Exploring Anxiety Disorders During Pregnancy Planning: A Qualitative Study of Women's Experiences in Nova Scotia

by © Ashley Crawford

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Abstract

Anxiety disorders are common in North America, especially among women of reproductive age. However, there is very little research examining women's perspectives of pregnancy planning. The purpose of this modified grounded theory master's thesis is to understand the factors that shape the pregnancy planning decisions of women with anxiety disorders in Nova Scotia. Qualitative semi-structured interviews (N=8) were conducted, and three themes were deduced. First, undertaking a pregnancy in the presence of an anxiety disorder is complex because of increased personal needs – specifically, choosing between anxiety disorder management and social expectations. Second, physicians may not all provide sufficient information about the impact of anxiety disorders during pregnancy. Third, which was an unexpected observation, women perceived their anxiety disorder as being associated with their fertility. Recommendations emerging from this study are: (1) health providers should discuss with women who have anxiety disorders the challenges associated with undertaking pregnancy; (2) information about pregnancy planning should be more available for women with anxiety disorders as it would help them make informed decisions; (3) women with anxiety disorders should be encouraged to consider midwives as care providers because midwives may provide the best support during pregnancy planning and throughout pregnancy.

General Summary

Anxiety disorders are common in North America, especially among women of reproductive age. However, pregnancy planning in the presence of an anxiety disorder is poorly studied. The purpose of this master's thesis is to understand what factors shape the pregnancy planning decisions of women with anxiety disorders in Nova Scotia. Eight participants were interviewed, and three themes emerged. For these women, pregnancy is complex because of healthcare needs and social pressures about motherhood. Moreover, not all physicians provide sufficient information about the impact of anxiety disorders during pregnancy. A link between anxiety disorders and infertility was also suggested, but further research is needed. Recommendations include: (1) health providers should discuss with women who have anxiety disorders the challenges associated with undertaking pregnancy; (2) information about pregnancy planning should be more available for women with anxiety disorders; (3) women with anxiety disorders should be encouraged to consider midwives as care providers.

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Finally, I would like to thank my newborn daughter, Elsie. I hope you can grow up in a world where mental health is acknowledged in all stages of pregnancy.

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List of Abbreviations

ANSM	Association of Nova Scotia Midwives
BAI	Beck Anxiety Inventory
GAD	Generalized Anxiety Disorder
GP	General Practitioner
HAMA	Hamilton Anxiety Scale
HREB	Health Research Ethics Board
NP	Nurse Practitioner
OB	Obstetrician
OCD	Obsessive Compulsive Disorder
PTSD	Post-Traumatic Stress Disorder
PCOS	Polycystic Ovarian Syndrome
SNRI	Serotonin-Norepinephrine Reuptake Inhibitors
SSRI	Selective Serotonin Reuptake Inhibitors
TCPS-2	Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans

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Chapter 1: Introduction

Under the best of circumstances, pregnancy is anxiety inducing. If a woman has an anxiety disorder and is planning to undertake a pregnancy, one would expect that her anxiety would have an impact on her experience and her perceived healthcare needs. However, we know less about the impact of anxiety disorders on pregnancy planning than we know about anxiety caused by being pregnant. Further, we know even less about how women experience anxiety disorders and pregnancy planning, simultaneously. Compared to women without an anxiety disorder, women with an anxiety disorder have more healthcare needs during pregnancy and must make additional healthcare decisions (Bagadia et al., 2020; Bennett et al., 2007; Martini et. al., 2013; Ross & MacLean, 2006; Schofield et. al., 2014; Stepanuk, 2013; Stevenson, 2015; Van der Zeea et al., 2013; Wand, 2014; Weiss et al., 2016).

1.1: Purpose

The purpose of this modified grounded theory study is to understand what factors shape the pregnancy planning decisions of women with anxiety disorders in Nova Scotia. To help build this understanding, there are three key objectives that will be addressed in this research: (1) to explore the concerns of women with anxiety disorders when they wish to undertake a pregnancy, (2) to explore how women experienced (or understood) the causes of their concerns to be, and (3) to explain how these concerns impact pregnancy planning for these women. This research is important because it may help women make informed choices about pregnancy when considering what support systems they need to manage their anxiety disorder. Moreover, it provides evidence for how

health providers and policy decision-makers can address the pregnancy concerns of women with anxiety disorders.

1.2: Research Question

This traditional-style thesis explores one main question: In what ways are women's pregnancy planning affected by an anxiety disorder? The question is explored through interviews conducted with women in Nova Scotia. The research question guided the methodological design and analysis of this thesis.

1.3: Thesis Outline

This thesis includes six chapters and six appendices. The second chapter presents the literature review of this thesis – it describes conceptual considerations and how anxiety disorders affect pregnancy planning to situate this study relative to the gaps in current literature. The third chapter is the methodological overview of this thesis – it discusses the modified grounded theory methodology, sampling and interviewing methods, qualitative and ethical rigor, and the theoretical framework used for analysis. The fourth chapter is the results – it illustrates the factors that shape the decisions of women with anxiety disorders during pregnancy planning in Nova Scotia. The fifth chapter is the discussion of the findings and themes. The sixth chapter is the conclusion – it outlines the implications for women with anxiety disorders, recommendations based on study findings, and reflections as well as suggestions for future research directions.

Chapter 2: Literature Review

This chapter explores how anxiety disorders impact the lives of women who wish to undertake a pregnancy. While considering the impact of anxiety disorders on pregnancy planning, it also explores topics such as preconception, pregnancy, birth, healthcare, anxiety disorders, and socially constructed expectations of motherhood from a feminist perspective.

Information garnered in this literature review draws on the fields of mental health and women's health to examine how anxiety disorders differ from traditional feelings of anxiety and anxiety caused by pregnancy. Few systematic reviews were found in the literature – most of which explored topics such as anxiety symptoms among specific populations (Dokras et. al., 2011), anxiety disorders in pregnancy (Frederiksen et. al., 2015), and mental health perceptions during and after pregnancy (Lucas et. al., 2019). In these reviews and other individual sources (Battle et. al., 2006; Schofield et. al., 2014; Wand, 2014), there was little to no information about anxiety disorders and reproductive health at the preconception stage.

2.1: Anxiety: A Background

An anxiety disorder diagnosis in Nova Scotia originates from ongoing discussions between patients and their healthcare providers. The process of obtaining an anxiety disorder diagnosis includes health professional evaluation of a patient's anxiety duration and impact on daily life (Kutcher, 2013). The conceptual revision conducted for this project showed the difference between an anxiety disorder and everyday anxiety (feelings of anxiety or anxiety cause by pregnancy). *The extent of anxiety* relates to these concepts

as it aids in measuring the effects of anxiety on everyday life and the process of receiving a diagnosis.

2.1.1: Conceptual Considerations

Everyone experiences *feelings of anxiety* in times of high stress. They include anticipation of danger, feelings of inadequacy, and feelings of worry – all of which can contribute to the physical symptoms of trembling or shaking, heart or chest pain, difficulty sleeping, and detachment from situations (Kutcher, 2013).

Most women have feelings of anxiety about pregnancy because pregnancy changes a woman's body and lifestyle (Barnes, 2014; Zar, 2002). When a woman is anxious about pregnancy, this is *anxiety caused by pregnancy.* Anxiety caused by pregnancy includes "fears about the health and wellbeing of one's baby, the impending childbirth, of hospital and healthcare experiences (including one's health and survival during pregnancy), birth and postpartum, and of parenting or the maternal role" (Dunkel-Schetter & Tanner, 2012, p.4).

Normal feelings of anxiety become a disorder when they are intense and are disruptive to daily life (Kutcher, 2013; Ross & MacLean, 2006). The term *anxiety disorders* overarch a group of related conditions (panic disorder, generalized anxiety disorder (GAD), obsessive-compulsive disorder (OCD), and post-traumatic stress disorder (PTSD)). All are characterized by persistent fear or worry in real or imagined situations where, ordinarily, most people would not feel threatened (American Psychiatric Association, 2013; Kutcher, 2013; Ross & MacLean, 2006). Anxiety disorders are also generally defined as "feelings of anxiety that have lasted six months or more" (American Psychiatric Association, 2013; Kutcher, 2013). Once the potential for a diagnosis is

identified, health professionals work with patients to develop a plan for managing their disorder. Treatment plans often depend on the severity of symptoms.

2.1.2: Measuring Extent of Anxiety

There are two common anxiety measurement scales: The Beck Anxiety Inventory (BAI) and the Hamilton Anxiety Scale (HAMA). Both scales involve questions posed to a patient by a healthcare provider. They measure somatic and psychological anxiety, respectively (Julian, 2011; Fahmy & Willingham, 2019). The problem with these scales is that they can measure the presence of anxiety symptoms, but the extent to which a person is experiencing those symptoms is subjective to both the patient and the health professional conducting the assessment. Instead, the scale used for measuring the extent of anxiety in this study is described in Section 4.2.1. This scale was conceptualized to provide a measure of extent of anxiety that was consistent with the qualitative nature of this research – where patient experiences guide how their disorder is defined.

2.2: Pregnancy: A Background

The pregnancy experience includes preconception, prenatal/antenatal, and postpartum stages. Each stage is considered to have different health effects for both the expectant mother and the fetus. Pregnancy care providers, globally and locally, offer care throughout these stages to different extent. Using a feminist lens, women's expectations about undertaking a pregnancy are examined to provide context into the stages of pregnancy and the methods of care provided.

2.2.1: The Stages of Pregnancy

The *preconception* stage of pregnancy is the time before a woman becomes pregnant. Often, this stage is examined when women are planning to become pregnant

but have not yet conceived. There is a developing body of literature on preconception healthcare both globally and in North America. Such care involves an evaluation of a patient's medical history (i.e., reproductive life plan; medical, reproductive, and family history; vaccination history) and health-related behaviors (i.e., healthy weight, nutrition and exercise, psychosocial health) (Khan et al., 2019; Farahi & Zolotor, 2013). Preconception healthcare is used to reduce modifiable risk factors before pregnancy to optimize conception, pregnancy outcomes, neurodevelopmental outcomes, and maternal and child health (Bortolus et al., 2017; Farahi & Zolotor, 2013; Khan et al., 2019). Some researchers argue that preconception care should be encouraged for all women of reproductive age as it can reduce unintended pregnancies and mitigate symptoms of chronic disease among expectant mothers and their fetuses (Khan et al., 2019; Farahi & Zolotor, 2013).

Despite recommendations for women to receive preconception care, these comprehensive health checks are rarely undertaken (Khan et al., 2019; Mazza et al., 2013; Van der Zeea et al., 2013). Preconception care is not undertaken due to a variety of barriers among both the population seeking care and the health provider population. Existing research notes that women who are planning a pregnancy are difficult to reach, with little regular healthcare engagement before pregnancy and limited awareness of preconception health messages (Bortolus et al., 2017; Van der Zeea et al., 2003). Similar studies demonstrate that even when preconception health knowledge is increased among women of childbearing age, many women do not perceive themselves as being a high-risk population in need of preconception care (Van der Zeea et al., 2003). In contrast, health providers typically do not conduct preconception care because of the perceived

costs associated with extensive consultations as well as the lack of appropriate resources (i.e., training for health providers, credible preconception care resources) (Mazza, 2013; Stephenson et al., 2014). One study showed that if a woman asks for information from a health professional, they provide it (in a more or less complete way) (Bortolus et al., 2017). However, if a woman does not ask for information and does not inform the healthcare provider that she is planning to get pregnant, very few providers will spontaneously offer information to women of childbearing age (Bortolus et al., 2017). Another study notes that the general population of women who sought preconception support from their General Practitioner (GP) were disappointed with the level of support and information provided (Khan et al., 2019). Thus, when health providers supply preconception care, it is often not sufficient to meet the patients' needs.

The *prenatal* or *antenatal* pregnancy stage describes the period after conception and before birth. This time of pregnancy is often associated with increased anxiety caused by pregnancy, as the realities of giving birth and becoming a mother set in, alongside hormonal and bodily changes (Barnes, 2014). Anxiety at this stage is often considered a risk factor for both antenatal and postpartum periods, contributing to issues such as postpartum depression (Martini et. al., 2013; Schofield et. al., 2014; Scrandis et al., 2007; Wand, 2014).

Postpartum is defined as the stage after a woman gives birth. There is longstanding literature available on this stage of pregnancy, as there are many changes and adjustments that mothers need to make to adapt to life with their newborn (Barnes, 2014; Lucas et. al., 2019; Patel & Wisner, 2011)**.** Accordingly, the provision of family

and/or institutional supports is important for the mother at this stage – as well as throughout pregnancy, when decisions are being made regarding healthcare.

2.2.2: Pregnancy Care Providers in Nova Scotia

In Nova Scotia, a woman can seek pregnancy care from a physician or a midwife free of charge, according to provincial legislation (Association of Nova Scotia Midwives (ANSM), 2021). While these are the most commonly known medical disciplines relating to pregnancy and childbirth, care teams have also been a topic of discussion among the Canadian healthcare workforce. Care teams for pregnancy can include a variety of health professionals – nurses, midwives, and doctors – who work together to care for a pregnant person (Association of Nova Scotia Midwives, 2020; Hadyt, 2014). This in mind, each medical discipline has different approaches to pregnancy and childbirth. Before choosing a healthcare provider, the approaches of each discipline must be understood by the patient in order to make informed decisions about their ideal method of pregnancy care.

In North America, physician-led care is the most common method of care during pregnancy (Inhorn, 2006; Johanson et al., 2002). In Nova Scotia, a family doctor may refer a patient to an obstetrician (OB) – that is, a physician who specializes in preconception, pregnancy, and childbirth – or a patient may make an appointment at prenatal clinics across the province on her own (Nova Scotia, 2018). Usually, the healthcare provider is seen six to eight weeks after the pregnancy has been confirmed, then continuing through to the birth. Appointments with the provider become more frequent as the pregnancy progresses and standardized tests are administered at different stages – including blood pressure measurement, blood glucose testing, and ultrasound scans (Inhorn, 2006; Johanson et al., 2002). Tests range from detecting chromosomal

abnormalities in the fetus to physical effects of pregnancy on the mother (i.e., gestational diabetes).

Like physician-led healthcare, midwifery appointments occur more frequently as the pregnancy progresses. However, appointments with a midwife usually last longer so that time can be taken to learn about the expectant mother's concerns, personal situations, and family life (ANSM, 2021). Moreover, midwives in Nova Scotia are on-call 24/7 and are available to support pregnant women through in-person visits and telephone consults (ANSM, 2021). Midwives can perform the same tests as physicians but they take a more holistic approach to pregnancy and childbirth in that women's autonomy is placed at the forefront of decision-making (Davis-Floyd, 2001; ANSM, 2021). This decision-making can include choice of where the birth occurs and the methods by which it occurs. Midwives in Nova Scotia can be contacted directly, without a referral, by calling one of their three sites in the province (ANSM, 2021). Midwifery, especially in Nova Scotia, is less known compared to obstetric care. Despite that, it is used to near capacity; there have consistently been waitlists over the last ten years (ANSM, 2021) as few midwives have been employed in the province – currently, there are 16 midwives across Nova Scotia, 8 of whom practice in the central zone (most urban setting) (ANSM, 2021).

