusion

The fifth chapter offers a conclusion by providing an executive summary of the findings. This is followed by the limitations of the study, recommendations for future research and a discussion of the significance of the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to present a literature review that provides insight into the contemporary conceptualisation of medically complicated pregnancies and women's emotional and psychological experiences of such a pregnancy. This chapter also provides an overview of the medical conditions and complications most frequently addressed. The literature review also examines women's most prevalent emotional and psychological experiences throughout their high-risk pregnancies.

2.2 Women's pregnancy journey

Pregnancy is a physiological process that comprises several events, such as fertilisation, placentation, and implantation. These events result in the development of an embryo and later a foetus (Kapp & Tyl, 2010). The purpose of these events is for the pregnancy to progress 'normally' and culminate in a positive birth outcome. Pregnancy is a time of transition in a women's life as the mental preparation for the journey of parenthood may begin before the pregnancy and intensify during the pregnancy (Hjelmstedt, Collins, & Widstrom, 2006; Condon, 1997). Prior to the birth of a child, the woman may imagine what the child would be like and what life would be like as a family. There is an increased emotional sense of parenthood (Stern & Bruschweiler-Stern, 1998). However, the women's pregnancy journey officially begins when she discovers that she is pregnant. According to Platt, Campbell, Tetreau, and Pinette (2009), pregnancy consists of three trimesters. During the first trimester the expectant woman experiences physical changes connected to the pregnancy, such as breast soreness, fatigue, frequent urination, and the absence of menstrual periods (Platt et al., 2009). Not all of these changes occur immediately, nor do all of them continue throughout the

pregnancy or occur in every woman. In the second trimester, the baby's organs develop fully and the foetus grows in size and weight (Platt et al., 2009). The third trimester is the final three months of the pregnancy and several changes occur as a result of the baby's rapid growth and in preparation for the birth (Platt et al., 2009). These three trimesters form the process a pregnant woman goes through. During this process, the pregnant women may go for regular check-ups to their obstetricians to ensure the health and well-being of both the mother and the baby. One of the ways in which health professionals confirm this, is to send the expectant mother for an ultrasound examination.

2.2.1 Ultrasound examination in pregnancy

According to Garcia et al. (2012), ultrasound examination has become an almost universal part of antenatal care in developed countries. Marsal and Malcus (2008), and Platt et al. (2009) argue that ultrasound examination is used in 97% of pregnancies and mainly performed during the second trimester. However, a study conducted by Khaskheli, Baloch, and Baloch (2010) shows that there may be early pregnancy complications during the first trimester. The pregnant woman should inform health professionals of anything suspicious at any stage of her pregnancy. Nevertheless, one of the reasons why pregnant women may go for an ultrasound examination is to check on the health status of the foetus or to determine if it is a multiple pregnancy. Using several medical and technological devices, it is possible to determine whether there are any genetic or foetal abnormalities or injuries to the unborn child (Gudex, Madsen, & Nielsen, 2006; Ekelin, Crang-Svalenius, & Dykes, 2004; Larsen, Nguyen, Munk, Svendsen, & Teisner, 2000). Another reason for ultrasound examination is to provide reassurance or acknowledgement of a new life and the idea of 'becoming a family' to those who feel they need it. For instance, seeing the image of the foetus during an ultrasound examination potentially advances prenatal attachment (Ekelin et al., 2004). If a pregnant

woman engages with the foetus during pregnancy, there is an expectation that she will engage with the infant after birth (Figueiredo & Costa, 2009; Siddiqui & Hägglöf, 2000). This is where expectant women start to develop a relationship with their unborn infant and this continues throughout the pregnancy. In a study conducted by Simmons and Goldberg (2010), some women report that the ultrasound examination permitted them to visually confirm their infant's well-being. Zager (2009) argues that the ultrasound examination lessens worry, although there is considerable anxiety when an abnormality is detected. This is because the expectant women's expectation of a 'normal' pregnancy is altered.

2.2.2 Complications during pregnancy

In the past, when women had problems with their pregnancy, health professionals used terms such as 'complications' or 'risks' (Shorter, 1982). Risk is "a determination of the probability of a particular event occurring that takes into account specific contributing factors" (Platt et al., 2009, p. 2). Risks' as it is utilised in obstetrics is understood as a technical term that displays the possibility of an unfavourable obstetric outcome (MacKinnon & McIntyre, 2006). Thus, risk has become anonymous with the need for hospitalisation and obstetric intervention. The World Health Organization (2007) reveals that complications of pregnancy are identified as health problems that may be evident during a pregnancy. Medical technology has become advanced enough that health professionals are now often able to detect pregnancy risks or complications early. Platt et al. (2009) argues that a normal pregnancy could be complicated in three ways. Firstly, complications can be a result of abnormal responses in the mother's body to the pregnancy-induced changes. Pre-existing health problems may hinder the mother's physiological condition as the pregnancy proceeds. Diabetes, cardiovascular, thyroid dysfunction gestational trophoblastic disease, ectopic pregnancy, and hyperemesis gravidarum are some of the physiological conditions in the mother that greatly affect the health of the baby

(Neiger, 2017; Kashani et al., 2012; Khaskheli et al, 2010; Platt et al., 2009). Platt et al. (2009) point out that the underlying problem in the mother would not always harm the baby directly, it depends on whether the mother's health worsens during the pregnancy. Secondly, complications may stem from atypical development such as serious abnormalities and genetic or congenital disorders that occur in the baby (Platt et al., 2009). These complications affect the physical welfare of the mother much less, but cause health problems in the baby, leading to either premature delivery, stillbirth or miscarriage. Lastly, Neiger (2017) and Platt et al. (2009) contend that medical conditions associated with labour and delivery, including preterm labour, gestational diabetes, preeclampsia, and placental previa complicate a pregnancy. Khalil et al. (2013) and Lykke et al. (2009) report that these medical conditions might affect the pregnancy, labour, delivery, or all of them, putting the mother and the baby at risk.

2.2.3 High-risk pregnancy

Despite the fact that the emergency of modern obstetrics can be linked to the 1950s, the term 'high-risk pregnancy' was not employed (Andipatin, 2012). During the 1960s, literature started referring to the concept of high-risk pregnancy (Stirrat, 1988 cited in Polomeno, 1997). However, after an extensive literature search, no formal or universally accepted definition of a 'high-risk pregnancy' could be found. Dangal (2006) proposes that a pregnancy is defined as high-risk when maternal or foetal complications are present that could possibly affect the health or the safety of either the mother or the baby or both. Similarly, O'Brien, Lavender, and Quenby (2010) define high-risk pregnancy as a greater risk of mortality and morbidity because of foetal, maternal or placental defect. Roderigues et al. (2016) reveal that healthcare providers consider the label of high-risk pregnancy to be an indication that a woman and/or her unborn infant are at risk because of a medical condition. The medical conditions and complications discussed above are therefore central in a definition of high-risk pregnancy. In other words, high-risk

pregnancy is a consequence of several medical conditions and complications that put the expectant woman and the developing foetus at risk.

According to Georgsson Ohman, Grunewald, Saltvedt, and Waldenström (2004), when expectant women are diagnosed with a high-risk pregnancy, they may have difficulty coming to terms with the situation. Their expectation of normality has been destroyed, giving rise to a range of emotions. For instance, a study conducted by Carolan and Hodnett (2009) reports that participants held back their feelings of anticipation and excitement, and that they distanced themselves from the unborn baby because of the high-risk pregnancy. When women go through a high-risk pregnancy because of a medical condition or complication, they may experience a range of emotions, showing a connection between high-risk pregnancy and expectant women's emotional and psychological experiences.

2.3 Emotional and psychological experiences during and after a high-risk pregnancy

Kleinginna and Kleinginna (1981) believe that the term emotion(s) is confined to psychology dictionaries. Emotion has been identified as "one of the most confused areas of psychology" (Allott, 2012, p. 408). Kutty (2013, p. 135) states that "emotions are therefore more intense than simple feelings, and involve the organism as a whole." An individual's experience, and his/her learned interpretation of a situation is closely related with specific emotions (Allott, 2012). According to Naar and Teroni (2017), some examples of emotions are happy, angry, and sad. When an individual encounters a situation, particular emotions may be awakened. For example, when a woman discovers that she is expecting, a range of emotions may be associated with the situation of being pregnant and a mother-to-be. The range of emotions that are common reactions to obstetric emergencies are denial, guilt, anger, and isolation (World Health

Organization, 2007). For this reason, Hall (2015) contends that having a high-risk pregnancy is an emotional experience. Similarly, Simmons and Goldberg (2010) report that high-risk pregnancy is closely related to higher psychological distress. The current literature identifies several emotional and psychological experiences prevalent among women who are at high-risk during pregnancy. These are discussed below.

2.3.1 Fear

Fear is defined as a mood state with strong negative affect that encourages one to avoid danger (Barlow & Durand, 2005). Price, Breen, Carson, O'Connor, and Quinn (2007) identify fear as one of the complex emotional experiences that women go through when facing a traumatic event, in this case a complicated pregnancy. A recent study conducted by do Carmo Oliviera and Mandu (2015) reveals that most participants who were diagnosed with a high-risk pregnancy expressed feelings of fear. This study makes reference to the idea that women may have no previous information regarding high-risk pregnancy and it could be their first encounter. They therefore do not know what to expect. In this case, fear appears to be a response to emotional trauma during a high-risk pregnancy and may affect women for months and years after (Currie & Barber, 2016). For example, participants in a study conducted in South Africa experienced profound feelings of fear during their HELLP (i.e. haemolysis, elevated liver enzyme levels, and low platelet levels) syndrome experience, which is identified as a high-risk condition of pregnancy (Andipatin, 2012). Similarly, in a study conducted by Roomaney et al. (2014), participants who were diagnosed with HELLP syndrome expressed fear of losing their babies. In the same study, fear was recognised as one of the dominant emotions experienced. The findings of a study done by Wilhelm et al. (2015) reveal that fear was the most mentioned feeling by participants when faced with a complicated pregnancy. However, Andipatin (2012) contend that women experience fears in relation to different

aspects of the pregnancy experience. For instance, some women experience fear in relation to losing their unborn child as opposed to others who are fearful of the high-risk pregnancy itself. Fear is thus an important emotion associated with high-risk pregnancies and it lingers long after the actual experience.

2.3.2 Worry

Worry is defined as a cognitive phenomenon that involves a negative concern about future outcomes (O'Krien, 2008). Some women may worry about the health of the baby, childbirth, and other concerns and this is considered 'normal' during pregnancy (Guardino & Schetter, 2014). However, do Carmo Oliviera and Mandu (2015), Laza-Vasquez, Castiblanco-Montanez, and Pulido Acuna (2012), as well as Platt et al. (2009) assert that the diagnosis of a high-risk pregnancy results in some women worrying. This is because the diagnosis interferes with the natural progression of the pregnancy. For example, women who have hypertension or diabetes might worry about the adverse effects the disease will have on their babies and themselves (Borkoveck & Inc, 1990). In addition, do Carmo Oliviera and Mandu (2015) contend that participants were worried about what will happen to them and their new-born infant after the high-risk pregnancy. Currie and Barber (2016), and Zager (2009) indicate that the experience of a high-risk pregnancy is referred to as one of worry.

2.3.3 Shock

Shock is defined as having a physical reaction to a recognised wound that does not resolve (McQuoid-Mason & Dada, 2011). When the expectation of normality is disrupted during a pregnancy, some mothers experience a sense of astonishment and shock. Pozzo et al. (2010) argue that the shift from a non-threatening pregnancy to a threatening condition is a serious moment for both pregnant women and health professionals. The transition to this emotion of

'shock' could possibly begin once suspicion is raised during the pregnancy. For example, participants in a study conducted by Currie and Barber (2016) reveal that the suddenness and strangeness of being thrust into a medicalised experience of care came as a shock. Price et al. (2007) revealed shock as one of the emotional responses women in their study experienced during their high-risk pregnancies. After women's experiences of a high-risk pregnancy they recalled the word 'shock' as they were caught completely off guard by what was happening to them (Wilhelm et al., 2015; Andipatin, 2012; Storeng, Akoum, Filipi, Murray, & Ouattara, 2010). Shock is therefore a predominantly negative emotional reaction to experiences within high-risk pregnancies (Lalor, Begley, Galavan, 2009; Chaplin, Perloulidis, & Schwitzer, 2005; Drotar, Baskiewics, Irvin, Kennell, & Klaus, 1975).

2.3.4 Guilt

Guilt is defined as a sense of responsibility for the harmful actions of another or feeling of having done wrong (Von Scheve & Salmela, 2014). When it is established that the foetus may have an abnormality, parental expectations change and they give up the idealised picture they initially had (Larsson, Dykes, Lundqvist, & Svalenius, 2010). For instance, in a contemporary qualitative study conducted by Janighorban, Allahdadian, Dadkhah, Eslami, and Mohammadi (2016) about midwifery students' empowerment in pregnancy, participants revealed that they felt vulnerable to feelings of guilt when diagnosed with a high-risk pregnancy. Laza-Vasquez et al. (2012) found that the situation of a high-risk pregnancy triggered the emergence of emotions and feelings of guilt because severe morbidity is seen as a woman failing during her pregnancy. Furthermore, Mackinnon and McIntyre (2006) conducted a study where participants who had experienced preterm labour and birth in two previous pregnancies expressed fear and guilt. Similarly, Berg, Lindmark, and Lundgren (2003) show that feelings of guilt may be experienced by mothers for 'giving' the baby a traumatic birth. There was also

a lack of confidence in their own capacity for giving birth. Feelings of guilt are common during and after a high-risk pregnancy as some women feel it is their fault that the baby had to endure some of those very traumatic experiences.

2.3.5 Ambivalence

Ambivalence is defined as "the experience of contradictory emotions towards the same object" (Boss & Mulligan, 2003, p. 219). According to the World Health Organization (2007), pregnancy is considered to be both a time of joy and concern as the transition from a happy, stress-free pregnancy to an unexpected stressful pregnancy can evoke different emotions for the pregnant woman. For instance, when a woman is diagnosed with a high-risk pregnancy by medical personnel, she is fearful about her well-being, but she often will not accept this reality and she therefore remains ambivalent towards it (Perry, Hockenberry, Lowdermilk, & Wilson, 2014). Berg (2005) reports that participants who were faced with diabetes during their high-risk pregnancies revealed that they experienced more ambivalence towards their unborn infant. The element of ambivalence describes how some women behave in relation to the new pregnancy, and thus to the unborn child. Price and colleagues conducted a study on high-risk pregnancy and women's spiritual experiences where participants expressed that they experienced feelings of shock, fear, uncertainty, loneliness, frustration, and sadness one moment, and then excitement, happiness, and joy the next (Price et al., 2007). Wilhelm et al. (2015) and Roomaney et al. (2014) indicate that ambivalent feelings are present for participants during and after a high-risk pregnancy. These studies point to a level of inner and outer conflict (ambivalence) as an essential theme in these women's experiences. They love their unborn child, but at the same time resent the complications associated with pregnancy.

2.3.6 Isolation and loneliness

Isolation refers to the absence of close companionship and loneliness refers to the disconnection from others (Foss & Waters, 2016; Downing, 2008). According to Orshan (2009), women who were diagnosed with a high-risk pregnancy by health professionals were instructed to be on bedrest and this resulted in them feeling isolated and alone. Price et al. (2007) state that complications during pregnancy are a stressful time for both women and their families. In addition, literature reveals that the high-risk pregnancy does not only affect woman physically (medically), but also emotionally and that she should not be isolated from her health professionals and family, as it affects everyone involved. Recently, Currie and Barber (2016) contend that the inclusion and acknowledgment of the importance of partners and family members at this traumatic time may be key to fighting the feeling of being alone and feeling helpless. Furthermore, Roomaney and colleagues state that when women are faced with hospitalisation because of their high-risk pregnancy condition, feelings of loneliness and isolation might be evoked for many (Roomaney et al., 2014). Mills et al. (2014) reveal that after women experienced a high-risk pregnancy they may feel excluded from social groups that they were part of, adding to a sense of isolation. For this reason, one can conclude that there is an association between isolation and loneliness, since women who encounter a high-risk pregnancy are hospitalised and start to feel separated from others.

2.3.7 Anger

Anger is defined as a negative feeling associated with particular cognitive and perceptual distortions and deficiencies (Morewits & Goldstein, 2014). Wilhelm et al. (2015) contend that after health professionals diagnosed expectant women with a high-risk pregnancy, they expressed the emotion of anger and mourn the death of the idealised pregnancy. For instance, a pregnant woman may develop a relationship with her unborn child and when complications

during the pregnancy occur, it is a stressful experience for the women and changes her expectations (MacDonald & Jonas-Simpson, 2009). Generally, pregnancy is a time of change for women and their families. Therefore, during a high-risk pregnancy, a woman's expectations may change continuously and this may evoke feelings of anger (MacDonald & Jonas-Simpson, 2009). For example, in a study among women who suffered from preeclampsia, anger, anxiety and stress were evident (Laza-Vaquez et al., 2012). According to Gilbert (2011), some women expressed anger after the high-risk pregnancy as they felt that they lost the opportunity for a 'normal' pregnancy. The two studies conducted by Andipatin (2012) and Kidner (2000) reveal that feelings of anger were boldly expressed by participants who had a high-risk pregnancy experience. However, in the Kidner (2000) study the anger expressed was directed at the women themselves and the health professionals. Thus, it is important to highlight that anger was expressed differently by participants in these studies discussed, but they all had a high-risk pregnancy experience. Based on the literature discussed it is evident that a high-risk pregnancy changes the expectations of pregnant women and results in them expressing feelings of anger.