2.2.3: The Medicalization of Pregnancy

Modern pregnancy care is medicalized; it is concerned with gaining control over natural processes, eliminating pain, and reducing mortality (Inhorn, 2006; Johanson et al., 2002). Medicalization is the process in which the human body becomes a site of medical regulation and control (Foucault, 1973). Through this process, human bodies are subject to medical intervention to "fix" issues that make the body become deviant from its

hegemonic form (Inhorn, 2006; Foucault, 1973). This allows childbirth to become interventionist – a woman has little control over her healthcare decisions (Inhorn, 2006; Johanson et al., 2002). In short, a woman surrenders to the medical establishment and loses her autonomy.

Biopower and biopolitics are expressions developed by Michel Foucault (1973) who explains how human bodies are governed by medicalization. Biopower refers to an institutional power that manages peoples' social lives (Navarro & Shi, 2001). In pregnancy, biopower occurs by subjugating women's bodies to the control of medical institutions, which creates a hegemonic way of experiencing pregnancy and childbirth. In this way, biopower shifts the focus of health care; the power to give, promote, and sustain life becomes more important that patient autonomy. In comparison, the biopolitics of pregnancy refers to the strategies and mechanisms through which women regulate and discipline themselves in order to adhere to those idealized norms (Foucault, 1977). These concepts are further supported by health care professionals and institutions that emphasize idealized notions of pregnancy, childbirth, and motherhood.

2.2.4: The Social Construction of Womanhood

According to feminist scholars, "womanhood" is often defined in terms of the "male gaze". That is, heterosexual male expectations of females guide what it means to be a woman. Such expectations include, but are not limited to, physical appearance, a caring & non-aggressive nature, being family-oriented, and being able to rear children (Allen, 2013; Friedan, 1983; Oleson, 2011; Oliver, 2010; Rapp, 2001). Societies that promote this vision of womanhood are *patriarchal*; men hold power and women are largely excluded, or play a submissive role (Oleson, 2011; Rapp, 2001). According to this

understanding, there exists a cultural assumption that all women want to be mothers; therefore, to remain childless is considered unnatural (Douglas & Michaels, 2004; Miller, 2005; Navarro & Shi, 2001). This in mind, women can desire to be mothers despite (and even along-side) gender expectations. Women can challenge many of the heteronormative messages in society (e.g., by being career-minded etc.) and not challenge motherhood because they desire it and chose it. No matter the circumstance, expectations of both womanhood and motherhood – which may overlap but are not mutually exclusive – can contribute to feelings of inadequacy.

For one, women can feel inadequate for not undertaking a pregnancy – whether through choice, or due to biological inability – because it is socially considered to be abnormal for women to be childless. For women who do not wish to become mothers, feelings of inadequacy result from their desires not aligning with social expectations. In comparison, the feelings of inadequacy experienced by infertile women are not in their (physical) control. Freeman's study (1985) exemplifies these feelings of inadequacy; 50% of women felt infertility was the most upsetting experience of their lives. In contrast, just 15% of the male population in the same study (Freeman, 1985) felt that infertility was the most upsetting experience of their lives. Evidently, feelings of inadequacy resulting from childlessness take a toll on a woman's sense of self. Feminist scholars explain that the objectification of women's bodies is what drives them to define themselves as inadequate when they do not reproduce (Allen, 2013; Bromberg, 2009; Henderson et al., 2016; Oddens et al., 1999; Rapp, 2001). Biopower fuels this objectification as pregnancy norms and idealized notions of motherhood are created through notions of reproduction as an

essential component of femininity (Allison, 2009; Allison, 2013; Douglas & Michaels, 2004; Miller, 2005; Navarro & Shi, 2001).

Expectations of womanhood are further extended – and new ones are developed – during and after pregnancy. Feminist theorists argue that mothers are influenced by media messages about good and bad moms, which puts pressure on them to portray themselves as a self-sacrificing, caring, and loving mother at all times (Bennett et. al., 2007; Douglas & Michaels, 2004). Moreover, mothers can find themselves consumed with stress, anger, and guilt for not meeting the unrealistically high expectations of motherhood (Bennett et. al., 2007; Henderson et al., 2016). Such expectations include the woman being responsible for the household and being the emotional provider with limited social support for herself. Henderson et al. (2016) add that standards of contemporary motherhood are inescapable; women are negatively affected by the presence of unattainable standards of perfection regardless of whether or not they become a mother. These socio-cultural theories provide the lens to understand how women reflect upon their female identity in a particular social context.

The impact of disrupted female identity exists in many parts of the world, including Egypt (Greenhalgh, 1995; Inhorn, 2020), India (Bagadia et al., 2020), Ireland (Allison, 2009; Allison, 2013) and North America (Becker, 2000; Bennett et al., 2007). Such studies highlight the production of gender norms and the social consequences of a failure to conform to the social expectations of motherhood. Notions of motherhood and parenthood outside the binaries of man/woman and mother/father contribute to social exclusion as well as internalized feelings of inadequacy for not meeting identity expectations (Allison, 2009; Becker, 2000; Bennet et al., 2007).

2.3: Anxiety Disorders and Pregnancy

Uncertainties about the course of illness and the baby's wellbeing often characterize the prenatal period for women suffering with a mental health condition (Bagadia et al., 2020; Bennett et al., 2007; Van der Zeea et al., 2013). This is validated in the risks associated with undertaking a pregnancy with an anxiety disorder. When a woman with an anxiety disorder undertakes a pregnancy, it can lead to physical and psychological complications for both the mother and fetus – i.e., poor maternal health (nutrition, weight gain), more prolonged labor, pre-term birth, and developmental delays of infants (Stepanuk, 2013; Stevenson, 2015; Wand, 2014). To mitigate these risks, specific healthcare is needed for this population of women, including medication management, proactive management of future mental illness symptoms, as well as ongoing and open discussions of fertility.

2.3.1: Anxiety Medication and Pregnancy

The evidence about the impact of anxiety medication on fetal development is ambiguous and depends on the class of medication prescribed and the severity of anxiety symptoms because most anxiety medications cross the maternal-placental barrier into the fetal system (Stepanuk, 2013; Wand, 2014). However, untreated anxiety disorders can lead to complications during the prenatal period, including suicidal ideation or bodily stress that can result in preterm birth or more prolonged labor (Wand, 2014). During pregnancy, women with anxiety disorders must consider whether not taking anxiety medication has a more significant impact on the mother and the fetus than taking the medication and risking the impact on fetal development (Martini et. al., 2013; Patel & Wisner, 2008; Ross & MacLean, 2006; Stepanuk, 2013; Stevenson, 2015; Wand, 2014).

2.3.2: Anxiety Disorders and Postpartum Mental Health

After birth, it is common for women to experience "baby blues," which includes feelings of anxiety, sadness, and irritability (Barnes, 2014; Wand, 2014). The National Institute of Mental Health (2005) estimates that approximately 80% of women experience depression immediately after birth. These feelings become a postpartum mental illness (i.e., postpartum depression) when they last more than a month and affect the ability to care for a baby or handle daily tasks (Martini et. al., 2013; Schofield et. al., 2014). Risk factors for postpartum mental illnesses include low maternal education, being single, history of mental disorders or trauma experienced before pregnancy, low social support, and low self-esteem (Martini et. al., 2013; Ross & MacLean, 2006; Scrandis et al., 2007). The key to managing postpartum risks is early and continuous interventions to mitigate symptoms (Bennett et al., 2007; Martini et. al., 2013). Interventions often include methods of increasing social support, such as counseling programs or peer support for single women and/or women lacking familial support. Alternative health strategies, such as exercise programs and mindfulness practices, may also be implemented. Patients ought to work with their healthcare providers to learn about the best options for navigating their mental health during pregnancy, birth, and after delivery (Bennett et al., 2007; Martini et. al., 2013; Patel & Wisner, 2008; Ross & MacLean, 2006).

For women with anxiety disorders specifically, there is a higher risk of postpartum depression (Bennett et al., 2017; Stepanuk et al., 2013; Weiss et al., 2016; Wand, 2014). The comorbidity of anxiety and depression has been studied extensively in epidemiological studies (Dunkel-Schetter & Tanner, 2012; Lamers et al., 2011; Patel & Wisner, 2011; Weiss et al., 2016). To avoid future anxiety-specific risks during

pregnancy, patients with anxiety disorders will often seek care before trying to get pregnant (Battle et al., 2006).

2.3.3: Anxiety and Fertility

The ability to become pregnant is frequently discussed in the literature relative to anxiety and feelings of stress. Women who experience infertility are more likely to have chronic anxiety and depression (Dokras et al., 2011; Rassi et al., 2010; Rooney & Domar, 2018; Sahingöz et al., 2013), suggesting that there may be an intersection between anxiety disorders and difficulty becoming pregnant. However, it is difficult to conclude whether there is a causal relationship between these factors. Some studies note that increased levels of stress and anxiety decrease conception rates (Dunkel-Schetter & Tanner, 2012; Rooney & Domar, 2018) while others note no association between anxiety and the ability to conceive (Lynch et al., 2012). Likewise, some studies show the efficacy of psychological interventions in increasing pregnancy rates (Frederiksen et. al., 2015; Rooney & Domar, 2018), while others show that psychological interventions do not change pregnancy rates for women experiencing high levels of stress (Boivin, 2003; Hämmerli et al., 2009).

Research evaluating the association between stress, anxiety, and infertility show that it is difficult to make firm conclusions about the relationships between these factors for many reasons. First, as noted in Section 2.1.2, there are no specific metrics to measure stress and anxiety (Månsson et al., 2008; Rooney & Domar, 2018). Thus, evaluation of stress and anxiety are entirely subjective, both for the woman and the doctor. Second, the psychological impact of infertility and the side effects of medication have overlapping physiological effects. For example, some medications used to treat infertility have

psychological side effects such as anxiety, depression, and irritability (Annagür et al., 2013; Månsson et al., 2008). Likewise, medications used to treat anxiety can affect menstrual cycles and the associated irregularity in ovulation. Thus, the results of studies examining the link between infertility and anxiety are unclear. Finally, hormone alterations can make it difficult to establish cause and effect between anxiety, stress, and infertility. Health conditions that affect the hypothalamus-hypophysis-ovarian axis imply a hormonal imbalance and, therefore, an alteration of the menstrual cycle (Rodrigo et. Al., 2019). In this way, endocrine disorders such as thyroid disorders (i.e., hyperthyroidism), hypothalamic conditions (i.e., hypogonadism), and primary ovarian disorders (i.e., PCOS) are manifested by anxiety and fertility (Rodrigo et. al., 2019; Unuane et. al., 2011). The physical and psychological symptoms of such disorders can cause mental distress – consequently blurring the line between anxiety disorders and endocrine disorders as causes of fertility issues.

2.3.3.1: Poly Cystic Ovarian Syndrome (PCOS). The exploration of Poly Cystic Ovarian Syndrome (PCOS) was implemented in this research after finding out that three of the eight participants had been diagnosed with the condition. PCOS is an endocrine condition common among women of reproductive age (Annagür et al., 2013; Cascella et al., 2008; Månsson et al., 2008; Sahingöz et al., 2013). It is characterized by gynecological and endocrine symptoms, including hyperandrogenism, chronic anovulation, metabolic syndrome, and insulin resistance (Annagür et al., 2013; Sahingöz et al., 2013). The physical symptoms associated with PCOS – such as obesity, cystic acne, and hair loss – can cause a reduction in psychosocial wellbeing and quality of life (Barnard et al., 2007; Farrell & Antoni, 2010; Hahn et al., 2005). The disorder is also

associated with biochemical imbalances that can lead to mood disturbances (Tsilchorozidou et al., 2004); although PCOS is one of the causes of infertility, it can represent a significant stress factor for women (Oddens et al., 1999; Sahingöz et al., 2013). Treatments for PCOS depend on the symptoms experienced and range from lifestyle changes to hormonal treatment, such as the use of oral contraceptives (i.e., Diane-35). Often, treatments for PCOS present side effects and require time to manage symptoms appropriately. The presence of physical and psychological symptoms among women with PCOS demonstrates the ambiguity between the health condition itself and secondary symptoms.

2.4: Gap in Literature

There is very little academic literature on women's perspectives of the pregnancy planning process. There is also very little knowledge of women's healthcare needs when planning to undertake a pregnancy compared to when they become pregnant. Most research connecting pregnancy and mental illness (i.e., Battle et. al., 2006; Schofield et. al., 2014; Wand, 2014), examine mental health in the perinatal period – the period both before birth and (up to 1 year) after birth (BC Reproductive Mental Health Program & Perinatal Services, 2014) – which disregards the preconception stage of the pregnancy process. This is problematic because patients' concerns are not addressed in health research, resulting in a gap in knowledge of their needs. Identifying the concerns of women with anxiety disorders who wish to undertake a pregnancy will allow for the identification of what support systems they need throughout pregnancy planning. Women with anxiety disorders will subsequently be able to make informed decisions about undertaking a pregnancy.

This study will fill the contextual gap in literature by contributing to our knowledge of mental healthcare during pregnancy planning. It will examine the health concerns of women with anxiety disorders to identify and explain what barriers they face making decisions during pregnancy planning.

Chapter 3: Methodology and Methods

The specific approaches taken to conduct this research are outlined in this section. They include a qualitative inquiry and a research design that encompasses a modified grounded theory methodology and a feminist theoretical framework. The methods used in this project are also described; this includes sampling, recruitment, data collection, data analysis, and ethics approaches. Rigor has been embedded throughout the project to maximize trustworthiness.

3.1: Qualitative Research Inquiry

Qualitative inquiry allows for the description and observation of a phenomenon (Creswell & Poth, 2017). Where this study aimed to *explore* the factors that shape the pregnancy planning decisions of women with anxiety disorders in Nova Scotia, a qualitative inquiry is an appropriate approach. This study uses a qualitative approach by following Creswell and Poth's (2017) nine characteristics of qualitative research. These characteristics include: a natural research setting, the researcher as a key instrument, multiple sources of data, a focus on participants' meanings, an emergent research design, inductive and deductive data analysis, reflexivity, and a holistic account (Creswell & Poth, 2017, p. 185-186).

In this study, seven of the nine characteristics were implemented, per the resources available at the time of this research. Data collection occurred in a natural setting – participants and I discussed topics relating to their everyday lives, in a casual environment. I also collected, transcribed, and analyzed the data using protocols I developed – making me, the researcher, a key instrument. Multiple sources of data were not used (only interviews) as pandemic restrictions and general information access

limited my ability to obtain multiple sources of information (from observations and medical documents for example). However, open-ended questions in both initial and follow-up interviews aided in organizing information into categories and themes. It also allowed me to ask additional questions that were guided by the participants' initial responses – thus, exemplifying a focus on participants' meanings, as well as an emergent research design that followed the direction of participants' responses. Themes were deduced by organizing transcripts' codes and repetitively comparing participant responses. This followed an inductive approach by working from the bottom up to organize data into abstract units of information, then deductively going back to the data to gather evidence to support the established themes. Reflexivity was also acknowledged throughout the research (see section 3.2.4). And, a holistic account was implemented, in part, by reporting multiple perspectives (eight different women) of the study topic (pregnancy planning with an anxiety disorder). Though many facets of the phenomenon (pregnancy planning with an anxiety disorder) were explored, the holistic account could be furthered with more interviews.

3.2: Research Design

Following a modified grounded theory research design, this project centers on the multiple realities of women living with an anxiety disorder who wish to undertake a pregnancy. The frameworks used in this study allow for the deductive examination of participant responses as well as the subsequent underlying structures and practices in the pregnancy planning process. Social structures that influence pregnancy planning in Nova Scotia are interpreted by looking at the decision process surrounding becoming pregnant as a woman with an anxiety disorder.

3.2.1: Epistemic Stance: Social Constructivism

Epistemology is the stance of how knowledge claims are justified (Creswell & Poth, 2017). In this study, a constructivist epistemic stance is taken because the truth is relative to and is dependent on one's perspective. This assumption seeks to create an understanding of the world based on the subjective meanings of participant experiences (Creswell & Poth, 2017; Clarke, 2005). It allows the participants to describe their views of reality and enables me to better understand participant actions (Creswell & Poth, 2017). Where the meanings participants attribute to their knowledge varies, I can look at complexities and patterns in participant experiences.

Despite the exploratory nature of participants' varied experiences through a constructivist epistemic stance, all research is value-laden, and biases are present in any research study (Creswell & Poth, 2017). The role of values in a research project is known as the axiology. The interpretive approach taken in this study relies on my view of participants' pregnancy planning experiences. This includes guiding subject categories in data analysis, as well as bringing questions to the data and advancing personal values, experiences, and priorities (Creswell & Poth, 2017). While I was not diagnosed with an anxiety disorder or seeking to get pregnant at the outset of this study, I am a woman of childbearing age who sought to get pregnant in the next five years. I have also experienced feelings of anxiety which have been previously medicated. My exposure to anxiety disorders via friends and family also shaped my motivations for the project. As such, the data present in this project is not objective – the positions I hold and the experiences I've had inevitably impacted data collection.

3.2.2: Methodology: Modified Grounded Theory

The methodology of a project describes how the research is conceptualized (Creswell & Poth, 2017). A constructivist grounded theory methodology (Charmaz 2006; 2014; Clarke, 2005) is used in this study to generate a unified explanation of a phenomenon (pregnancy planning with an anxiety disorder) and the evidence to support it. That said, the methodology in this study is modified such that a substantive-level theory will not be proposed or tested due to the small sample size and time restraints of the project as well as additional restraints posed by the COVID-19 pandemic (see Section 3.3.5).

Grounded theory studies set out to produce a theory that explains patterns in data (Creswell & Poth, 2017). In Charmaz's constructivist approach to grounded theory methodology, there is a focus on learning about specific experiences within embedded networks, situations, and relationships to make visible the hierarchies of power, communication, and opportunity (Creswell & Poth, 2017). Thus, theories are formed under this methodology while assuming and acknowledging multiple truths; using the situation of a research phenomenon as the site of analytical grounding; asserting analytic examinations rather than formal theory; and, turning to discourses – narrative, visual, and historical – to expand the domains of social life (Clarke, 2005).

A constructivist grounded theory methodology is chosen because it suits the overall purpose of this study – namely, to understand what shapes the pregnancy planning decisions of women with anxiety disorders by organizing data to explain the influences on, and process of decision-making for women with anxiety disorders who wish to become pregnant. Moreover, this project's methodology allows for context-specific and

temporal data collection methods. The modification of the methodology is evident in the elements incorporated. Elements of grounded theory incorporated in this study's methods include a focus on a process that has distinct steps over time (pregnancy planning with an anxiety disorder); iterative and concurrent data collection and data analysis procedures that discover patterns in participant experiences; and inductive analysis procedures that form categories of information and pierce together implicit meanings about participant experiences (Creswell & Poth, 2013). The proposal of a substantive level theory, using images and diagrams, is not proposed, however. This is because more information is needed to solidify conclusions about the pregnancy planning with an anxiety disorder experience and thus, form a theory that is transferable to other settings.

A narrative, ethnographic, or case study methodology may be appropriate for similar studies because they focus on the collective experiences of an issue (anxiety disorders) outside everyday life (Creswell & Poth, 2017). However, these methodologies are not adequate for this project because they will not help to answer the question about *what* women think about or plan for pregnancy in light of their anxiety disorder.

3.2.3: Theoretical Framework: Feminist theory

In contrast to grounded theory, feminism is not a research methodology; it is a perspective that can be applied to a traditional disciplinary method such that the demands of both the discipline and feminist scholarship are met (Reinharz & Davidman, 1992). This is to say, grounded theory is a knowledge discovery method that can be conducted from a feminist perspective (Wuest, 1995). Accordingly, feminist theory frames participant experiences in this project by (1) examining social context and influence, and (2) exposing patriarchal systems that serve to oppress and negatively influence people's

experiences and notions of health and identity. Feminist theory applies to this project because it is suited to the larger question of whether all women need to be mothers to feel fulfilled in their gender role.

3.2.3.1: Feminist Theory and Epistemology. Feminist research approaches center on women's diverse situations and the institutions that frame those situations (Campbell & Bunting, 1991; Creswell & Poth, 2017). From a feminist standpoint, knowledge is shaped by the knower's social context; the perspective of marginalized groups is complete because it reflects the experiences of the disadvantaged within the dominant culture (Wuest, 1995). For women, experiences can vary according to characteristics like race, class, location, sexual orientation, and education (Harding, 1991; Oleson, 2011). The intersectionality of these identities makes individual life experiences complex and consequently, difficult to examine singularly.

3.2.3.2: Feminist Theory and Methodology. The constructivist grounded theory approach used in this thesis is consistent with feminist theory perspectives in three ways: (1) the formation of a theory is dependent on time and context, (2) the formation of knowledge is developed through lived experience, and (3) research questions often emerge from those experiences.

Grounded theory emphasizes "theory as a process; that is, theory as an ever-developing entity, not as a perfected product" (Glaser & Strauss, 1967, p. 3). In this way, theory is always changing and developing to represent social interaction and its structural context (Creswell & Poth, 2017; Glaser & Strauss, 1967). This methodological assumption is consistent with feminist theory because theories would reflect changes in

patriarchal underpinnings over time and contexts (Campbell & Bunting, 1991; Harding, 1991; Scott, 2015).

While grounded theory was not specifically developed to give a voice to women, the investigator (through theory development) interprets the study sample's perspectives, views, and actions (Charmaz, 2006; Charmaz, 2014; Strauss & Corbin, 1994). This aspect of grounded theory supports the feminist epistemological underpinnings that participants are the experts about their experience and that subjective experience is valid data (Campbell & Bunting, 1991).

Another benefit of feminist theory in grounded theory methodology includes the formation and exploration of a research question. Feminist researchers often question research project's underlying assumptions as many questions about women have emerged from an agenda that pacifies, controls, manipulates, or exploits women (Harding, 1987). Where grounded theory has an emerging design that begins with a broad purpose of determining what is going on within a particular interest area (Creswell & Poth, 2017), grounded theorists do not impose their notions on what is most significant in order to identify a problem. By acting on a knowledge gap in research and shared information, grounded theory is well suited to feminist research.

3.2.3.3: Feminist Theory in This Study. The data analysis protocol of this study used a feminist approach to frame participants' attitudes and expectations of undertaking a pregnancy in presence of existing anxiety disorder. Feminist theory is well suited for this research because feminist research approaches center on women's diverse situations and the institutions that frame those situations (Allen, 2013; Campbell & Bunting, 1991; Harding, 1987; Oleson, 2011; Reinharz & Davidman, 1992). As this research examines a

gendered situation (pregnancy is unique to the female sex), feminist theory provided a guideline for the interview protocol. The theory application was confirmed and furthered when the interviews led to discussions around gendered expectations of motherhood and pregnancy, as well as the need for self-advocacy in women's mental healthcare. Feminist theory also furthers the analysis of this study because it allows for examining intersecting influences on women's healthcare. This includes not just gender but also age, class, and location.

3.2.4: Reflexivity

Reflexivity in the analysis of a feminist-theory-guided grounded theory study involves acknowledging the complexities in research fields and processes (Oleson, 2011; Wuest, 1990). A reflexive account allows for data to be generated as a co-construction between me – the researcher – and participants. Reflexivity also provides a way for readers to accord trustworthiness and credibility. Accordingly, reflexivity is used in this project to ensure that the basic assumptions of both feminist theory and grounded theory are met. Reflexivity in this grounded theory study facilitated a critical examination of how gender, class, age, and location (some key tenets of feminist theory) are intertwined and play out in the lives of women with anxiety disorders who wish to undertake a pregnancy.

Reflexivity in data collection occurred by following the direction of the data (participant responses) and journaling reflections and notable events throughout the research process. This included reflecting on participant reactions to questions as well as the relationships that were built between participants and I. Reflexivity in this project allows for identifying biases and acknowledging that any conclusions developed are

suggestive, incomplete, and inconclusive (Creswell & Poth, 2017; Charmaz, 2006). This is seen in how personal experiences shaped project formation, data collection, and data interpretation. Concerns about the impact of anxiety on my future, and a drive to understand how women with more severe anxiety than mine balance the desire to undertake a pregnancy while managing their disorder, motivated me to explore anxiety disorders during pregnancy planning.

3.3: Research Methods

3.3.1: Sampling

The target sample was women who had obtained a diagnosis (from a physician, counselor, social worker, psychiatrist, or other healthcare provider) stating that their anxiety has lasted six months or more. Due to the difficulty in obtaining an official diagnosis for an anxiety disorder in Nova Scotia (Kings College Investigative Workshop, 2017), participants disclosed their diagnosis based on the care they receive and what their health care provider told them. The sample population's age range encompassed women of "childbearing age" (Barnes, 2014; Hamilton et al., 2012). Further, as long as someone has given thought to pregnancy, whether they had decided to undertake a pregnancy or not, they were included in this study. In contrast, women who have not considered undertaking a pregnancy, including women who argued they were too young to think about pregnancy or did not want to consider it within the next five years, were excluded from the study. Moreover, women who have experienced a pregnancy were not included in this study because they would have different healthcare and physical influences on their pregnancy perceptions. Thus, research results would not be generalizable to the population.

3.3.2: Recruitment

Participants were recruited purposively. A poster (Appendix 1) was designed explaining the study's purpose. It was distributed in appropriate locations to recruit participants: an in-person anxiety support group and online mental health support group. The support group lead shared the poster on their public bulletin board so that all members could see it and, upon approval from group administrators, I shared the poster to a Facebook anxiety-support group.

The aim of advertising the study in these locations was to reach the study's desired population. Women in these groups saw the poster and contacted me by phone or e-mail to set up an interview. Choosing specific groups for recruitment aligns with grounded theory methodology in that it targets one specific group that can best inform the study.

3.3.3: Data Collection

Eight participants were interviewed using a semi-structured research questionnaire guide between January and March 2020. A second interview was conducted after transcribing the first set of interviews in order for participants to expand on their responses and provide further insight into their decision-making process. Follow-up interviews were conducted with four participants in May 2020. Both interviews used open-ended questions (Appendix 2) to guide and elicit participant responses. Participants were sent a copy of their transcribed interviews to ensure that they were transcribed authentically.

3.3.3.1: Rigor in Data Collection. In qualitative research, it is vital to ensure rigor in data collection and analysis (Whittemore et al., 2001). Fact-finding, along with reflexivity (Section 3.2.4), ensured rigor in the data collection portion of this project.

Fact-finding allowed for verification of research questions' applicability to the research goals (Creswell & Poth, 2017). I engaged with friends and family who experienced anxiety and pregnancy before seeking participants for study data collection. This was done to guide primary literature searches and project formation.

3.3.4: Data Analysis

This research used inductive data analysis procedures that were congruent with the constructivist grounded theory methodology. Each transcript was read multiple times to gain familiarity with its content, to identify conceptual categories within the interview data, and to examine relationships between those categories. Main themes in previous interviews were also noted before completing further interviews (i.e., transcribing and reviewing interviews one to three before completing interview four). Moreover, primary interviews were analyzed collectively before developing a follow-up interview guide. This ensured that critical concepts were flagged and noted for subsequent discussions. Flagging ideas and themes in this manner allowed me to sketch out the flow of the pregnancy planning process and return to specific concepts in order to fill in gaps in her understanding of the collective pregnancy planning experience.

Though analysis was generally unstructured – following Charmaz's emphasis on views, values, beliefs, feelings, assumptions, and ideologies of individuals (Charmaz, 2006; Charmaz, 2014; Creswell & Poth, 2017) – some initial codes were set based on review of the literature. They included specific terms such as "treatment," "worried," "risk," as well as general subjects of concern such as type of anxiety disorder and needed supports. All codes were *active* – that is, they evolved throughout the data analysis process. Code boundaries were often redrawn to organize data according to the

conceptual categories identified. This included splitting codes into two or more codes, collapsing one code with another, and promoting specific codes to themes when necessary. For example, codes for secondary interviews were expanded from those that were set originally and included topics that came up unexpectedly in discussion (i.e., infertility, PCOS, social supports).

3.3.4.1: Rigor in Data Analysis. Rigor was sustained throughout data analysis, just as it was in data collection. For one, multiple copies of interview analyses were saved to provide an audit trail. Providing an audit trail ensured the research's confirmability by illustrating the steps and decisions that resulted in the final iteration of the results (Barusch et al., 2011).

Using journal observations and direct quotations from participants, thick description techniques furthered rigor in data analysis by authenticating data. Thick description includes describing the context of behaviors as interpreted by the actors to be better understood by the research (Creswell & Poth, 2017). In this study, participant quotations about their anxiety disorders and pregnancy are used and are described in relation to individual context (i.e., anxiety history, social influences on pregnancy views). Transcripts were also reviewed numerous times by coding and pulling interview themes together. This allowed for data authenticity by using participant quotations as the primary source of theme identification. Data authenticity refers to the accurate portrayal of the themes through their quotations. It is closely connected to data credibility in that credibility refers to trustworthy and accurate interpretations of emergent themes in the analysis.

Member checking was also used to establish further the tenet of credibility in trustworthiness (Lincoln & Guba, 1985). Member checking is defined as sharing either a summary of the findings or sharing the full findings with the research participants (Lincoln & Guba, 1985). Member checking in this project involved e-mailing participants' their transcribed interviews to ensure that interpretations of responses were accurate (Creswell & Poth, 2017) and give them a chance to follow up on their responses.

3.3.5: Impacts of COVID-19 on Research Methods

The COVID-19 global pandemic slightly altered research methods from the research plans proposed at the outset of the project. The original study sample was set include between 8 and 10 interviews. The eight initial interviews were completed before complete shut down in March 2020. In-person interviews could not be conducted as the Nova Scotia government enforced social distancing and public-space closures. Thus, an ethics addendum was submitted to the Memorial University HREB in order to conduct remaining interviews via Skype or Zoom. Once approved, recruitment continued to prove very difficult as in-person support-group recruitment was halted completely, and online recruitment did not reach people keen on participating in new research activities. Upon consultation and review of the existing interview transcripts, it was deemed that follow-up interviews might better suit the need to address common themes that arose during initial interviews. Despite the difficulty in obtaining responses from anyone online during COVID-19, four of the eight initial participants partook in follow up interviews using an online format.

New themes continued to emerge amid discussions with participants. However, common topics were discussed at length with sufficient understanding of themes

acquired. The data obtained was deemed sufficient by myself and my thesis supervisor due to COVID-19 circumstances and master's thesis timelines. Further research may explore the themes developed in greater detail, with a larger population, to account for the discrepancies in acquired data due to the COVID-19 restrictions.