2.3.8 Psychological distress

Psychological distress refers to a state of emotional suffering, manifesting as depression and anxiety (Mirowsky & Ross, 2002). Mental illness during a pregnancy has been receiving much attention lately, but it is by no means a new phenomenon. According to Rysavy (2013), the first mention of postpartum depression came in the 4th century when Hippocrates suggested that blood flowing from the uterus to the brain caused attacks of mania (Rysavy, 2013). Later, in the 13th century, a female physician wrote about excess moisture in the body following pregnancy that caused new mothers to be tearful (Rysavy, 2013). However, society has long held the perception that pregnant women and new mothers should be continuously happy. Despite this, during the 19th century there was a greater shift in research to maternal mental

health (Rysavy, 2013). Various psychiatric disorders have been found to be related to pregnancy (Santvana, Firuza, Shamsah, & Rajesh, 2005). For example, pregnant women who are diagnosed with a high-risk pregnancy report greater anxiety and expressed symptoms of depression and less optimal family functioning than pregnant women who are not at risk (Zager, 2009). In addition, Petersen and Jahn (2008), and Kaasen et al. (2010) reveal that there are high levels of psychological distress in pregnant women when health professionals suspect or diagnose a foetal malformation. Brisch et al. (2003) posit that expectant women with risk factors show high levels of anxiety. Similarly, Clauson (1996) argues that the most prominent emotional feature of the high-risk pregnant women is anxiety. Part of this, Mercer, De Joseph, Ferketich, May, and Solid (1998) assert that as the seriousness of the high-risk pregnancy increases the more anxiety the pregnant woman experiences. The findings of a study conducted by Lee and Lee (2016) reveal that there is a direct correlation between high-risk pregnancy and anxiety. A study conducted a few years ago concluded that the rates of depressive symptoms in high-risk pregnant women were higher than their pregnant counterparts who had a 'normal' pregnancy (Gourount, Karpathiotaki, & Vaslamatzis, 2015). Likewise, Kim et al. (2012) contend that post-partum depression (PPD) affects several women within the first 10 days after the birth of their child and may continue up to one month. However, Mawson and Wang (2013), as well as Pearlstein, Howard, Salisbury, and Zlotnick (2009) claim that the high-risk pregnant women could have depression and high levels of anxiety before birth. In contrast, Haga, Lynne, Kraft, and Slinning (2012) assert that if it is a first time mother, PPD is more likely to occur. For this reason, it can be concluded that anxiety and depressive symptoms may be prevalent in women who are faced with a high-risk pregnancy.

The literature above reveal that there are medical complications within a pregnancy and it may result in emotional and psychological experiences for women. Thus, the articles that formed part of this study are reviewed in order to explore women's emotional and psychological

experiences as well as identifying the medical conditions and complications through a conduction of the meta-synthesis. For the meta-synthesis, the researcher utilises the three phases (i.e. reciprocation, refutation and line of argument) provided by Noblit and Hare (1988). The meta-synthesis is discussed in detail below.

2.4 Conclusion

Pregnancy is considered a life-changing experience and it creates a special connection between the mother and the foetus. This chapter highlighted that a woman's pregnancy journey consists of three trimesters. As part of the pregnancy journey, the expectant woman is required to go for an ultrasound examination. They are able to see the image of the unborn infant and to be reassured about becoming a family. Health professionals can track the health status of the foetus, but pregnant women should inform health professionals if they encounter anything suspicious during the pregnancy period. The outcome of the ultrasound examination is a manner to ensure the well-being of the foetus. This either provides the opportunity to encourage expectant mothers or may conclude that she has a medically complicated pregnancy. This chapter identified that medical conditions and complications in pregnancy may stem from either the mother, the baby, or could be associated with delivery and labour. This chapter continued to examine the meaning of the term high-risk pregnancy. The literature reviewed reveals that when women are experiencing a high-risk pregnancy, they may have several emotional and psychological reactions (i.e. fear, worry, shock, guilt, ambivalence, loneliness and isolation, anger, and psychological distress) throughout their high-risk pregnancies. The next chapter provides an overview of the process that was involved in conducting this study.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

The methodology of a study refers to the procedure used to produce a process (Sandelowski & Barroso, 2003). This chapter provides a detailed explanation of the particular methodology that this research study is based on. In addition, the chapter outlines the methodological process involved with this specific study. The discussion provides the research design, the study procedures and the ethical considerations.

3.2 Research design

This study utilised a systematic review. The Cochrane Collaboration (2005) defines a systematic review as a review that uses systematic and explicit methods to identify, select and critically appraise relevant research; to collect and synthesise data from the studies included in the review; and to interpret the findings. Medina and Pailaquilen (2010), as well as Baumeister and Leary (1997) propose that a systematic review can address the broader questions of a particular study as it is objective, transparent, and replicable. Furthermore, Uman (2011) contends that a systematic review is made up of pre-defined stages one at a time, as each stage is peer-reviewed. This guarantees that the research procedure is in-depth, comprehensive, and ultimately intends to diminish bias in selection. As a result of this, a systematic review is highly valued (Bhandari, 2011). This methodology was considered the most suitable method of rigorous review because it evaluates and summarises studies on the medical conditions and complications that put a pregnancy at risk and evaluates women's emotional and psychological experiences of such a pregnancy. The systematic review will permit the researcher to assemble and synthesise data from appropriate sources that met the inclusion criteria and successfully answer the projected research questions.

3.3 Study procedures

Yuan and Hunt (2009) contend that a systematic review consists of five basic principles: (1) constructing the research question(s), (2) conducting the literature search, (3) identifying the selection and assessment methods, (4) describing the process for data extraction, and (5) dispensing the approach to analysis. The researcher outlined the first principle (i.e. research question(s)) for this review in Chapter 1 of this study. The remaining principles are covered below.

3.4 Inclusion criteria

3.4.1 Time period

The period of January 2006 to June 2017 was selected in an effort to reflect on the more recent literature within this specific field. During the initial search, a significant number of articles published between 2008 and June 2017 were found. As a result of this, the researcher identified that an expansion of the time period will contribute to the comprehensiveness of the study.

3.4.2 Types of participants

In a systematic review, the population of interest is a specified group of research studies rather than a population of individuals. However, this review focused on studies that included women, more specifically those who experienced medically complicated pregnancy/(ies). The review included studies where data was collected from these women who spoke about their emotional and psychological experiences throughout their medically complicated pregnancies.

3.4.3 Types of studies

The researcher aimed at including the studies that will yield the best current evidence. The review considered studies that used qualitative data collection methods and analysis, and included the qualitative component of mixed method studies. According to Richards, Coulthard, and Pumphrey (2012), it is acceptable to use only the qualitative components of mixed method studies in systematic reviews. Qualitative research aims to provide an in-depth understanding of individuals' subjective perspectives, histories, and provide a complex picture of interpreting a given situation. Therefore, it helps the researcher in understanding the experience of pregnant women and their high-risk pregnancy. Studies were eligible for inclusion if they reported on women's emotional/psychological experiences of medically complicated pregnancies because their qualitative findings were an important aspect of this study. Studies were also limited to the English language. Lastly, studies that required payment were included as the University of the Western Cape (UWC) has a subscription with several databases that made them available to registered students. This project also received funding.

3.5 Exclusion criteria

Studies were excluded based on the following criteria: articles that focus on childbearing women in general, the full report/text is not available, the manuscript is not published in English, it does not target the desired population, it reports on a quantitative study, or it was written and published before January 2006 and after June 2017.

3.6 Review process

The review process for the present study involved four steps: identification, screening, eligibility and summation. Each one of these steps includes a process. These are highlighted

below. Furthermore, the researcher outlines the timeframe within which the review process took place under the appropriate headings.

3.6.1 Identification

The first step consisted of identifying and retaining potential studies that could be included in the review. This involved three actions. First, keywords had to be identified. Secondly, the researcher did a thorough search of the databases at UWC by using the keywords and index terms identified. Lastly, the researcher consulted sources such as cross-referencing.

3.6.1.1 Keywords identification

The keyword identification stage is also known as the title search. The first set of keywords that the researcher selected from the review of the literature were: 'high-risk pregnancy', 'medically complicated pregnancy', 'severe morbidity', 'maternal near-miss', 'maternal mortality', and 'emotional/psychological experience'. These keywords were then tested in an initial restricted search, using one main database (EbschoHOST) that includes several sub-databases, of which the researcher selected two (i.e. PsycArticles and SocINDEX). The reason for this was to determine the effectiveness of the keywords for consequent searches. The final list of keywords confirmed by the principal researcher and supervisor were: 'high-risk pregnancy' OR 'maternal near-miss', 'emotional', 'psychological', 'experiences', and 'medical complications'. These keywords were then established into Boolean phrases and once again verified on the same database previously mentioned. The researcher decided that joining numerous keywords with the Boolean operators (i.e. AND, OR, and NOT) will advance the search and improve their efficiency. In addition, the researcher constantly tested and tuned the Boolean phrases until the results yielded the richest data, which led to the finalisation of the phrases. The researcher decided on three phrases as it reached a wider range of studies from

several parts of the world. For example, Boolean phrase 2 (see below) yielded many results, whereas Boolean phrase 1 did not yield any result. This process was conducted during August 2017. The three identified Boolean phrases are as follows:

Boolean phrase 1

High-risk pregnancy AND maternal near-miss AND emotional AND psychological AND experiences.

Boolean phrase 2

High-risk pregnancy OR maternal near-miss AND emotional AND psychological AND experiences.

Boolean phrase 3

High-risk pregnancy OR maternal near-miss AND emotional AND psychological AND experiences AND medical complications.

3.6.1.2 Database search

The databases that formed part of this study were selected from the library website at UWC (www.lib.uwc.ac.za). The library provides the material for several disciplines and each discipline has a list of databases that are identified as primary or secondary for that discipline. This is mainly based on the nature of publications housed in that database and the regularity with which authors from particular disciplines publish in the subscribed journals. Table 3.1 reveals the disciplines recognised for this review.

Table 3.1: Disciplines included in database search (n=10)

Disciplines
Psychology
Social Work
Women and Gender Studies
Nursing
Occupational Therapy
School of Public Health
Physiotherapy
Dietetics
School of Natural Medicine

As discussed above, this review utilised both primary and secondary databases that can be identified in a printout list (Appendix A). This printout list was assessed by the researcher and supervisor, and the researcher later created a meta-list of these databases that often occurred across the identified databases (see Table 3.2). This meta-list was confirmed by the supervisor.

Table 3.2: List of databases

Core databases	Additional databases
EbscoHOST: PsychArticles SocINDEX	JSTOR
	Sage Journals Online
	ScienceDirect
	SpringerLink
	SA ePublications (Sabinet)
	SCOPUS
	Taylor and Francis Open Access eJournals
	Emerald eJournals Premier
	PubMed

An all-inclusive search of databases on the above list was conducted utilising the Boolean phrases previously discussed (August–September 2017). The titles of possible articles recognised from these database searches were assessed based on whether their titles met the inclusion criteria and based on the relevance of the title with respect to the review questions. The titles that were considered appropriate for inclusion were recorded on the title reading extraction tool (Appendix B).

3.6.1.3 Other sources

The current study made use 16 other sources. However, five of these studies that were cross-referenced by the researcher and speak to the research questions of this study were included. The supervisor approved this process. In addition, the subscription that UWC has with the

respective and selected databases for this study allowed for the inclusion of three articles that required payment as it met the inclusion criteria and spoke to the research questions.

3.6.2 Screening

Abstract level assessment is another part of this step. The abstracts of the articles that were included after the title search step were assessed based on the inclusion criteria (September 2017). The reviewer decided on the relevance of each abstract and whether it should be included or excluded. Appendix C provides an abstract summary sheet that the researcher utilised to document the information extracted from abstracts, such as the study design, the outcome of the article (i.e. inclusion/ exclusion), and the information regarding the reasons for exclusion.

3.6.3 Eligibility

At this stage, the articles that had been included based on their abstracts and the fact that they attempt to answer the research questions of this review, were screened for methodological rigour utilising a critical appraisal tool (September–October 2017). There are several critical appraisal tools that are structured along the guidelines provided by scholars, such as Letts et al. (2007) and Law et al. (1998) (e.g. Long, Brettle, Godfrey, Grant, & Randall, 2002; Guyatt, Cook, & Sackett, 1993). However, the available tools were developed for particular kinds of studies, such as cross-sectional studies (Guyatt et al., 1993), but this study required a tool that assesses the methodological rigour of studies. Therefore, it was essential for a tool to be created in a manner that would evaluate the relevance of methodological fundamentals. The tool also had to measure in correspondent ways the conventions of qualitative and quantitative methodologies. As a result of this, a critical appraisal tool was developed by Smith, Franciscus, Jacobs, Munnik, and Swartbooi (under review). This tool also allowed to assess studies that

utilised mixed methods as this thesis considered qualitative studies and the qualitative component of mixed method studies. The authors also presented this tool at a psychological conference in 2015 (Smith, Franciscus, Jacobs, Munnik, & Swartbooi, n.d.). The current study utilised this tool with the permission of the developers (Appendix D). This tool comprises eight divisions:

- The 'Purpose' division intends to evaluate the rationale, problem statement, and aims as well as the association that occurred between the aims and the problem statement.
- The 'Sampling' division inspects the degree to which facets of sampling and techniques were based on.
- The 'Design' division aims to investigate the theoretical orientation of the study and the fundamentals of the selected design, and the connection that existed between the design and the aims of the study.
- The 'Data collection' is divided into sections for qualitative and quantitative studies and evaluates the eminence and significance of the data collection method that the researcher utilised.
- The 'Analysis' division looks at the form of data analysis that were utilised, the appropriateness in relation to the research question and whether conclusions that were drawn are related to the data as well as whether or not the interpretations made were supported.
- The 'Ethics' was evaluated to ensure that the participants and the findings were protected.
- The 'Results' division evaluates whether the results obtained are in association with the research question.

- The ‘Conclusion’ aspect identifies whether the conclusion drawn were in connection with the findings presented and whether there are any mention of recommendation and limitations.

It is important to note that before starting the critical appraisal step of the review process, some temporary alterations were made on the tool. These alterations consisted of adapting the sampling division to diminish the weighting of this section and to make it more equally weighted in relation to the other sections. Secondly, the divisions of data collection and results were altered to ensure that the critical appraisal tool was not biased in the scoring of studies that have either utilised a qualitative or a quantitative methodology. Finally, in the division of results, question three found in the section on qualitative studies was altered as the original question was considered too similar to a question asked in another section of the tool. These alterations to the critical appraisal tool were approved by the developers of the tool (Appendix E).

The critical appraisal tool allowed for each article to be scored. This score was communicated as a percentage to reflect the methodological rigour, ranging from weak (0–40%), moderate (41–60%), strong (61–80%), to excellent (81–100%). In this study, the threshold score for inclusion was set at strong (61–80%). Articles that attained a score below 61% was deemed weak and excluded from the review. Setting a high threshold score would be appropriate, as it would enhance the study without affecting its comprehensiveness. The scores for each article were captured on a form as a rating and the final recommendation about inclusion or exclusion was included in the final summation (Appendix F).

3.6.4 Summation

This step comprised of data extraction and meta-synthesis.

3.6.4.1 Data extraction

The researcher extracted data from the included articles and recorded it on a data extraction sheet (September–October 2017). This data extraction sheet was divided into three main sections with the appropriate subheadings under each section (Appendix G). In addition, the researcher made each section with its appropriate subheading into a table and on a separate page. The tables are presented in the next chapter. The first table deals with the general description of the articles using the subheadings 'Medical complications', and 'Emotional/psychological experiences'. The second table gives the methodological appraisal with the subheadings 'Design', 'Sample type', 'Data collection', and 'Analysis'. The third table looks at the results and recommendations, and included the following subheadings: 'Findings', 'Conclusions', 'Recommendations' and 'Limitations'.

3.6.4.2 Meta-synthesis

The current study utilised a meta-synthesis, which yields integrative interpretations that are more significant than those attained from individual investigations. Furthermore, meta-synthesis provides a diverse combination of interpretations of/on an issue that result into new understandings of research (Mohammed, Chen, & Moles, 2016; Walsh & Downe, 2005; Jensen & Allen, 1996). A meta-synthesis attempts to combine findings by means of an integration of several interrelated qualitative studies (Mohammed et al., 2016; Walsh & Downe, 2005). A meta-synthesis would be appropriate as part of this study as it integrates qualitative findings reported in previous studies on high-risk pregnancies and women's emotional and psychological experiences to gain a deeper understanding of the subject matter.

For a successful conduction of the meta-synthesis, this study utilised the three phases provided by Noblit and Hare (1988). According to Noblit and Hare (1988), the first stage is the reciprocal stage and it refers to how each of the articles selected relate to each other. Additionally, it

consists of identifying frequent themes and interests found in the selected articles that relate to answering the research questions. The main activity in this phase is highlighting themes that are prevalent in more than one of the included studies. Part of this phase consisted of the researcher constantly reading all the articles selected for inclusion in the current study. As I read these studies, I highlighted and documented all the medical conditions and complications, as well as the emotional and psychological experiences discussed in the articles. In addition, I made a list of the articles that mentioned the same medical condition and complications as well as emotional and psychological experiences. Once this process was completed for each article, I then compared and placed the list of medical conditions and complications and the list of emotional and psychological experiences, alongside the existing literature. Afterwards, I consulted the findings of the included articles and the findings of the existing body of literature to identify similarities.

The second phase of Noblit and Hare (1988) is known as the refutational phase. This phase applies to the cases that cannot be brought together as themes as they are incongruent with other studies. The findings of my study therefore represent a form of critique directed at the findings of the other papers. In addition, Noblit and Hare (1988) posit that refutational cases are characterised by themes that are non-reciprocal and cannot relate to what is discussed in another study. During this phase, the researcher identified the relationships between the competing explanations and understandings about the research topic in the included articles. The process was documented by the researcher, who highlighted the differences between the included articles and the existing body of literature on medically complicated pregnancy, and women's emotional and psychological experiences throughout their high-risk pregnancies. In cases where women's emotional and psychological experiences, and medical conditions and their complications in pregnancy were not mentioned, this was noted in relation to the findings of the included articles.