3.4: Research Ethics

This project received HREB approval through the research portal at Memorial University in January 2020 (Appendix 3). This ethics approval process is required for all research studies involving human interactions (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2018). An addendum to the HREB approval was sought to include a second follow-up interview, which was approved by the HREB in May 2020.

3.4.1: Potential Harms to Participants

The Memorial University HREB classified this study as "minimal risk" because the content discussed included the everyday experiences and thoughts of participants. This in mind, women with anxiety disorders were considered a vulnerable population by both me and the HREB because they have additional health needs. If those needs are not being appropriately met, discussing their disorder could result in elevated levels of anxiety. Moreover, discussion of pregnancy could result in negative thoughts or feelings arising from past experiences. To mitigate these potential harms, a resource guide was made for participants of the mental health supports in the province (Appendix 4). This information sheet was provided to all participants, but its goal was to provide guidance if the interview triggered any negative thoughts about participants' anxiety or pregnancy.

The Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans (TCPS2) guided my response plan for potentially distressed participants; obtaining the certificate was a requirement for the HREB approval process.

3.4.2: Informed Consent

Informed consent was obtained for the initial interview through a signed form (Appendix 5). Consent for the second interview was obtained through a signed consent addendum form (Appendix 6). Consent for both interviews included permission to audio record. All participants were above the minimum age of consent (18 years old in NS) and signed their consent forms either in-person or electronically.

3.4.3: Anonymity and Confidentiality

The information collected during this study remained confidential and anonymous so participants could not be identified from any of their responses. Each piece of participant data was de-identified and labeled with a numerical indicator. This strategy ensured participant anonymity and confidentiality during data collection, analysis, and dissemination of findings. Recruitment, data collection, and analysis were completed with complete confidentiality.

3.4.4: Data Storage

All data was kept in Nova Scotia on an encrypted memory stick until the research was completed. The interview recordings and transcripts were stored in a shared secure Dropbox as I (in Nova Scotia) and my supervisor (in Newfoundland) were separated by distance.

Written notes were kept in a locked personal safe and shredded after being typed up. Electronic documents were kept on an encrypted memory stick in the project

supervisor's office at Memorial University. They will be stored for a minimum of five years per Memorial University's data management protocols. Five years after the study's completion, the data will be destroyed.

Chapter 4: Results

4.1: Participant Demographics

Eight participants were interviewed. They all had an anxiety disorder and had never been pregnant but considered becoming pregnant in the next five years. Participants were classified according to specific anxiety diagnosis and age criteria as well as the extent to which they considered undertaking a pregnancy. The youngest participant was 23 and the oldest participant was 38. Four of the eight participants took part in follow-up interviews.

Five participants had been diagnosed with GAD and three had been diagnosed with panic disorder. Both of these conditions are classified as anxiety disorders according to DSM-5 (American Psychiatric Association, 2013). Among the eight participants, seven had other intersecting mental health issues – including depression, psychosis, and PTSD. Six participants had a family doctor, and six sought care frequently (whether from their family doctor or another health provider). Seven participants were taking medication for their anxiety disorder at the time of our interview. Four were trying to get pregnant at the time of our interview, while the other four were thinking of becoming pregnant within the next five years but were not immediately trying. Table 1 summarizes patient demographics and includes factors that will be used in this study's analysis to examine the intersecting influences on the pregnancy planning decisions of women with anxiety disorders.

Table 1: Participant demographics

ID	Age	Anxiety diagnosis	Anxiety level	Medication?	Current type of treatment	When/if undertaking pregnancy	Family doctor?	Care Provider	Frequency of care-seeking	PCOS?	Follow up interview completed?
1	24	GAD + panic disorder	Mild-moderate	Not anymore – had before	Psychologist	Currently trying	Yes	Family doctor + psychiatrist	"Regularly" (family doctor) + Every 1-2 months (psychiatrist)	No (but is having difficulty conceiving)	Yes
2	38	GAD + PTSD	Severe	Yes	Antidepressants + psychologist	Not trying (hasn't decided she won't, but it's looking like she won't because of age)	Yes	Family doctor + psychiatrist	3 times per year (Family doctor) + Bi-weekly (psychiatrist)	No	No
3	23	GAD	Moderate-severe	Yes	SNRI + birth control	Not trying – looking to someday	Yes	Family doctor	2x per year	No	Yes
4	28	Panic disorder + depression	Moderate-severe	Yes	Benzodiazepine + psychologist	Currently trying	No	Psychologist	Bi-weekly	No	No
5	28	Panic attacks – no specific anxiety mentioned	Moderate-severe	Yes	Effexor	Currently trying	Nurse practitioner as acting family doc	Nurse practitioner + gynecologist	"Regularly" but only for the previous 3-5 months	Yes	Yes
6	29	Trauma + psychosis + panic disorder + social anxiety	Severe	Yes	Benzodiazepine (when needed)	Not trying – looking to someday	Yes	Family doctor	"Regularly"	No	No
7	26	GAD + panic disorder	Moderate-severe	Yes	SSRI + birth control	Not trying – looking to someday	Yes	Family doctor	3-4 times per year	Yes	Yes
8	30/ 31	GAD + social anxiety	Moderate-severe	Yes	SSRI	Currently trying	Yes	Family doctor	"Regularly"	Yes	Yes

4.2: Data Analysis

4.2.1: Levels of Anxiety

Upon multiple reconfigurations of interview codes and themes, an anxiety measurement tool was flagged as needed to classify how women's pregnancy planning differed from one another, depending on their level of anxiety. No attempt was made to use a diagnostic tool because study recruitment methods ensured the presence of a disorder. Moreover, health professionals use different anxiety severity measurements, each with their own benefits and criticisms (see Section 2.1.2). Instead, participants were grouped into three categories in order to classify them according to their anxiety level. I termed levels of anxiety as "mild-moderate" "moderate-severe" and "severe" based on how participants described their disorder (participants' perceived ability to cope with daily tasks) and what their health provider told them about their disorder. The ability to live day-to-day life without medication was also considered. This categorization method allowed participant responses to guide their disorder categorization, as self-reported anxiety management was the most influential factor. Participants' perceived level of anxiety also represented their lived realities, which is what was sought to be explored.

Participants reported that the extent to which they found themselves able to manage their anxiety influenced their decisions around undertaking a pregnancy. For women with mild anxiety, while their disorder presented an increased fear about the pregnancy period, it did not impact their decision of whether they would undertake a pregnancy. Women with moderate anxiety needed more visits to a health provider compared to their friends and colleagues without an anxiety disorder who had undergone

pregnancy. For participants with severe anxiety, the extent of their anxiety disorder meant the possibility of not undertaking a pregnancy at all.

4.2.1.1: Mild-moderate Anxiety. One participant was classified as having mild-moderate anxiety. Her disorder impacted her daily life, but she was able to cope using different mechanisms – that is, methods chosen by the participant to manage her disorder symptoms – and did not perceive her disorder to be a barrier to undertaking pregnancy. When asked about her decision to undertake a pregnancy and whether or not external influences (i.e., partner presence) impacted her decision, she noted that with or without a partner, she always wanted to become pregnant.

> I would still want to be pregnant, eventually. […] [Even without a partner or if I wasn't financially stable] I think it would still be the same decision, for me. Despite the uncertainties, I feel like […] you know, I do still want to do this [undertake a pregnancy]. – Participant 1

Notwithstanding her decision to undertake a pregnancy, she displayed anxieties around health uncertainties:

> I feel like part of it that's holding me back is like, all the "what ifs." […] there's just so many factors. […] like, I fixate on the actual delivery. So, I feel like I'd be okay going through like- being pregnant. But things like the actual delivery […] I'm too scared to get an epidural because fear of needles. I'm too scared of labor complications. And, I just, I don't know. It'd be nice to like- talk to other people like- in a similar like- that have anxiety in pregnancy as well – Participant 1

4.2.1.2: Moderate-severe Anxiety. Five participants were classified as having moderate to severe anxiety. These participants needed medication to carry on with their day-to-day activities:

> It [being off medication] was a nightmare. It was like 'Oh yeah, I do have anxiety. I do need my medication to work' Because, I was like, panic mode, all the time. – Participant 7

> If I forget one pill, I'm like, dizzy and extremely irritable like I wouldn't be able to go about… daily life off of it – Participant 4

However, they did not consider their anxiety to be a barrier to undertaking a pregnancy. Instead, their disorder was something that had to be or could be managed through extra social support.

> Medication aside, I would say [I need] just like, a LOT of support and a lot of understanding. […] I feel like […] if I planned it and I wanted to become pregnant tomorrow, I… I would need a LOT of support and understanding from my loved ones and people around me. –Participant 3

> [I would want] some sort of like, support system for people trying to get pregnant […] that have anxiety […] because it makes you feel like you're crazy when you think things like that [the worst]. When you know it's not rational but… like, if I could hear other people talking about it, like- to feel like- more safe and secure and know that it is just my mind and that it's not rational. – Participant 4

4.2.1.3: Severe Anxiety. Two participants were classified as having severe anxiety. For these participants, anxiety medication was needed regularly in order to function in everyday life.

> When there's any stressful situation, I definitely lean on the anxiety medication […] Sometimes I'm doing really well and I don't have (to) take my medication and it's been like, sometimes months, and then you know something happens and I take it like… 3 times every two weeks – Participant 6

These women saw their anxiety as a barrier to undertaking pregnancy.

> I think there's a general consensus that […] it would be […] a bad idea to plan a pregnancy right now […] They [doctors] have said, like, 'you'd be an excellent parent. You're a wonderful person.' But, the process would probably be extremely difficult for me – Participant 2

> … When I was younger, I was [thinking I was] going to have all my kids by the time I was 30. Now it's like, thirty-five. Sometimes thirty-seven […] like, push the number –Participant 6

Participants of all anxiety severity levels seemed very self-aware of their disorder and its potential impact on pregnancy. One participant specifically mentioned that self-awareness was key to managing her disorder.

> I've noticed like, you know, if I don't eat or if I don't sleep enough then that can affect my anxiety too and make it worse. So, just [being] self-aware [helps] – Participant 5

This participant, as well as the others, was uniquely able to recognize how their disorder impacted their daily life. Participants used this self-awareness to identify how their disorder impacted their pregnancy decision-making. Participants also displayed advocacy in managing both their anxiety disorder and their pregnancy desires, as is evidenced by the quotations below: participants wanted to be mothers despite the barriers to undertaking pregnancy with an anxiety disorder.

> I've always wanted a child. […] And… That's been part of… my therapy. It's like, well, it looks like it's not going to happen – you know? – Participant 2

> My anxiety has taken so many precious moments from me already that I don't ever want to like, give up the idea of being a mom just because I suffer from anxiety. – Participant 6

Though participants of each level of severity of anxiety wanted to become mothers, concerns and uncertainties about the pregnancy process were shared and similarities among participant responses were identified.

4.2.2: Pregnancy Concerns

Like any woman thinking of undertaking a pregnancy for the first time, participants expressed concerns about hormonal changes, lifestyle changes, and increased stress. However, having an anxiety disorder adds an extra layer of complication to pregnancy planning. For one, anxiety disorders exacerbate the everyday fears that women

have about pregnancy. Participants noted that fear is more prominent for them than the joys of being pregnant.

> Every little thing that the average person wouldn't think about, I'll think of it. Or, I'll have the scenario in my head already made up. […] I mean, it's lots of good [that comes with pregnancy planning] but it's just like… I always fixate on the bad – Participant 1

> Just based on what I've seen with friends, like, a lot of people […] approach pregnancy like- like hoping for the best but preparing for the worst – right? And so, they take steps so that they protect themselves- and the baby- from something happening. But they […] allow themselves to experience the joy of having a child, and I am not one of those people. Like […] I would be […] completely […] terrified. – Participant 2

Moreover, there are specific health aspects to consider when undertaking a pregnancy with an anxiety disorder. For example, the effect of anxiety disorders on mental health during and post pregnancy was a prominent concern of participants.

> I think for me, my biggest fear would be like, postpartum depression and anxiety associated with the postpartum […] I'm a very preventative person and I would almost want to set myself up with like, a therapist while I was pregnant, to then have someone that knows like, my history and I could go to if I did have […] a lot of issues postpartum – Participant 6

> I'm also kind of worried about like- the aftermath. Like, things like postpartum depression and what's that going to be like. Also… like, health-wise with my anxiety. – Participant 1

> I worry about […] how my mental health would be affected. Because obviously that [pregnancy and having a baby] is a lot of hormones and you know like, a huge life change. […] I feel like if my brain is already in […] a vulnerable state where it's like, super anxious […], I worry about putting it in that situation where it's like here, take a bunch of hormones and a brand new baby and like, all this […] and then you're like, a better candidate for postpartum depression. – Participant 3

Participants also expressed that their need for anxiety medication required additional management on top of the regular stresses of undertaking a pregnancy and becoming a mother.

> My medication increases the risk for hemorrhaging […] which is pretty terrifying for me. And my medication is extremely addictive, so trying to come off of it is like, almost impossible. […] I'd have to take time off of work to even try to come off it. – Participant 4

> I feel like my anxiety might be so intense- Some of the medications I'm on, I'm not sure that I would feel comfortable being on if I was pregnant. – Participant 2

Another concern expressed was that participants felt uncertain of how they will react to high-stress situations during birth and throughout the perinatal period.

> That kind of scares me for like when the time comes. If… I'm just going to have a panic attack when I'm going to give birth […] – Participant 4

> One of my biggest fears is still like, what if I'm so sleep-deprived, my mental health really suffers. […] I don't ever want to be like, so frustrated with a newborn that […] not that I would shake my baby, but I just don't know how I'm gonna react to that situation. – Participant 6

> It has been a long time since I had the real, chronic, like in the throes of my disorder […] because I've been so well medicated. […] But, you do wonder what the limits are when it comes to that [medication managing anxiety], in dealing with big things. – Participant 8

Participants who experienced severe lapses in mental health in the past were especially concerned about their mental health deteriorating either during pregnancy or after birth. These additional barriers and stresses, as well as the exacerbation of common pregnancy concerns, caused by anxiety disorders elicited the feeling in some participants that they would not be a "normal" mother or woman because they would not have what they deemed to be a "normal" pregnancy.

4.2.3: Pregnancy Expectations

Participants expressed that they had expectations for when and how they would become pregnant. However, their anxiety disorder conflicted with these expectations in many different ways.

> "That [having a baby] is something that I've always wanted for myself and […] I think about it kind of like, 'I can't do this the way that I wanted to do it […] I have to work around this [anxiety disorder] now'" – Participant 3

For example, many participants felt low most of the time without medication and that is not how they are "supposed" to feel when they are having a baby.

> There is definitely a double standard with, you know, expectations for how women are supposed to feel about pregnancy. […] You'll hear one woman be like 'I felt the best I've ever felt when I was pregnant!' And then you can see the others feeling like, 'oh, well am I less than because [I don't feel that way]?' – Participant 8

The idea of what is "normal" and "not normal" when it comes to pregnancy can be attributed to social expectations. This stems from the social construct of the meaning of pregnancy for women. Participants explored specific social influences, such as parental role models and family expectations in their interviews.

> I definitely thought, 'I'm 29. I thought I would be married and already (had) two children by now.' Um… mostly just because my parents had four kids before they were 30 and it's just, you know, coming from big families… always wanting to have children. – Participant 6

> My mom, has […] made a joke […] like, you know, 'oh I want a great kid' – Participant 3

> My parents are getting older and their health isn't the best so… I want them to be involved in my child's life; like, I didn't have my grandparents when I was born cause they all died […] I don't want that for my child. – Participant 1

> The first time my mom had chemotherapy, my brother announced that they were pregnant, and it really helped her […] you know, gave her some hope. So, in November […] I had told mom that [my husband] and I were going to start trying to have a baby because I wanted to be that light, for her. – Participant 8

These influences contributed to the increase in pressure to become pregnant. Where the continuity of family was a key social value among participants, gendered expectations around motherhood were evident in interviews.

> Society puts such a pressure on us to like, have a house, be married, have children before you're 30, or before you're 35. And if you don't you're like, some kind of weirdo. Right? I just feel like society puts so much pressure on us to… be real women- haha. By the time we're 35. – Participant 6

While simultaneously trying to meet the social expectations for becoming a mother, participants expressed that they had to make decisions that would benefit their mental health and the health of their future fetus. Planning for pregnancy was one way in which participants attempted to achieve both objectives.

4.2.4: Preconception Behavior

Women with anxiety disorders who want to undertake a pregnancy revolve their life plans around managing their disorder in order to become pregnant.

> I've got in my head that I want to be pregnant between 25 and 30. – Participant 1

> I was thinking around 30 probably. So, I'm 26 now… um, that's something, like, when we got engaged, that we talked about a lot. Cause I think he felt like there was no time limit on it; we could just get married whenever. But… I was like, I want to get married before we have kids […] So, we have to work backwards from like... you know, if it's going to take two or three years and we want to have like, two kids, how do we space that back? That means we have to get married THIS year […] to make it all work. – Participant 7

This is seen, for example, in how the four participants immediately trying to become pregnant all had talked to a doctor about it. These participants noted that they sought preconception care for two reasons. One reason included difficulty conceiving.

> I was constantly bleeding for four months when we decided we would start trying. […] I was having big problems with my cycles. Then, I had to wait forever to get into the gynecologist. And […] I've been having regular meetings with the gynecologist since then. So, that's been over a year now. – Participant 8

The second reason was to seek guidance on how to manage their anxiety disorder before undertaking a pregnancy. Notably, three out of the four participants who were trying to

get pregnant at the time of the interview sought preconception health advice for this reason.

> The main reason I wanted to manage my anxiety better was to be able to become pregnant and to be able to, you know, have a healthy pregnancy and have a baby. – Participant 5

> With my anxiety, I like to control things. But, with the pregnancy, you know, you could go into labor early or… you could have complications, and that stresses me out. […] It's just the unknown parts. – Participant 5

> I kind of wanted to know more of like, if my body is safe to have a baby. But like, I know they don't really look into that unless something is wrong or you try for so long. … But like, having anxiety, it's like you think of all of the possible things that could be wrong. – Participant 4

In comparison, among the four participants not immediately trying to get pregnant, two sought preconception care. For these participants, their anxiety disorder increased their desire to know more about what can happen to both them and their fetus, if they were to undertake a pregnancy.

> [I have to] think about […] how would I manage that [anxiety in pregnancy]. Like, how would I make sure that everything is set up to benefit me in the best way possible without like, putting the baby at risk? […] And I've mentioned it to my family doctor before. Like, […] 'OK. In like five to 10 years, when I'm… you know, ready to have a kid, how much time do I have to get myself to like, wean myself off of this [medication]? – Participant 3

> When I first went on citalopram, that [pregnancy] was one of my first questions. Like, if I start taking this and it works, will I have to come off it if I get pregnant? And, the thought of coming off it to be pregnant is like, REALLY terrifying. […] I'm not sure that it puts me at a higher risk of a miscarriage, but… I'm pretty sure it does. – Participant 7

In other words, seeking preconception care was a way for participants to mitigate some of the unknowns associated with pregnancy and conception.

Regardless of the reason for seeking preconception care, patients' trust in their healthcare was essential to feeling confident in undertaking a pregnancy. Some

participants exhibited a lack of trust in the healthcare system to provide the kind of healthcare they needed.

> It just feels like it [anxiety disorder] might be a burden […] like, when you're pregnant, you see so many different doctors. [There are] so many people involved in your life and like, are they all going to be willing to navigate that part [anxiety disorder] of it [pregnancy] with me? – Participant 3

Specifically, relationships between health providers and participants in this study were not consistent – evidencing a lack of compatibility between patient needs and provider responses. Though many participants regularly saw a health professional (see Table 1), some health needs were not met. It is important to consider, however, that all participants sought care from their regular provider (if they had one) – they did not seek care from a professional again, after their initial attempts.

4.2.4.1: Healthcare Provider Responses to Preconception Care-Seeking.

Participants worry about their health and the health of their unborn child at the planning stage of pregnancy. When addressing these worries, health provider responses differed among participants' experiences. Two participants noted that their health providers were thinking of fertility and pregnancy-related issues throughout their discussions with the participants about their anxiety disorder.

> I was excited by her telling me that she was even thinking about fertility when it came to my mental health […] because that [pregnancy] is my favorite topic. […] Like, I didn't really realize how long I would actually be on this medication at that point. Like, I'm almost 31 and I'm still on it. And the fact that I can stay on it while pregnant is like, super-duper important. – Participant 8

> I don't think they [healthcare providers] could be any more supportive. They're awesome. – Participant 2

In comparison, four participants had healthcare providers that paid little or no attention to their inquiries of pregnancy. Participants with these providers felt unacknowledged and dismissed.

> I have mentioned it [becoming pregnant] to her, but she didn't really say anything. […] Maybe further down the line or something like that. – Participant 1

> It was- it's not that it was like, dismissed but she was like 'Just don't worry about that right now.' Like.. We could obviously focus on it when the time comes. Um… But she also did say, like you know- probably wouldn't be a great idea to get pregnant right now. – Participant 3

> I was trying to talk to her [doctor] about like, the medication that I'm on as well as my anxiety. And […] all she did was tell me that [….] there's a slight risk. She didn't really take too much of a look at me. – Participant 4

> It was just like, good luck [that I got the family doctor I have now] because I've been to the women's clinic, and at my regular doctor for a Pap test. And, [they] were totally dismissive. – Participant 7

Despite the varying experiences of participants, all preferred that their healthcare provider considered reproductive health when discussing their anxiety disorders. This was evidenced in how participants were either (1) happy with health provider services or (2) not happy with the lack of information they were given from health providers.

> I would love to be able to just ask somebody like, realistically, what's my outlook for pregnancy? […] how likely is it that I'm going to have a miscarriage? How likely is it that I'm not going to be able to have kids? Because I feel like I've got it in my head that it's very likely. But I just don't know where to get reliable information about it. – Participant 7

> I'm really glad that she thought about it [the patient's reproduction] even way back then. – Participant 8

In summary, half of the participants in this study felt that their health provider did not pay adequate attention to their concerns regarding pregnancy and only two of eight had positive experiences when they discussed concerns about reproduction. Although

they would have preferred to get the information about anxiety disorders and pregnancy from their healthcare provider, participants would turn to other resources, such as the Internet, when not given the information they sought from their provider.

> It's all self-research […] which, everyone says is such a bad idea because the Internet is a big dark hole, and you can go down some roads that intensify your anxiety. […] But then, sometimes, you feel like it's your only choice – Participant 8

The fact that many participants were not given the information they requested when seeking preconception care and were required to turn to other resources shows there is a need for more support from healthcare providers when women with anxiety disorders wish to undertake pregnancy. As one participant puts it, women with anxiety disorders are left to advocate for themselves.

> There's a lot of self-talk, I think - especially with anxiety, where you kind of have to sift through [information] [and] advocate for yourself. – Participant 8

Moreover, participants expressed that support is essential for managing their disorder and undertaking a pregnancy without feeling inadequate for not meeting the social expectations discussed previously.

> [Having] an understanding doctor would be great [in order to manage a pregnancy right now]. […] Like, having someone go over like, my medications and stuff and making sure they're all safe for a pregnancy and things like that […] Also having some sort of support system like, during and post pregnancy because like, postpartum [depression] is a huge thing. – Participant 4

> [Support] would be the biggest thing. Like, I'm imaging all this and dealing with it on my own. But like… if I wasn't on my own […] and I had a partner […] I might be able to [undertake a pregnancy comfortably] – Participant 2

> The [personal] support I have now is really good. But, I definitely think that a support group would be awesome […] with other people in the same situation […] like, people that have actually given birth and that are parents now […] that have anxiety or panic disorder. […] I still need more of like, a push or motivation [to undertake a pregnancy] – Participant 1

While individual needs for support may differ (like the participants quoted above who expressed needing both guidance on medications and emotional support), the variety of health providers available in Nova Scotia could address individual needs from differing perspectives.

4.2.4.2: Participant Knowledge of Pregnancy Health Providers. Interestingly, participants were not aware of the pregnancy services or birthing providers available in Nova Scotia despite using common methods of alternative provider practices in their anxiety disorder management – such as yoga, talk therapy, and mindfulness.

> I was taking an SSRI, and now I'm off that. […] I go to therapy every 2 months, just to kind of get, back to my coping strategies for panic. […] other than that, […] meditation and yoga - stuff like that helps – Participant 1

> Two years ago I think or maybe three years ago, I had really really bad anxiety and I actually had someone- like a therapist type person - come into my home and work with me, and that really helped. […] Now, I just kind of use like, relaxing strategies online – and lavender oil! – Participant 5

> I go to yoga Nedra, which is amazing. […] it's like… kind of like a guided meditation. But you do like, a little bit of a warm-up a little bit of a breathing exercise […] And like, singing bowls. I also go to a teacher here who does a class where you're like, buried in blankets and pillows and she like, rings dongs and stuff. – Participant 7

When asked about pregnancy care options, Participants 1, 4, 6 and 7 mentioned a need for more pregnancy-centered care outside of hospitals and showed a lack of knowledge around the services available.

> I haven't [looked into the midwife program] but... I definitely want to […] Are you serious [that they provide ongoing care]? I don't know that. – Participant 1

> I have heard a little bit about that. […] I don't actually know too much about the midwifery support […] I definitely will look into that when I'm looking to have children – Participant 6

With the expressed effectiveness of alternative care methods, knowledge of alternative care providers ought to be increased.

4.2.5: Anxiety Disorders and Fertility

Infertility was acknowledged as a concern among participants, as there is conflicting evidence for stress and anxiety leading to difficulty conceiving.

> I've read that – how it's harder to get pregnant if like, your body is basically a hostile environment. – Participant 4

> [I worry about] how long it might take [to become pregnant] because of me being so stressed […] because of the anxiety. – Participant 4

When discussing how their anxiety disorder impacted pregnancy planning, participants expressed that being unable to conceive was one of their biggest fears. This concern was prevalent in all participants but was especially established among participants who were trying to get pregnant at the time of the interview as well as among participants who were older.

> It was much easier when I was in my early thirties. Cause- I'm sort of expecting that it was going to happen, and I was waiting for it to happen – Right? Now I'm sort of accepting that it probably won't happen, but it might. – Participant 2

> [I'm worried about] like how long it might take because of me […] Or like, [if I'm] taking a test every month and seeing it say no… [I worry about] what that's going to do to me and [how it's going to] make me more anxious. – Participant 4

> I don't think I'm particularly worried about like, something catastrophic happening […] I'm more anxious about trying to get pregnant […] and that I just won't be able to – Participant 7

> Now, my biggest thing is whether I *can* produce a baby. – Participant 8

While participants in this study attributed fear to the thought of not being able to undertake a pregnancy, some acknowledged that they could become a mother in another way.

> If I can't [get pregnant] for some reason, I would like to adopt or, like, [get] a surrogate, or [be a] foster [parent]. [I'd] find some way to be […] a parent to somebody, for sure. – Participant 6

> It [becoming a mother] may not happen […] but I mean, it [becoming a mother] could happen in some other way too. Where I, you know, meet somebody and they have a small child. – Participant 2

This in mind, undertaking a pregnancy was still their number one priority.

> I think as somebody with anxiety, adopting [is] very intimidating. My [family member] was adopted and I know how much trauma and struggle comes with that. And, I don't know that I would be particularly well-equipped to adopt. – Participant 7

> Everyone says like, you know, it takes time. And, a lot of people say there are many ways to have a child. And like… guys…. I understand that, but let's not jump straight to adoption. – Participant 8

> I want that relationship [between mother and child]. There is no other relationship in your life, really, that replicates that. – Participant 6

In fact, to not become pregnant would be devastating for participants. They expressed that undertaking a pregnancy was important to their sense of self.

> I've always wanted to be a mother and I've always like, been waiting for this stage in my life. […] Even though I know that I have concerns about how many things are on my plate, […] and what I can handle […] I'm going to do it [undertake a pregnancy]. – Participant 8

Further, becoming a mother in another way was "not the same."

> You can be an auntie, but it's just not the same I don't think. […] I would definitely like to, like, carry my own child. – Participant 6

These quotations provide evidence that there is a delicate balance between managing anxiety disorders, infertility, and the desire to undertake a pregnancy. While anxiety may

act as a barrier for some participants (depending on the extent of their disorder), their desire to undertake a pregnancy is strong and they feel highly connected to the idea of becoming pregnant.

This balance is further complicated with intersecting health issues. Notably, three out of the eight women interviewed had been diagnosed with PCOS, which raises the question of whether there is an association between anxiety disorders and PCOS.

> PCOS is interesting because there's a lot of success stories there. But […] you can also find people who never were successful too. So… it just adds this whole gamble to things. And that's just another thing to stew on; like, when you have anxiety. – Participant 8

Participants with PCOS attributed difficulty with pregnancy because, for them, pregnancy has been often associated with healthcare interventions.

> I've definitely talked to my gynecologist about it [PCOS and pregnancy]. Just that- from my own reading online and from talking to her [friend with PCOS], I will almost definitely need some kind of medical intervention, which would probably [be] medication to start. – Participant 7

> I'm also on birth control now because […] I won't get a period without birth control. – Participant 7

The need for interventions to get pregnant was disheartening to Participants 7 and 8 because they are likely not able to become pregnant "naturally" or "in the way they want."

> That [having a baby] is like, one of my life dreams and I feel like there's a big possibility that that's not going to be possible for me. – Participant 7

> I was always really excited about pregnancy before. I thought, like, that was the part that I really looked forward to. I think it's just so amazing that our bodies can- can do this. And like, I know that um… there's a lot of difficult things that come along with it, just like, you feel pretty crappy. […] just watching it happen, I've been always looking forward to that [pregnancy] And now, I'm terrified of it because… it hasn't been easy. – Participant 8

In this way, feelings of inadequacy are furthered among participants with PCOS compared to other participants because they have increased difficulty getting pregnant and managing subsequent symptoms that conflict with their expectations of motherhood and conception.

Chapter 5: Discussion

Analysis of the data collected for this thesis reveals three overarching themes. First, undertaking a pregnancy in the presence of an anxiety disorder is complex because of increased personal health needs – specifically, addressing the divergence of anxiety disorder management from social expectations and personal dossiers for motherhood. Second, women with anxiety disorders do not always receive support from health providers. Third, which was an observation outside of the explorative nature of this thesis, is that women perceived their anxiety disorder as being associated with their fertility. More detailed research is required to explore the suggested anxiety disorder-fertility association.