The third phase of Noblit and Hare's operational phases is known as the line of argument. This phase is described as an inferential task that asks what can be concluded about the phenomena based on what has become known about its parts. During this phase, the researcher drew inferences from the selected articles as a whole (Noblit & Hare, 1988). In other words, this phase consisted of the researcher providing a synopsis of the findings of the included articles. In an effort to express the line of argument, I read the completed reciprocal and refutational sections to identify any mutual findings, themes or interests. These were then assembled and formulated into a principal argument in answer to the review question.

The review process of this study is graphically symbolised by the figure below. This figure was originally developed by the PRISMA group (Moher et al., 2009) and for the purpose of this study, the researcher altered it to reflect the nature of this review.

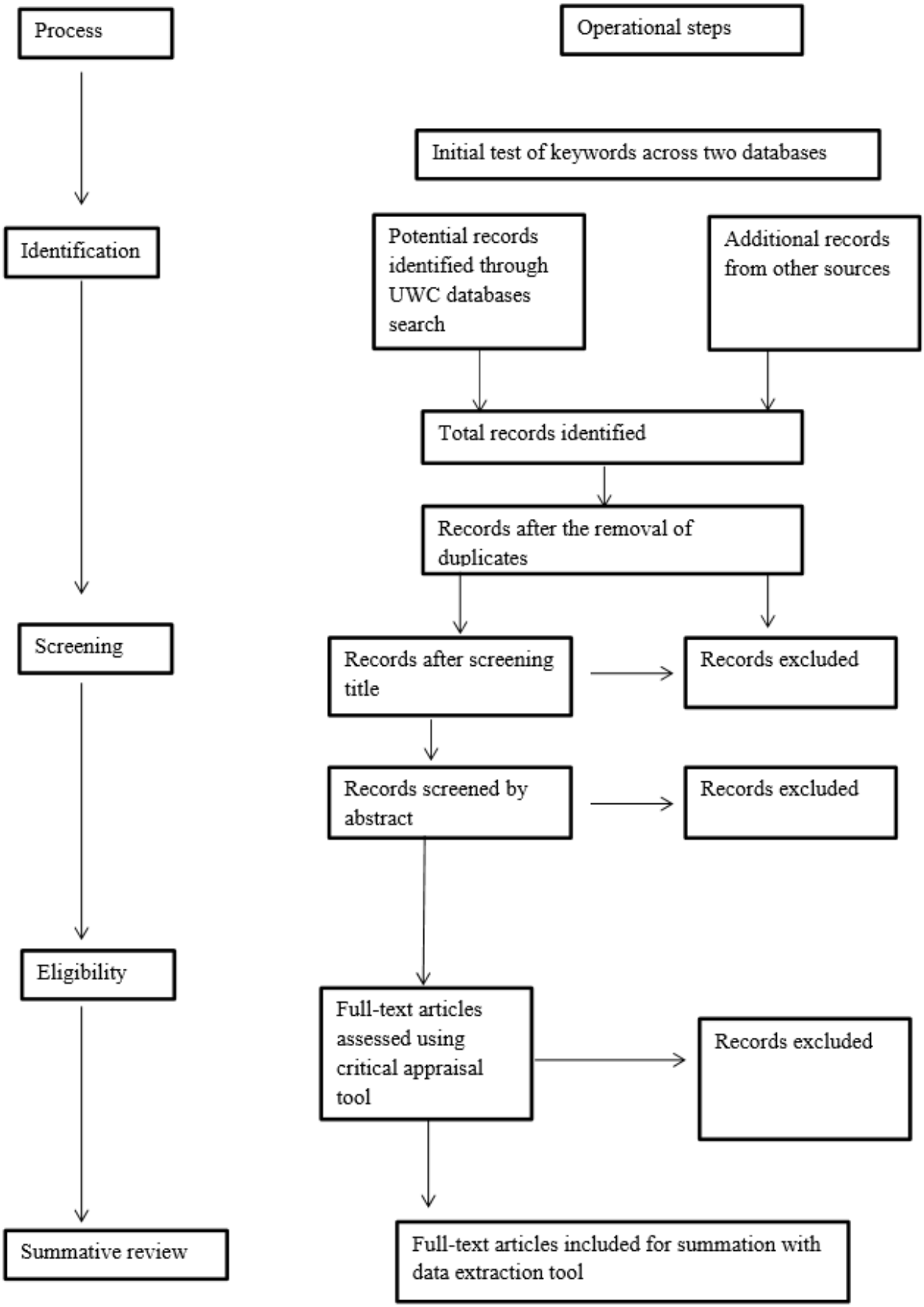


Figure 3.1: Review process

3.7 Method of the review

Prior to critically appraising the articles, the researcher ensured that they meet inclusion criteria. Articles appraised and selected for retrieval were assessed by two independent reviewers for methodological rigour. The two reviewers were included to avoid bias. It is considered a convention in systematic reviews. The second reviewer is a PhD intern at UWC with experience in conducting systematic reviews. He was briefed on the methodology and all the steps involved in the process. Both reviewers consulted the necessary literature to familiarise themselves with the process. Working together in pairs enabled verification and allowed the supervisor to act as a control with the final say on all the decisions made at the various phases in the review process. The benefit of working in pairs was that it allowed the verification to contribute greatly to the highest possible level of methodological rigour for this research study. Any disagreements between the two reviewers were resolved during a discussion and the supervisor acted as a third party control to help the reviewers reach consensus. However, a disagreement emerged during the critically appraisal stage as different scores were given on two articles and this was resolved as both reviewers came to an agreement. There were not many disagreements during the critical appraisal phase. All disagreements can be considered as minor and were resolved through a discussion.

3.8 Ethics consideration

Permission to conduct this systematic review was obtained from the senate research committee at UWC (Appendix H). All information sources used in this study had been published before and were therefore in the public domain. This study was not considered primary research on human subjects, but general ethical principles were applied. The researcher maintained integrity and objectivity, thoroughness in searching, and adherence to the highest possible technical standards. Furthermore, the researcher indicated the limitation of the findings and the

methodological constraints that determined the validity of such findings. With regard to gaining access to the databases, it was required of the researcher to be registered as a student at UWC for the current academic year. This allowed the researcher to legally gain access to the databases on the university library website (www.lib.uwc.ac.za). Proof of registration is attached (Appendix I). There were no added ethical considerations emerged related to accessing the articles or anonymising information.

The study was commissioned by the National Research Foundation (NRF). The NRF's financial contribution has been recognised as per the ethical obligation concerning funding. Furthermore, the findings and sentiments that were found in this thesis purely reflect that of the author and not the NRF.

3.9 Conclusion

In this chapter, the researcher outlined the methodological processes of how this particular research study was conducted. First, a systematic review was identified as the best research design method to address the aims and research questions of this study. Second, the study procedures adhered to five basic principles. This chapter discussed four principles (i.e. how to conduct the search, identifying the selection and assessment methods, data extraction, and analysis). The first and second principle consisted of identifying several keywords related to the research topic and the confirmed keywords were used to search on the 10 databases selected for this study. These databases yielded several articles. The title of these articles were identified, and the ones that did not relate to the research questions were excluded. After the title selection, the researcher assessed and screened the abstracts of the included articles. The next step was the data extraction principle that comprised of identifying the critical appraisal tool utilised to critically appraise the full-text of the articles deemed appropriate based on their abstracts. The tool accounted for methodological rigour of the included articles with a score of

more than 61%, which is considered strong and allowed for the comprehensiveness of the research study. This was followed by the last principle, which consisted of an explanation of the meta-synthesis process of the included articles using the three phases identified by Noblit and Hare (1988) (i.e. reciprocation, refutation, and line of argument). This chapter presented the ethical considerations for this review and revealed that this study was funded by NRF.

CHAPTER FOUR: INTERPRETATION OF FINDINGS AND DISCUSSION

4.1 Introduction

Chapter 4 includes the analysis of the findings and a discussion of the included articles. The chapter consists of three sections: process results, descriptive meta-synthesis, and theory explication. The process results section presents the findings found in each stage of the review process (screening, identification, and eligibility). Secondly, the descriptive meta-synthesis assesses the ranking of the articles and provides possible causes for any differences or correspondences established, as well as a synopsis of core findings across the included articles in the study. Finally, the theory explication stage that was identified by Noblit and Hare (1988) included the following three subsections: reciprocation, refutation, and line of argument.

4.2 Process results

As previously mentioned in the methodology chapter, this study followed varying levels of review. Therefore, the process results of each of these levels are outlined below. In addition, there is a figure that provides a breakdown of the articles included or excluded during each level of the review.

4.2.1 Identification

The title search across the chosen databases yielded a search result of 3 522 hits. The records from other sources yielded 16 articles, which brought the number to 3 538 hits. Once the duplicate was removed, the number decreased to 3 537. From these, 249 titles were selected. The inclusion of articles during the title search process was dependent on the manifestation of keywords in the title, which acted as a display of its appropriateness to the issues that are being reviewed. This is due to the fact a good title that accurately replicates the content and aim of

the study is a significant part of the methodology. In addition, the researcher highlighted some of the articles that might have been relevant, but their titles did not accurately correspond with the content and therefore such articles were excluded. Thus, the selected titles for this review (i.e. 249) were to continue to the abstract level screening.

4.2.2 Screening

Of the 249 articles included during the title phase, 158 articles were excluded. The most prominent reasons for exclusion were that studies did not address the research question or that studies had poorly documented or inadequate abstracts that had insufficient information. The inclusion and exclusion process is documented on the abstract summary sheet (Appendix C). This resulted in 91 studies presenting as potentially appropriate for review.

4.2.3 Eligibility

The remaining studies were assessed in detail by means of full-text reading to establish the appropriateness of these studies given the inclusion criteria and according to the critical appraisal tool to determine methodological rigour. After the researcher utilised the critical appraisal tool, 17 articles were included and 74 were excluded. Of the excluded articles, two articles scored between (41–60%) which is rated as 'moderate', and some of the excluded articles had a score of as low as (n=9). Four articles were not scored as the researcher discovered upon reading the full-text that they did not meet all the inclusion criteria. Of the included articles, seven scored between 61% and 79%, and ten articles scored in the excellent range (> 80%), of which the highest rated article scored 97%.

The results of the review process are represented graphically in Figure 2 below. The researcher has adapted the recommended flow chart in Moher et al. (2009). The numbers in brackets in the flow chart refer to the quantity of articles identified by electronic database searching. As

documented above, some of the articles were excluded throughout the varying levels of review for specific reasons, resulting in a reduction in the number of articles selected for this study.

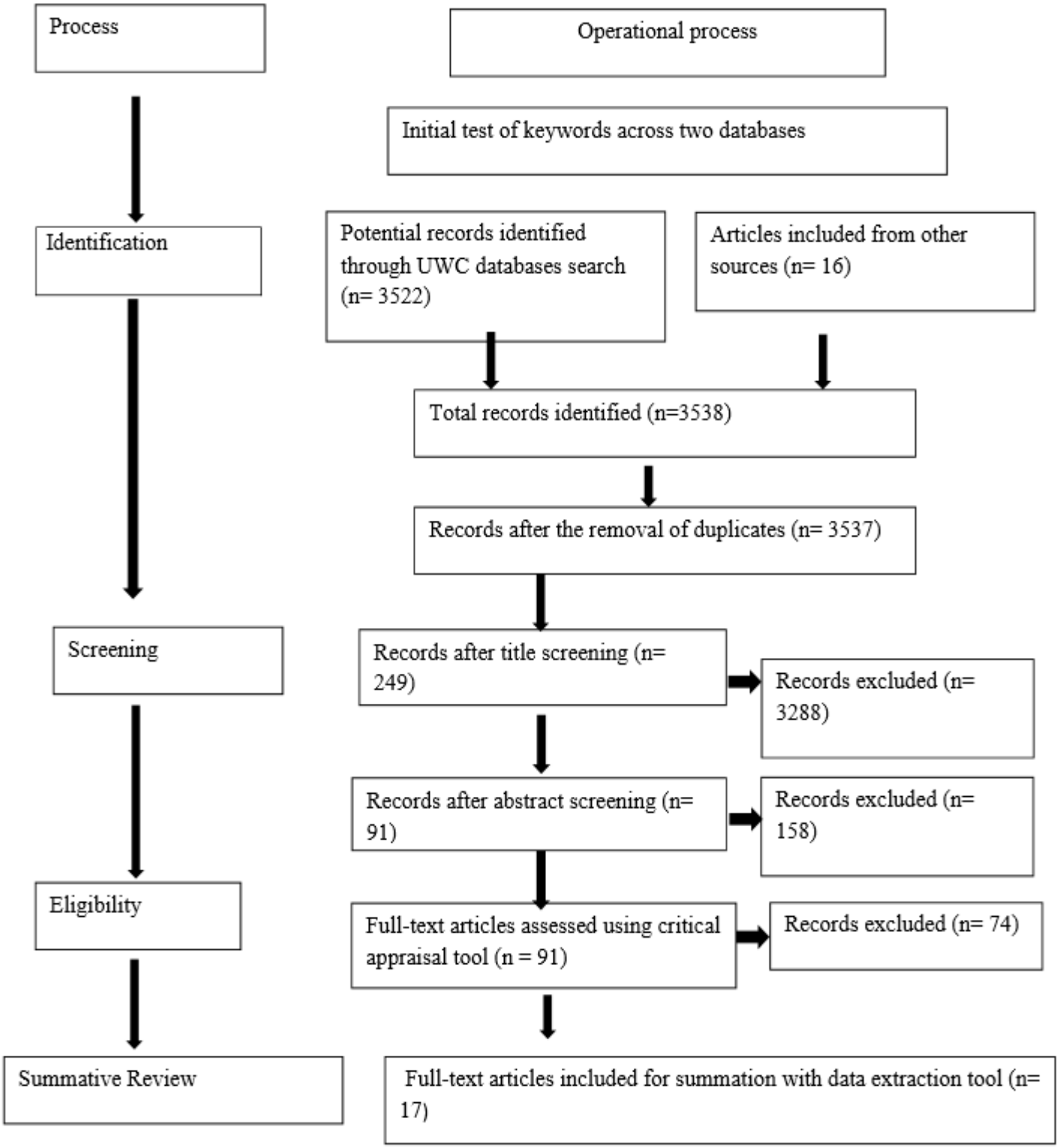


Figure 4.1: Review process results

4.3 Descriptive meta-synthesis

The purpose of the critical appraisal tool was to evaluate the methodological soundness of articles to be included in the review by awarding scores for methodological domains presented in the study. As previously mentioned, descriptive meta-synthesis is reported in two subsections: 4.3.1) Ranking and 4.3.2) Synthesis.

4.3.1 Ranks based on methodological rigour

Table 4.1 outlines the ranking of all the included articles in terms of the score attained during the critical appraisal and scores obtained on subsections of the critical appraisal tool. Each of these articles obtained an overall score of above 61%, and was deemed strong in terms of methodological soundness. The subsections of the critical appraisal tool are purpose (5), design (7), ethics (6), data collection (7), data analysis (5), sample (8), results (3), and conclusion (4). The numbers in brackets reflect the total mark for each subsection. The ranking table is displayed below and this was tailored from a discussion of the scores that the included articles obtained on the subsections of the critical appraisal tool.

Table 4.1: Ranking according to the critical appraisal tool

Overall Ranking				**Subsections**							
Ranking	**References**	**Score**	**Quality**	**Purpose**	**Design**	**Ethics**	**Data collection**	**Data analysis**	**Sample**	**Results**	**Conclusion**
1	Saukko (2009)	97%	>80% (excellent)	5	7	6	6	5	8	3	4
2	Roomaney, Andipatin, & Naidoo (2014)	96%		5	6	6	6	5	8	3	4
3	Ncube, Barlow, & Mayers (2016)	93%		5	6	6	5	5	8	3	4
	Norhayati, Asrenee, Hazlina, &	93%		5	7	6	5	5	8	3	3

Overall Ranking				Subsections							
Ranking	**References**	**Score**	**Quality**	**Purpose**	**Design**	**Ethics**	**Data collection**	**Data analysis**	**Sample**	**Results**	**Conclusion**
	Sulaima (2017)										
4	Tinoco-Ojanguren, Glantz, Martinez-Hernandez, & Ovando-Meza (2008)	91%		5	7	6	3	5	8	3	4
5	Greenhalgh et al. (2015)	84%		5	7	3	4	5	7	3	4
	Kaye et al. (2014)	84%		5	6	4	4	5	7	3	4

Overall Ranking				Subsections							
Ranking	**References**	**Score**	**Quality**	**Purpose**	**Design**	**Ethics**	**Data collection**	**Data analysis**	**Sample**	**Results**	**Conclusion**
6	Lalor, Devane, & Begley (2007)	82%		5	6	6	5	5	5	1	4
	Price et al. (2007)	82%		5	5	5	3	5	8	2	4
7	Lalor & Begley (2006)	80%		5	7	4	3	5	6	2	4
8	Lalor, Begley, & Galavan (2009)	76%	61-79 (strong)	5	6	3	3	5	8	1	3

Overall Ranking				Subsections							
Ranking	**References**	**Score**	**Quality**	**Purpose**	**Design**	**Ethics**	**Data collection**	**Data analysis**	**Sample**	**Results**	**Conclusion**
9	Khan, Bilkis, Blum, Koblinsky, & Sultana (2012)	73%		5	5	5	4	5	4	1	4
10	Souza, Cecatti, Krupa, Osis, & Parpinelli (2009)	71%		5	4	5	3	5	5	1	4
11	Alex & Whitty-Rogers (2017)	69%		5	6	4	3	5	2	3	3

Overall Ranking				Subsections							
Ranking	**References**	**Score**	**Quality**	**Purpose**	**Design**	**Ethics**	**Data collection**	**Data analysis**	**Sample**	**Results**	**Conclusion**
12	Curran, McCoyd, Munch, & Wilkenfeld (2017)	64%		5	7	1	3	5	2	3	3
13	Malouf & Redshaw (2017)	62%		5	4	1	3	5	3	3	4
	Yeakey, Chipeta, Taulo, & Tsui (2009)	62%		3	6	2	3	5	3	3	3

Ten of the included articles achieved marks that were rated as excellent (>80%). The scores of these articles were relatively high across the following sections: on clarity of aims and methodological procedure, an integrated discussion of findings and limitations, as well as implications for further research and interventions. Thus, the included articles scored high in the following subsections: 'purpose', 'design', 'data analyses, 'sample', and 'conclusion'. In addition, the subsections in which seven of included articles achieved a score in the middle range were 'data collection', and 'ethics'. However, the subsection 'results' appeared to have the most '1's' and was therefore found to be quite low.