This chapter will discuss these three overarching themes and consider the existing literature, grounding it in feminist theory – namely, drawing on tenets such as female identity, motherhood, and health autonomy.

5.1: Overview of Research Findings

The first finding discussed in this chapter is that making decisions about when and how to undertake a pregnancy is complicated when an anxiety disorder is present. While there are factors for many women to consider when trying to conceive (i.e., financial ability, relational supports, and feeling prepared to deal with the physical strains of pregnancy), there are also factors that predominantly affect women with anxiety disorders. Participants reported that the effect of these influences differs based on the extent of their disorder.

The second finding is that many women with anxiety disorders do not receive adequate support from their health providers. Participants in this study sought

preconception care. However, their experiences with healthcare providers demonstrate that some providers are not taking advantage of care-seeking actions to improve health outcomes for their patients.

The final finding, which was an observation outside of the explorative nature of this thesis, is that women perceived their anxiety disorder as being associated with their fertility. Where nearly half of the study participants had PCOS or difficulty conceiving, this observation raises the question whether there *is* an association between anxiety disorders and fertility.

5.1.1: Making Decisions about When and How to Undertake a Pregnancy is Complicated When an Anxiety Disorder is Present

All participants expressed a desire to have children at the right time in their life; however, this desire to undertake a pregnancy is not always sufficient for a woman to move forward with this decision. Of the eight women interviewed, participants classified with mild-moderate anxiety did not see their disorder as a barrier to undertaking pregnancy. In comparison, women with severe anxiety felt they could not undertake a pregnancy because their disorder would have a very large impact on their ability to cope with their body's physical changes and their mental health. Participants of all anxiety levels noted similar concerns, but the weight of those concerns differed based on level of anxiety. For some, having an anxiety disorder meant delaying a pregnancy in order to first manage their disorder – based on the reasons participants gave for trying or not trying to undertake a pregnancy at the time of the interview. For others, taking more precautions (i.e., changing anxiety medication, undergoing fertility tests) was sufficient to avoid the negative effects of their disorder on the pregnancy process – as is evidenced

through participants' reasons for seeking preconception care. Primary concerns among all participants included an increased need for personal health management and the conflicting nature of anxiety disorder symptoms with pregnancy and motherhood expectations. These concerns align with the literature (Stepanuk, 2013; Stevenson, 2015; Wand, 2014) as a common barrier to pregnancy decision-making for women with anxiety is the need to balance their own mental health with the health of the fetus.

5.1.1.1: There is an Increased Need for Personal Health Management. Many prevalent concerns regarding undertaking a pregnancy would be familiar to any expecting mother; however, anxiety-specific concerns revolve around participants' mental and physical wellbeing.

Nearly all participants mentioned a fear of developing postpartum depression. The weight of this concern for women with anxiety disorders is well founded as Weiss et al. (2016) suggest that postpartum depression is more common among women with existing mental health conditions. Moreover, anxiety and depression are often overlapping conditions exacerbated by the changes in lifestyle elicited by pregnancy and childrearing (Annagür et al., 2013; Dunkel-Schetter & Tanner, 2012; Patel & Wisner, 2011; Stepanuk et al., 2013; Wand, 2014). Markedly, women with severe anxiety said postpartum mental health was one of their biggest worries because they had severe lapses in daily functioning in the past. These participants were scared they would "revert" to their worst state of mental illness upon becoming pregnant.

Some participants who had experienced violence, thoughts of suicide, or had been admitted to a mental hospital in the past, were worried that the increase in hormones during pregnancy, the change in medication (if needed), and the lack of sleep that comes

with having an infant could elicit an adverse or violent reaction to high-stress situations. Typically, participants indicated that they would implement management strategies in high-stress situations, but the "limits" were discussed relative to how well they could manage their anxiety disorder amid the new and life-changing experiences of pregnancy and motherhood.

Anxiety medication is essential to sustain the mental health of many participants. However, whether or not to discontinue medication when trying to become pregnant was not a straightforward decision. Participants would often turn to online resources for information on medication management during pregnancy before seeking advice from their health provider. Other participants sought information from online resources after not receiving such advice from a health provider. Several research articles document similar experiences, suggesting that the primary resource for preconception care for women with anxiety disorders is the Internet (Bortolus et al., 2017; Krumm et al., 2014; Mazza et al., 2013; Stephenson et al., 2014) even though they would prefer one-on-one care to ensure reliable and up-to-date information (Stephenson et al., 2014). It is apparent from the discussions that women with anxiety disorders want and need reliable professional advice from their healthcare providers, which they are not able to access readily.

5.1.1.2: Anxiety Disorder Symptoms and Conflict with Social Expectations. Despite ongoing movements in women's health advocacy in North America, elements of society remain pronatalist– female identity is based heavily on reproducing to be an "adequate" woman (Becker, 1997; Becker, 2000; Bennett et al., 2007; Greil et al., 2011; Inhorn, 2006; Rapp, 2001). Further, gender norms exist around the social expectations of

undertaking a pregnancy (Allen, 2013; Bennett et. al., 2007; Douglas & Michaels 2004; Oliver, 2010). For one, women who undertake a pregnancy ought to put their needs below the needs of the child (Henderson et al., 2016). They also ought to feel happy and joyous throughout pregnancy because they are fulfilling their gendered role (Douglas & Michaels, 2004), and they ought to embrace that role at all times (Henderson et al., 2016). The expectations around female identity and role performance were echoed in many interviews as women experienced the construction and enactment of pregnancy norms as a powerful influence on their pregnancy planning decisions. Some participants expressed that their desire to become pregnant and have a "normal" pregnancy experience, conflicted with their perception of their anxiety disorder. Furthermore, because of the conflict between social expectations of pregnancy and anxiety symptoms, undertaking a pregnancy often involves balancing their mental health alongside their desire to undertake a pregnancy.

Participants acknowledged social expectations leading up to both pregnancy and motherhood, and how those expectations impacted their behavior. Participants 1, 3, and 8 revealed that their parents have made comments about pregnancy and they are key influencers in their desire to become pregnant. Participants 6 and 7 further noted that they had plans to become pregnant at an age they thought they ought to become mothers. These experiences support the argument that the desire to join the ranks of "motherhood" is often socially constructed and not biologically driven (Chodorow, 1978; Glenn et al., 1994; Henderson et al., 2016). For example, anxiety symptoms conflicted with the social expectation that women are supposed to feel joyful during pregnancy and after birth (Douglas & Michaels, 2004). Rather than feeling excited and foreseeing the

unpredictability of pregnancy, participants anticipated that they would be upset when things do not go exactly as planned. Similarly, participants with severe anxiety disorders, who may never undertake a pregnancy due to the extent of their illness, questioned the construction of motherhood. Adoption was a method of becoming a mother that arose for these participants; however, they also expressed that it would "not be the same." The fact that participants in this study were disappointed at the thought of their future pregnancies not fitting idealized motherhood norms shows that these norms are a core component of their definition of motherhood. This in mind, dominant narratives can be questioned – as is evident in participants' decisions to move forward with pregnancy despite the expectations placed on them. Thus, conceptions of motherhood and their impact on desires to becomes pregnant are complex.

5.1.1.3: Links to Literature. In an American study on depression and pregnancy (Patel & Wisner, 2011), younger women felt greater hesitancy than older women when making decisions about their anxiety disorder during pregnancy. Such trends are consistent across studies on mental health and pregnancy (Lucas et al., 2019; Patel & Wisner, 2011) and can be attributed to the fact that it was a new experience for younger women, compared to older women who may have had more friends and colleagues who had previously undertaken a pregnancy. Interestingly, the participants in this study did not associate their level of pregnancy comfort with their second-hand knowledge of the pregnancy experience, thus suggesting that despite having friends or family members who have undertaken a pregnancy, participants in this study felt they needed more information.

The extent to which their anxiety disorder was managed affected participants' decision to undertake a pregnancy. This is consistent with the literature (Bagadia et al., 2020; Bennett et al., 2007; Van der Zeea et al., 2013). Increased postpartum risks, the fear of worsening mental illness, and the need for medication management are common among women of reproductive age with mental illness (Bennett et al., 2007; Patel & Wisner, 2011). The weight of these concerns can be attributed to what Foucault (1977) describes as biopolitics – the strategies and mechanisms through which women will regulate and discipline themselves into normality. Participant concerns revolve around managing health symptoms that are socially and medically constructed as "abnormal" or deviant.

This study suggests that women feel guilty and anxious about not fulfilling social expectations about motherhood when their anxiety disorder limits their ability to undertake a pregnancy. Thus, it makes sense to say that anxiety disorders are a barrier to undertaking a pregnancy – and consequently, becoming a mother. Judith Butler (1999, 2002, 2011) has argued extensively for recognizing the performative aspects of gender identities, one of which is the connection between motherhood and femininity. She states that the performance of a gender identity is how we embody the subjective ideals of femininity and infertility. Using this lens, women are made to feel deviant when they want to undertake a pregnancy but are unable, because they cannot perform their gender role.

5.1.2: Women with Anxiety Disorders do not Always Receive Support from Health Providers

"Planning" for pregnancy and seeking healthcare before becoming pregnant was common to all the participants. This behavior included searching for information to become more educated on how their disorder can affect both their ability to become pregnant and their health during and after pregnancy. Despite getting information on pregnancy and mental health from family and friends, participants required information from health providers on managing their anxiety disorder before, during, and after pregnancy. Nevertheless, half of participants did not get enough information. As is evident in the literature (Bortolus et al., 2017; Khan et. al., 2019; Stephenson et. al., 2014), not getting information about anxiety disorders decreased participants' confidence in undertaking a pregnancy.

5.1.2.1: Why Women with Anxiety Disorders are Seeking Preconception Healthcare. Participants in the study indicated that health providers advised women to manage their anxiety before undertaking pregnancy. This may be valuable because the concerns of undertaking a pregnancy with an uncontrolled anxiety disorder are well founded. However, this happened without the accompanying support they required. Consequently, it made participants feel like they could not ever handle pregnancy/motherhood because anxiety is always with them, and the feeling of "control" is not present. Participant 1, for example, expressed that everything in her life was falling into place yet she was holding back because of her fears of undertaking a pregnancy.

Although participants tried to anticipate healthcare procedures and decisions through preconception care, there was still a feeling of little to no autonomy. They could

not undertake a pregnancy "like they wanted to" – whether that be at a particular time or in a specific way (i.e., tracking ovulation dates). Loss of autonomy in pregnancy decision-making is consistent with existing literature. Mental health literature (Krumm et al., 2014; Van der Zeea et al., 2013) displays loss of autonomy in pregnancy decision making when mental illness patients are not able to make decisions about healthcare management on their own. As well, pregnancy literature (Ophardt, 2016; Vedam et al., 2019) displays loss of autonomy when women have medical tests imposed on them and do not get the choice of undertaking them or not.

5.1.2.2: How Some Health Providers are Not Optimizing Patients' Care-Seeking Behavior. Because participants in this study sought care early in pregnancy planning, it suggests that health providers were in a position to alleviate or rectify those factors that created additional stress and uncertainty. However, the practitioners of only two participants in the study initiated discussions about pregnancy. In comparison, four participants had their practitioner ignore or disregard their questions related to pregnancy. When not receiving the information they sought to address their pregnancy-related concerns, participants felt uncomfortable about undertaking a pregnancy and continually imagined "worst-case scenarios" vis-à-vis getting pregnant. Consequently, they felt inadequate because they could not undertake a pregnancy in a way that aligned with their expectations. Because many participants experienced these feelings of inadequacy, it suggests a need for more credible information from health providers for women with an anxiety disorder. Physicians should discuss, with their patients, what to expect when managing anxiety disorders during pregnancy.

5.1.2.3: Participants are Unaware of Where to Access Anxiety Disorder Resources through Preconception and Prenatal Stages.

If the usual healthcare providers do not provide the care and advice women with an anxiety disorder need, these women need to seek alternative care that may be more conducive to a holistic approach to pregnancy. One such example could be the care provided by midwives. Midwives are invested in providing support throughout all stages of pregnancy and during the postpartum period (Davis-Floyd, 2001). The recommendation of midwifery for pregnancy patients with mental health issues is based on existing research (Bennett et al., 2007; Sydsjö et al., 2015). In Nova Scotia, midwife models of care display significant patient autonomy levels and holistic healthcare delivery (Davis-Floyd, 2001; Vedam et al., 2019). They are also well equipped to address postpartum depression. As such, midwives could address participant pregnancy concerns (such as their ability to become pregnant, the increased risk of postpartum depression, and the expected lifestyle changes).

When asked about midwifery services during the interview, participants expressed that they did not know about their availability in the province; thus, demonstrating a need for increased knowledge about the different prenatal care models and how they can benefit specific populations (such as women with anxiety disorders). This lack of knowledge is consistent with recent studies on birthing services in the Nova Scotia, which show that medical models of care are more commonly prescribed than holistic methods of birth (Morrison, 2014; Taylor, 2012).

5.1.2.4: Links to Literature.

The preconception healthcare-seeking behavior of participants is consistent with preconception healthcare literature. Where women with

anxiety disorders focus primarily on the future and unknown situations, preconception healthcare is sought to mitigate some of the unknowns associated with pregnancy (Bortolus et. al., 2017; Stephenson et. al., 2017; Van Der Zeea et al., 2013). The preconception behavior of participants is interesting to note, however, because is seems to be a function of their anxiety disorder.

Being self-aware and advocating for oneself also aligns with feminist health approaches; women often have to advocate for themselves, as feminine health information is not readily available (Barnes, 2014; Bennett et al., 2007). It is apparent that in these instances, health professionals are not providing adequate information in response to participants' care-seeking behavior, making participants feel isolated and ill prepared to undertake pregnancy.

According to available literature, there are barriers for health professionals to implement preconception care as well – one of which is that women do not ordinarily seek preconception care (Mazza, 2013; Stephenson et al., 2014). This thesis shows that women with anxiety disorders are a population for whom this is not the case. The frequent disregard of participants' pregnancy-related inquiries has been suggested by Khan et al. (2019) as a missed opportunity to provide care that would optimize health outcomes for pregnant or soon-to-be pregnant women. Another study examining provider responses to the pregnancy intentions of mental health patients notes that there is a knowledge gap among practitioners with regards to dealing with patients' desire for children while simultaneously aiding them in coping with mental illness (Krumm et al., 2014). This knowledge gap then leads to the avoidance of such topics in healthcare appointments. Studies demonstrate that pregnancy planning can improve overall health

outcomes during and after birth (Bortolus et al., 2017; Van der Zeea et al., 2003), therefore health providers should pay greater attention to inquiries from women with anxiety disorders about pregnancy planning.

It is interesting to note the lack of attention paid by healthcare providers about impact of their anxiety disorder on their pregnancy, given that existing research suggests that women ought to be consistently thinking about fulfilling their gender role by reproducing (Allen, 2013; Henderson et al., 2016). This study shows women with anxiety disorders think about their physical and emotional ability to undertake pregnancy; however, they are faced with a lack of information regarding how to do it safely. In other words, while meeting the gendered expectation (anticipating motherhood), they are faced with continual barriers to *fulfilling* their gender role.