The American Educational Research Association (AERA) offers a guideline for researchers to assist them in reporting on manuscripts and articles for publication and for readers who want to build on such publications. According to AERA (2006), a report should move from the logic of inquiry to articulating the outcome of the study. The reporting standards are divided into eight sections, namely problem formulation, design of the study, sources of evidence, classification, analysis, generalisation, ethics, titles, and abstract (AERA, 2006). It is evident that the reporting standards of the AERA make reference to the subsections that were identified in the critical appraisal tool utilised in this review. For this reason, it is important to provide a discussion of the ranking of the above-mentioned subsections based on the included articles selected for this study.

The majority of the articles received full marks in the 'purpose' subsection. The 'purpose' of a study is very important as it influences how a problem may be understood by others (AERA, 2006). The researcher reports on the purpose by providing an overall picture of the problem under study. Similarly, the purpose provides the context as to why the researcher wants to study the topic. In addition, it offers background information on the topic under study and presents statistics on it. The majority of the included articles has a purpose of study to explore and gain

an understanding of medically complicated pregnancies, and expectant women's emotional and psychological experiences of these events. Secondly, most of the included articles also scored quite high in the 'analysis' section on the critical appraisal tool. This is considered as an important aspect when it comes to reporting because it offers evidence about the outcome of the study and results in the evidence being appropriately interpreted (AERA, 2006). For example, the selected studies utilised a qualitative method where the analysis may be prevalent after the data collection process and it provided an in-depth interpretation of a particular phenomenon under study. Furthermore, the analysis provides information that will show the researcher whether their study is consistent with current literature. Thirdly, 'sample' selection showed a high score among several selected articles. This demonstrated that the researcher reported on the sampling process and it provides information about how the participants were chosen and assists researchers in answering the research question. The participants play a key role in the research study because without them, there will be no data collection or analysis and therefore a report cannot be written. Lastly, 'conclusion' is of great importance as it sums up the entire study and highlights the limitations of the study as well as proposing recommendations for future research. This demonstrates that the authors of the selected studies understood the role that the conclusion plays when publishing a journal as a reader makes sense of the study by consulting the conclusion.

The subsections in which several articles achieved a score in the middle range were 'data collection' and 'ethics'. Data collection is at the centre of any research study because it determines the outcome of the study and aims to answer the research question. Among the selected articles, some of the researchers did not comment on their position as a researcher in relation to the study, for instance on matters such as maintaining trustworthiness, credibility and reflexivity by keeping a journal, and this is where they lost marks and their score for this

subsection lowered. Authors should report on these aspects especially when they do qualitative studies because it is closely associated with subjectivity and could negatively affect the data being collected, and thus influence the findings. Nevertheless, there were some articles where the researchers were aware of the importance of trustworthiness and reflexivity during data collection, and they scored quite high, for instance a 6. With regard to ethics, there were some articles that obtained a score of 1 for this subsection. It is important that the authorisation of the study by the appropriate review board should consider all the ethical considerations that are required in a study (AERA, 2006). It seems as if ethics is not required by some journals, such as CONSORT, which does not have a bracket for ethics on their checklists used by researchers to check the demands before the journal is submitted for publication. According to Appelbaum, Cooper, Maxwell, Sher, and Stone (2008), ethics is excluded by some journals because of limited space. However, AERA (2006) contends that articles should at least have a line stipulating that the study obtained ethics clearance from the review board. This will ensure that readers are at ease when reviewing the article and it will allow the research study to carry more weight.

There were some articles that scored low in the 'results' subsection with the lowest score being 1 and two articles scoring moderately. This could potentially be linked to the fact that under data collection there were some articles that scored mostly moderate on the critical appraisal tool. According to AERA (2006), appropriate evidence is required to link it to the results of the study and be able to conclude. However, Sutton and Austin (2015) contend that qualitative researchers are more likely to report on 'findings' as opposed to 'results' as the latter implies that the data come from a quantitative source. Furthermore, Sutton and Austin (2015) state that it may not be the intention of qualitative researchers to allow their findings to be generalised and therefore it may not be explicitly discussed in the articles. For example, qualitative

researchers may decide not to publish certain information about the findings in the articles based on the risks for the participants and the protection of the confidentiality of the participants. This could be one of the reasons why some articles scored low in this subsection. However, journals should aim to include articles that include all the subsections of the critical appraisal tool.

4.3.2 Data extraction

The researcher extracted data from the included articles and synthesised it under three headings: General description, Methodological appraisal, and Results and recommendations (Appendix G).

4.3.2.1 General description of the studies

General description provided the extracted data related to the general facets of the included articles within this study. These are represented in Table 4.2 below.

Table 4.2: General description

Author	General descriptions			
	Target group	Medically complicated pregnancies	Emotional/psychological experiences	Geographical locations

In the included articles, women who were diagnosed with a medically complicated pregnancy or who have survived a medically complicated pregnancy were the target group as identified in Table 4.2. There were 13 of the included articles that identified one or more medical

conditions or complications found in pregnant women. All 17 articles discussed at least one or more emotional/psychological experiences of women throughout their medically complicated pregnancies. The articles included in this study were conducted in the following countries: Ireland (n=3), United States (n= 3), South Asia (n=2), Brazil, Canada, Haiti, Uganda, Botswana, Malaysia, Mexico, and Malawi. There was only one local study.

4.3.2.2 Methodological appraisal

Methodological appraisal (Table 4.3) provided a synopsis of the methodological information from the included articles in the current study.

Table 4.3: Methodological appraisal

Authors	Methodological appraisal						
	Theoretical orientation	Design	Sample type	Sample size	Data collection	Analysis	
						Qualitative	Saturation

With regard to the theoretical orientation, three of the selected articles utilised grounded theory, three used phenomenology, one article used symbolic interactionism, and another one used social network theory. The majority of the included studies did not indicate the theory underpinning their study (n= 9). Regarding the design, 16 of the included studies made use of qualitative methodologies, whereas only one study used a systematic review methodology that incorporated qualitative, quantitative, and mixed methods. For the purpose of this review, the researcher only focused on the qualitative aspect of the latter study. All the included studies therefore utilised a qualitative methodology. These qualitative studies made use of purposive sampling, respondent-driven sampling, theoretical sampling and four studies did not report on

sampling. The included articles in this research study had a sample size ranging between (n= 6 and n= 45). The most frequently utilised method of data collection of the included studies was in-depth interviews (n= 14). Of these 14 studies, two studies specified the use of semi-structured and another two utilised unstructured interviews. Only one study has utilised online focus groups and two studies included a combination of data collection methods, such as focus groups and individual interviews. Regarding the analysis, five of the included articles utilised a constant comparative method, four of the including articles used thematic analysis, and three of the selected articles practised phenomenological analysis. The rest of the included studies utilised the following analysis: content analysis, grounded theory analysis, analysis approaches of Colaizzi (1978) and Hycner (1985), and an interpretive approach. Only one article did not specify the type of analysis utilised for the study.

4.3.2.3 Results and recommendations

The information concerning the results and recommendations from the included studies is depicted in Table 4.4.

Table 4.4: Results and recommendations

Authors	Results			
	Findings	Conclusion	Recommendations	Limitations

Most of the included studies reported on all four of the subsections presented in Table 4.4. The findings of the included articles revealed that medical complications leading to a high-risk pregnancy are devastating for pregnant women and result in emotional and psychological problems that negatively affect the women's life. Often times the excitement expressed by the

expectant women about their healthy baby as described in the included articles abruptly changed to negative emotions such as fear, worry, sadness and so forth when the diagnosis of a medically complicated pregnancy is disclosed to them. In addition, the included studies emphasised the narratives of women who almost died during pregnancy and childbirth. Furthermore, the studies reported on potential psychological disorders that may arise as a result of severe maternal complications. Thus, the main conclusions of the included articles were that there are severe maternal complications that are considered as life-threatening and that put a burden on women. Three of the included articles did not make recommendations (Alex & Whitty-Rogers, 2017; Curran et al., 2017; Norhayati et al., 2017). However, the rest of the included studies highlighted the following recommendations: for researchers to identify coping strategies for individuals who face a medically complicated pregnancy; providing interventions for survivors of postpartum morbidity; improving preterm birth maternal and perinatal outcomes; researchers should encourage women to learn about the birth process; and medical staff should sensitively provide more information on high-risk pregnancy in general to pregnant women during their consultations. With regard to future research, recommendations were made for more studies on the topic, more nuanced and in-depth investigations based on some of the results of the respective studies, and extensions or continuations of their studies in terms of focus or content, methodology, context, and target group. Lastly, a commonly reported limitation among the selected articles for this study was the context in which the study was conducted and the amount of individuals who participated in the study.

4.4 Theory explicative meta-synthesis

This section of the chapter comprises of three subsections: reciprocation, refutation, and line of argument. Table 4.5 below provides an overview of the reciprocation subsection and the selected articles.

Table 4.5: Reciprocation

Reciprocation		
Medical	**Ranking**	**References**
Foetal abnormality	1	Lalor et al., 2009; Lalor et al., 2007; Lalor & Begley, 2006
Gestational diabetes	2	Greenhalgh et al., 2015; Tinoco-Ojanguren et al., 2008
Hypertension		Khan et al., 2012; Souza et al., 2009
Maternal near-miss		Norhayati et al., 2017; Souza et al., 2009
Preterm birth		Malouf & Redshaw (2017) and Ncube et al. (2016)
HELLP syndrome	3	Roomaney et al., 2014
Thrombophilia		Saukko, 2009
Uterine rupture		Kaye et al., 2014.
Emotional experiences	**Ranking**	**References**
Fear	1	Norhayati et al., 2017; Ncube et al., 2016; Roomaney et al., 2014; Khan et al., 2012; Souza et al., 2009; Yeakey et al., 2009; Lalor et al., 2009; Lalor et al., 2007.
Guilt (self-blame)		Curran et al., 2017; Malouf & Redshaw, 2017; Norhayati et al., 2017; Kaye et al., 2014; Roomaney et al., 2014; Khan et al., 2012; Souza et al., 2009; Tinoco-Ojanguren et al., 2008.

Reciprocation		
Worry	2	Curran et al., 2017; Kaye et al., 2014; Lalor et al., 2009; Saukko, 2009; Souza et al., 2009; Yeakey et al., 2009; Price et al., 2007.
Feeling frightened	3	Curran et al., 2017; Ncube et al., 2016; Price et al., 2007; Souza et al., 2009; Tinoco-Ojanguren et al., 2008; Lalor & Begley, 2006.
Shock		Curran et al., 2017; Norhayati et al., 2017; Ncube et al., 2016; Lalor et al., 2009; Price et al., 2007; Lalor & Begley, 2006.
Frustration	4	Ncube et al., 2016; Kaye et al., 2014; Saukko, 2009; Souza et al., 2009; Lalor et al. 2007.
Grief		Lalor et al., 2009; Souza et al., 2009; Lalor et al., 2007; Price et al., 2007; Lalor & Begley, 2006.
Upset		Curran et al., 2017; Norhayati et al., 2017; Kaye et al., 2014; Souza et al., 2009; Lalor & Begley, 2006.
Isolation and loneliness	5	Ncube et al., 2016; Roomaney et al., 2014; Kaye et al., 2014; Saukko, 2009.
Alienation	6	Roomaney et al., 2014; Saukko, 2009; Souza et al., 2009.
Sadness		Curran et al., 2017; Norhayati et al., 2014; Yeakey et al., 2009.
Ambivalence	7	Roomaney et al., 2014; Price et al., 2007.

Reciprocation		
Anger		Alex & Whitty-Rogers, 2017; Roomaney et al., 2014.
Despair		Souza et al., 2009; Yeakey et al., 2009.
Psychological experiences	**Ranking**	**References**
Anxiety	1	Curran et al., 2017; Malouf & Redshaw, 2017; Norhayati et al., 2017; Ncube et al., 2016; Saukko, 2009; Price et al., 2007; Lalor & Begley, 2006.
Depression	2	Kaye et al., 2014; Saukko, 2009; Yeakey et al., 2009.
PTSD	3	Kaye et al., 2014; Souza et al., 2009.

4.4.1 Reciprocation

Reciprocation introduces and discusses all findings that coincide with the relevant literature. As previously mentioned, Table 4.5 provides an overview of what the authors in the included articles referred to regarding the aim of this review. The aim of the study allowed for the consideration of different medical conditions and complications in the reviewed articles. Of the 17 included articles, 13 articles identified medical conditions or complications (Malouf & Redshaw, 2017; Ncube, Barlow & Mayers, 2016; Greenhalgh et al., 2015; Kaye et al., 2014; Roomaney, Andipatin & Naidoo, 2014; Khan et al., 2012; Lalor, Begley & Galavan, 2009; Saukko, 2009; Souza et al., 2009; Yeakey et al., 2009; Tinoco-Ojanguran et al. 2008; Lalor, Devance & Begley, 2007; Lalor & Begley, 2006). Another aim of this review was to explore women's emotional and psychological experiences in the reviewed articles throughout their high-risk pregnancies. All 17 articles highlighted various emotional/psychological experiences throughout women's high-risk pregnancies (Alex & Whitty-Rogers, 2017; Curran et al., 2017; Norhayati et al., 2017; Malouf & Redshaw, 2017; Ncube, Barlow & Mayers, 2016; Greenhalgh et al., 2015; Kaye et al., 2014; Roomaney, Andipatin & Naidoo, 2014; Khan et al., 2012; Lalor, Begley & Galavan, 2009; Saukko, 2009; Souza et al., 2009; Yeakey et al., 2009; Tinoco-Ojanguran et al. 2008; Lalor, Devance & Begley, 2007; Lalor & Begley 2006; Price et al., 2007). Under the reciprocation section, I discuss the medical conditions and complications in the reviewed articles followed by a dialogue on the emotional and psychological experiences of women.

4.4.1.1 Medical conditions

This subsection describes the medical complications reported by the included studies. As discussed in Chapter 2, existing literature identifies three ways in which a 'normal' pregnancy could be complicated. This includes: 1) abnormal responses of the mother's body to the

pregnancy-induced changes due to pre-existing health problems; 2) complications that stem from atypical development such as serious abnormalities that occur in the baby; and 3) medical conditions such as preeclampsia that negatively affect the pregnancy, labour, and delivery. These identified pregnancy-related complications and medical conditions may affect the health of the mother, and/or the baby. The individual medical conditions or complications identified from the articles are discussed below.

4.4.1.1.1 Hypertension

Three studies highlighted hypertension (which is the medical term for high blood pressure) as a risk factor during pregnancy and cited it as a reason for hospitalisation (Khan et al., 2012; Souza et al., 2009). Hospitalisation is crucial as hypertension interferes with the health of both the mother and foetus, and professional help is required. In a study conducted by Khan et al. (2012), participants who suffered from hypertension had a caesarean-section to treat the life-threatening maternal or foetal complications. These findings are corroborated by literature that demonstrates that women who have a medical complication such as hypertension during a pregnancy can be identified as being at risk (Khalil et al., 2013; Kashani et al., 2012; Lykke et al., 2009). The Department of Health (2015) in Queensland contend that when a pregnant woman has hypertension she and the baby should be monitored and cared for throughout the pregnancy, labour and delivery to observe the baby's heartbeat to ensure that the health of both the mother and the unborn infant are taken care of. The Department of Health (2015) in Queensland and Khan et al. (2012) report on a caesarean-section being the only way in which to deliver the baby when the mother has hypertension during the pregnancy as this helps health professionals who tried and minimised the risks that were present. Based on this, it is evident that the discussion in the included articles regarding this medical complication reciprocated the

existing literature and agreed that a pregnant woman who suffers from this complication may experience a high-risk pregnancy.

4.4.1.1.2 Thrombophilia

One of the included articles, Saukko (2009), revealed that thrombophilia is a lifetime threat that results in infertility, miscarriages and at the same time places the pregnancy at risk. Thrombophilia is an inherited condition that causes blood clots to form in the veins, and, in some cases, the arteries (Lim & Moll, 2015; Saukko, 2009). This condition is diagnosed by means of blood tests that identify gene mutations, the level of clotting proteins, and the manifestation of antiphospholipid antibodies (Lim & Moll, 2015; Saukko, 2009). Saukko (2009) contended that these tests should be conducted on pregnant women during pregnancy to ascertain their health status. Simcox, Greer, Ormesher, and Tower (2015), for instance argue that risks are inherently higher in women who inherit thrombophilia, while Lim and Moll (2015) state that the blood clots are often a result of a pregnancy. For this reason, Simcox et al. (2015) reveal that there is an association between adverse pregnancy outcomes and hereditary thrombophilia. The above authors assert that thrombophilia could lead to placental insufficiency because of placental vascular thrombosis. However, Croles et al. (2017) do not support this association and they regard general evidence identified as weak. Even though there are some authors who contend that thrombophilia contributes to pregnancy complications, other authors assert that there is an association between the two. The findings of this review were similar to the report of Gilbert (2011), who indicates that thrombophilia increases the risk of early and late pregnancy loss. For this reason, women who acquired thrombophilia have an increased risk of pregnancy complications contributing to it being a high-risk pregnancy.

4.4.1.1.3 Gestational diabetes

One of the risk factors for pregnancy identified from this review is diabetes and gestational diabetes (Greenhalgh et al., 2015; Tinoco-Ojanguren et al., 2008). According to Greenhalgh et al. (2015), and Whalen and Taylor (2017), gestational diabetes is explained as impaired glucose metabolism found in pregnancy which develops as a result of pre-existing increased insulin resistance and reduced insulin secretion. The studies conducted by Greenhalgh et al. (2015) and Tinoco-Ojanguren et al. (2008) posit that women who had diabetes before their pregnancy (i.e. pre-gestational) would suffer from gestational diabetes during their pregnancy. Therefore, the above authors suggest screening for expectant mothers for obstetric characteristics that place both pregnant women and their developing foetus at risk. For example, children who were born to women with diabetes in pregnancy are more prone to develop type 2 diabetes later in life due to the shared genetic and the environmental risk factors. These findings were similar to those by the American Diabetes Association (2018) who reported that the immediate risk of gestational diabetes consisted of birth complications that include caesarean delivery, foetal loss, and hypoglycaemia. Therefore, Neiger (2017) and Platt et al. (2009) assert that when gestational diabetes develops it negatively affects the pregnancy. From this review, gestational diabetes is recognised as a medical condition associated with maternal and foetal complications that lead to pregnancies being at risk for some women.

4.4.1.1.4 HELLP Syndrome

The only study in this review conducted in South Africa identified HELLP syndrome as a medical condition with increased maternal and perinatal mortality rates (Roomaney et al., 2014). HELLP syndrome is a multisystemic disorder made up of an instigated placenta, liver targeted acute inflammatory conditions with elements of disordered immunological processes that complicate pregnancy and does not have a good prognosis (Nafees, Jain, Kansal, & Khare, 2013). Roomaney et al. (2014) and Hagel-Fenton (2008) indicate that the following symptoms

of HELLP syndrome include renal failure, liver haemorrhage and rupture, and stroke. Due to the difficulty in diagnosing this disorder, up to 80% of all cases are misdiagnosed, which can have deadly consequences for both the mother and infant (Roomaney et al., 2014; Kidner, 2000). The only treatment reported in literature for this condition is the termination of the pregnancy as HELLP syndrome endangers the expectant woman and her foetus if the pregnancy continues (Roomaney et al., 2014; Davies, Inglis, Jaudine, & Koorts, 2012). Therefore, HELLP syndrome is considered as one of the most devastating medical conditions in pregnancy.

4.4.1.1.5 Uterine rupture

Among the included articles, Kaye et al. (2014) indicated that uterine rupture is a life-threatening obstetric complication that contributes to maternal and perinatal mortality and morbidity. In addition, it is a catastrophic risk of pregnancy for both the mother and the baby. The symptoms associated with uterine rupture include urinary incontinence, stress incontinence or dysuria, dyspareunia, low abdominal pain, backache, reduced or scanty menses, and urinary tract infection (Kaye et al., 2014). Furthermore, the causes of uterine rupture are obstructed labour, previous caesarean section scar particularly related to the use of oxytocin or prostaglandin without proper care, traumatic delivery, and congenital uterine anomalies (Dhaifalah, Fingerova, & Santavy, 2006). During the consultation and screening, health professionals should inform pregnant women if they discover any of the symptoms and causes of uterine rupture because this condition is identified as a major health problem during pregnancy (Dhaifalah et al., 2006). The findings of Kaye and colleagues correspond with the study conducted by Dhaifalah et al. (2006). The above authors indicated that the risk factors for uterine rupture are obstructed labour, first trimester miscarriages, premature menopause, vaginal dryness, and unexplained palpitations. Gardeil, Daly, and Turner (1994) report that

pregnant woman diagnosed with this medical complication put mothers into a category of a high-risk pregnancy.

4.4.1.1.6 Foetal abnormality

Lalor et al. (2009), Lalor et al. (2007), as well as Lalor and Begley (2006) indicate that foetal abnormality is a medical complication that negatively affects pregnancy. For instance, Platt et al. (2009) reveal that complications in pregnancies may stem from atypical development and result in serious abnormalities. Neto, de Moraes Filho, de Souza, and Noronha (2009), Lalor et al. (2007), as well as Lalor and Begley (2006) identify foetal abnormality to include the following: lethal, normal karyotype; significant mental or physical disability; significant structural abnormality with an option to repair carrying a risk of mortality; abnormal karyotype (Turner's syndrome) and suspicious (structural or placental anomalous findings with normal karyotype). The use of medical devices by health professionals will determine whether there are foetal abnormalities or injuries to the unborn child (Lalor et al., 2007; Gudex et al., 2006; Ekelin et al., 2004; Larsen et al., 2000). Therefore, during routine ultrasound examination of pregnant women, health professionals should screen for any foetal abnormalities. This is because a foetal abnormality is a medical complication that places pregnant women at risk during their pregnancy.

4.4.1.1.7 Maternal near-miss

Two of the included articles identified maternal near-miss as a pregnancy condition (Norhayati et al., 2017; Souza et al., 2009). In addition, Iwuh, Fawcus, and Schoeman (2018), as well as Kasahum and Wako (2018) contend that maternal near-miss is a life-threatening condition. Life-threatening conditions (LTCs) are defined "as severe pregnancy-related complications that cause organ dysfunction and/ or require major interventions and may result in maternal

death" (Iwuh et al., 2018, p. 171). As a result of this, maternal near-miss places pregnant women at risk during their pregnancy and may have negative outcomes. According to Soma-Pillay, Langa-Mlambo, Pattinson, Macdonald, and Nkosi (2015), the following are pregnancy-related complications: severe haemorrhage (i.e. genital bleeding), severe pre-eclampsia (i.e. persistent systolic blood pressure or a diastolic blood pressure of), and HELLP syndrome. From this, it is evident that these pregnancy-related complications that form part of maternal near-miss are identified as high-risk pregnancy conditions that align to one of the aims of the current study. Therefore, Kasahum and Wako (2018) argue that any pregnant women who experiences maternal near-miss should receive ongoing monitoring to assist with their healthcare and well-being.

4.4.1.1.8 Preterm birth

Malouf and Redshaw (2017), as well as Ncube et al. (2016) state that preterm birth is identified as an individual who is born less than 259 days of gestation. Preterm birth is caused by immaturity in organ development and problems that causes the health of the mother or the baby to suffer (i.e. infection or decidual haemorrhage) (Malouf & Redshaw, 2017; Ncube et al., 2016). Furthermore, O'Brien et al. (2010) argue that preterm birth is a high-risk area that complicates a pregnancy and have a negative outcome for the infant. For example, it could result in perinatal morbidity and mortality as well as long-term disabilities for survivors (Malouf & Redshaw, 2017; Ncube et al., 2016). Therefore, Patel, Prakash, Pusdekar, Kulkami, and Hibbed (2017) contend that medical assistance should be accessible for pregnant women to help facilitate or improve the outcomes of preterm birth to a point of preventing preterm deliveries. From this, it is important to reveal that preterm birth is identified as a medical complication that makes a pregnancy high-risk and requires medical attention. Thus, it answers the aim of the study that identifies medical conditions or complications in the reviewed articles.

Even though the care given to an expectant woman focuses on the physical monitoring due to the medical complication, it is also important to focus on the emotional and psychological experiences.

4.4.1.2 Emotional and psychological experiences

The pregnant women in the included articles who suffered from the abovementioned medical conditions or complications experienced a high-risk pregnancy and stated that this was a traumatic period for them. Research revealed that women who are experiencing and have experienced high-risk pregnancies have a host of emotional issues that include fear, guilt, shock, grief, frustration, sadness, fright, upset, alienation, worry, loneliness and isolation as well as ambivalence. According to Souza et al. (2009) and Yeakey et al. (2009), psychological challenges (i.e. depression, anxiety, and PTSD) were evident among women who experienced a high-risk pregnancy. For the purpose of this review, it is important to highlight the aim, which explores the emotional and psychological experiences of women in the reviewed articles throughout their high-risk pregnancies. These experiences are discussed below as identified within the included articles.

The included articles seem to suggest that there are core categories that underpin various stages that are cyclical in nature in the high-risk pregnancy experience. What appears in the literature is that women move back and forth between emotions. This explains the common patterns that can be seen in this process. The emerging process is presented in Figure 4.2 and the three theoretical stages are termed: ‘Diagnosis’, Hospitalisation’, and ‘Aftermath’. The ‘high-risk experience’ encapsulates the stages of diagnosis, hospitalisation and the aftermath. The stages indicated in this figure and the core categories that underpin each stage are discussed below.

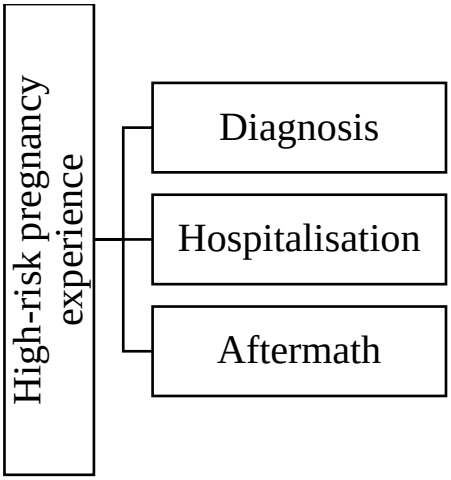


Figure 4.2: Stages of high-risk experience

4.4.1.2.1 Diagnosis

Ultrasound examination has been 'normalised' and is considered routine in antenatal care. As rightly asserted by Garcia et al. (2012), radiological screening such as ultrasound examination is an important component of antenatal care in developed countries. One of the reasons posited for this type of screening is to ascertain the health status of the developing foetus. By utilising these medical/technological devices, it is possible to determine any genetic or foetal abnormalities in the unborn infant (Gudex et al., 2006; Ekelin et al., 2004; Larsen et al., 2000). Often times a diagnosis of pregnancy-related complications during an ultrasound examination is traumatic for an expectant mother, as most pregnant women anticipate that their foetus would be healthy and they do not perceive themselves to be at risk (Pelly, 2003; Sandelowski & Corson-Jones, 1996). Consequently, these traumatic experiences create antagonistic behaviours within the expectant women. These antagonistic consequences are closely associated with an array of emotions found within the included articles as discussed below.

Shock at the diagnosis

The experience of shock at the diagnosis was reported in four of the included studies. Curran et al. (2017), Lalor et al. (2009), Price et al. (2007), as well as Lalor and Begley (2006) indicate that expectant mothers were shocked after being informed by medical staff of their high-risk pregnancies. Participants had difficulty internalising information of such trauma as they were surprised by what was happening. The findings of these studies coincided with the report of Lawson and Rajaram (1994), who report that their participants' experienced emotional shock after the diagnosis of an abnormality in their pregnancy was relayed to them. For this reason, the suddenness of being placed into medical care resulted in the expectant women to experience dread and astonishment.

Fear of the unknown

Several facets of pregnancy are unknown and there is an aura of uncertainty that may accompany the pregnancy (Jones, Solomou, & Statham, 2005). The findings of three of the included articles assert that fear dominated the expectant women after being diagnosed with high-risk pregnancy conditions (i.e. foetal abnormality and preterm birth) (Ncube et al., 2016; Yeakey et al., 2009; Lalor et al., 2007). This was attributed to not knowing what was going to happen to them or their unborn child. This assertion was confirmed by the findings of Roomaney's et al. (2014) study where participants who had HELLP syndrome reported that they felt uncertain about what was going to happen. The findings of the selected articles were reciprocated in a study conducted by do Carmo Oliviera and Mandu (2015), whose participants all expressed immense fear after their diagnosis of a high-risk pregnancy. The uncertainty of the actual health and development of the foetus created the vagueness for the expectant mother and this culminated in the fear for the unknown.

Frustration with the diagnosis

This category described the frustration of the expectant women. During the ultrasound examination, expectant women felt frustrated when the diagnosis of an abnormality was raised. Kaye et al. (2014), Souza et al. (2009), and Lalor et al. (2007) indicated that participants who were diagnosed with a pregnancy complication (i.e. uterine rupture, maternal near-miss or foetal abnormality) expressed feelings of frustration. Consequently, the pregnant women felt that the unexpected complication interfered with the natural progression of their pregnancy. These findings regarding participants' frustration coincided with Andipatin's (2012) argument that the diagnosis of a high-risk pregnancy situation often results in frustration for the woman.

Grieving the diagnosis

When the assumption of normality is shattered by an adverse diagnosis, pregnant women in three of the included studies described their initial emotional reaction as one of grief (Lalor et al., 2007; Price et al., 2007; Lalor & Begley, 2006). Participants who had received this diagnosis were distressed due to the possibility that they might lose the baby. These findings were reciprocated in existing literature. For instance, Jones et al. (2005) contend that expectant women grieved because the diagnosis is conceptualised as the loss of a healthy infant. It is evident that participants expressed grief at the initial point of an adverse diagnosis regarding the health of their developing foetus.

Anxiety about the diagnosis

This category presents the feelings of anxiety experienced by participants after being provided with negatively framed information about the developing foetus during and after the ultrasound examination. The findings showed that participants who received adverse information about their health of or that of their unborn infant experienced greater anxiety as compared to those

who did not receive such information (Ncube et al., 2016; Lalor & Begley, 2006). The literature contends that feelings of inability to control the adverse diagnosis resulted in increased anxiety, which the expectant women expressed in relation to themselves and the unborn babies (Cote-Arsenault & Marshall, 2000; Yali & Lobel, 1999). In this current review, Curran et al. (2017), Ncube et al. (2016), and Saukko (2009) indicate that for some participants screening in pregnancy results in feelings of anxiety, while for other participants the ultrasound examination eased their anxiety. More specifically, as the ultrasound provided feedback to the expectant women (such as the foetus heartbeat), participants developed a relationship with their unborn infant and felt that the baby would develop 'normally', thereby easing their anxiety. In addition to the ease provided by the ultrasound examination, Price et al. (2007) indicate that participants used their religious rituals such as prayer to decrease their anxiety. For the reasons mentioned above, expectant women who are diagnosed with a high-risk pregnancy report greater anxiety than pregnant women who are not at risk.

Turner (2006) proposes that human behaviour is steered by a set of expectations that are socially constructed. Individuals measure themselves against these societal norms of how an experience is supposed to be. According to Kim, Lee, and Oh (2015), it is common that pregnancy and motherhood are associated with social norms within a social context. Within several social contexts, pregnancy is seen to be a straightforward nine-month journey that ultimately leads to the birth of a healthy infant. However, Pozzo et al. (2010) note that the transition from a 'normal' pregnancy to a 'high-risk pregnancy' is a critical moment for expectant women and may lead to diverse emotions. While pregnancy in general seems to illicit various emotions in women, the findings of this review demonstrated that shock, fear, frustration, grief, and anxiety within a pregnancy at risk are exacerbated. The range of emotions experienced shows that expectant women feel overwhelmed by the adverse diagnosis. With

this in mind, the range of emotional responses may follow the experience of receiving negatively framed information about a pregnancy that could linger into and through the period of hospitalisation for expectant women.

4.4.1.2.2 Hospitalisation

Women diagnosed with a high-risk pregnancy are hospitalised for a prolonged period of time to ensure effective management of their condition and to monitor the growth and well-being of the foetus. Hospitalisation can be stressful for pregnant women because their environment is disrupted. This results in a range of stressors such as increased loneliness, loss of control or powerlessness. These stressors are closely associated with various emotional responses expressed by pregnant women at risk (Zhou, Li, Lin, Ji, & Sun, 2015). For this reason, the occurring emotions in expectant women during hospitalisation found among the included articles are discussed below.

Fear of death among expectant women

This category describes the experiences of fear of death among expectant women that were reported in the included studies. For participants who suffered from maternal near-miss during their pregnancies, fear was associated with the complications of life-saving procedures. In the study conducted by Norhayati et al. (2017), some of the participants feared that they would receive blood contaminated with the human immunodeficiency virus (HIV) while others feared the possibility of not being able to conceive in the future after undergoing salpingectomy procedure for their ruptured tubal pregnancy. According to Luesley and Kilby (2016), salpingectomy is a surgical procedure that includes partial or complete removal of the fallopian tube to treat ectopic pregnancies. The fear of being hospitalised and being operated on was so severe for some participants that they declined critical procedures required to manage their

high-risk pregnancies (Souza et al., 2009; Lalor et al., 2007). Those participants who agreed to medical interventions reported that they had to subject themselves to life-changing procedures that related to a sense of death (Norhayati et al., 2017; Souza et al., 2009). It could be argued that the mutual fear of death among the participants in this review might have been enhanced by the medical procedures that the participants had little or no control over. These fears of death that were so entrenched in the mind of expectant and birthing women (Northrup, 1997) were exacerbated during high-risk pregnancies (Andipatin, 2012).

Fear of losing an infant

The trepidation expressed by participants in the respective studies demonstrate the fear associated with attaching to the baby and how this would escalate the emotional pain should the infant pass away (Roomaney et al., 2014; Lalor et al., 2009). Thus, fear of foetal death was a common thought expressed by the participants who experienced traumatic births within their hospital stay.