In this study, family doctors and obstetricians/gynecologists were the only known prenatal caregivers available to participants. This suggests that medicalized views of health and birth shape participants' expectations of pregnancy care. Such expectations are highlighted in when and how participants thought they ought to become pregnant – naturally, by a certain age, immediately upon trying, and amid feelings of joy and happiness. In this instance, biopower (Foucault, 1977) occurs by subjugating women's bodies to the control of medical institutions, which results in a hegemonic form of pregnancy care and experience. Where anxiety symptoms conflict with pregnancy norms and are difficult to completely control with medical interventions, women with anxiety disorders are made to feel inadequate, or deviant, when these expectations are not met.

5.1.3: Women Perceived their Anxiety Disorder as Being Associated with their Fertility

Being unable to become pregnant was a prevailing fear among many participants in this research. Those who were having difficulty conceiving, and those who worried they would not be able to become pregnant in the future, all expressed they would not feel fulfilled if they could not undertake a pregnancy.

Notably, three participants who were immediately trying to get pregnant disclosed difficulty conceiving. Two of the three participants had been diagnosed with PCOS. Another participant, while not immediately trying to get pregnant, anticipated difficulties in the future because she was also diagnosed with PCOS. According to the literature, PCOS leads to infertility (Cascella et. al., 2008; Farrell & Antoni, 2010; Tsilchorozidou et. al., 2004) and anxiety (Annagur et. al., 2013; Barnard et. al., 2007; Cesta et. al., 2016; Dokras et. al., 2011; Hahn, et. al., 2005; Månsson et. al., 2008). What is not known is whether PCOS leads to anxiety *disorders,* and what the association is (if any) between anxiety disorders and infertility. The prevalence of conception difficulty among the study population is an observation outside the purpose of this research. It suggests a possible association between anxiety disorders and fertility but warrants more exploration.

5.1.3.1: PCOS in Women with Anxiety Disorders. Participants in this study who experienced both PCOS and an anxiety disorder noted that the intersection of these conditions further increased their feelings of inadequacy either because they have difficulty becoming pregnant or have to manage subsequent symptoms that conflict with their expectations of motherhood and conception.

For example, menstrual cycles are often irregular with PCOS (Cesta et al., 2016; Dokras et al., 2011). As such, ovulation tracking – a common way of getting pregnant –

becomes difficult or impossible, as it is not consistent. Moreover, PCOS symptoms are often managed by medications that act to reduce rates of pregnancy (i.e., hormonal birth control medication – used by Participant 7). As a result, trying to undertake a pregnancy with PCOS becomes difficult.

Becoming pregnant with PCOS often involves using additional medication or discontinuation of current medication (that helps manage symptoms). The need for medication to get pregnant was disheartening to Participants 7 and 8 because they could not become pregnant "naturally" or "in the way they want." Participant 8 was once excited about becoming pregnant but is now scared because it has not been easy.

5.1.3.2: Links to Literature. Fears of infertility align with the literature in that women feel inadequate when they do not live up to their "role" as a woman when they do not or cannot become pregnant (Bromberg, 2009; Greil et al., 2011; Rapp, 2001). Infertility is a common concern among women because infertility, in North America and abroad, is laden with shame and stigma arising from pronatalist views (Bromberg, 2009; Greil et al., 2011; Henderson et al., 2016; Rapp, 2001).

The experiences of participants with PCOS provide insight into managing both infertility and anxiety disorders. When women have an anxiety disorder and PCOS, the intersection of conditions creates a circular pattern in which women are anxious while trying to conceive (due to an anxiety disorder) and become more anxious when faced with the possibility that they may be unable to conceive. This circular pattern aligns with the existing literature in that feelings of anxiety and feelings of stress can lead to pregnancy complications and difficulty conceiving (Annagür et al., 2013; Cesta et al., 2016; Dunkel-Schetter & Tanner, 2012; Rooney & Domar, 2018). Rates of conception

difficulty among participants are also consistent with the literature on mental illness and pregnancy, but it is interesting to note the prominence of conception difficulty in such a small study sample of women with anxiety disorders. While the prominence of PCOS among the study sample could be a coincidence, feelings of anxiety and stress are often prevalent among women with fertility problems (Annagur et. al., 2013; Barnard et. al., 2007; Cesta et. al., 2016; Dokras et. al., 2011; Hahn, et. al., 2005; Månsson et. al., 2008). This in mind, women with anxiety disorders can also be extremely fertile (Dokras et al., 2011; Rooney & Domar, 2018). Thus, further research is needed to fully determine the presence of a relationship between anxiety disorders and fertility. Studies with a mix of both qualitative (to explore the relationship between conditions) and quantitative (to determine the concurrent prevalence of conditions) research methods would address this gap in knowledge.

5.2: Strengths of the Study

This modified grounded theory study's uniqueness is its rich description and comprehensive explanation of the pregnancy planning decisions of women with an anxiety disorder. The richness of narratives in this study allows for the transferability of the findings. This is to say, findings can be deduced and can apply to other contexts and samples of the population. For example, participants' experiences of health care decision-making and health care delivery were similar in many ways, suggesting a unanimous experience. Moreover, most studies about anxiety disorders and pregnancy are quantitative or statistical. Of the few qualitative studies completed, anxiety disorders are not a specific area of focus despite this being one of the most common mental health

problems in North America. This study contributes to that literature through the qualitative exploration of participant narratives.

5.3: Weaknesses of the Study

The methodology, study population, and timing of this study pose limitations to the data. Specifically, the methodology of this study poses limitations to its conclusions. According to Charmaz (2006), "any conclusions developed by grounded theorists are suggestive, incomplete, and inconclusive" (Creswell & Poth, 2017, p. 86). While subjectivity of the data is an expectation in constructivist perspectives, grounded theory methodology imposed my perceptions of anxiety and pregnancy planning on participants' experiences. Thus, the limitations of analysis categories could be re-drawn based on differing experiences of the study population and based on researcher perspectives. The repetition of this study, by different researchers and with different populations, could solidify study findings – as this was the first study, to my knowledge, that has investigated the impacts of anxiety disorders on pregnancy planning.

Furthermore, the study population limits the information able to be garnered, because "studies investigating one mental health condition alone fail to disentangle the different trajectories of mental illness" (Martini et. al., 2013, p. 557). As was evidenced with PCOS and anxiety disorders, conditions can be intersectional. Similarly, comorbid mental illnesses – such as psychosis, depression, and PTSD experienced by some participants – may have impacted individual experiences.

The COVID-19 pandemic further limited the information that was able to be collected. For one, pandemic restrictions resulted in a study sample that was smaller than originally anticipated (see Section 3.3.5). Though the small research sample is not a

limitation in itself (qualitative constructivist studies account for small sample sizes), a few more interviews would help confirm the saturation point of data and what is most notable amid womens' experiences of pregnancy planning with an anxiety disorder. Secondly, the COVID-19 pandemic posed limitations to the study methods (see Section 3.3.5). The transition from in-person to online interviews made it difficult to read participants' body language. Though findings were discussed at length with each participant, the consistency of research methods across the project would allow for more robust identification of participant reactions to interview contents.

Chapter 6: Conclusion

This study explored the challenges experienced by women with anxiety disorders while planning to undertake pregnancy. It also identified how women might be supported in confronting those challenges. Eight interviews were conducted with Nova Scotia women who had a diagnosed anxiety disorder. Participants were either immediately trying to undertake a pregnancy or have thought about undertaking a pregnancy within the next five years. Follow-up interviews were conducted with four of the eight participants.

Participants in this study had multiple concerns about undertaking a pregnancy, some of which were unique to anxiety disorder management. Other concerns stemmed from not meeting social expectations associated with pregnancy and motherhood due to their anxiety disorder symptoms. To mitigate their concerns, many participants sought preconception healthcare. However, the information they acquired about their disorder and pregnancy was incomplete, leaving them to feel further isolated and uncertain. Participants frequently mentioned their fears of being physically unable to conceive. While some PCOS cases among the research participants were managed with medication or lifestyle changes, treatments and symptoms interfered with their anxiety disorder management.

6.1: Recommendations

This research is useful to women, health providers, and health policymakers. By bringing attention to the patterns of concerns among the study population, the information provided in this study could facilitate an increase in support for women with anxiety disorders. Additionally, this thesis shows a need for increased acknowledgment

of anxiety disorders during pregnancy planning among health providers and policymakers. Based on the findings of this thesis, I would like to make the following recommendations.

6.1.1: Health Providers Should Pay Closer Attention to the Preconception Information Women Seek

The preconception health-seeking behavior of study participants provides evidence of the opportunity for health intervention. For one, providers could enhance patient-oriented healthcare by addressing patient concerns at the outset of their pregnancy planning. They may do so by, for example, asking their patients with anxiety disorders about future pregnancy plans. Where there is little online information available on pregnancy planning for women with anxiety disorders, notices in doctors' offices or public health clinics may also promote positive health for women with anxiety disorders who wish to undertake pregnancy and bring awareness to their diverse needs. With these recommendations, it will be necessary for healthcare providers not to assume that all women want children as that would further medicalize women's health and insinuate assumptions about gendered roles that feminist theorists have critiqued (i.e., that all women ought to reproduce).

6.1.2: Credible Information About Pregnancy Planning for Women with Anxiety Disorders Should be Available

This study shows that women with anxiety disorders are concerned about undertaking pregnancy and ensuring their own health as well as that of the fetus. Improved awareness of how preconception anxiety disorders contribute to healthcare experiences and decisions is needed to improve women's understanding of how their

disorder affects their reproductive health. Organizations such as the Society of Obstetric Gynecologists of Canada (SOGC), The Canadian Mental Health Association (CMHA), and Doctors Nova Scotia would play an integral role in such health promotion by both widely sharing the information and doing so in an accessible way. One method in which they could do so would be through support groups. While general support groups exist for women with anxiety disorders, the topic of pregnancy and pregnancy planning would not arise in these environments unless brought up by a participant. The formation of support groups specifically for women with anxiety disorders to discuss their disorders' impact on pregnancy may benefit the study population.

6.1.3: Midwifery Should be Explored by Women with Anxiety Disorders Planning to Undertake Pregnancy

Women with anxiety disorders need direct care, and midwives may be the best provider to address their specific concerns. Where participants did not know about such providers in Nova Scotia – which is not surprising considering their limited availability in the province – it is recommended that the Association of Nova Scotia Midwives (ANSM) reach out to women with anxiety disorders regarding their pregnancy care. Similarly, health care teams at Nova Scotia may refer patients with anxiety disorders to Nova Scotia midwives because they may be able to relieve the concerns expressed by women with anxiety disorders through frequent health appointments and non-medicalized perspectives on birth.

6.2: Directions for Future Research

Common concerns of women with anxiety disorders were noted in this study. Still, with a sample size of eight, repetition of this study's protocol would substantiate

study conclusions. Under normal circumstances (non-pandemic), one would have been able to recruit more participants, increasing the trustworthiness of the data and confirming study findings. Under Charmaz's grounded theory methodology, this would allow for the proposal of a theory regarding the influences on pregnancy planning with an anxiety disorder. Further research may also address the relationship between fertility and anxiety disorders as this was not an initial theme of the thesis.

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Appendices

Appendix 1: Recruitment Poster

Research Participants Wanted!

- Are you a woman between the ages of 20 & 35?
- Do you have a diagnosed anxiety disorder?
- Have you considered becoming pregnant in the next 5 years?

We are looking to interview women with anxiety disorders about their concerns about pregnancy. Participation includes one interview that is anticipated to last between 1 and 1.5 hours. Interviews will take place between January 1 and March 1, 2020. Participants will be asked a series of questions about their history with their anxiety disorder, whether or not they intend to undertake a pregnancy, and what support systems they perceive they will need in order to successfully manage their anxiety disorder throughout pregnancy.

Your identity will be protected in all aspects of the research.

Interviews will be done throughout Nova Scotia, at a time and location convenient to you.

A $20 SuperStore gift card will be given to compensate for your time and dedication to this project.

If you are interested or require more information, please contact:

Ashley Farrell
amsfarrell@mun.ca
(782) 414-6230

If you have ethical concerns about the research, you may contact the Memorial University Ethics Office at 709-777-6974. Email: info@hrea.ca

Appendix 2: Primary Interview Guide

Interview Guide

Introduction to the Interview

Hi, my name is Ashley. Thank you for joining me for this interview today.

First, let's verify that we are on the same page with this project's goals and objectives. Have you considered becoming pregnant in the next 5 years?

Moving forward, I will be asking you questions about your plans to undertake a pregnancy as a woman with an anxiety disorder. The findings of this research will help form an understanding of how women with anxiety disorder plan for pregnancy.

I am eager to get started, but before I do, I have a few logistical questions for you:

(1) Do you have any questions about what is listed in the consent form, or about your rights as a research participant?
(2) Can you sign this consent form?
(3) Do you consent to allow me to record our interview today, on my digital sound recorder and via written notes?

Now that we are all set, let's get started.

Opening questions

1. Tell me about yourself – how long have you lived here? What do you do for work?
2. Are you currently in a relationship?
    a. If you're not in a relationship, what attracted you to this project?
3. Where do you primarily receive health care? (Hospital, walk-in clinic, family doctor?)
    a. Do you have a family physician?

Anxiety Questions

1. What brought you to an understanding that you had an anxiety disorder?
    a. How did it unfold?
2. Can you describe the kind of treatment, if any, you are getting to decrease anxiety symptoms? (i.e: Do you see a healthcare professional often? What class is your medication (SSRI, anti-depressant, etc)? What kinds of health professional have you discussed anxiety treatment with?)
    a. What has worked and what has not worked in the past when trying to manage your anxiety disorder?
3. Does having an anxiety disorder impact your decision to undertake a pregnancy? How?

Pregnancy Questions

1. To what extent have you (and your partner) considered pregnancy? (i.e.: thought about it, looked into it, currently trying?)
2. Have you/Did you talk about becoming pregnant with a health care provider?

    a. How did that discussion unfold?
3. Have you/Did you talk about becoming pregnant with any other support people (partner, family, or friend if not in a relationship, for example)?
    a. How did that discussion unfold?
4. Based on your knowledge of anxiety disorders and of pregnancy, what are some of your concerns about becoming pregnant?
5. In your opinion, what do you need in order to manage your anxiety when trying to undertake a pregnancy? (i.e: supports, specific information?).
6. Have people supported your views on becoming pregnant?
7. Have some people not supported your desire to undertake/not undertake a pregnancy?
8. Have you thought about how you would manage your anxiety disorder during pregnancy?
    a. How do you see your current anxiety treatment methods fitting into your pregnancy-planning routine?

Closing Questions

1. Do you have any further questions or comments for me about the research, or your experience with anxiety and thoughts of pregnancy?

Appendix 3: Ethics Approval

NEWFOUNDLAND AND LABRADOR
HREB
HEALTH RESEARCH ETHICS BOARD

Research Ethics Office
Suite 200, Eastern Trust Building
95 Bonaventure Avenue
St. John's, NL
A1B 2X5

January 08, 2020

77 Wynn Castle Drive.
Lower Sackville, NS

Dear Ms Farrell:

Researcher Portal File # 20201353
Reference # 2019.248

RE: Exploring Anxiety Disorders in Pregnancy Planning: A Qualitative Study of Women's Experiences in Nova Scotia

Your application was reviewed by a subcommittee under the direction of the HREB and the following decision was rendered:

X	Approval
	Approval subject to changes
	Rejection

Ethics approval is granted for one year effective January 8, 2020. This ethics approval will be reported to the board at the next scheduled HREB meeting.

This is to confirm that the HREB reviewed and approved or acknowledged the following documents (as indicated):

- Application, approved
- Research proposal, approved
- Revised consent form, dated December 2019, approved
- Revised recruitment poster, approved
- Mental Health Resource guide, approved
- Anxiety Support Group (at Antigonish Women's Center) approval for posting recruitment poster, acknowledged
- Facebook group approval for posting recruitment poster, acknowledged
- Interview guide,approved

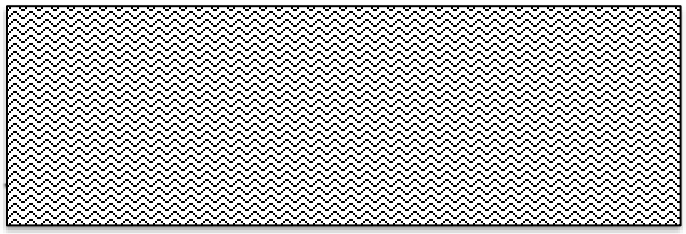
Please note the following:

- This ethics approval will lapse on January 8, 2021. It is your responsibility to ensure that the Ethics Renewal form is submitted prior to the renewal date.
- This is your ethics approval only. Organizational approval may also be required. It is your responsibility to seek the necessary organizational approvals.
- Modifications of the study are not permitted without prior approval from the HREB. Request for modification to the study must be outlined on the relevant Event Form available on the Researcher Portal website.
- Though this research has received HREB approval, you are responsible for the ethical conduct of this research.
- If you have any questions please contact info@hrea.ca or 709 777 6974.

The HREB operates according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2), ICH Guidance E6: Good Clinical Practice Guidelines (GCP), the Health Research Ethics Authority Act (HREA Act) and applicable laws and regulations.

We wish you every success with your study.

Sincerely,



Health Research Ethics Board

Appendix 4: Mental Health Resource Guide for Participants

Mental Health Supports in Nova Scotia

Phone Lines

Suicide Prevention Services 1-833-456-4566	**First Nations & Inuit Hope for Wellness** 1-855-242-3310
Mental Health Mobile Crisis Phone Line 1-888-429-8146	**Sexual Assault & Harassment Phone Line** 1-866-863-0511

Online Resources

www.strongestfamilies.com Provide timely care to families by teaching skills through our unique distance coaching approach – supporting families over the phone and Internet in the comfort and privacy of their own home. Strongest Families provides family-centered care that is customized to their needs.	**www.novascotia.cmha.ca** The Canadian Mental Health Association Nova Scotia Division is part of a nation-wide charitable organization that promotes the mental health of all and supports the resilience and recovery of people experiencing mental illness.
www.selfhelpconnection.ca A self-help resource centre for more than 500 groups in Nova Scotia.	**www.lainghouse.org** A drop-in centre for youth aged 16 – 29 living with a mood disorder, psychosis and/or anxiety disorder.

In-Person Resources

Emergency Rooms (open 24-hours) • Dartmouth (Darmouth General Hospital): 3250 Pleasant Street, 902-465-8300 • Halifax (QE11): 1799 Robie Street, 902-473-2700 • Antigonish (St. Martha's Regional Hospital): 25 Bay Street, 902-867-4500	**Community Mental Health Clinics (call for appointment)** • Bayers Road Community Mental Health: 902-454-1400 • Bedford/Sackville Community Mental Health: 902-865-3663 • Cole Harbour/Eastern HRM Community Mental Health: 902-434-3263 • Dartmouth Community Mental Health: 902-466-1830 • Antigonish: 902-867-4500
Mood Disorders Clinic Abbie J. Lane Memorial Building, Room 3089 5909 Veterans' Memorial Lane Halifax, NS 902-473-2585	**PTSD Support Clinic** NS Operational Stress Injury Clinic Suite 210, 100 Eileen Stubbs Avenue Dartmouth, NS B3B 1Y6 Tel: 902-460-6225 or toll-free at 1-844-403-7963
Pregnancy Education & Support Centre 7 Mellor Ave, Unit 5 Dartmouth, NS Phone: (800) 430-9557, (902) 481-5800	

Appendix 5: Consent Form

Consent to Take Part in Research

TITLE: *Exploring Anxiety Disorders in Pregnancy Planning: A Qualitative Study of Women's Experiences in Nova Scotia*

RESEARCHER(S): *Ashley Farrell, amsfarrell@mun.ca, (782) 414-6230, Applied Health Services Research Graduate Student, Memorial University of Newfoundland*

SUPERVISOR: *Dr. Shree Mulay, 709-864-2989, Memorial University of Newfoundland*

COMMITTEE MEMBERS: *Dr. Martha Traverso-Ypez, 709-864-6086, Memorial University of Newfoundland*
Dr. Jill Allison, 709-864-6032, Memorial University of Newfoundland

You have been invited to take part in a research study. Taking part in this study is voluntary. You may choose to take part or you may choose not to take part. You also may change your mind at any time. If you decide to stop participating in the study at any time, you will not lose any benefits to which you are entitled.

This consent form has important information to help you make your choice. It may use words that you do not understand. Please ask me (the primary researcher) to explain anything that you do not understand. It is important that you have as much information as you need and that all your questions are answered. Please take as much time as you need to think about your decision to participate or not, and ask questions about anything that is not clear.

1. Why am I being asked to join this study?

You are being invited to join this study because you have self-identified as a women with an anxiety disorder who is considering becoming pregnant in the next 5 years.

In this study, I am interviewing women with an anxiety disorder about their plans to become or not become pregnant. This study is being done to find out more information about the supports that women with anxiety disorders need when planning for pregnancy.

2. How many people will take part in this study?

This study is being done across Nova Scotia. 8-10 people are expected to take part. Participants will enroll via email or phone to amsfarrell@mun.ca/902-414-3233. Participants will hear about the study either via online or via anxiety support groups in Antigonish county and the Halifax Regional Municipality.

3. How long will I be in the study?

You will be asked to complete one interview with me. The interview should last between 1 and 1.5 hours. It will occur in a public place at a time and location convenient to you.

All of your information will be analyzed by April 1, 2020. After that, you will not be contacted unless the study moves to future research. This research project will be completed by August 2020.

4. What will happen if I take part in this study?

If you agree to take part in this study, the following procedures will take place:

- *Interview:* You will be asked to participate in 1 interview. The interview should last between 1 and 1.5 hours, and will take place at a public location convenient to you. You will be asked about the barriers you face with an anxiety disorder, your considerations of pregnancy, and the support systems needed to successfully manage your anxiety disorder. You can choose not to answer questions if you wish, for any reason.
- *Audio recording used*: You will be audio recorded during the interview. The audio recording will be transcribed (written down) after the interview and I will analyze it. The transcription will be done by me. Your name or any other identifying information will not be included during the recording, except your voice. The audio recording will be destroyed after it has been transcribed and checked for accuracy.

5. Are there risks to taking part in this study?

Feelings of anxiety
During the interview, you may become uncomfortable or experience some anxiety due to the content of our discussion. You can skip questions, take a break, or stop answering at any time. While questions will not directly ask about your medical experiences, a list of mental health supports will be available to you, should you need to consult a medical professional about the healthcare concerns you discuss with me.

Inconvenience of time
There is also an inconvenience of time. Your interview will take about 60-90 minutes. You may also request a second interview, to clarify concepts or elaborate on your responses. This is up to you, and may require an additional time commitment.

Confidentiality risk
Despite protections being in place, there is a risk of unintentional release of information. Researchers will make every attempt to protect your privacy. To protect your identity, data will be aggregated (characteristics of participants mixed up so that not 1 story is identifiable) and personal information will be generalized.

6. What are the possible benefits of participating in this study?

Increased Knowledge
There may not be a direct benefit to you for taking part in this study, other than you may gain insight into your mental health and reproductive healthcare needs. That said, further research might impact the

type of care women receive in pregnancy. Any research sparked by this project will be sent to you via email.

Compensation

You will receive a $20 Superstore gift card in-person before beginning our interview. This compensation will not be withheld if you withdraw from the study. This compensation is given to you as a thank you for your time and interest in this study.

7. If I decide to take part in this study, can I stop later?

It is your choice to take part in this study – participation is voluntary. You can change your mind at any time during the research study. I may ask why you are withdrawing for reporting purposes, but you do not need to give a reason to withdraw from the study if you do not want to.

To withdraw from the study, you may do so in person or over email/phone. Should you withdraw from this study, I will ensure that the information already obtained, is destroyed.

Your data can be removed from the research any time before April 1, 2020. I will not be able to remove your information after that date because data analysis will be complete.

8. What about new information?

It is possible that during the study we will get new information that may affect your willingness to remain in the study. If this happens, you will be notified about the new information in a timely manner. You will be asked whether you want to continue taking part in this study and you may be invited to sign a new consent form, if you decide to continue in the research study.

9. What are my rights when participating in a research study?

You have the right to receive all information that could help you make a decision about participating in this study, in a timely manner. You also have the right to ask questions about this study at any time and to have them answered to your satisfaction.

Your rights to privacy are legally protected by federal and provincial laws that require safeguards to ensure that your privacy is respected.

Signing this form gives us your consent to be in this study. It tells us that you understand the information about the research study. When you sign this form you do not give up any of your legal rights against the researchers or involved institutions for compensation, nor does this form relieve the researcher or their associates of their legal and professional responsibilities.
You have the right to be informed of the results of this study once the entire study is complete. I will describe and share findings from this research in a presentation to the Department of Community Health & Humanities at Memorial University. It will also be present in my written master's thesis.

You will be given a copy of this signed and dated consent form prior to participating in this study.

10. What about my privacy and confidentiality?

Protecting your privacy is an important part of this study. If you decide to participate in this study, I will collect and use information only from your interview.

Electronic & paper data during study
I am responsible for keeping your information separate from identifiable characteristics, such as your email correspondence. Information collected during the study (interview recordings, interview notes, and interview transcripts) will be kept in my office until the study is complete. Information will be stored in a secure, locked place and only I will have access.

Electronic & paper data after the study closes
After the study closes, information will be kept as long as required by law, which could be up to 5 years. After the study is complete, information will the be stored at Memorial University, with the supervisor of this project – Dr. Shree Mulay. She will be responsible for keeping it secure.

Study information sent between myself and my supervisor will be done over encrypted online Dropbox so that it is not traceable. All electronic data will be protected through encryption. When the results of this study are published or presented at scientific meetings, your name and other personal information will not be used in the publication.

All information that identifies you will be kept confidential, and to the extent permitted by applicable laws, will not be disclosed or made publicly available, except as described in this consent document. Every effort to protect your privacy will be made. Even though the risk of identifying you from the study data is very small, it can never be completely eliminated. If there is a breach of your privacy resulting from your participation in this study, you will be notified.

Email
Communication via e-mail is not absolutely secure. I do not recommend that you communicate sensitive personal information via e-mail. Email between yourself and I will be used only to arrange time and location of the interview, and to forward information about the study, such as this consent form.

Within 1-week after our interview, I will send you an email with the transcribed summary of our interview. This will give you the opportunity to clarify concepts and give feedback on my interpretations. If needed, you may follow up with me in-person or over email about your responses.

11. Who will see my personal information?

Only I will see your personal information (email/phone number, face-to-face interaction). My supervisor will have access to your interview recordings and my interview notes, but no other information about you.

We may review your interview responses for a period of time after our interview in order to check that the information we collected is correct.

Your access to records
You have the right to see the information that has been collected about you for this study. If you wish to do so, please contact me – the primary researcher.

12. Commercialization

It is possible that a commercial product or new health policy may be developed as a result of this study. You will have no right to any products that may be created as a result of this study or any future research studies using this research study data. You will not receive royalties from any products that may be created as a result of this study or any future research studies.

13. Declaration of financial interest, if applicable

A conflict of interest can occur when a person or group has more than one interest. In research, the people who run or work on studies must tell you if they have a conflict of interest.

I, Ashley Farrell, declare that I may gain financially by being involved in this study because I will be paid by Memorial University for my time and effort during the study. This may create a competing interest or conflict of interest.

14. What about questions or problems?

If you have any questions about taking part in this study, you can meet with the principal investigator who is in charge of the study. That person is: Ashley Farrell (phone: 902-414-3233)

Or you can speak to my supervisor: Shree Mulay (phone: 709-864-6086).

Or you can talk to someone who is not involved with the study at all, but can advise you on your rights as a participant in a research study. This person can be reached through:

Ethics Office at 709-777-6974
Email at info@hrea.ca

Signature Page

My signature on this consent form means:

- I have had enough time to think about the information provided and ask for advice if needed.
- All of my questions have been answered and I understand the information within this consent form.
- I understand that my participation in this study is voluntary.
- I understand that I am completely free at any time to refuse to participate or to withdraw from this study at any time, without having to give a reason, and that this will not affect the compensation I will receive from this study, or any future correspondence with the researcher or Memorial University.
- I understand that it is my choice to be in the study and there is no guarantee that this study will provide any benefits to me.
- I am aware of the risks of participating in this study.
- I do not give up any of my legal rights by signing this consent form.
- I understand that all of the information collected will be kept confidential and that the results will only be used for the purposes described in this consent form.

_____

Signature of participant Printed name Day Month Year

Do you consent to having your transcribed interview sent to you via e-mail?

- ○ Yes
- ○ No

_____

Signature of participant Printed name Day Month Year

To be signed by the investigator:

I have explained this study to the best of my ability. I invited questions and gave answers. I believe that the participant/substitute decision maker fully understands what is involved in being in the study, any potential risks of the study and that he or she has freely chosen to be in the study.

_____

Signature of Researcher Name Printed Day Month Year

Appendix 6: Consent Addendum

A Letter with New Information

TITLE: *Exploring Anxiety Disorders in Pregnancy Planning: A Qualitative Study of Women's Experiences in Nova Scotia*

RESEARCHER(S): *Ashley Farrell, amsfarrell@mun.ca, (902) 414-3233, Applied Health Services Research Graduate Student, Memorial University of Newfoundland*

SUPERVISOR: *Dr. Shree Mulay, 709-864-2989, Memorial University of Newfoundland*

COMMITTEE MEMBERS: *Dr. Martha Traverso-Ypez, 709-864-6086, Memorial University of Newfoundland*
Dr. Jill Allison, 709-864-6032, Memorial University of Newfoundland

Addendum to the "Consent to Take Part in Research" Form, Version: Dec 2019

You have signed consent to take part in this study. This letter provides new information about the study protocol. The protocol has been changed in accordance with both covid-19 restrictions as well as what we have learned about the study topic since this research started. Changes to the study protocol include:

- You may request or be asked to complete a second interview. The second interview will occur by Skype or phone. The purpose of the secondary interview will be to clarify concepts or follow-up on responses from the first interview. The contents of this interview will depend on contents of the first interview and the concepts needing clarification. You can choose not to answer questions if you wish, for any reason. Like the first interview, you will be audio recorded.
- All of your information will be analyzed by **June 1, 2020**. After that, you will not be contacted unless the study moves to future research.

All other information from the main consent remains unchanged.

By signing this form, you are indicating that you have read and understand this information, and that you agree to continue to take part in this study.

Signature of Participant	Printed Name	Date

I believe that the person signing this form understands this new information and voluntarily agrees to continue to participate.

Signature of Investigator	Date

Version: May 2020