Frightened when hospitalised

Hospitalisation was overwhelming and frightening for expectant women in four of the included studies. Curran et al. (2017), Tinoco-Ojanguren et al. (2008), Price et al. (2007), as well as Lalor and Begley (2006) indicate that participants who were hospitalised struggled to remain positive and to maintain a sense of hope amid the strenuous changes of their high-risk pregnancy. This experience led to the participants feeling emotionally frightened. The findings of these selected studies coincided with existing literature. For instance, Walley, Bolding, Durham, Keppler, and Simkim (2016) reveal that the hospitalised period for pregnant women is considered a frightening time. Hospitalisation removes the expectant women from their familiar home environment and also prevents them from engaging in their daily routines, and

this may explain the emotion of feeling frightened as expressed by the participants towards hospitalisation.

Isolation during hospitalisation

This category indicates how hospitalisation evoked the emotion of isolation for expectant women. For example, Kaye et al. (2014) and Roomaney et al. (2014) report that participants in their study felt isolated after being hospitalised for uterine rupture or HELLP syndrome. The findings concurred within existing literature presented by Amorim et al. (2016), as well as Leichtentritt, Blumenthal, Elyassi, and Rotmensch (2005). These authors report that expectant women who are hospitalised during their high-risk pregnancy felt isolated from their companions. However, constant communication with family members was found to relieve the feeling of isolation and loneliness in the reviewed studies (Ncube et al., 2016; Saukko, 2009). As a result of this, do Carmo Oliviera and Mandu (2015) reveal that social support is important for any medical event such as a medically complicated pregnancy. Therefore, provision of social support could play a significant role in reducing the feeling of isolation faced by pregnant women at risk. This might offer expectant women a sense of comfort and belonging.

Transfer of frustrations

Expectant women expressed their frustration with inadequate treatment received from medical personnel and with family members for making decisions on their behalf during hospitalisation. For example, Kaye et al. (2014) report that participants expressed their frustration with their partners and mother's-in-law who made decisions while they were sedated during a complicated situation or emergency delivery. Similarly, Ncube et al. (2016) and Saukko (2009) indicate that during hospitalisation, participants expressed their frustration towards medical professionals who did not provide them with medical support when they were suffering from

pregnancy-related complications such as thrombophilia or preterm birth. Mother's-in-law and medical professionals are perceived to be protectors and experts of women's pregnancy journey as a result of their experience, knowledge and clinical training (Andipatin, 2012). The discrepancies in defining the situation above to the expectant women could have resulted in the frustration they expressed with the actions of the medical personnel and family members. The findings from this review corroborated with the findings of Lawson and Rajaram (1994) where participants who suffered from a high-risk pregnancy expressed their frustration with the medical practitioners and family members.

Anger towards medical staff

The emotion of anger was expressed by expectant women in two of the included studies. Participants who were hospitalised for HELLP syndrome or preterm birth expressed anger and resentment at the unjust treatment they received from medical professionals during hospitalisation (Alex &Whitty-Rogers, 2017; Roomaney et al., 2014). This emotion of anger emerged from the participants whose condition deteriorated as a result of the negligence of the medical staff as opposed to being mediated by caring responses. One example is the lack of information that participants received from medical personnel. This is consistent with the findings of Kidner and Flanders-Stephans (2004), who reported that their study participants' expressed anger towards medical practitioners for receiving ill treatment that could have further complicated their pregnancies. For instance, the participants felt that the ill treatment they received from medical staffs were not being respected and providing them with insufficient information. The reminiscence of the emotion of anger experienced by the participants was supported by the literature.

Anxiety during hospitalisation

This category describes the feelings of anxiety for pregnant women during hospitalisation. Amorim et al. (2016) contends that frequent hospitalisation for expectant women during a high-risk pregnancy awakened feelings of anxiety. Malouf and Redshaw (2017), Norhayati et al. (2017), and Ncube et al. (2016) indicate that participants who suffered from preterm birth or maternal near-miss felt anxious and emotionally drained because of their frequent hospital visits. These findings were confirmed by a report of Currie and Barber (2016), which revealed that hospitals may stimulate the feeling of anxiousness for the expectant women suffering from a high-risk pregnancy.

High-risk pregnancy conditions result in pregnant women being hospitalised. During hospitalisations, expectant women are removed from their normal environment to adapt to a new setting, which leads to a feeling of entrapment for expectant women. For this reason, hospitalisation results in a range of emotions such as fear, anxiety, feeling frightened, isolation, frustration and anger for the pregnant women. The emotion of isolation was reduced by social support that some of the expectant women received from family members. Despite the fact that mother's-in-law, partners and medical professionals were identified as guardians and experts of the women's pregnancy journey, the inconsistencies observed in their actions resulted in the expectant women resenting their mothers-in-law and medical practitioners, which further exacerbated feelings of frustration and anger. It is understandable that the expectant women who were hospitalised will experience greater anxiety. As a result of these emotional and psychological experiences during this stage, it is important for the pregnant women to process and eventually accept their altered situation. This is because the aftermath of hospitalisation comes with its own experiences and this is described in the subsequent subsection.

4.4.1.2.3 Aftermath

During women's pregnancy journey, there may be complications that are traumatic for the expectant women and often result in loss. Layne (2004) states that the reflection of the pregnancy journey for a woman with pregnancy-related complications, represents a loss not only of an infant, but also of an idealised pregnancy. These reflections are also proof of the reality that motherhood as it is known was denied for some of these individuals. Unfortunately, the care given to an expectant woman focuses on the physical monitoring while neglecting and dismissing the emotional and psychological experiences. For this reason, Beutel, Deckardt, von Rad, and Weiner (1995) contend that the painful aftermath of a traumatic experience is further complicated by the insufficient support that these pregnant women often receive. Thus, the emotional and psychological aspects of expectant women's aftermath experiences are highlighted in the included articles and are discussed below.

Shock after the high-risk pregnancy

This theme reveals that the participants' were caught completely off-guard by the outcome of the high-risk pregnancy. In Norhayati's et al. (2017) and Ncube's et al. (2016) study, participants who suffered from maternal near-miss gave birth to preterm infants and stated that they were shocked. These findings were consistent with the literature as Storeng and colleagues indicated that after the delivery of the infant from a high-risk pregnancy, the mothers still experienced the emotion of shock (Storeng et al., 2010). This is understandable because mothers faced challenges in pregnancy that resulted in them reliving the shock.

Fear of physical changes

High-risk pregnancy affects the physical body because of the corporeality of bodies. Participants experienced adverse bodily changes that were feared and dreaded. For example,

Khan et al. (2012) reported that participants in their study feared that they would experience pain during urination and defaecations and they reported that their bodies changed colour because of the obstetric complications. In addition, participants in Souza's et al. (2009) study who experienced maternal near-miss revealed that their physical experience changed such as their belly swelled up a lot and it did not look the same as before. Participants in Norhayati's et al. (2014) study expressed fear of going to the bathroom unattended because they had just experienced a traumatic childbirth and experiencing a weak body was unfamiliar to them. For this reason, participants expressed fear towards the changes of their physical bodies.

Fear of the impact on infant

High-risk pregnancies increase the likelihood of the baby being physically impaired. The effects of a high-risk pregnancy according to the findings of this review ranges from fearing for the general health of the infant due to prematurity to having a child with a handicap. In Souza's et al. (2009) study, participants feared that their infants' health would deteriorate after experiencing maternal near-miss. In addition, Ncube et al. (2016) acknowledge that participants feared for the survival of their new-born infant and expressed how they dreaded handling the tiny infant because they were afraid of 'damaging' the new-born infant. These fears were so intense and appeared to be associated with potentially harming their infants. Furthermore, Lalor et al. (2009) highlight how participants feared that their infants would be left with some kind of handicap. These findings were corroborated by the report of Currie and Barber (2016) where mothers who experienced a medically complicated pregnancy expressed fears that were associated with the health of their baby. For this reason, a high-risk pregnancy may have certain effects of which physical changes are one that negatively affected both the mother as highlighted above. It also affected the baby and resulted in the mothers expressing feelings of fear (Ncube et al., 2016; Lalor et al., 2009; Souza et al., 2009). Therefore, Norhayati

et al. (2014) argue that participants directed the feelings of fear to their physical health as well as that of the baby.

Frightened about impact on infant

This theme explains the concern expressed by mothers towards their infants as opposed to their own health. After the participants experienced preterm birth or maternal near-miss, they felt frightened of the impact that these medical complications might have on the baby (Ncube et al., 2016; Souza et al., 2009). The findings of this review were reciprocated in existing literature. For instance, Hall (2015) report that the outcome of expectant women's high-risk pregnancies on the new-born baby were frightening for mothers. For this reason, the medical complications that expectant women experienced could possibly have resulted in a traumatic childbirth. This traumatic childbirth may have negatively affected the health of the new-born baby, causing mothers to feel afraid.

Worrying about the impact on infant

This theme describes the emotional experience of worry about the impact of high-risk pregnancy on the infant that the participants felt. Curran et al. (2017) and Lalor et al. (2009) report that the participants who suffered from a high-risk pregnancy were worried about the health of the foetus. As an illustration, the participants were constantly on the lookout for any health implications of the high-risk pregnancy on the infant such as abnormalities. The findings of these studies corresponded to existing literature (Platt et al., 2009; Borkoveck & Inc, 1990). The above authors reveal that participants who had a high-risk pregnancy worry about the adverse effects the complications would have on their babies.

Worrying at the impact on mother

Participants did not only direct the feeling of worrying to the health of their infant as discussed above, but also to that of themselves. In a study conducted by Yeakey et al. (2009), participants who experienced obstetric fistula were worried about the effects that this condition will have on them such as infertility. In addition, Kaye et al. (2014) and Souza et al. (2009) indicate that participants who developed uterine rupture and maternal near-miss stated that the conditions interfered with their private and public life. For example, participants were worried about the smell, about their bladder control, embarrassing themselves and not being able to walk nor speak properly. Thus, high-risk pregnancy conditions had physical effects that resulted in a sense of worrying for the participants.

Sadness about the impact on mother

This theme describes the emotion of sadness for mothers. Curran et al. (2017) and Yeakey et al. (2009) indicate that during the high-risk pregnancy, participants' inability to interact with their counterparts resulted in them sobbing which was an expression of their deep sadness. Specifically in Norhayati's et al. (2014) study, when participants who experienced maternal near-miss were informed of their inability to bear more children, they were extremely sad. Furthermore, Yeakey et al. (2009) reveal that participants who suffered from obstetric fistula felt sad after being informed of their limited ability to fulfil marital roles. These findings were corroborated by a report of Andipatin (2012), who reported that after the high-risk pregnancy mothers' experienced intense sadness.

Isolation and loneliness after the high-risk pregnancy

The emotion of isolation and loneliness was mainly a result of being separated from partners and babies after childbirth. For instance, Kaye et al. (2014) and Roomaney et al. (2014) reveal

that participants who experienced uterine rupture or HELLP syndrome felt isolated and alone after the delivery of the infant. As most complicated pregnancies result in the infant being placed in the Intensive Care Unit (ICU) or death of the baby, this could account for the isolation and loneliness that the mothers experienced. Similarly, caregivers or partners of the participants would have to resume their responsibilities after the expiration of paternity leave, which might have compounded the women's experience of isolation and loneliness. Research has shown that both isolation and loneliness are associated with illness and mortality (Abraham, Conner, Jones, & O' Conner, 2016). For this reason, a medically complicated pregnancy that places the infant at risk of mortality would cause the mother to feel isolated and alone.

Guilt after the high-risk pregnancy

This category describes the guilt experienced by mothers after the delivery of the child. The findings from this review showed that the guilt is closely associated with self-blame. Malouf and Redshaw (2017), Roomaney et al. (2014), Khan et al. (2012), as well as Souza et al. (2009) indicate that participants who had HELLP syndrome, maternal near-miss or experienced preterm birth felt guilty for a number of reasons, which include but not limited to ignoring important signs during their pregnancy, not strong enough to carry a baby to full term, as well as for falling pregnant and starting families late. These findings coincide with the reports of Amorim et al. (2016), as well as Lawson and Rajaram (1994). The above authors report that the guilt experienced by mothers increases after a high-risk pregnancy experience. Admittedly, the women believed that they could have done things differently to ensure a positive result, thereby feeling that they deserved to be blamed. As the identity of a mother includes accepting responsibility for the well-being of the foetus and outcome of their pregnancy, the mothers therefore internalised the guilt they felt which resulted in self-blame (Curran et al., 2017; Jackson & Mannix, 2004). However, some studies in this review reveal that the blame was

transferred onto someone else. According to Curran et al. (2017), Norhayati et al. (2017), and Kaye et al. (2014), participants placed the blame onto private health professionals for their high-risk pregnancy condition (i.e. maternal near-miss or uterine rupture). These findings were similar to that of Kidner and Flanders-Stephans (2004), who report that women felt betrayed by healthcare providers. On the other hand, Khan et al. (2012) and Tinoco-Ojanguren et al. (2008) reveal that expectant women who had a high-risk pregnancy were blamed for the complications they experienced by other individuals (such as mother's-in-law and spouses). Roomaney et al. (2014), as well as Jackson and Mannix (2004) state that the issue of blame may be fixed at mothers from the moment of conception, and continues throughout the pregnancy. Therefore, mothers internalised the 'mother blaming attitudes' of the individuals around them and from this blame themselves as opposed to others for the pregnancy-related complications that were often beyond their control. This reflects the argument made by Roomaney et al. (2014) and Zahn et al. (2015) that self-blame is related to guilt.

Grief during the aftermath

In this category, mothers shared their feelings of loss and grief regarding their infants. For instance, Lalor et al. (2009) and Souza et al. (2009) indicated that participants expressed grief at the loss of their new-born baby. These findings were similar to those of Krueger (2006) who reported that grieving for the loss of an infant is part of the human experience. Therefore, the reminiscence of the loss may eternally rest within the women when they see other expectant women or live babies.

Feeling upset after the high-risk pregnancy

The perceived lack of information received from healthcare providers led to the participants feeling upset. After a traumatic childbirth, participants who lost their babies indicated that they

were not provided with sufficient reasons for the cause of death, which upset them (Curran et al., 2017; Norhayati et al., 2017; Kaye et al., 2014; Souza et al., 2009; Lalor & Begley, 2006). For this reason, participants revealed the incongruence between the information desired from healthcare providers and dissatisfaction with not obtaining adequate information about the loss of the infant. These findings were confirmed by van Zwicht, Cronje, Rijnders, and van Lith, (2016), who opine that mothers have a right to be upset if they are not provided with satisfactory information regarding their infant.

Depression disorder after the high-risk pregnancy

This demonstrates that depression is most associated to mothers' actual experience of motherhood. Kaye et al. (2014), Saukko (2009), and Yeakey et al. (2009) report that participants who had a high-risk pregnancy condition (i.e. obstetric fistula, uterine rupture or thrombophilia) suffered from major depressive disorder. As mothers are unable to live up to the idealised expectations of motherhood after experiencing a high-risk pregnancy, they are often left with feelings of guilt and worthlessness that are symptoms of depression. These findings were similar to that of Simmons and Goldberg (2010), who reveal that there is an increase in depression disorder for mothers' after a high-risk pregnancy experience.

Post-traumatic stress disorder (PTSD) after the high-risk pregnancy

PTSD was identified as one of the postpartum morbid consequences of a traumatic childbirth. Kaye et al. (2014) reveal that participants who experienced a traumatic birth were more likely to develop PTSD as opposed to their counterparts. These findings were similar to existing literature. For instance, Ford, Ayers, and Bradley (2010) report that 1–6% of women develop postpartum PTSD after birth trauma. Furthermore, another included study conducted by Souza et al. (2009) indicate that life-threatening events such as maternal near-miss resulted in the

participants suffering from PTSD. The above author also state that the women's experiences of emotional displacement, feelings of blame, isolation, rumination of events, regression, and loss of idealised gestations were all factors that contributed to this disorder. These findings were confirmed by the literature as Polacheck, Dulitzsky, Margolis-Dorfman, and Simchen (2016) reveal that expectant women's emotional cries that occurred during the pregnancy, intense fears of traumatic childbirth and pain were all aspects that are closely associated with PTSD. For this reason, a high-risk pregnancy evokes a range of emotional factors that result in mothers experiencing PTSS or PTSD.

What was clear from these findings was the confusing and troubling aftermath experience for the participants. The experience complicated various issues for women, specifically in relation to how pregnancy was perceived and how this transformed into their interpretation of seeing other pregnant women. In addition, the findings revealed that after the presence of severe pregnancy complications, participants felt shocked, frightened, feared, worried, sad, guilty, isolated and alone as well as expressing their grief. Participants feared, worried and felt frightened for the health of their infant. This was also evident from the fears, worries and intense sadness expressed at their bodily changes which is expected after any pregnancy, but was magnified after a high-risk pregnancy. Furthermore, the inability to live up to societal expectations regarding motherhood results in pregnant women questioning their ability as a mother. Given these expectations, it was not surprising that the mothers in this review who failed to do this experienced severe guilt. The death of an infant or loss of a pregnancy resulted in the women expressing their grief as well as feeling isolated and alone. This is because mothers have a tendency to blame themselves for the health of their child/(ren). Consequently, the perceived lack of information regarding the passing of the infant caused them to feel upset. Psychologically, women who had a traumatic childbirth experience suffered from a depressive

disorder and PTSD. It is evident that the aftermath becomes a time of trial, challenges and awakened a range of emotions (i.e. fright, upset, guilt, blame, grief, shock, isolation and loneliness) in women who may eventually develop a psychological disorder (i.e. depression and PTSD). Therefore, Bashiri, Agarwal, and Harlev (2016) argue that nothing may emotionally prepare women for the aftermath of the high-risk pregnancy experiences as they need so much but are offered so little. For this reason, the emotions discussed during this stage may be a glimpse of what the participants in these studies actually experienced.

4.4.1.2.4 High-risk pregnancy experience

When a woman becomes pregnant, the emotional preparation for parenthood begins before the pregnancy and gradually intensifies throughout the pregnancy (Hjelmstedt et al., 2006). As described in Chapter 2, fantasies about the child and what life will be like as a family have been proposed to result in preparation for parenthood (Stern & Bruschweiler-Stern, 1998). However, when a woman is informed by health professionals that her foetus has an abnormality, parental expectations drop and she may have to give up the idealised picture she envisioned (Larsson et al., 2010). Often times, different kinds of feelings are present for the expectant women such as feelings of having lost the imagined perfect infant and causing the defect. It was not surprising to learn that having a foetus with an abnormality places pregnant women at risk for a high-risk pregnancy and results in an intense emotional experience for them. Thus, expectant women's various emotional and psychological responses associated with the high-risk pregnancy experience in general are highlighted in the included articles are discussed below.

Worrying and high-risk pregnancy experience

In this category, several participants reported that the high-risk pregnancy experience resulted in intense worry. Saukko (2009), Yeakey et al. (2009), Lalor et al. (2009), and Price et al.

(2007) indicate that their study participants were worried about their high-risk pregnancies. These findings were similar to that of Benson and Stuart (1992), who report that a high-risk pregnancy experience results in worry for the pregnant women. Thus, the emotion of worrying is evident throughout the expectant women's high-risk pregnancy experiences.

Despair and high-risk pregnancy

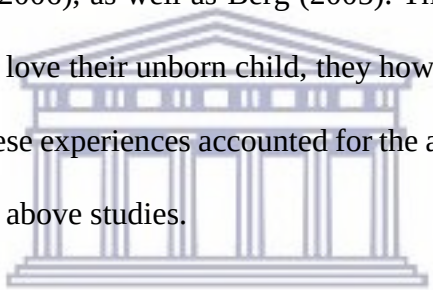
The journey to motherhood is filled with challenges and often results in expectant women experiencing the emotion of despair. Souza et al. (2009) and Yeakey et al. (2009) indicate that participants felt despair, due to the fact that the high-risk pregnancy interfered with their expectations of motherhood. These findings were similar to that of Sharif and Coomarasamy (2012), who report that feelings of despair were evident for expectant women during their high-risk pregnancy experience. Therefore, the experience of a medically complicated pregnancy for expectant women creates feelings of despair.

Alienation and high-risk pregnancy

Alienation often resulted for women who went through a high-risk experience. Roomaney et al. (2014), Saukko (2009), and Souza et al. (2009) reveal that expectant women felt alienated when they were faced with high-risk pregnancy condition (i.e. HELLP syndrome, maternal near-miss, or thrombophilia). These findings were similar to the report of Long (2009), who state that the experiences of a high-risk pregnancy results in women losing their identity and often tends to alienate them. With this in mind, Andipatin (2012) argues that the medicalisation of pregnancy in general may result in feelings of alienation as women feel removed from their own bodies and experiences. Thus, expectant women may have the perception that their bodies have failed them and this reflects the essence of alienation.

Ambivalence and high-risk pregnancy

Ambivalent feelings emerged when expectant women were trying to understand their high-risk pregnancy experience. Price et al. (2007) indicate that participants who suffered from a high-risk pregnancy tried to make sense of their experiences and reported on a multitude of mixed and complex emotional responses. For instance, the participants experienced feelings of shock, fear, uncertainty, loneliness the one moment and then happiness and joy the next. In addition, Roomaney et al. (2014) reveal that ambivalent feelings aroused when the expectant mother tried to understand their high-risk pregnancy experience. These findings were consistent with the studies conducted by Mobarakadi, Najmabadi, and Tabatabaie (2015), World Health Organization (2007), Dangal (2006), as well as Berg (2005). The above authors indicate that even though expectant women love their unborn child, they however resent the complications associated with pregnancy. These experiences accounted for the ambivalent feelings expressed by the expectant women in the above studies.



The road to motherhood is often characterised by challenges and the uneasiness felt by the expectant women who were participants of the reviewed studies may have been underpinned by emotional responses such as worry, despair, alienation, and ambivalence. Pregnancy in a woman's life is considered as a special and 'natural' period, but when the pregnancy is at risk, it disrupts the natural process with several challenges and thus awakens a host of challenging emotions.

4.4.2 Refutation

Refutation assesses any findings that were obtained from this review that seem to be inconsistent with the existing literature. The study identified two medical conditions (i.e. hypertension and obstetric fistula), and four emotional experiences (i.e. felt frightened, worry,

guilt, and discouragement) that were contradictory to the findings in the literature. They are discussed below.

4.4.2.1 Medical conditions

Hypertension

According to Kaye et al. (2014), hypertension is a postpartum morbid consequence of a traumatic birth, which refuted the other included articles (Khan et al., 2012; Souza et al., 2009), which indicated that this condition was most likely to occur during the pregnancy. Previous literature such as Avery (2005) also contends that hypertension is a common medical issue that occurs during pregnancy.

Obstetric fistula

Kaye et al. (2014) and Yeakey et al. (2009) indicate that an obstetric fistula is a medical condition caused by a high-risk pregnancy. Obstetric fistula may result from long or obstructed labour that causes an abnormal hole either between the vagina and the rectum, or between the bladder and the vagina (Delamou et al., 2017; Yeakey et al., 2009). This could lead to uncontrolled leakage of either urine or faeces. The findings of this review further revealed that women with an obstetric fistula experience pain secondary to urinary tract infection. Obstetric fistulae remain a public health concern that affects the quality of maternal healthcare including obstetric care (Yeakey et al., 2009; World Health Organization, 2007; Hirichsen, 2004). It is one of the most debilitating morbidities for mothers. For this reason, pregnant women who survived traumatic childbirth are more likely to experience obstetric fistula. This is a medical condition that occurs after childbirth and does not render a pregnancy high-risk and thus refutes the of this study.

4.4.2.2 Emotional experiences

Frightened of physical changes in the mother's body.

Souza et al. (2009) indicate that participants were frightened about how their body was deformed after the high-risk pregnancy experience. However, Hall (2015) reports that participants are more afraid for the effects of high-risk pregnancies on the new-born baby. Thus, the way in which participants experienced the emotion of feeling frighten in Souza's et al. (2009) study was not similar to the rest of the included articles (Curran et al., 2017; Ncube et al., 2016; Price et al., 2007; Souza et al., 2009; Tinoco-Ojanguren et al., 2008; Lalor & Begley, 2006) and therefore it in a sense refuted against what was discussed.

Worry

Norhayati et al. (2017) reveal that participants voiced the emotion of worry because they believed that medical staff was not competent enough to assist them with their high-risk pregnancy. On the other hand, Khan et al. (2012) indicate that participants worried about their immediate family and relations after their high-risk pregnancy. This refuted what was discussed regarding the emotion of worry in the included articles and existing literature. For instance, Platt et al. (2009), Kaye et al. (2014), Souza et al. (2009), as well as Borkoveck and Inc (1990) report that participants only worry about the adverse effects the complication would have on their babies and on themselves.

Guilt

Curran et al. (2017) reveal that when some of the participants in their study rationalised the causes of the high-risk pregnancy, they resisted the feelings of guilt. Despite this, Laza-Vasquez et al. (2012) found that the situation of a high-risk pregnancy triggers the emergence of emotions and feelings of guilt because severe morbidity is represented as a woman failing

during her pregnancy. For this reason, the rationalisation may not be enough for every expectant woman who has a high-risk pregnancy. Hence, this perception refutes previous reports on how guilt was perceived by participants in the rest of the included articles.

Discouragement

Norhayati et al. (2017) reveal that after participants experienced an unexpected complication during childbirth, they felt discouraged about becoming pregnant again. On the other hand, Tinoco-Ojanguren et al. (2008) indicate that participants felt discouraged about attending doctor visits. These findings did not correlate with the reports of Trivedi and Puri (2016), Clark, Fernando, and van Velde (2016), as well as Silberman and Silberman (2010). These authors report that women at risk are usually discouraged to have any other pregnancies because it is dangerous and closely linked with maternal mortality. For this reason, the way in which Norhayati et al. (2017) and Tinoco-Ojanguren et al. (2008) comment on this emotion was not consistent with the literature presented.

4.4.3 Line of argument

Women with medically complicated pregnancies have several emotional and psychological experiences. What the reviewed literature makes clear is that the following medical conditions and complications place a pregnancy at risk: HELLP syndrome, hypertension, thrombophilia, gestational diabetes, foetal abnormality, maternal near-miss, preterm birth, and uterine rupture. Consequently, women's experiences with these medical conditions or complications were similar as they are all life-threatening maternal or foetal complications with deadly consequences for both the mother and infant.

In this review, women who suffered from the abovementioned medical conditions or complications in their pregnancy experienced a very stressful and uncertain pregnancy period.

For instance, these women lived with the unknown and unfamiliar expectations of the effects of the high-risk pregnancy on their health and that of the unborn infant. The whirlwind of the medical situation enhanced emotional and psychological experiences for expectant women. To illustrate this, there were four stages that underpinned quite a cyclical process in which women moved back and forth to express their emotional and psychological experiences. These stages were termed: 'Diagnosis', Hospitalisation', 'Aftermath', and the 'High-risk pregnancy experience'. When the expectant women received a diagnosis of a pregnancy-related complication, it ended their expectations of having a 'normal' pregnancy. As a result, expectant women were unprepared and it awakened emotions of shock, frustration, grief, and fear as well as experiencing psychological distress (such as anxiety). After the diagnosis, pregnant women were faced with days or sometimes weeks of hospital confinement to ensure effective management of their condition and monitor the growth and well-being of the foetus. This was disquieting for the hospitalised pregnant women, as the usual adaptation to their pregnancies were disrupted and resulted in experiences of numerous emotions namely, fear, isolation, frustration, anger, feeling frightened and anxiety. Following the traumatic childbirth, the painful aftermath described how women experienced severe emotions (i.e. shock, fear, feeling frightened, worry, sadness, grief, guilt, upset, isolation and loneliness) and suffered from postpartum consequences that include depression and PTSD. Admittedly, the care given to expectant women must not only focus on the physical monitoring, but also on the emotional and psychological experiences. In general, expectant women's high-risk pregnancy experience includes the emotions of worry, despair, alienation and ambivalence.

In conclusion, when an expectant woman is diagnosed with a medical condition or complication, it identifies the pregnancy as a high-risk pregnancy and awakened ranges of emotional and psychological experiences. These emotional and psychological experiences will

be evident at the diagnosis, during hospital confinement, the aftermath, and during the entire high-risk pregnancy experience.

4.5 Conclusion

This chapter outlined the process that was monitored to select the articles and 17 articles were deemed appropriate for the purpose of this study. This was followed by a discussion of the ranking of each article and the scores they obtained after being critically appraised for methodological rigour. The subsections were discussed by highlighting the important role that each subsection plays when publishing an article. Afterwards, each article was methodologically appraised. I utilised the three phases identified by Noblit and Hare (1988) to provide an analysis and discussion of the findings across the selected articles. I reported on how the findings of the included studies were reciprocated by current literature and how they refuted against the existing body of research. This was followed by a line of argument, which revealed a synopsis of the findings. The majority of the articles mentioned either a medical condition or complication that renders a pregnancy as high-risk. The findings of all the included articles revealed that there are several emotional and psychological experiences that are evident during four stages of a woman's high-risk pregnancy journey. Based on the findings, there is a relationship between medically complicated pregnancies and women's emotional and psychological experiences. The next chapter concludes the review as a whole and highlights the limitations of the study and provides recommendations for future researchers.

CHAPTER FIVE: CONCLUSION

5.1 Discussion

This study reviewed 10 databases to identify the medical conditions and complications that render a pregnancy high-risk and the women's emotional and psychological experiences of these situations. The 10 databases included EbscoHost, JSTOR, Sage Journals Online, ScienceDirect, SpringerLink, Sabinet, Scopus, Emerald eJournals Premier, PubMed as well as Taylor and Francis Open Access eJournals. In addition, the review evaluated the literature found on these databases for methodological quality by using three stages of review (i.e. abstract reading, title reading, and full-text reading). These three stages of the review were followed by the utilisation of Noblit and Hare's (1988) process for a successful conduction of the theory explicative of meta-synthesis. The final chapter provides an overview of the findings, the conclusion, the limitations of the study, and recommendations for future research as well as the significance of the study.

5.2 Summary of findings

The researcher attempted to produce a thorough interpretation and description of the way in which participants in the reviewed studies experienced their high-risk pregnancies by examining women's emotional/psychological experiences of medically complicated pregnancies. This review revealed that through the consolidation of several studies' findings and existing literature, that pregnancy is thought of to be a problem-free process. For instance, a huge part of pregnancy is perceived as 'normal' where the woman falls pregnant without any difficulty, the big announcement, and the lovely baby bump, which then culminates in a beautiful and healthy infant. However, this systematic review dislodged this perception and revealed the prospective and 'real' risks involved in the process for several expectant women.

The notion of risk as it is utilised in obstetrics displays the possibility of an unfavourable obstetric outcome that results in the need for hospitalisation and obstetric intervention. Both past and recent literature identified concepts such as 'risks' and 'complications' that are utilised by healthcare professionals when women have problems with their pregnancies. These complications refer to health problems that may affect the pregnancy, labour, delivery or all of them and place both the mother and baby at risk for a high-risk pregnancy. The findings of this review revealed that the medical conditions and complications that expectant women experienced and rendered their pregnancy at high-risk were HELLP syndrome, hypertension, thrombophilia, gestational diabetes, foetal abnormality, preterm birth, maternal near-miss and uterine rupture. Expectant women who experienced these medical conditions and complications were devastated because of the assumption that they would give birth to healthy babies. However, these experiences did not only disrupt pregnant women physically, but also emotionally and psychologically and it resulted in them having a whirlwind experience, which they did not prepare for. In addition, the pregnancy-related complication mostly identified within the included articles was foetal abnormalities. Foetal abnormalities can be detected in expectant women by healthcare professionals who use several medical and technological devices. Consequently, pregnant women diagnosed with foetal abnormalities had emotional and psychological challenges due to the disruption of their idealised pregnancy.

Various emotions, ranging from shock, fear, frustration, alienation, ambivalence, upset, grief, worry, guilt, despair, isolation and loneliness, to profound sadness, onset of anger, and feeling frightened were evident in women's account of their pregnancies. These emotions were described by expectant women regarding their experiences towards medical staff, the impact on themselves, and the health of their infant. More specifically, expectant mothers experienced the emotions of fear, worry and felt frightened about the effects that the above-mentioned

medical conditions and complications will have on the health of their infant. This was also evident from the fears, worries and intense sadness pregnant women expressed at their bodily changes, which is expected after any pregnancy, but was exacerbated after a high-risk pregnancy. For instance, participants examined the role of their bodies and expressed a sense of body failure and betrayal. As the participants felt that their bodies failed them, guilt was also a large issue among the pregnant women as they tried to make sense of their situation, which they ultimately internalised and it resulted in self-blame. This is due to the fact that the death of an infant or loss of a pregnancy led to the women expressing their grief as well as blaming themselves for the health of their child/(ren). However, not only did expectant women blame themselves, but they also narrated their emotional experiences towards medical staff. For example, medical staff was not showing interest in the participants' feelings, thoughts and emotions during and after the high-risk pregnancy experience. Even though medical professionals were identified as guardians and experts of the women's pregnancy journey, the inconsistencies observed in their actions resulted in the expectant women resenting medical practitioners, which further aggravated feelings of frustration and anger in them.

Psychologically, common mental health challenges (i.e. depression, anxiety, and PTSD) were also evident among women who experienced a high-risk pregnancy due to the uncertainty of the medical condition or complication, the traumatic childbirth, and the critical outcomes (such as the possibility of fatality for the mother or the baby). For instance, participants reported experiencing anxiety when they faced an adverse diagnosis and were subsequently hospitalised placing them in situations where they were not in control. These experiences together with a host of emotions previously mentioned resulted in many of the participants experiencing PTSD or symptoms of PTSD. Not being able to live up to the idealised expectation of motherhood

has resulted in the women feeling worthless and guilt which seemed to open the door for depression disorder.

To this end, women's experiences are influenced by negative experiences of adverse diagnosis that continue throughout the pregnancy and result in a traumatic childbirth. The childbirth experiences are characterised by poor quality of care due to delay to receive prompt care and negative attitudes of medical staff. The findings of this review are therefore in agreement with previous research in that risks and complications are associated with pregnancy and childbirth and that emotional and psychological experiences overlap the aftermath of high-risk pregnancy in women.

5.3 Conclusion

In conclusion, women diagnosed with medical conditions or complications experience a high-risk pregnancy. These medical conditions and complications that include HELLP syndrome, hypertension, uterine rupture, thrombophilia, gestational diabetes, preterm birth, maternal near-miss, and foetal abnormality are life-threatening and pose a burden to pregnant women. Survivors of these complications have subsequent emotional and psychological challenges. The emotional experiences includes shock, fear, despair, frustration, anger, upset, alienation, ambivalence, grief, worry, guilt, sadness, isolation and loneliness, as well as feeling frightened. Psychologically, the women reported experiencing anxiety, depression, and PTSD. Highlighting that healthcare should be tailored for these women.

5.4 Limitations of the study

With regard to the methodology, this study made use of a meta-synthesis that meant that all findings and conclusions of the study were drawn from the findings of the innovative studies

and the understandings that those researchers obtained from their raw data. As a result of this, the researcher had access to the researchers' inferred data and not raw data, therefore perceived as another limitation of the study. Nonetheless, the researcher of this study took several steps to ensure methodological rigour by including only studies with high methodological quality.

Furthermore, the current study has been limited to reviewing articles and studies published between January 2006 and June 2017, which could have affected the amount of articles included in this review as well as the findings of the study.

Publication bias may be a limitation because of the validity of the current findings. As the researcher only focused on the findings of published studies, accessible published research may not be an exact representation of the larger body of research that has been conducted. One can argue that these biases are prevalent in published literature regardless of having done a meta-synthesis (Rothstein, Borenstein, & Sutton, 2005).

This study was limited in that one of the databases in this study did not allow the researcher to search beyond a thousand titles that could potentially have limited the findings of this study. This could possibly affect the comprehensiveness of the current study.

5.5 Recommendation for future research

The study focused on medical conditions and complications that make a pregnancy high-risk in the selected articles, the emotional and psychological experiences throughout the high-risk pregnancy, and identified the methodological rigour of the included studies. Thus, for future research it would be ideal if researchers could conduct studies on women's emotional and psychological experiences of high-risk pregnancy apart from the medical conditions and

complications that render a pregnancy high-risk to provide a more comprehensive and in-depth study.

In addition, the researcher in this study only examined qualitative studies. Further researchers could conduct a systematic review on the same topic, but include quantitative studies.

As this study is utilised as a starting point, future researchers may explore the topic further and include more databases that may yield more results and also determining the methodological rigour of several studies.

Furthermore, only two studies made reference to PTSD and depression disorder, which reveals that the majority of the articles regarding women's emotional and psychological experiences of high-risk pregnancies focus mostly on the emotional aspect and not directing much attention to the psychological part. Therefore, future research should focus on women's psychological experiences of medically complicated pregnancies.

5.6 Significance of the study

The majority of women who are at risk are saved by the necessary medical interventions, but the general trauma literature reported that a life-threatening event such as a complication in pregnancy are most likely to result in emotional and psychological challenges despite the effectiveness of medical treatment. Recent studies demonstrate the intensity of the emotional and psychological experiences that women confronted with during their high-risk experience. However, these studies and their methodology were not assessed for their rigour, and this resulted in an opening in the body of literature for filtered information. This thesis consolidated the base of empirical evidence by delivering filtered information and a thorough meta-synthesis of studies reporting on the medical conditions and complications that are classified high-risk

and also explored women's emotional and psychological experiences of these events. Furthermore, this review provided motivation for further research and highlighted the methodological challenges faced in conducting this form of research.

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APPENDICES

APPENDIX A: PRINTOUT LIST

Women and Gender Studies	
Core databases	Additional databases
Emerald Management Plus	Academic Search Complete
JSTOR	Current & Completed Research (SABINET)
SA ePublications (Sabinet)	Directory of Open Access Jnls
ScienceDirect	Emerald Books (Emerald)
Women's Studies International	Google Scholar
	ISAP (Sabinet)
	NDLTD (Theses and Dissertations)(Sabinet)
	NEXUS (National Research Foundation)
	Project Muse
	SACat (Sabinet)
	SAGE Journals Online
	Sage Research Methods Online (SRMO)
	SCOPUS
Social Work	
Core databases	Additional databases
Academic Search Complete	BioMed Central
The African Journals Archive	Cambridge Journals Online
Ebscohost	Cochrane Library
JSTOR	Emerald Management Plus
Project Muse	Medicines Complete
SA ePublications (Sabinet)	NEXUS (National Research Foundation) Abstracts
Sabinet Reference	OCLC First Search (with World Cat)
SAGE Journals Online	Poverty Monitoring Database

ScienceDirect	SA Media (Sabinet)
SpringerLink	Sage Research Methods Online (SRMO)
Wiley Online Library (previously called Wiley InterScience)	SCOPUS
Women's Studies International	South African Portals
	Wiley Online Library (previously called Wiley InterScience)
School of Public Health	
Core databases	Additional databases
Academic Search Complete (EbscoHost)	Cambridge Journals Online
Africa-Wide NiPAD (EbscoHost)	ERIC (EbscoHost)
BioMed Central	EbscoHost Web
CINAHL (EbscoHost)	JSTOR
Cochrane Library	Oxford Journals Online
Credo Reference	Poverty Monitoring Database
Health Source: Nursing/Academic Edition	PsycARTICLES (EbscoHost)
(EbscoHost)	SAGE Journals Online
ScienceDirect	Sage Research Methods Online (SRMO)
	SCOPUS
	SocINDEX
	SpringerLink
	Wiley Online Library
Nursing	
Core databases	Additional databases
Academic Search Complete (EbscoHost)	Cambridge Journals Online
ScienceDirect	Wiley Online Library
EbscoHost)	SocINDEX with Full-text (EbscoHost)
Health Source: Nursing/Academic Edition	SpringerLink
Credo Reference	SCOPUS
Cochrane Library	Sage Research Methods Online (SRMO)
CINAHL (EbscoHost)	SAGE Journals Online
Africa-Wide NiPAD (EbscoHost)	PsycARTICLES (EbscoHost)

BioMed Central	Poverty Monitoring Database
	ERIC (EbscoHost)
	Oxford Journals Online
	JSTOR
	EbscoHost Web
Occupational Therapy	
Core databases	Additional databases
Academic Search Complete (EbscoHost)	Cambridge Journals Online
Africa-Wide NiPAD (EbscoHost)	ERIC (EbscoHost)
BioMed Central	EbscoHost Web
CINAHL (EbscoHost)	JSTOR
Cochrane Library	Oxford Journals Online
Credo Reference	Poverty Monitoring Database
Health Source: Nursing/Academic Edition	PsycARTICLES (EbscoHost)
(EbscoHost)	SAGE Journals Online
ScienceDirect	Sage Research Methods Online (SRMO)
	SCOPUS
	SocINDEX with Full-text (EbscoHost)
	SpringerLink
	Wiley Online Library
Physiotherapy	
Core databases	Additional databases
Academic Search Complete (EbscoHost)	Cambridge Journals Online
Africa-Wide NiPAD (EbscoHost)	ERIC (EbscoHost)
BioMed Central	EbscoHost Web
CINAHL with Full-Text (EbscoHost)	JSTOR
Cochrane Library	MEDLINE (EbscoHost)
Credo Reference	Oxford Journals Online
(EbscoHost)	PsycARTICLES (EbscoHost)
Health Source: Nursing/Academic Edition	PubMed
ScienceDirect	Sabinet Reference

	SAGE Journals Online
	Sage Research Methods Online (SRMO)
	SCOPUS
	SocINDEX with Full-text (EbscoHost)
	SpringerLink
	Wiley Online Library
School of Natural Medicine	
Core databases	Additional Databases
Academic Search Complete (EBSCO)	Agricola
EbscoHost Web	ArticleFirst (OCLC)
JSTOR	BMJ
MEDLINE (via EBSCO)	Cambridge Journals Online
SAGE Journals Online	Cochrane Library
ScienceDirect	Credo Reference
SCOPUS	Current & Completed Research (SABINET)
SpringerLink	Directory of Open Access Jnls
	ETDs - Electronic Theses and Dissertations (Sabinet)
	Google Book Search
	Google Image Search
	Google Scholar
	MEDLINE (Pubmed)
	NEXUS (National Research Foundation)
	OCLC FirstSearch Service (with WorldCat)
	Oxford Journals Online
	PubMed (BioMed Central)
	Sabinet Reference
	SACat (Sabinet)
	Sage Research Methods Online (SRMO)
	SA ePublications (Sabinet)

Dietetics	
Core databases	**Additional databases**
Academic search complete	Agricola
BMJ	ArticleFirst (OCLC)
EbscoHost Web	Cambridge Journals Online
JSTOR	CINAHL (Cumulative Index to Nursing and Allied Health)
MEDLINE (via EBSCO)	Credo Reference
ScienceDirect	Cochrane Library
Sabinet Reference	Current & Completed Research (SABINET)
SA ePublications (Sabinet)	Directory of Open Access Jnls
SpringerLink	ETDs - Electronic Theses and Dissertations (Sabinet)
	Health Source:Nursing/Academic (Ebsco)
	MEDLINE (Pubmed)
	MLA Directory of Periodicals (EbscoHost)
	PubMed (BioMed Central)
	SACat (Sabinet)
	SAGE Journals Online
	Sage Research Methods Online (SRMO)
Psychology	
Core databases	Additional databases
Academic search complete	BioMed Central
Ebscohost Web	BMJ
JSTOR	Cambridge Journals Online
Oxford Journals Online	Cochrane Library
PsycARTICLES (EbscoHost)	Cochrane Library - Health Technology
Sabinet Reference	Assessment Database (Wiley)
SAGE Journals Online	Credo Reference
SA ePublications (Sabinet)	Current & Completed Research (SABINET)
ScienceDirect	Directory of Open Access Jnls
SocINDEX (EbscoHost)	Emerald Management Plus

SpringerLink	ETDs - Electronic Theses and Dissertations (Sabinet)
The African Journals Archive	Google Scholar
Wiley Online Library	Health Source: Nursing/Academic (Ebsco)
	MEDLINE (Pubmed)
	MEDLINE (via EBSCO)
	NEXUS (National Research Foundation) Abstracts
	PubMed (BioMed Central)
	SA Media (Sabinet)
	SACat (Sabinet)
	Sage Research Methods Online (SRMO)
	SCOPUS
	South African Portals

APPENDIX B: TITLE SHEET

Author	Date	Title and Source	Database	Location where it is stored

APPENDIX C: ABSTRACT SUMMARY SHEET

Type of Design	Study Population	Data collection method used	Outcome	Reason for exclusion/inclusion

APPENDIX D: PERMISSION TO USE THE TOOL

UNIVERSITY of the WESTERN CAPE

Ms Isaacs
Department of Psychology
UWC

Re: Permission to use the SFS scoring system – Version D

Dear Ms Isaacs

Thank you for your interest in using the SFS scoring system (Version D). I hereby give you permission on behalf of the collaborating authors to use the critical appraisal tool in your research towards the M.A degree in Psychology. I would like to request that you provide us with feedback as to how you found the tool in your research. Your feedback will be valuable for future refinement

The SFS scoring system is currently being reviewed for publication. You can include a copy of the tool in your examination copy of the thesis provided that you insert a watermark on the appendix to indicate that it is not for reproduction. The final copy of your thesis that is uploaded into the library should not contain the critical appraisal tool. You can provide my contact details for anyone who is interested in using or reviewing the tools. This letter must be included as an appendix and the conditions stipulated reflected in your ethics section.

You can use the following references to support your thesis write up:

1. Smith, M.R., Franciscus, G. Swartbooi, C. Munnik, E. & Jacobs W. The SFS scoring system. In Smith, M.R. (Chair). *Symposium on Methodological Rigour And Coherence: Deconstructing The Quality Appraisal Tool In Systematic Review Methodology* conducted at the 21st National Conference of the Psychological Association of South Africa, South Africa, 2015.
2. Smith, M.R. Methodological Rigour and Coherence: A concept paper. In Smith, M.R. (Chair). *Symposium on Methodological Rigour And Coherence: Deconstructing The Quality Appraisal Tool In Systematic Review Methodology* conducted at the 21st National Conference of the Psychological Association of South Africa, South Africa, 2015.

UNIVERSITY of the WESTERN CAPE

The following references represent a sample of studies in which the scoring system and specifically version D was piloted

3. Trimble, L. & Smith, M.R. Strategies aimed at developing capacity in research supervisors. In Smith, M.R.. (Chair). *Symposium on Research Capacity Building: Identifying Elements From Supervision And Staff Development* conducted at the 21st National Conference of the Psychological Association of South Africa, South Africa, 2015.

4. Hendricks, A. Simons, A. & Smith, M.R. Strategies to develop research capacity in graduate students. In Smith, M.R.. (Chair). *Symposium on Research Capacity Building: Identifying Elements From Supervision And Staff Development* conducted at the 21st National Conference of the Psychological Association of South Africa, South Africa, 2015.

5. Simons, A. & Smith, M.R. Strategies to enhance research capacity in early career academics: A Systematic review. In Smith, M.R. (Chair). *Symposium on Research Capacity Building: Identifying Elements From Supervision And Staff Development* conducted at the 21st National Conference of the Psychological Association of South Africa, South Africa, 2015.

6. Rae, N. & Smith, M.R. Demographic and personal factors that impact completion of student research. In Smith, M.R. (Chair). *Symposium on Research Capacity Building: Identifying Elements From Supervision And Staff Development* conducted at the 21st National Conference of the Psychological Association of South Africa, South Africa, 2015.

You can also cite the references of the unpublished theses of

Abigail Simons

Nicolette Rae

Lyle Trimble

I wish you well on your research and academic endeavours.

Sincerely

.....

Prof Mario R. Smith
23 March 2017

APPENDIX E: CRITICAL APPRAISAL TOOL

CRITICAL APPRAISAL CHECKLIST FOR A SYSTEMATIC REVIEW (Read the permission document)

APPENDIX F: RATER'S FORM

Subsections										
Article Number	Refs	Quality	Purpose (5)	Design (7)	Ethics (6)	Data Collection (7)	Sample (8)	Results (3)	Conclusion (4)	Final Score (%)

APPENDIX G: DATA EXTRACTION SHEET

Author	General description			
	Target group	Medically complicated pregnancies	Emotional/psychological experiences	Geographical locations

Authors	Methodological Appraisal						
	Theoretical Orientation	Design	Sample type	Sample Size	Data Collection	Analysis	
						Qualitative	Saturation

Authors	Results			
	Findings	Conclusion	Recommendations	Limitations

APPENDIX H: ETHICS APPROVAL FOR PRESENT STUDY

Ms Isaacs (3224267)
Department of Psychology
UWC

Re: Project registration and ethics review.

This letter serves to attest that your project entitled, A Systematic Review regarding the emotional/psychological experiences of medically complicated pregnancies, was reviewed by the Community and Health Higher Degrees Committee (CHSHD) (CHSHD 2017/06). The project has been sanctioned as a feasible research project that satisfies

a) the scope of the research requirement in the M.A. Psychology (structured) programme
b) Methodological rigour and coherence
c) Ethical accountability.

Your project has further been registered with the Senate Higher Degrees Committee of the University of the Western Cape in partial fulfilment of the research requirement for the MA degree in Psychology (SHD 17/20).

Sincerely

.....
Prof Mario R. Smith
Deputy Dean – Research & Postgraduate Studies
Chair: CHSHD

APPENDIX I: PROOF OF REGISTRATION (FOR 2017 AND 2018)

UNIVERSITY of the
WESTERN CAPE

STUDENT ADMINISTRATION
Private Bag X17, Bellville 7535, South Africa Telegraph: UNIBELL
Contact Centre: +27 21 959 3900/3901
www.uwc.ac.za

Date Issued: 18/07/2017

PROOF OF REGISTRATION Student Number: 3224267
Student Name: ISAACS, NAZEEMA ZAINURA (NZ)
Identity Number : 9307220221089

This is to certify that the above student has registered as a Full-time student at this University for the current academic year.

Degree / Diploma : MA Psychology (Structured) [8813]

Modules registered for :

PSYCH MINI THESIS 803	PHILOSOPHICAL & SOCIAL ISSUES 831
PROGRAMME EVALUATION 832	QUALITATIVE METHODOLOGIES 833
SURVEY RESEARCH METHODS 834	ADVANCED QUANTITATIVE TECHNOLOGY835
MEASUREMENT DESIGN & CONSTRUCTN 836	RESEARCH PROP & THES WRITING 837
CONTEXTUAL/COMMUNITY PSYCHOLOGY 839	HEALTH PSYCHOLOGY 840
SKILLS TRAINING 842	

Date of Commencement of Studies : JANUARY 2012

Date of Registration [Current Year] : 13/02/2017

Normal Duration of Curriculum : 1 Years

HEAD : Student Administration

UNIVERSITY OF THE WESTERN CAPE
PRIVATE BAG X17, BELLVILLE
STUDENT ADMINISTRATION
18 JUL 2017
UNIVERSITEIT WES-KAAPLAND
PRIVAATSAK X17, BELLVILLE
STUDENTE ADMINISTRASIE

FROM HOPE TO ACTION THROUGH KNOWLEDGE

FACULTY ENROLMENT Printed: 29 JAN 2018 09h51 Page 74

Student : 3224267 ISAACS, NAZEEMA ZAINURA (Ms)
Faculty : CHS Community and Health Sciences
Programme: 8813 MA Psychology (Structured)
Year : 2018
Reg.Date : 2018/01/29

Enrolment Year: 2
Year Level: 1
Study Type: Full-time

Module	Description	Major Type	Cost	Credits
PSY804	PSYCH MINI THESIS 804	F	0.00	40.00
		Total:	0.00	

Class Timetable

Day	Period Time	Module	Activity	Group	Room	Building	Weeks

Building:
12-NEW SCIENCE, 11-LECTURE HALLS GH, 15-PREFABS,
17-DENTISTRY PRE-CLINICAL, 7-LECTURE HALLS C, 2-OLD SCIENCE,
1 1-New Chemistry Building, 29-LIFE SCIENCE BUILDING, 6-LECTURE HALLS B,
14-EDUCATION & A BLOCK, 8-LECTURE HALLS D, 23-ECONOMIC & MANAGEMENT SC,
13-SOCIAL SCIENCES, 4-OLD ARTS, 10-LECTURE HALLS NEW SCIENCE,
1 7-SENATE BUILDING, 19-SPORT RECREATION BUILDING, 1 4-NEW LIBRARY, ***-CO
1 5-LEGAL AID CLINIC, 3-PHARMACY, 16-HUMAN ECOLOGY & NURSING